



ecosupport

**Land to the West of
Yapton Lane, Walberton**

PEA

Author(s):
Adam Jessop

Client:
Land Quest UK (Southern) Ltd

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Report	Preliminary Ecological Appraisal
Site Name	Land West of Yapton Lane, Walberton
Author(s)	Adam Jessop BSc (Hons) MSc ACIEEM
Client	Land Quest UK (Southern) Ltd
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Executive Summary

Ecosupport Ltd was instructed by Land Quest UK (Southern) Ltd to undertake a Preliminary Ecological Appraisal (PEA) of a parcel of land at to the west of Yapton Lane, Walberton. This was required in order to identify any potentially important ecological features that may be affected by the proposed development. As part of this assessment, the following surveys were undertaken:

- Desktop survey submitted to the Sussex Biodiversity Records Centre (SxBRC) (January 2021)
- Extended phase I habitat survey (January 2021)
- Preliminary roost assessment (trees) (January 2021)
- HSI of pond adjacent to site (January 2021)
- eDNA survey of adjacent pond (May, 2021)

The following important ecological features were identified on site following the conclusion of the above survey work and may be subject to adverse impacts in the absence of suitable mitigation / compensation:

- High potential for Dormice
- Potential for breeding and nesting birds
- Moderate potential for foraging and commuting bats
- Pond within close proximity to the site with previous records of GCN presence with positive eDNA result

In the absence of any mitigation measures, the proposed development is anticipated to result in, certain adverse effects (significance level to be determined following additional survey work) although site is retaining a significant amount of land in southern par of site which is considered more than sufficient to address any potential ecologist constraints that the further survey work may identify (layout appended).

1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was instructed by Land Quest UK (Southern) Ltd to conduct a Preliminary Ecological Appraisal (PEA) of a parcel of land located to the west of Yapton Lane Walberton (here after referred to as 'the site'). The purpose of this survey was to assess any ecological impacts that may arise as a result of the proposed development. The objectives of the survey were as follows:

- Identify and classify any priority habitats;
- Assess the ecological value of the site;
- Identify any signs of protected species and potential features that may support them (particularly in relation to bats);
- Make recommendations for further survey work as necessary;
- Make recommendations for any necessary ecological avoidance, mitigation and compensation measures where possible at a PEA stage;
- Make recommendations for site ecological enhancements as per planning policy.

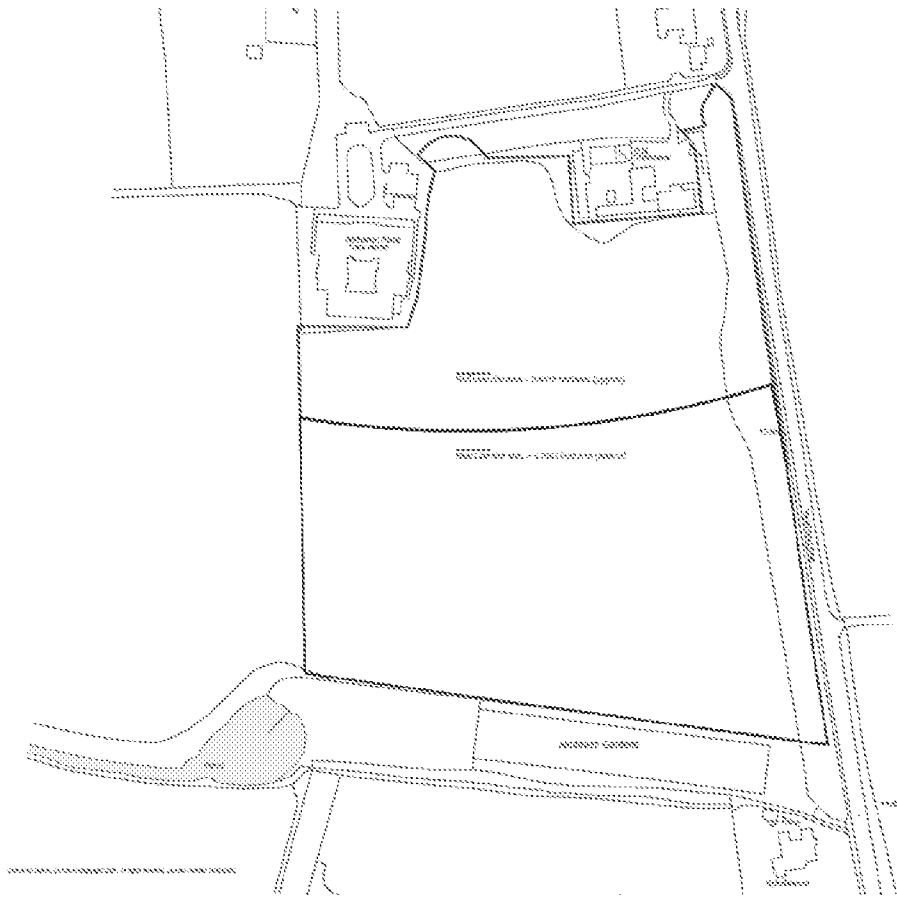
NB: If the development does not take place within 18 months of this report ¹ then the findings of this survey will no longer be considered valid and may require updating.

1.2 Site Description & Location

The site comprises an arable field with bounding hedgerow, treelines and woodland strip located to the west of Yapton Lane, Walberton, Arundel, BN18 0PQ (centred on OS grid reference SU975 055) (Fig 1). The north of the site is bounded in part by the buildings associated with DM Chainsaws, the east by Yapton Lane, the south by a tree line / allotment and the west by arable land. The immediate wider environ predominantly rural being largely dominated by arable fields with woodland blocks and connecting hedgerows.

¹ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

Figure 1. Redline location plan of the site.



1.3 Proposed Development

The proposals entail an outline planning application with all matters reserved, other than means of access, for the construction of up to 48 dwellings (30% affordable homes) and dental /doctors' surgery (Use Class E (e)).

2.0 RELEVANT LEGISLATION AND POLICY

2.1 Legislation

2.1.1 *The Conservation of Habitats and Species Regulations (2019)*

This instrument makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue.

The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

In order for activities that would be likely to result in a breach of species protection under the regulations to legally take place, a European Protected Species (EPS) licence must first be obtained from Natural England.

2.1.2 *The Wildlife and Countryside Act (1981) (as amended)*

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

The Wildlife & Countryside Act (1981) states that it is an offence to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9 art II of the Act. This list over 30 plants including Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Parrots Feather (*Myriophyllum aquaticum*).

2.1.3 *The Countryside and Rights of Way Act (2000)*

This Act strengthens the Wildlife & Countryside Act by the addition of "reckless" offences in certain circumstances, such as where there is the likelihood of protected species being present. The Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.4 Natural Environment and Rural Communities Act (2006)

The Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies have due regard to the conservation of biodiversity. This means that Planning authorities must consider biodiversity when planning or undertaking activities. Section 41 of the Act lists species found in England which were identified as requiring action under the UK Biodiversity Action Plan and which continue to be regarded as conservation priorities under the *UK Post – 2010 Biodiversity Framework*.

2.1.5 Protection of Badgers Act

The Protection of Badgers Act (1992) relates to the welfare of Badgers (*Meles meles*) as opposed to nature conservation considerations. The Act prevents:

- The wilful killing, injury, ill treatment or taking of Badgers and / or
- Interference with a Badger sett
- Damaging or destroying all or part of a sett
- Causing a dog to enter a set and
- Disturbing a Badger while it is occupying a sett

Provisions are included within the Act to allow for the lawful licensing of certain activities that would otherwise constitute an offence under the Act.

2.2 Planning Policy

The development would seek to comply with relevant Planning Policy at a local, regional and national level.

2.2.1 National

Section 15 of the National Planning Policy Framework (NPPF, 2021) 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural environment. They should do this by protecting and enhancing sites of biodiversity and minimising impacts on and providing net gains for biodiversity, including establishing coherent ecological networks.

The plan states to protect and enhance biodiversity plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks. This includes the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them. Plans should identify the protection and recovery of priority species and opportunities for securing measurable net gains for biodiversity.

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

- if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.2.2 Local – Arun Local Plan (2018)

Policy ENV DM5 Development and Biodiversity

“Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.”

2.3 Biodiversity Action Plans & UK Post-2010 Biodiversity Framework

The UK Post-2010 Biodiversity Framework (JNCC & DEFRA, 2010) supersedes the UK Biodiversity Action Plan 1992-2012 (UKBAP), setting out goals relating to nature conservation at a UK scale, for example the reduction and reversal in the decline of threatened species and improving the status of biodiversity. The specific habitats and species contained within the UKBAP continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework, and are required to be a material consideration in the planning process under the 2019 NPPF.

3.0 METHODOLOGY

3.1 Desk Study

3.1.1 Data Request

A data request was submitted to Sussex Biodiversity Record Centre (SxBRC) to ascertain any records held of nature conservation designations and protected species within 1 km of the boundary of the site.

The data search covered:

- Statutory designated sites
- Non-statutory designations such as SINC
- Records of protected and notable species.

3.1.2 Waterbodies

Any ponds located within 500 m of the proposed development were searched for using Ordnance Survey maps and available aerial images.

3.2 Field Survey

3.2.1 Habitats

The field survey work which forms the basis of the findings of this report was carried out by Adam Jessop ACIEEM, Ecology Director (8 years post MSc graduation experience) on the 12th January 2021.

The Phase 1 Habitat survey (JNCC, 2010) methodology was adopted which is a method of classifying and mapping wildlife habitats in Great Britain. It was originally intended to provide “...*relatively rapidly, a record of semi-natural vegetation and wildlife habitat over large areas of the countryside*”. The standard Phase 1 Habitat survey methodology has been ‘extended’ in this report to include the following:

- Floral species lists for each identified habitat;
- Descriptions of habitat structure, the evidence of management and a broad assessment of habitat condition;
- Mapping of additional habitat types (e.g. hardstanding);
- Identification of Priority Habitats under Section 41 of the NERC Act;
- Evidence of, or potential for, the presence of certain species/groups

3.2.2 Badger

The site was thoroughly searched for evidence of use by Badgers (*Meles meles*), with the specific aim of identifying the presence and location of any setts. In accordance with the *Badgers and Development: A Guide to Best Practice and Licensing* (Natural England, 2011) guidance, the survey accounted for a 30m from the site’s boundary (observed where possible i.e. does not conflict with private dwellings). Evidence of Badgers could include latrines, dung pits, feeding remains and foraging evidence, trails and setts.

3.2.3 Bats

An assessment was made of the suitability of the trees on site to support roosting bats based on the presence of any Potential Roost Features (PRFs during May 2019). This involved the use of 8 x 42 close focus binoculars and a high-powered torch (where required) for a more detailed inspection of any features. The survey conformed to current best practice guidance as described *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016) and was carried out by Adam Jessop (2015 – 13366 – CLS – CLS).

3.2.4 Great Crested Newts

A pond located on the southern boundary of the site (that was observable from a public right of way) was subject to a Habitat Suitability Assessment (as per ARG 2010) in order to ascertain any suitability for GCN (*Triturus cristatus*). This survey was undertaken at the same time as the initial walkover and was completed by Adam Jessop (GCN survey licence number 2016-21153-CLS-CLS).

NB With the pond located on the southern boundary of the site itself scoring 0.71 (good) on an HSI assessment (Ecosupport, 2021), an eDNA water sample was collected for analysis by SureScreen Scientific. This was collected in line with the instructions provided by SureScreen,

3.3 Assessment Methodology

3.3.1 Introduction

The methodology for the assessment of the likely ecological effects of the proposed development is based on CIEEM's *Guidelines for Ecological Assessment in the UK* (CIEEM 2018). Although this assessment does not constitute a formal Ecological/ Environmental Impact Assessment, the CIEEM guidelines provide a useful framework for assessing ecological impacts at any level.

3.3.2 Valuation

Features of ecological interest are valued on a geographic scale. Value is assigned on the basis of legal protection, national and local biodiversity policy and cultural and/or social significance.

3.4 Limitations

The survey was conducted during January which is outside of the optimum time period for undertaking habitat surveys. Notwithstanding this, as the dominant habitat on-site was arable land, it was not considered that this would have posed a limitation / constraint on the survey's findings.

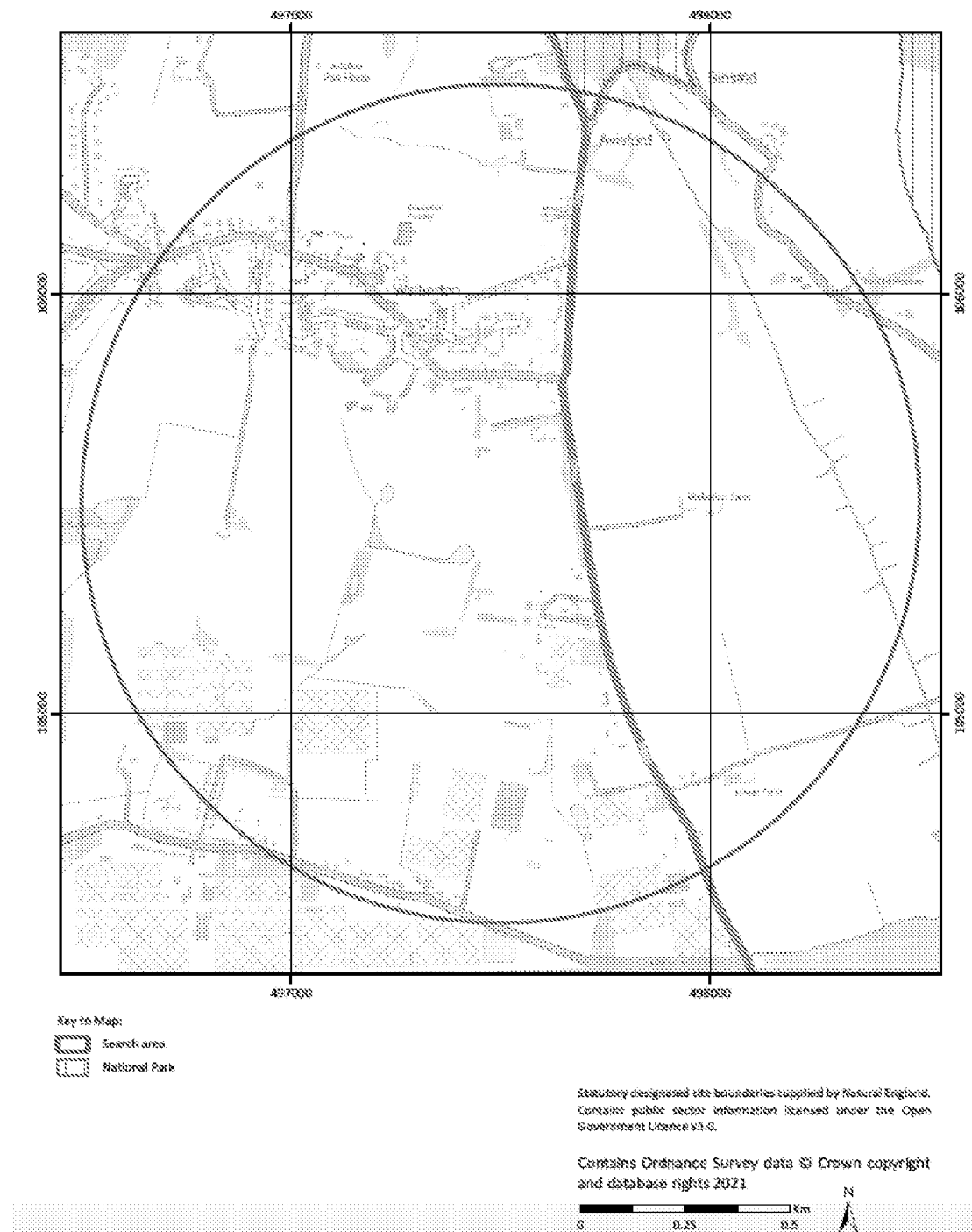
4.0 ECOLOGICAL BASELINE

4.1 Designated Sites

4.1.1 Statutory

The map provided by SxBRC as shown **Fig 2** below has only identified a small area of the South Downs National Park as falling within the 1 km search radius. No other statutory designated sites were present.

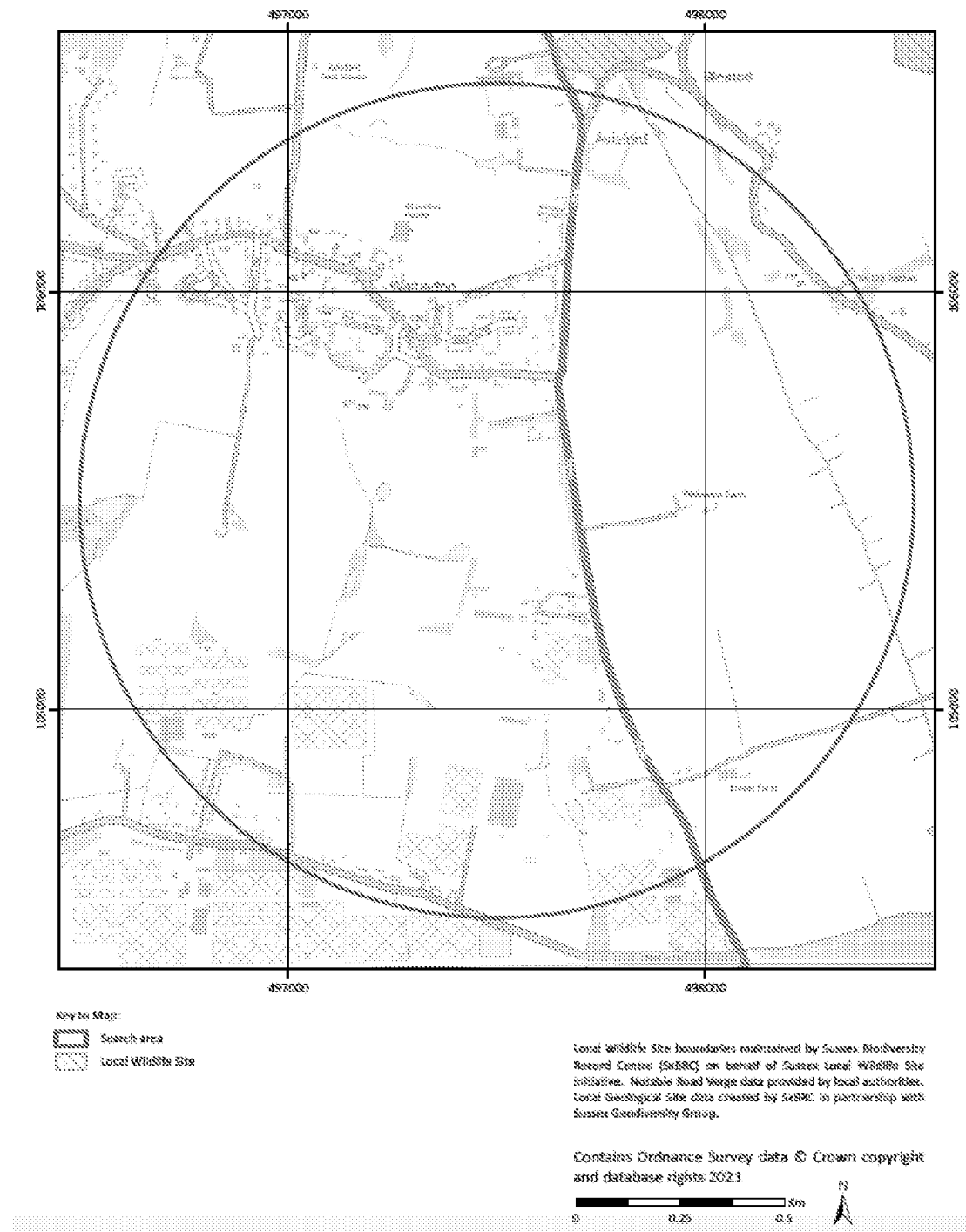
Figure 2. Map of the statutory designated sites located within 1km of the site as provided by SxBRC.



4.1.2 Non-statutory

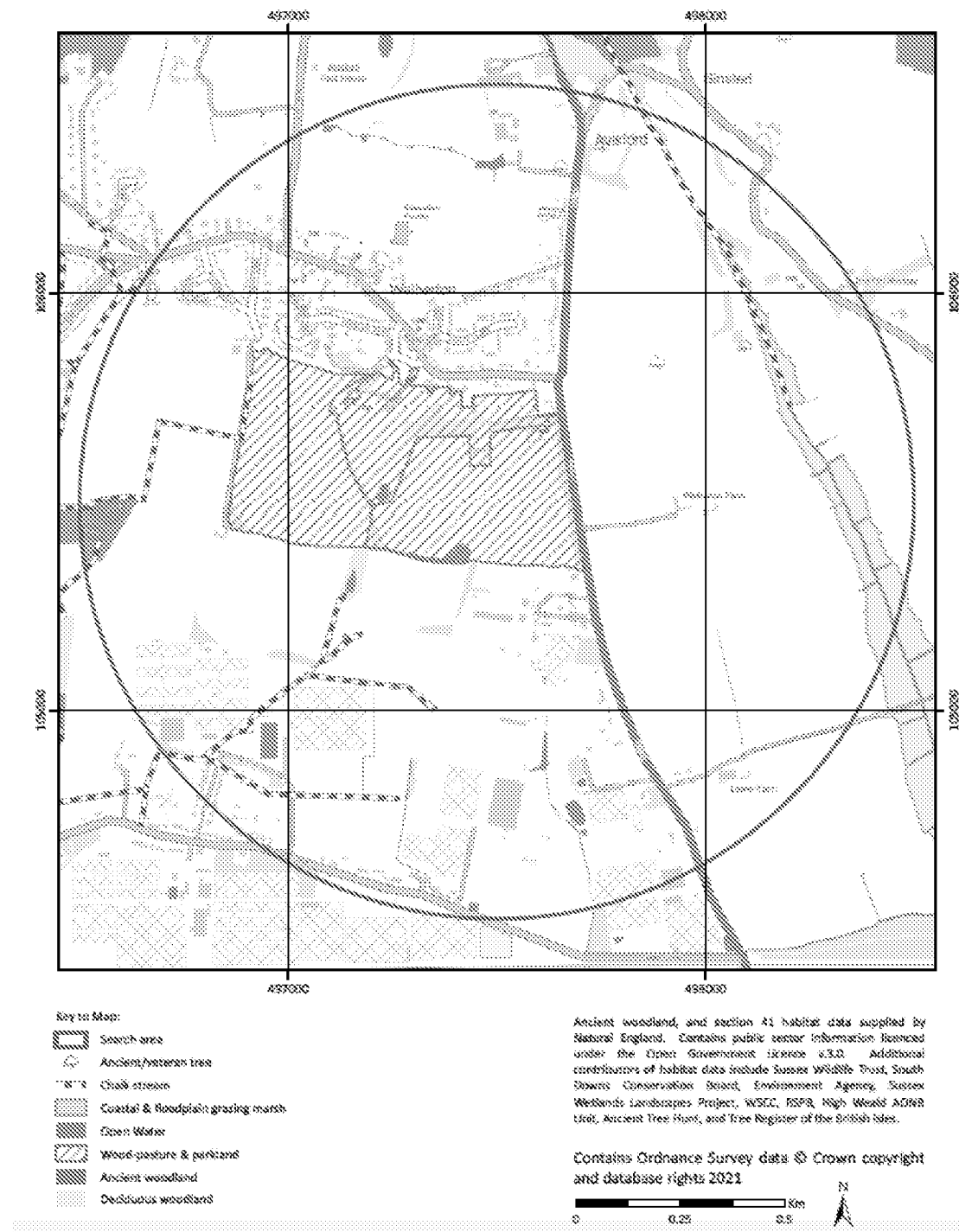
Fig 3 below displays the map provided by SxBRC showing the non-statutory designated sites with none noted as falling within the 1 km search radius (with one located just outside of this area).

Figure 3. Map of the non-statutory designated sites located within 1 km of the site as provided by SxBRC.



4.1.3 Priority Habitats

In addition to the mapping listing the presence of any designated sites within the defined search radius, a map is also provided indicating the presence of any S41 (NERC Act, 2006) habitats (shown below in **Fig 4**). This map suggests the entire site is designated as wood pasture and parkland although with the majority arable, some of this may be based on historic uses.

Figure 4. Map provided by SxBRC with NERC ACT S41 priority habitats within 1 km of the site.

4.2 Vegetation Survey Results

The vegetation within the site has been described below using the broad Phase I habitat classification terminology as described with JNCC (2010). The below species noted should not be considered an exhaustive list and instead refer to dominant, characteristic and other noteworthy species associated with each community within the survey area. The habitat types on site comprise:

- Arable
- Broadleaved semi natural woodland
- Scattered tree
- Hedgerow with trees (native species rich)
- Scrub / tall ruderal

4.2.1 Arable

The dominant habitat on-site was arable with a crop growing the time of the walkover survey (Fig 5).

Figure 5. Arable field on-site which was the dominant habitat type (taken January 2021).



4.2.2 Broadleaved Semi-natural Woodland

The eastern boundary of the site is marked by a strip of broadleaved semi natural woodland. This was dominated by self-seeded Sycamore (*Acer pseudoplatanus*) with occasional Lime (*Tilia* spp), Hawthorn (*Crataegus monogyna*), Beech (*Fagus sylvatica*), Hornbeam (*Carpinus betulus*), Oak (*Quercus* spp), and Holly (*Illex aquifolium*). The understorey was dominated by

Ivy (*Hedera helix*) due to the dense shading the canopy provided with the following species also noted; Laurel, Wild Privet (*Ligustrum vulgare*), Butchers Broom (*Ruscus aculeatus*), Common Nettle (*Urtica dioica*), Pendulous Sedge (*Carex pendula*) and Cow Parsley (*Anthriscus sylvestris*) (Fig 6).

Figure 6. View from the informal pathway through the woodland with the Ivy dominated ground flora / understorey (taken January 2021).



4.2.3 Scattered Tree

A single mature scattered Oak tree was present within the southern part of the arable field seen in Fig 5.

4.2.4 Hedgerow with Trees (Native Species Rich)

A native species rich hedgerow with trees was present along the southern boundary of the site bordering an allotment (Fig 7). This feature supported *Populus* spp, Silver Birch (*Betula pendula*), Dogwood (*Cornus sanguinea*), Beech, Field Maple (*Acer campastre*), Alder (*Alnus glutinosa*), Bramble (*Rubus fruticosus* agg) and Traveller's Joy (*Clematis vitalba*).

Figure 7. Mature native species rich hedgerow with trees located on the southern boundary of the site (taken from pathway within allotment in January 2021).



4.2.5 Scrub / Tall Ruderal

A mound supporting low growing's areas of Bramble dominated scrub was present along the northern boundary (around the edge of the buildings associated with DM Chainsaws) of the site with tall ruderal (dominated by Nettle, *Crisium* spp and Cow Parsley) also present (**Fig 8**).

Figure 8. Mound located along the northern boundary of the site supporting scrub and tall ruderal.

4.3 Bat Survey Results

4.3.1 Pre-existing Data

SxBRC have provided the following bat records from within 1 km of the site (**Table 1**).

Table 1. Bat records as provided by SxBRC.

Taxon Name	Common Name	No of Records	Max Abundance	Notes
<i>Eptesicus serotinus</i>	Serotine	2	5 (passes)	Recorded during bat activity survey and logger deployments (with one record from Yapton Lane)
<i>Myotis spp</i>	Myotis bat	3	1	Recorded during bat activity survey and logger deployments (with one record from Yapton Lane)
<i>Barbastella barbastellus</i>	Western Barbastelle bat	5	2 (passes)	3 of the records were from radio tracked bats with records of passing

				bats also noted from on Yapton Lane.
<i>Nyctalus noctula</i>	Noctule Bat	2	1	All bat detector recordings during surveys (both from 2019)
<i>Pipistrellus spp</i>	Pipistrelle species	2	3	Roost count records from between 1999 - 2002
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	2	24 (passes)	Record of 24 passes from Yapton Lane
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	5	43 (passes)	Most from bat surveys (recorded on detectors)
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle (55 kHz)	20	220	Most records from same grid reference (including roost of 220 from 2015)
<i>Plecotus auritus</i>	Brown Long-eared Bat	4	1 / present	Recorded during activity / logger deployments
<i>Rhinolophus ferrumequinum</i>	Greater Horseshoe Bat	1	1 pass	Recorded from static logger on Yapton Lane in 2019

4.3.3 Trees

A tree issues plan has been proposed for the scheme by Eco Urban with this indicating the majority of the trees proposed for removal are small immature specimens although a larger Beech tree (T2) is also proposed for removal. This tree will need to be subject to a more detailed preliminary ground level roost assessment to determine if it holds any suitability for roosting bats.

4.3.4 Foraging and Commuting Habitat

Whilst the site is largely dominated by an arable field (which offers very limited value to invertebrates), the site supports linear features in the form of mature hedgerow and woodland which could be utilised by commuting and foraging bats. Taking the above into account, and the abundance of local records (especially for rarer species from along Yapton Lane), the site is considered to be of **Moderate** potential for foraging and commuting bats.

4.4 Badgers

4.4.1 Pre-existing Information

SxBRC do not include confidential local records pertaining to Badgers within submitted data searches and therefore pre-existing information regarding this species is limited.

4.4.2 On-site Habitat Assessment

No evidence of foraging or commuting Badgers was noted on-site during the survey and no mammal burrows/suspected Badger setts were encountered within the woodland area located on the eastern boundary of the site.

4.5 Reptiles

4.5.1 Pre-existing Information

SxBRC returned records for the following reptile species from within 1 km of the site:

- Slow Worm (*Anguis fragilis*)- 5 records with majority from 2002 and none within 0.5 km of site.
- Grass Snake (*Natrix helvetica*) – 9 records with one record provided from edge of the pond adjacent to the southern boundary of the site (although this is from 2005).
- Adder (*Vipera berus*) – Single record dated from 2002
- Common Lizard (*Zootoca vivipara*) – 3 records with none from within 0.5 km of the site.

4.5.2 On-site Habitat Assessment

The majority of the site is formed by an arable field and does not therefore not supports any of the features that would be favoured by reptiles. The woodland area located along the eastern boundary of the site can also be considered to be of poor suitability as the ground flora was largely dominated by Ivy with little opportunities for insolation (due to the shading of the canopies). As such, even accounting for the nearby record of Grass Snake presence, the habitats on site are considered to be of **Negligible** potential for reptiles.

4.6 Great Crested Newts

4.6.1 Pre-existing Information

SxBRC returned 3 records of GCN presence from within 1 km of the site with the most recent record (2017) located approximately 1 km to the south of the site. 2 other records (dated from 2005) were from within the pond located on the southern boundary of the site (seen in **Fig 9** below) with both of these records egg observations.

4.6.2 Ponds Located within 500m

2 ponds are located within close proximity to the site with one on the southern boundary (within which there are records of GCN eggs) which is connected via (what appears to be) an old moat to one within a small woodland just beyond the western boundary. 2 Further ponds were present just beyond the southern boundary as well (seen in **Fig 9**).

Figure 9. OS map with the ponds located within 500m of the site (approximate redline boundary indicated). The location of the record of GCN eggs provided by SxBRC is shown by the yellow star.



4.6.3 Habitat Suitability Index

Of the 4 ponds identified, only the pond on the immediate southern boundary was accessible at the time of the walkover survey and therefore at this stage, this was the only one covered by an HSI assessment. The results of this are provided below (**Table 2**) along with an image of the pond (**Fig 10**).

Table 2. Results of the HIS assessment undertaken on the pond located on the southern boundary of the site (as per ARG 2010).

Suitability Indices	Criteria Selected	Score Awarded	Notes
Location	Zone A	1	
Pond area	200m ²	0.4	Estimated
Pond drying	Never	0.9	
Water quality	Moderate	0.67	
Shade	0 – 60%	1	
Fowl	Minor	0.67	2 ducks noted

Fish	Possible	0.7	Edge of pond could not be seen clearly so fish presence could not be discounted
Ponds within 1 km	> 12	1	
Terrestrial habitat suitability	Moderate	0.67	Accounting for allotment habitats and woods as well as arable fields.
Macrophytes	11 – 15%	0.45	Estimated but at sub optimal time of year
HSI Score 0.71 'Good'			

Figure 10. Image of the pond on the southern boundary of the site (taken in January 2021).



NB the eDNA water sample come back as positive indicating continued GCN presence within this pond. The full report is appended to this document.

4.7 Hazel Dormouse

4.7.1 Pre-existing Information

SxBRC returned 5 records of Dormice presence from within 1 km of the site (**Fig 11**) with 4 of these records from the same location (SU968063) dated from 2018. In addition to these records, based on work carried out by Ecosupport in the area there are further known populations of Dormice within 1 km of the site.

Figure 11. The locations of records for Dormice presence as provided by SxBRC relative to the site's location (approximate redline given).



4.7.2 On-site Habitat Assessment

The site contains favorable habitat features in the form of lengths of mature species rich hedgerow, woodland and Bramble scrub (*Rubus fruticosus*) which are often associated with Dormice as they provide key food sources (Bright *et al.*, 2006). Additionally, the site is well-connected to pockets of woodland in the surrounding landscape, including the wood to the south west of the site which is listed as being ancient (as per **Fig 4**). Taking the presence of suitable habitat on-site into account along with the presence of nearby records, the site is considered to be of **High** potential for Dormice.

4.8 Birds of Conservation Concern (BoCC) / Notable Birds

4.8.1 Pre-existing Information

SxBRC have provided an extensive list of BOCC within 1 km of the site with the following

considered to be some of the more relevant species listed;

Grey Partridge (*Perdix perdix*) 2 records, Red Kite (*Milvus milvus*), 4 records, Osprey (*Pandion haliaetus*) 1 record, Kestrel (*Falco tinnunculus*) 34 records, Merlin (*Falco columbarius*) 8 records, Hobby (*Falco subbuteo*) 50 records, Little Ringed Plover (*Charadrius dubius*) 10 records, Lapwing (*Vanellus vanellus*) 19 records, Common Sandpiper (*Actitis hypoleucos*) 4 records, Snipe (*Gallinago gallinago*) 6 records, Curlew (*Numenius arquata*) 1 record, Ruff (*Calidris pugnax*) 13 records, Black-tailed Godwit (*Limosa limosa*) 11 records, Redshank (*Tringa tetanus*) 2 records, Stock Dove (*Columba oenas*) 21 records, Turtle Dove (23 records), Cuckoo (*Cuculus canorus*) 5 records, Barn Owl (*Tyto alba*) 12 records, Tawny Owl (*Strix aluco*) 10 records, Long-eared Owl (*Asio otus*) 1 record, Swift (*Apus apus*) 3 records, Green Woodpecker (*Picus viridis*) 10 records, Lesser Spotted Woodpecker (*Dendrocopos minor*) 8 records, Grasshopper Warbler (*Locustella naevia*) 2 records, Willow Warbler (*Phylloscopus trochilus*) 6 records, Skylark (*Alauda arvensis*) 37 records, Swallow (*Hirundo rustica*) 6 records, House Martin (*Delichon urbicum*) 12 records, Meadow Pipit (*Anthus pratensis*) 2 records, Grey Wagtail (*Motacilla cinerea*) 1 record, Dunnock (*Prunella modularis*) 16 records, Song Thrush (*Turdus philomelos*) 10 records, Mistle Thrush (*Turdus viscivorus*) 2 records, Whitethroat (*Sylvia communis*) 11 records, Starling (*Spinus vulgaris*) 8 records, House Sparrow (*Passer domesticus*) 16 records, Tree Sparrow (*Passer montanus*) 3 records, and Yellowhammer (*Emberiza citrinella*) 8 records.

4.8.2 Site Assessment

The hedgerow and woodland habitat bordering the site provide good opportunities for local breeding and nesting birds such as those listed in section 4.8.1 above, in addition to the grassland on site which potentially could provide foraging opportunities to local birds of prey such as Barn Owl, Red Kite, and Kestrel (with many local records). There are no grassland areas within the site however, and it is consequently of limited potential for supporting ground nesting bird species. As such the site is considered to be of **moderate potential** for nesting and breeding birds.

5.0 LIKELY ECOLOGICAL IMPACTS IN ABSENCE OF MITIGATION

5.1 Introduction

The CIEEM guidelines (CIEEM 2018) require that the potential impacts of the proposals should be considered in absence of mitigation. In order for a significant adverse effect to occur, the feature being affected must be at least of local value. However, in some cases, features of less than local value may be protected by legislation and/or policy and these are also considered within the assessment. Although significant effects may be identified at this stage of the assessment, it is often possible to provide appropriate mitigation.

5.2 Site Preparation and Construction

5.2.1 Impacts to Habitats

The majority of the development will take place within arable habitat which is of little intrinsic ecological value and therefore only considered to be of value at the **site** level. The development however also proposes the removal of small sections of the woodland on the eastern boundary to make way for the site access. These works will require the loss of woodland habitat as well as taking place close to retained woodland areas and mature trees and could therefore result in damage by machinery, particularly by root compaction. Due to the potential of the woodland to support protected species and the habitat being listed as a S41 NERC Act (2006) habitat, loss would have a **minor** (as only a small section is being removed) **adverse impact** to habitats of **Local** value.

5.2.2 Impacts to Wildlife

The hedgerow and woodland habitats on site have been identified as holding moderate potential for both breeding and nesting birds, local foraging and commuting bats, terrestrial GCN and as favourable habitat for potential populations of Dormice. Whilst the development retains the majority of these habitats on site, it does propose some level of removal to facilitate access onto Yapton Lane. Clearance of these habitats, if undertaken during the nesting season, is likely to result in the disturbance to and/or destruction of bird nests and could result in a permanent reduction of suitable foraging and commuting bat habitat. In addition, such works may cause permanent loss of Dormouse / terrestrial GCN habitat and disturbance to summer/winter nests and hibernating newts if these species are using the site. These works are considered likely to have a **minor – moderate** adverse impact at the **Local – County** level.

5.3 Site Operation

5.3.1 Impacts to Wildlife

The development will result in an increase in lighting within the general area from street lights and external lights on the dwellings. This can affect the behaviour, particularly foraging, of nocturnal wildlife. Therefore, an **adverse impact is likely** on nocturnal species.

5.3.2 Loss of Breeding and Nesting Bird Habitat

The works potentially will involve the selective removal of scrub/ hedgerow across the site, resulting in a deficit of breeding and nesting bird habitat on site post-development. Therefore,

it is considered there will be a ***potential minor adverse impact*** upon local breeding and nesting birds.

6.0 RECOMMENDATIONS, MITIGATION & ENHANCEMENTS

6.1 Introduction

The below sections outline a number of recommendations for further survey work required to fully assess the potential ecological impacts of the development and ensure proposed mitigation and compensation appropriate and proportionate.

6.2 Bats

6.2.1 Foraging and Commuting

Based on the moderate assessment for foraging and commuting bats, the BCT guidelines (Collins (ed) 2016) recommend the following level of activity survey work is undertaken (**Table 3**).

Table 3. Guidelines on the number of bat activity surveys recommended to achieve a reasonable survey effort in relation to habitat suitability (as per Collins, 2016).

Survey Type	Low Suitability Habitat for Bats	Moderate Suitability Habitat for Bats	High Suitability Habitat for Bats
Transect / spot count / timed search surveys	One survey visit per season (spring – April/May, summer – June/July/August, autumn – September/October) in appropriate weather conditions for bats. Further surveys may be required if these surveys visits reveal higher levels of bat activity than predicted by habitat alone	One survey visit per month (April – October) in appropriate weather conditions for bats. At least one of the surveys should comprise a dusk and pre-dawn (or dusk to dawn) within one 24 hr period.	Up to 2 surveys visit per month (April – October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24 hr time period.
AND			
Automated/static bat detector surveys	One location per transect, data to be collected on five consecutive nights per season in appropriate weather conditions for bats	Two locations per transect, data to be collected on 5 consecutive nights per month in appropriate weather conditions for bats	Three locations per transect, data to be collected on 5 consecutive nights per month in appropriate weather conditions for bats.

6.2.2 Minimisation of Disturbance to Nocturnal Wildlife

A more detailed scheme of minimising the potential impact of lighting upon sensitive species will be included within the bat results report following the conclusion of the proposed surveys.

6.3 Dormice

Given the presence of species rich hedgerow and wooded habitats both within and adjacent to the site with linkages to high suitability habitat within the local area, it is recommended that a nesting tube survey will be set up following the methodology as described within Bright et al (2006). This survey will help to establish presence / absence on site and inform any required mitigation / compensation. Surveys would require the erection of 50 nesting tubes (that may require access into the adjoining hedgerow/woodland habitats) in suitable habitats with these then checked from April – September (in order to achieve an adequate survey effort score as per Bright et al (2006)).

6.4 GCN

With GCN presence confirmed within the pond located on the southern boundary of the site, a full, suite of population surveys will be required. These will be conducted in line with the guidance published in the GCN Mitigation Handbook (English Nature, 2001).

6.5 Birds

To avoid disturbance of nesting birds or damage to their nests, clearance of the trees and shrub should be undertaken outside of the bird-nesting season (typically March – August, dependant on weather). If this is not possible, the area to be cleared should be thoroughly checked by an ecologist immediately prior to clearance. If any active nests are found they should be left undisturbed with a suitable buffer of undisturbed vegetation (ca. 5m) until nestlings have fledged.

6.6 Enhancements

Details of ecological enhancements (with a view to providing a demonstrable net gain in the biodiversity value of the site) will be provided within a Biodiversity Enhancement Plan document that will supported the application. This will be prepared once the additional survey work has been completed when a better understanding of the opportunities for enhancement are understood.

6.7 Site Design

As indicated in the layout appended to this report, the design of the site has been ecology / landscape led and has sought to provide a number of features that will be beneficial to the sites ecological interests as well as provided 'built' in areas for mitigation / compensation (which will accommodate the species / groups identified on site following the phase 2 surveys recommended). These features include the following:

- Creation of wildflower meadow and pond on southern part of the site
- New hedgerow / shrub belt planted across the site which will provide connectivity between eastern and western hedgerows
- 'Gapping up' of existing boundary hedgerows where necessary

It is therefore considered that through the provision of these features, even once the ecological survey work has been completed, there will be adequate scope to mitigate /

compensate against any identified impacts without the need for significant changes to the layout.

7.0 REFERENCES

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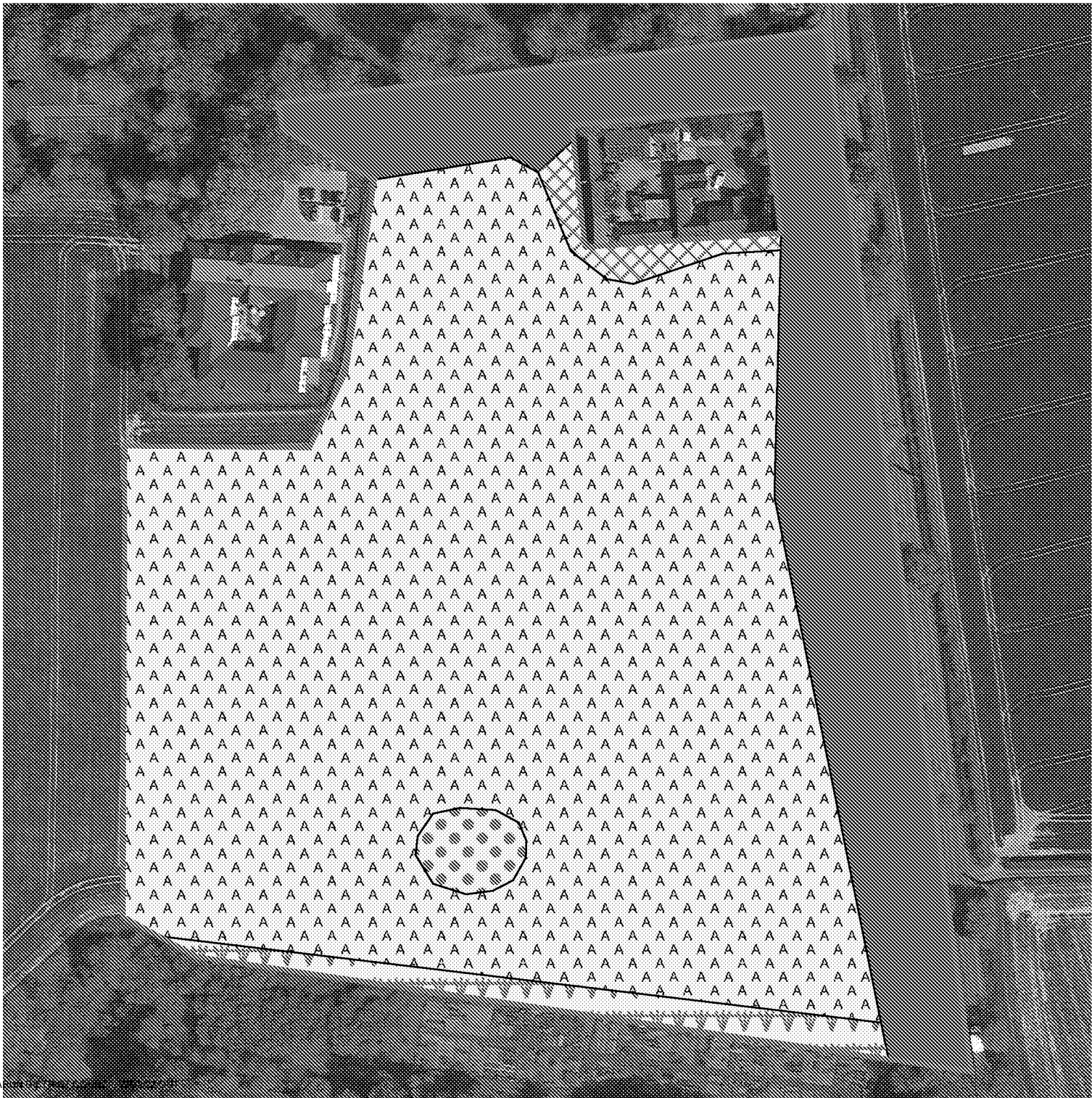
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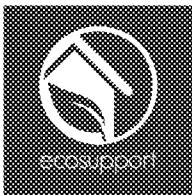
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Legend

-  Site boundary
-  Arable land
-  Broadleaved woodland - semi-natural
-  Hedge with trees - native species-rich
-  Scrub and tall ruderal
-  Scattered trees



K4 Keppel, Daedalus Park
Daedalus Drive
Lee on the Solent, PO13 9FX
E: info@ecosupport.co.uk
T: 01329 832 841

Map	Phase I Habitat Survey
Site	Land West of Yapton Lane, Walberton
Client	LandQuest (Southern) Ltd
Date	18/01/2021

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Folio No: E9558
Report No: 1
Purchase Order: WALBERTON POND
Client: ECOSUPPORT LTD
Contact: Adam Jessop

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: 22/04/2021
Date Reported: 25/04/2021
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
2547	WALBERTON POND	SU 974 053	Pass	Pass	Pass	Positive	5

If you have any questions regarding results, please contact us: F

Reported by: Chris Troth

Approved by: Chris Troth



Forensic Scientists and Consultant Engineers
SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE

Company Registration No. 08950940

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.



Forensic Scientists and Consultant Engineers
SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE

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