

Protected Species Assessment Butts Batch, Wroughton



October 2020

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Issue: Final

Date: October 2020

Project: ETH20 - 074



EXECUTIVE SUMMARY

Introduction	<ul style="list-style-type: none"> The site was located at Butts Batch, Wrington, North Somerset (Central Grid Reference ST 46638 62408) and is subject to plans for the construction of 71 dwellings with associated residential gardens, access and garages. This Protected Species Assessment has been written to detail the results of the targeted protected species surveys undertaken as a result of the findings of the Preliminary Ecological Assessment, and to assess the potential ecological impacts the proposals may have on protected and notable species.
Surveys undertaken	<ul style="list-style-type: none"> This Protected Species Assessment was completed following targeted surveys for badgers, bats and dormice, which were undertaken in 2020.
Ecological constraints	<ul style="list-style-type: none"> The site is located within the North Somerset and Mendips Bat SAC consultation zone B. There was an active badger sett to the north west of the site boundary, and signs of badger foraging/commuting across the site. A population of dormice is likely to reside on the development site within the hedgerow habitat. The targeted bat surveys identified a minimum of twelve species of bats using the site for commuting and foraging. Soprano pipistrelle, common pipistrelle and noctule made up the majority of calls, with lesser horseshoe bat also making up a notable percentage (9%) of the calls recorded on the static detectors. Activity levels recorded during the activity transect surveys were low.
Recommendations	<ul style="list-style-type: none"> Clearance of the site must be undertaken in an ecologically sensitive manner, including working methods and timing of works. Ecological compensation and enhancement features have been recommended for the site.
Conclusions	<ul style="list-style-type: none"> If the recommendations within this Protected Species Assessment are followed, the development can ensure that protected species are safeguarded during construction and that the site can be enhanced for protected species as part of the landscape proposals.

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1 INTRODUCTION

Ethos Environmental Planning (Ethos) have undertaken this Protected Species Assessment at Butts Batch, Wrington, North Somerset (Central Grid Reference ST 46638 62408), hereafter referred to as the “site” and shown in Figure 1.

The total area surveyed was 3.1 hectares and included hedgerows and agriculturally improved grassland. A Preliminary Ecological Assessment (PEA) was undertaken by Ethos in February 2020, which recommended further surveys for bats, badger, great crested newt (GCN) and hazel dormouse. This Protected Species Assessment (PSA) includes the findings of these additional surveys with recommendations for mitigation, compensation and enhancement.

The overall assessment has been informed by guidelines provided in the ‘*CIEEM guidelines for ecological report writing 2nd Edition, 2017*’. Further guidance in relation to surveys for protected species is detailed in the relevant sections within this report. The primary aims of the PSA is to provide a robust evaluation of the potential impacts of the proposed scheme on ecological features that may be affected; with due regard to relevant local planning policy and legislation.

A net gain assessment has been carried out for the scheme and the results are provided *Biodiversity Net Gain Results* (Ethos, 2020).

1.1 Aims and Objectives

The Protected Species Assessment has the following objectives:

- To establish presence or likely absence of protected species including badger, dormouse and bats;
- to identify the mitigation and compensation measures required to ensure there is no negative impact on protected species as a result of the development proposals;
- to establish any requirements for further surveys or licensing; and
- to identify ecological enhancement for protected species.

1.1 Structure of the Report

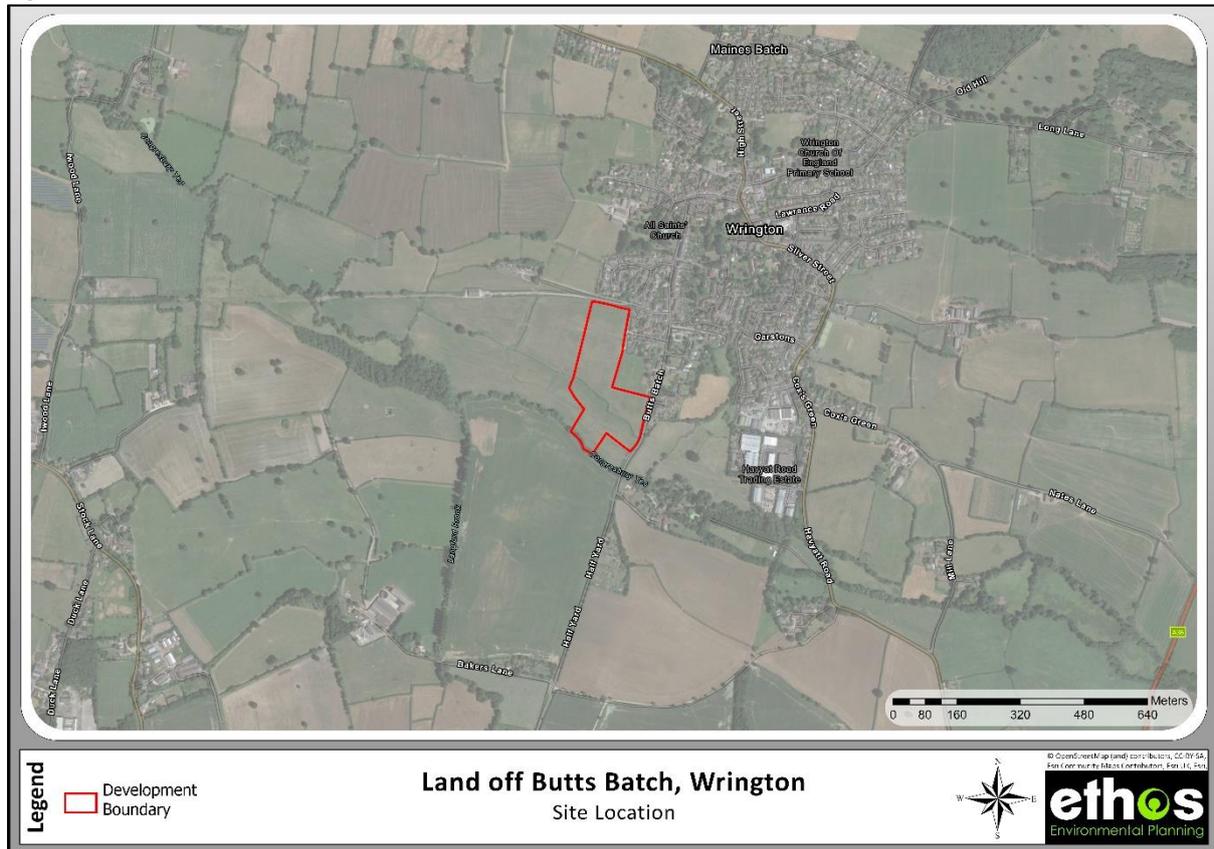
The following sections are included within this report:

- Legislative and planning context;
- Methodologies;
- Protected species results;
- Discussion;
- Recommendations; and
- Conclusions.

1.1 Site Location

The site was located to the south-west of the village of Wrington within North Somerset (Central Grid Reference ST 46638 62408), as shown in Figure 1. The site was set within a semi-rural landscape dominated by pastoral land and associated hedgerows and was located approximately 80m north of the Congresbury Yeo River. The site is within Consultation Zone B of the North Somerset and Mendips Special Area of Conservation (SAC).

Figure 1 Site Location



1.2 Development Proposals

The development proposals include the construction of 71 dwellings with associated residential gardens, access and garages. The proposals include the creation of a pond in the south-east of the site, Local Equipped Area for Play (LEAP), open space and wildlife area to the south. Access to the site will be created off the Half Yard Road located along the south eastern boundary of the site and off the farm track along the northern boundary of the site.

Figure 2 Illustrative masterplan



2 LEGISLATIVE AND POLICY CONTEXT

This section provides a summary of the legislative and planning context which has been used to inform the ecological assessment and subsequent recommendations made in this report. Appendix 1 sets out further details in relation to the most relevant legislation and policy.

Summary of Legislation

The Habitats Directive (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all, the directive protects over 1,000 animals and plant species and over 200 "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance. The habitats Directive and parts of the Birds Directive are transposed into legislation by the **Conservation of Habitat and Species Regulations 2017**. Further detail on legislation and designated sites is provided in appendix A1.2; with reference to the protection of Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

The Wildlife and Countryside Act 1981 (as amended) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Badgers and their setts are protected under the **Protection of Badgers Act 1992** as amended by the Hunting Act 2004.

The **Natural Environment and Rural Communities Act 2006** (the NERC act) places a duty on all public authorities, including local planning authorities, to consider biodiversity in their work. Local planning authorities are to ensure that there is no net loss of biodiversity on a site, no net loss in habitat connectivity and aims to enhance biodiversity.

The **Hedgerows Regulations 1997** protect 'important hedgerows' from being removed (uprooted or destroyed). Hedgerows are protected if they are at least 30 years old and meet at least one of the criteria listed in part II of schedule 1.

Specific legislation related to different species such as bats, birds and reptiles is outlined in Appendix III.

2.1 Policy

The **National Planning Policy Framework (NPPF)** aims to minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including the establishment of coherent ecological networks more resilient to current and future pressures.

The UK Biodiversity Action Plan (UKBAP) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory.

There is no longer a UK Biodiversity Action Plan; this has been replaced by the **UK Post-2010 Biodiversity Framework (2012)**. The England Biodiversity Strategy has been replaced by **Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011)**. As a result, the BAP process has been devolved to local level with each county deciding its own way forward.

2.1.1 Biodiversity in the Planning System

The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 175 (NPPF):

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

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) 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 on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) 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*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2013, which involves the following stepwise process:

- **Avoidance** – avoiding *adverse* effects through good design;
- **Mitigation** – where it is *unavoidable*, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide *compensation* to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for *biodiversity*, which can also be explored alongside the above measures to resolve potential adverse effects.

The measures for avoidance, mitigation, compensation and enhancement should be

proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2013, section 5.5)

2.1.2 Local Policy

Relevant policy taken from the adopted **North Somerset Council Core Strategy 2017**

Policy CS4: Nature conservation North Somerset contains outstanding wildlife habitats and species. These include limestone grasslands, traditional orchards, wetlands, rhynes, commons, hedgerows, ancient woodlands and the Severn Estuary. Key species include rare horseshoe bats, otters, wildfowl and wading birds, slow-worms and water voles. The biodiversity of North Somerset will be maintained and enhanced by:

- 1) *Seeking to meet local and national Biodiversity Action Plan targets taking account of climate change and the need for habitats and species to adapt to it;*
- 2) *Seeking to ensure that new development is designed to maximise benefits to biodiversity, incorporating, safeguarding and enhancing natural habitats and features and adding to them where possible, particularly networks of habitats. A net loss of biodiversity interest should be avoided, and a net gain achieved where possible;*
- 3) *Seeking to protect, connect and enhance important habitats, particularly designated sites, ancient woodlands and veteran trees;*
- 4) *Promoting the enhancement of existing and provision of new green infrastructure of value to wildlife;*
- 5) *Promoting native tree planting and well targeted woodland creation, and encouraging retention of trees, with a view to enhancing biodiversity.*

The Core Strategy Approach

Policy 3.65 The policy reflects the importance of meeting regional biodiversity targets. It also emphasises the need to design development to maximise benefits to biodiversity, incorporating and enhancing natural habitats and features, particularly networks of habitats, which are very important as wildlife corridors. It stresses that development should not result in net loss of biodiversity interest and promotes achievement of a net gain where possible.

Policy 3.66 The policy sets out the requirement to protect and enhance biodiversity in broad terms, although more detailed guidance will be provided within the Sites and Policies Development Plan Document.

Policy 3.67 The policy reflects the importance of strategies very relevant to biodiversity, including the emerging Green Infrastructure Strategy. Green infrastructure includes linear green space which can provide valuable wildlife corridors.

Policy 3.68 The policy reflects the importance of trees for biodiversity, and regard must be had to the Biodiversity and Trees SPD, which includes guidance for developers on planning for biodiversity; e.g. screening for the presence of biodiversity, undertaking tree and ecological surveys and planning to protect, retain and manage existing trees, habitats and species.

North Somerset and Mendips Bat SAC

The North Somerset and Mendip Bats SAC is designated under the Habitats Directive 92/43/EEC, which is transposed into UK law under the Conservation of Habitats and Species Regulations 2010 (as amended) ('Habitat Regulations). This means that the populations of bats supported by this site are of international importance and therefore afforded high levels of protection, placing significant legal duties on decision-makers to prevent damage to bat roosts, feeding areas and the routes used by bats to travel between these locations.

The primary reason for designation of the bat SAC are two Annex II species:

- the greater horseshoe bat *Rhinolophus ferrumequinum*; and
- the lesser horseshoe bat *Rhinolophus hipposideros*.

Where a proposal within Bands A or B of the Consultation Zone has the potential to affect the features identified below, early discussions with the local planning authority (who will consult Natural England as necessary) are also essential.

- *Known bat roost;*
- *On or adjacent to a Site of Special Scientific Interest (SSSI);*
- *Linear features: hedgerows, tree lines, watercourses, stone walls, railway cuttings;*
- *Pasture, hay meadow, streamline, woodland, parkland, woodland edge; or*
- *Wetland habitat: ponds, marsh, reedbed, rivers, streams, rhynes.*

3 METHODOLOGY

3.1 Badgers

The habitat assessment for badgers within the initial PEA identified the site as having the potential to support foraging and commuting badger. Therefore, an additional survey was undertaken to search for any evidence of badger within the site boundary and within the wider area.

The survey was undertaken on 24th June 2020 and included a search for any evidence of setts, foraging signs (snuffle holes), footprints, runs and latrines. An additional survey was undertaken on 13th October 2020.

3.2 Hazel Dormouse

The survey included an assessment of the potential of the site for hazel dormouse (*Muscardinus avellanarius*), focusing on the connectivity and suitability of the habitat on site.

Fifty dormouse tubes were deployed in suitable habitat across the site on 21st May 2020 at 20 metre intervals. The tubes were deployed within suitable habitats on site and were deployed within the adjacent fields to the west of the site, as shown in Figure 3.

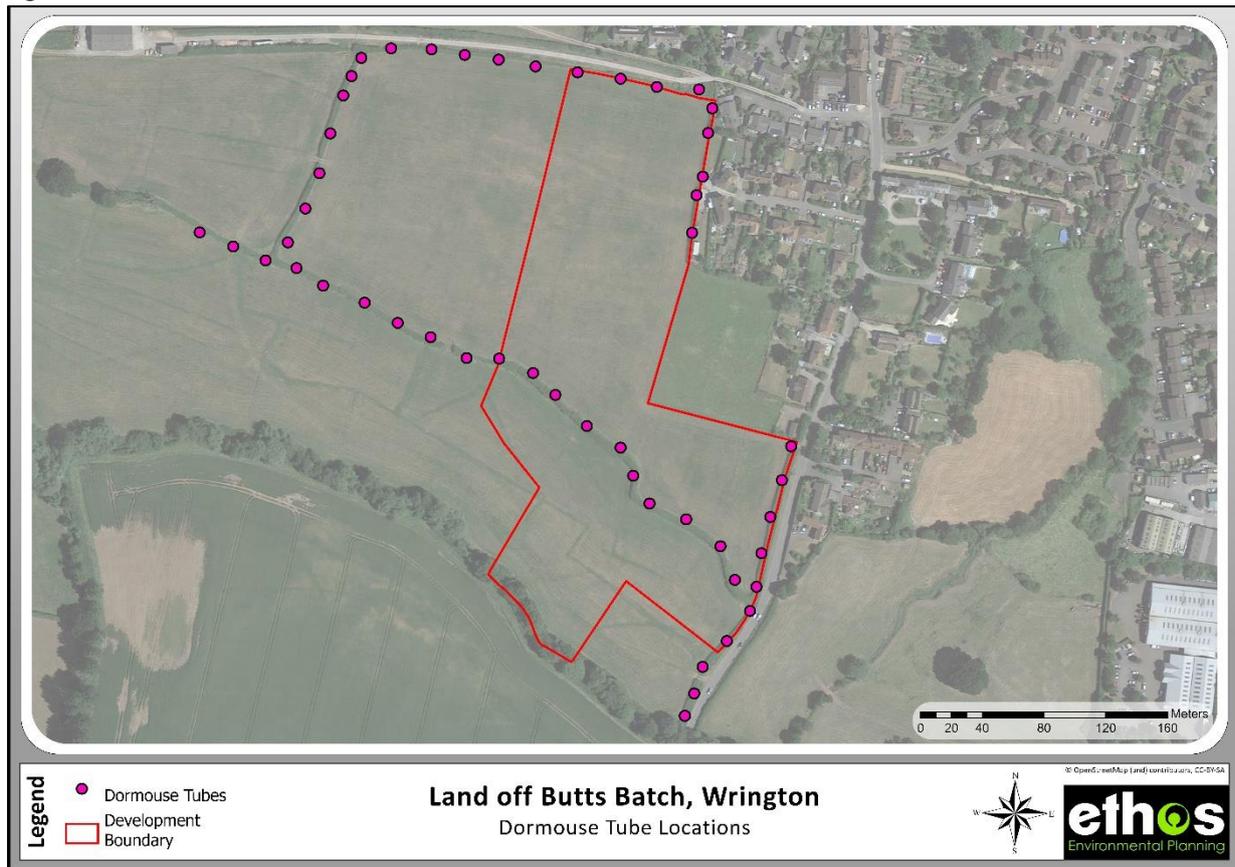
Table 1 below (taken from the *Dormouse Conservation Handbook* (Bright, P., Morris, P., and Mitchell-Jones, T. 2006)) shows the index of probability of finding evidence of dormouse in nest tubes. The score is based on 50 tubes deployed. A minimum score of 20 must be reached to determine presence/likely absence. The months and scores were highlighted in bold to indicate the months when the dormouse tubes were deployed on site.

The tubes were checked on 16th June, 27th July, 20th August, 23rd September and 13th October and 2nd November in suitable dry weather conditions.

Table 1 *Dormouse presence index of probability*

Month	Score
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2
Total	20

Figure 3 Dormouse tube locations



3.3 Bats

The methodology for the bat survey has been informed by the Bat Conservation Trust *Bat Surveys Good Practice Guidelines 2016* and the *North Somerset and Mendip Bats SAC Guidance on Development – Version 1, May 2017*. The habitats on site were assessed for their suitability for foraging and commuting bats and the potential for roosting bats. The assessment was also contextualized through examination of suitable habitat and features in the wider landscape and possible flight-lines across the proposed site following natural linear features such as hedgerows.

3.3.1 Activity Surveys

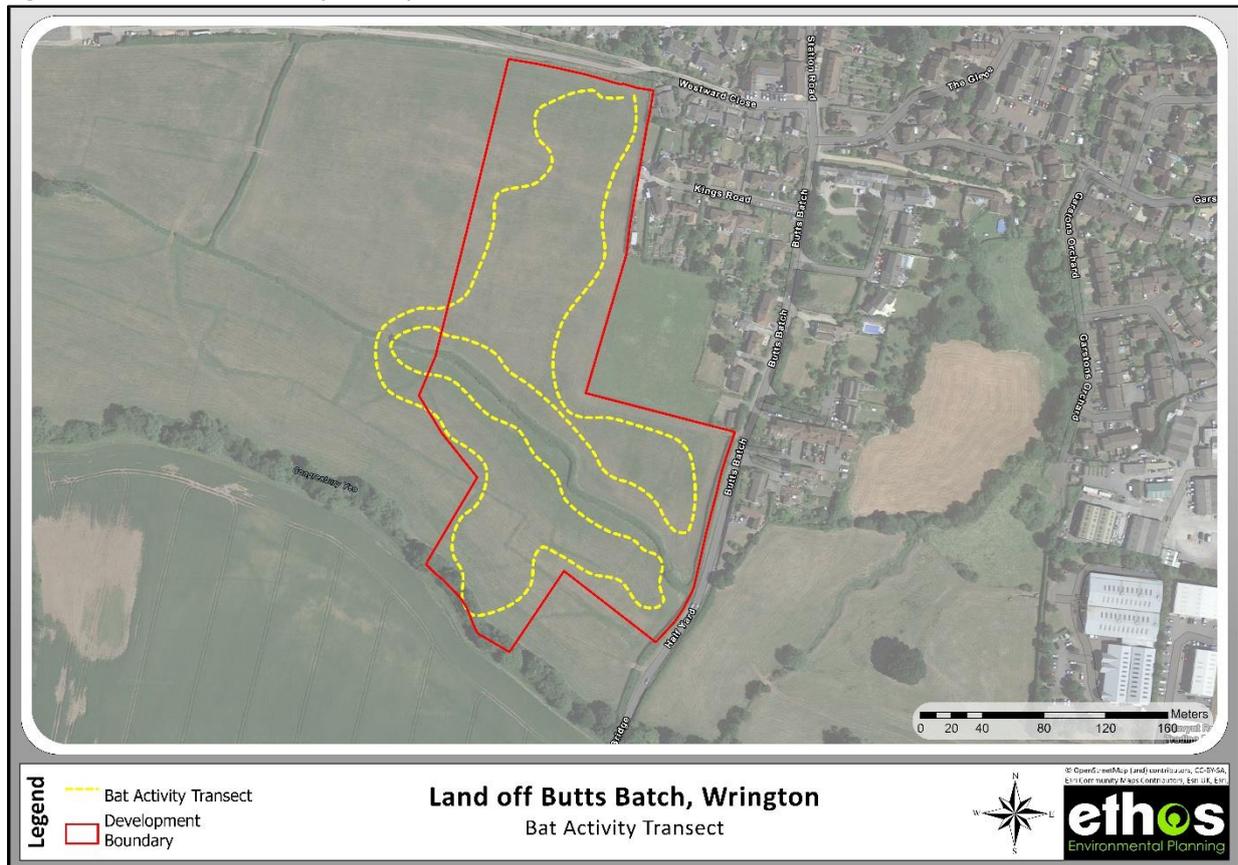
The *North Somerset and Mendip Bats SAC Guidance on Development* recommends that in relation to manual transect surveys within Band B 'at least one survey should be undertaken in each month from April to October'.

A single transect was undertaken per month between May and October, with a total of six surveys over the entire survey period. The transect included observing and recording specific bat behaviour such as foraging and commuting, identifying areas of high activity or key features for bats, and recording the species and noting the overall species composition. The activity surveys were all comprised of dusk activity surveys and were undertaken from sunset for 2-3 hours due to the potential for recording greater horseshoe bats.

The transect included walking each side of the central hedgerow, the eastern hedgerows, the adjacent field to the west of the site, and the field with stream and associated hedgerow to the south. The activity transect is illustrated within Figure 4.

Two surveyors carried out the activity transect, using an Echometer Touch detector. All results were analysed and compared to a library of known bat calls.

Figure 4 Bat Activity Survey Transect



3.3.2 Static Detector Surveys

The *North Somerset and Mendip Bats SAC Guidance on Development* recommends that within Band B 'The main survey effort should be that using automated detectors. Automatic bat detector systems need to be deployed at an appropriate location (i.e. on a likely flyway). Enough detectors should be deployed so that each location is monitored through the survey period in order that temporal comparisons can be made. The period of deployment should be at least 50 days from April to October and would include at least one working week in each of the months of April, May, August, September and October'.

Passive bat detector surveys were undertaken on site to support the information provided within the activity surveys as recommended within the bat survey guideline (Collins, 2016). Four static positions were selected using surveyor judgement. The static detectors, their location, and the duration they recorded were provided within Table 2 and Figure 5 below.

Locations 1 and 2 were the main focus of the survey efforts, as they were identified as the potential main activity routes for bats in relation to the development footprint. A static detector was deployed at locations 3 and 4 for different reasons. The development proposals indicate the creation of an access road through a section of hedgerow at location 3, therefore it was considered necessary to gain data to inform the potential impact on bats. Location 4 was chosen to gain comparative data against the other survey positions.

Table 2 Static Detectors

Detector	Position	Equipment Type	Start Date	End Date	Number days recorded
1	1	SM4 (FS)	27/03/2020	15/04/2020	19
2	2	SM4 (ZC)	27/03/2020	27/04/2020	27
3	2	SM4 (ZC)	17/06/2020	02/07/2020	8
4	1	SM4 (FS)	17/06/2020	24/06/2020	15
5	1	SM4 (ZC)	16/07/2020	27/07/2020	11
6	2	SM4 (FS)	16/07/2020	27/07/2020	FAILED
7	1	SM4 (MINI) (FS)	11/08/2020	20/08/2020	FAILED
8	2	SM4 (MINI) (FS)	11/08/2020	14/08/2020	4
9	1	SM4 (ZC)	09/09/2020	23/09/2020	6
10	2	SM4 (ZC)	09/09/2020	23/09/2020	14
11	3	SM4 (ZC)	09/09/2020	23/09/2020	14
12	4	SM4 (FS)	09/09/2020	23/09/2020	FAILED
13	1	SM4 (ZC)	09/10/2020	13/10/2020	4
14	2	SM4 (ZC)	09/10/2020	13/10/2020	4
	Total				126

Figure 5 Static Bat Detector Locations



3.3.3 Lighting Assessment

Ecological Lux level baseline for the site was assessed by taking LUX readings two hours after sunset on 20th August 2020. The site has been assessed using standard industry equipment - the Konica Minolta T10 Luminance meter with all readings taken in a horizontal plane. Illuminance levels throughout the site and at the boundary have been produced so that the current site baseline is understood.

Light trespass has been assessed and the line of sight from neighbouring properties has also been considered. Guidance provided by *The Society of Light & Lighting Handbook (2009)* apply a common Environmental Zoning system, which is summarised below.

- Zone E1. Areas with intrinsically dark landscapes: National Parks, areas of outstanding natural beauty (where roads are usually unlit) Rural Environmental;
- Zone E2. Areas of 'low district brightness': outer urban and rural residential areas (where roads are lit to residential road standard) Urban Environmental;
- Zone E3. Areas of 'middle district brightness': generally urban residential areas (where roads are lit to traffic standard) Urban Environmental;
- Zone E4. Areas of 'high district brightness': generally urban areas having mixed recreational and commercial land use with night-time activity.

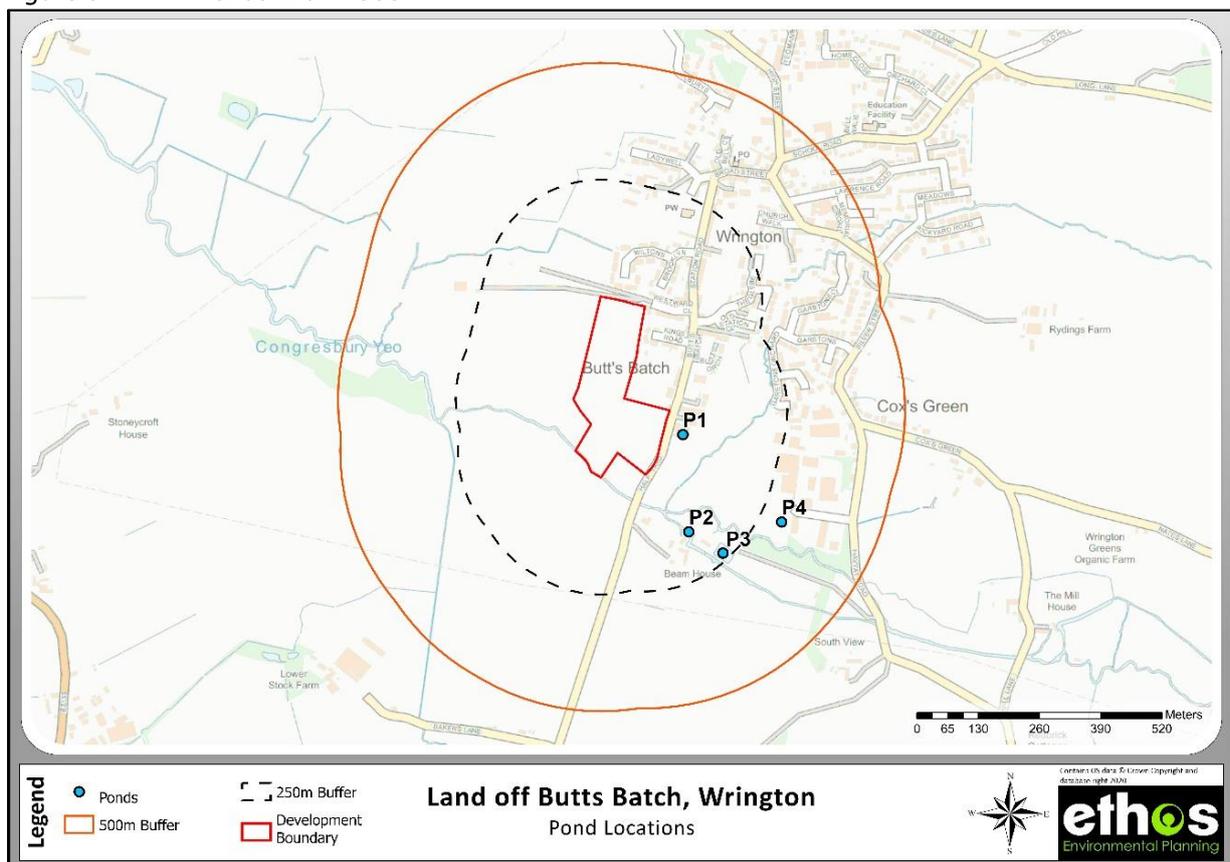
3.4 Great Crested Newt (GCN)

The PEA identified that the site was dominated by agriculturally modified grassland providing low/negligible potential for terrestrial amphibians, and there was no breeding habitat on site such as standing water or ponds. The background data search returned no records of amphibians including GCN.

The desk-based assessment of ponds within 500m of the site identified four ponds, as shown in Figure 6. One pond was located 30m east of the site in a residential garden (P1) and the second pond was located 130m south east of the site in Cox's Green (P2). Ponds 3 and 4 were located 250m south east of the development area. As a precautionary measure it was recommended to undertake a Habitat Suitability Index (HSI) of the ponds.

To assess the potential presence for GCN in the vicinity of the site, Ethos requested access to all ponds within 500m of the site. Letters were sent to landowners (Appendix 2) however, no responses were received. Therefore, the ponds could not be accessed as part of the assessment.

Figure 6 Ponds within 500m



3.5 Personnel

The surveyors on site are included within Table 3 below. The survey team have worked together on numerous similar projects and have a complimentary range of skills and experience which are considered to have provided a robust ecological appraisal of the site.

Table 3 Surveyors on Site

Ecologist	Position	Qualification/Licence	Experience
Jim Philips	Principal Ecologist	MSc BSc (Hons), MCIEEM Class 2 Bat Licence Class 1 GCN Licence	Jim's experience in ecology covers a wide range of projects and clients and his focus is on interpreting relevant policy and legislation to ensure projects are delivered efficiently and meet the needs of the client. He holds survey licenses for bats and great crested newts in England and Wales and is a registered consultant on Natural England's Bat Low Impact Class License (BLICL)
Sarah Forsyth	Senior Ecologist	MSc BSc (Hons), ACIEEM Class 1 GCN Licence	Sarah has over 10 years' experience in environmental planning and ecological impact assessment, both in consultancy and public sector. This includes over 5 years field survey experience. Sarah is responsible for managing ecology surveys and assessments through various stages of planning and implementation.
Rachel Fayers	Principal Ecologist	BSc (Hons), ACIEEM Class 2 Bat Licence (NE) Class 1 GCN Licence (NE)	Rachel is a practised ecologist and conservationist with over 8 years' experience in the field and is a licensed bat worker. Rachel is responsible for managing ecology surveys, appraisals and projects through various stages of planning and implementation.
Charlie Fayers	Principal Ecologist	BSc (Hons), ACIEEM Class 2 Bat Licence (NE) Class 1 GCN Licence (NE)	Charlie is a practising ecologist with 8 years' experience in biological fieldwork and is a licensed bat worker. Charlie is responsible for managing ecology surveys, appraisals and projects through various stages of planning and implementation.
Stephanie Green	Senior Ecologist	MSc BSc (Hons), MCIEEM Class 1 GCN Licence Class 1 Hazel Dormouse Licence	Steph has over six years' experience in ecological field survey and consultancy. Steph is responsible for undertaking comprehensive habitat assessments, protected species surveys and is a licenced GCN and dormouse worker.
Kane Burchill	Ecologist	Level 2 Certificate and Diploma in Work-based Environmental Conservation Working towards a certificate of higher learning: Field Ecology - currently Level 2 Certificate and Diploma in Work-based Environmental Conservation	Kane has over six years' experience in ecological field survey and consultancy. As an Ecologist with Ethos; Kane is responsible for undertaking comprehensive habitat assessments and protected species surveys.

		Class 1 Bat Licence (NE) 2019-39784-CLS-CLS Class 1 Hazel Dormouse Licence (NE) 2019-43735-CLS-CLS	
George Clutterbuck	Ecologist	Level 2 Certificate and Diploma in Work-based Environmental Conservation Working towards a certificate of higher learning: Field Ecology - currently Level 2 Certificate and Diploma in Work-based Environmental Conservation	George has over five years' experience in ecological field survey and consultancy. As an Ecologist with Ethos; George is responsible for undertaking comprehensive habitat assessments and protected species surveys.
Joel Sellors-Moore	Ecologist	BA (Hons) Working towards master's in Applied Ecology at the University of Gloucestershire	Has over three years' experience in ecological field survey and consultancy and assists with habitat assessments, protected species surveys and data analysis.
Sarah Roberts	Assistant Ecologist	MSc, BA, Qualifying CIEEM	Sarah has one year of consultancy and biodiversity project management experience. Sarah's specialism is ornithology and now assists with ecological field survey and desk studies.

3.6 Limitations

3.6.1 GCN

Permission was not granted to undertake a HSI assessment of the ponds identified. However, it was assessed that the terrestrial habitats on site provided low/negligible potential for GCN and the ditches provided poor suitability. Although the ponds could not be surveyed, due to the lack of suitable habitats on the proposed development site and the lack of desk study records, it was assessed that GCN were likely absent from the site. Therefore, this was not considered a significant limitation to the overall Ecological Assessment.

3.6.2 Badger

There were multiple mammal trails onsite which could be which could be used by deer, fox, or badger; therefore, the trails may not be indicative of use by badgers. However, additional information was recorded to aid with identification including setts, gaps under stock fencing, badger hair, latrines and paw prints to attempt to identify the presence of badger.

3.6.3 Bats

A bat activity survey was not undertaken in April, due to the surveys not being officially commissioned until May 2020. However, static detectors were deployed at the site from March 2020 as a precautionary measure and this data has been used to inform the assessment.

Three static detectors deployed on site failed to record and three failed after recording for three or four nights (see Table 2); this meant that no data relating to the southern hedgerow and stream was gathered and the data for July, August and October was limited. This is not considered a significant limitation to the assessment, as the static detector surveys were supported by activity surveys, which showed that the southern hedgerow was an important feature for bats. A total of 125 survey nights of data was gathered from the detectors which did function through the survey; this is considered sufficient to support the assessment. Furthermore, the development proposals will not impact this area of the site. While this means that seasonal changes to activity on the site could not be assessed, it was possible to establish a reliable species assemblage and broad activity levels and it was concluded that this did not constitute a significant limitation to the assessment.

4 PROTECTED SPECIES RESULTS

This section included survey results from targeted surveys for badger, dormouse and bats.

4.1 Badger

A badger was recorded commuting on site during a bat survey on 19th May 2020. The survey undertaken on 26th June 2020 identified multiple trails adjacent to the hedgerows and a latrine on the northern boundary of the site, as shown in Figure 7. Two badger holes which appeared to be freshly dug were identified along the track to the north west of the site boundary on 13th October 2020. The holes were on the northern side of the track within the scrub and appeared to be in use due to the presence of fresh bedding and spoil.



Photo 1 Western hole



Photo 2 Trail in scrub by western hole



Photo 3 Eastern hole



Photo 4 Eastern hole

Figure 7 Evidence of Badger



4.2 Hazel Dormouse

Fifteen nests found within tubes were that of wood mouse; comprising of single species of leaf, with no structure. Additionally, live wood mice were recorded in two locations, as shown in figure 8.

Evidence of dormouse was found in two adjacent tubes, approximately 140metres west of the site boundary in hedge 4 as shown in figure 8. One nest was comprised of shredded grass and some moss; this tube was subsequently assessed to be an early dormouse nest; see photos 5 and 6 below. The second nest was also assessed to be an early dormouse nest (Photo 7). Full results of the targeted dormouse surveys have been included within Appendix I.



Photo 5 Early dormouse nest 27th July



Photo 6 Early dormouse nest on subsequent visit
20th August



Photo 7 early dormouse nest

Figure 8 Dormouse Survey results



4.3 Bats

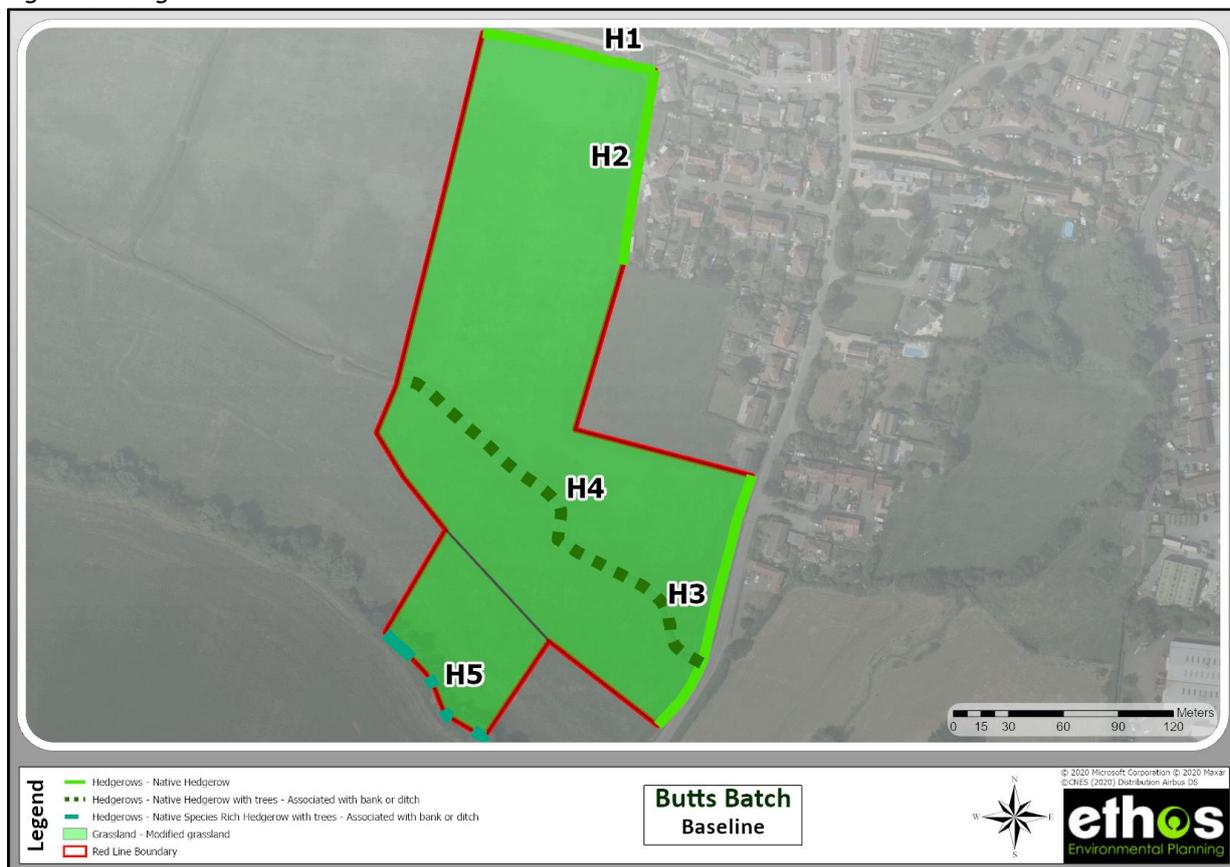
The following section details the results of the bat surveys at the site. Codes used in the description of bat species are as follows:

CP	Common pipistrelle (<i>Pipistrellus pipitrellus</i>)
SP	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)
NP	Nathusius's pipistrelle (<i>Pipistrellus nathusii</i>)
SER	Serotine (<i>Eptesicus serotinus</i>)
NOC	Noctule bat (<i>Nyctalus noctula</i>)
LEI	Leisler's bat (<i>Nyctalus leisleri</i>)
MYODAU	Daubenton's bat (<i>Myotis daubentonii</i>)
MYONAT	Natterer's bat (<i>Myotis nattereri</i>)
BLE	Brown long-eared bat (<i>Plecotus auritus</i>)
WHI/BRA	Whiskered/Brandt's bat (<i>Myotis mystacinus/ brandti</i>)
LHS	Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)
GHS	Greater horseshoe bat (<i>Rhinolophus ferrumequinum</i>)

4.3.1 Habitats

The habitats on site were assessed to be highly suitable for bats; hedgerows offering high quality commuting and foraging habitat, whilst the grassland offered further foraging value. The numbered hedgerows are shown in figure 9 below.

Figure 9 Hedgerows



4.3.2 Activity Surveys

A summary of the bat activity surveys is included below, and the environmental variables are shown in table 4.

Table 4 Environmental Variables

Variable	Time	Temperature (°C)	Relative Humidity (%)	Cloud cover (oktas)	Precipitation	Average wind speed (mps)
19th May 2020 Sunset: 21:04	Start: 20:50	14	86	1	none	0.5
	End: 23:30	12	92	1	none	0
16th June 2020 Sunset: 21:30	Start: 21:15	17	81	3	none	0
	End: 23:45	15	90	4	none	0
22nd July 2020 Sunset: 21:12	Start: 20:55	16	75	1	none	0
	End: 23:30	15	82	1	none	0
20th August 2020 Sunset: 20:22	Start: 20:05	20	64	7	none	0.3
	End: 22:35	18	100	2	none	0.5

3rd September 2020	Start: 19:35	15	83	3	none	1.2
Sunset: 19:50	End: 22:05	16	79	0	none	1.1
13th October 2020	Start: 18:05	10.8	73.3	4	none	3.6
Sunset: 18:21	End: 21:30	13.4	72.2	7	None	0

Survey 1: 19th May 2020

Overall activity was assessed to be low; CP, SP and NOC were recorded predominately along H5 with the offsite stream to the south. MYODAU was also recorded commuting from west to east along H4.

Survey 2: 16th June 2020

Overall activity was assessed to be low; SP was recorded foraging along the H5 adjacent to the river. NOC and LEI were also recorded commuting high over the site, not using the boundary features.

Survey 3: 22nd July 2020

Overall activity was assessed to be low; CP and SP recorded foraging along the boundary hedgerows, predominantly the southern boundary adjacent to the river. SER and NOC were also recorded commuting high over the site.

Survey 4: 20th August 2020

Overall activity was assessed to be low; CP and SP were recorded along the stream to the south of the site. NOC recorded over grassland in centre of the site but not foraging.

Survey 5: 3rd September 2020

Low activity was recorded during the survey with CP, SP and NOC recorded foraging and commuting along the H5 and H4 with a single CP recorded foraging along the H2 and gardens on the north-eastern boundary.

Survey 6: 13th October 2020

Very low activity was recorded during the survey with activity limited to CP and SP foraging along H4 and CP and SP recorded commuting along the H4 and H5. A NOC was recorded commuting over the site at the southern boundary.

4.3.3 Static bat detectors

A summary of the static detector survey is given in this section with the full data provided in appendix II. Table 5 shows a summary of the species assemblage recorded during the survey and a summary of peak activity levels is shown in figure 10.

Twelve species of bat were recorded during the survey including CP, SP, NP, NOC, LEI, SER, WHI/BRA, NATT, DAUB, BLE, LHS and GHS. 7,527 passes were recorded across 125 survey nights and these were dominated by SP (30.10%, 18.12 mean calls per night), CP (22.21%. 13.37 mean calls per night) and NOC (24.91%, 15 mean calls per night). LHS were also frequently recorded on site, accounting for 9.86% of calls (5.93 mean calls per night).

Table 5 Static Detector Survey Summary

Species	Total	% of Total	Mean calls per night
Common pipistrelle	1672	22.21%	13.37
Soprano pipistrelle	2266	30.10%	18.12
Nathusius's pipistrelle	18	0.24%	0.14
Noctule	1875	24.91%	15
Leisler's	172	2.29%	1.37
Serotine	272	3.61%	2.17
Whiskered/Brandt's	14	0.19%	0.11
Natterer's	41	0.54%	0.32
Daubenton's	247	3.28%	1.97
Brown long-eared	125	1.66%	1
Lesser horseshoe	742	9.86%	5.93
Greater horseshoe	83	1.10%	0.66
Total:	7527	100.00%	60.21

Low activity levels* were recorded throughout the survey at location 1 and during the September survey period at location 3. Medium activity levels* were recorded at location 2 during August, September and October. During the September survey period, 554 passes of lesser horseshoe were recorded, accounting for 30.32% of the calls recorded by this detector in September.

**NB: The term 'Activity' has been used during the analysis of the static bat detectors. Whilst static bat detectors cannot give an accurate indication of the number of bats foraging/commuting on site, they provide valuable information relating to species composition and comparisons from the number of records across the site. In this instance, the term 'activity' is based off the mean average records per night in order to prevent a period of intensive foraging over a short period of time skewing the results. It also allows for true comparison when detectors are deployed for different periods of time.*

Figure 10 Static Detector Survey Results (across all bat species)



Horseshoe bat analysis

Table 6 below, shows the mean number of records of greater and lesser horseshoe bats in relation to the month and hedgerow. Key results are listed below and are discussed further in section 5.3.

- The results show that overall, there was no significant difference between Position 1 (Hedgerow 1) and Position 2 (Hedgerow 4) with regards to the number of GHS and LHS records.
- A significantly higher number of records of LHS were obtained than GHS.
- A spike in results of LHS was recorded in September and October.
 - This was particularly significant in Position 2 (H4) in September, and this was the only occasion where there was a significant difference between the other two positions
- Higher numbers of records of GHS were recorded in September, although to a much lesser extent than with LHS.

Table 6 Horseshoe static analysis

Detector	Position	Month	LHS mean records / night	GHS mean records / night	Table for reference in Appendix III
1	1	March – April	2.26	0.47	8
2	2	March – April	0.63	0.15	9
3	2	June	0.2	0.27	10
4	1	June	0.25	0.5	11
5	1	July	None recorded	None recorded	12
8	2	August	0.0	1.0	13
9	1	September	1.17	3.5	14
10	2	September	39.29	2.29	15
11	3	September	0.29	0.0	16
13	1	October	15.50	0.0	17
14	2	October	10.5	1.0	18

5 DISCUSSION

5.1 Habitat

The site was dominated by modified grassland which was assessed as having low ecological value. Botanical diversity was poor in the grassland. The development proposals include the loss of all of the modified grassland. This habitat is common at a local level and not afforded any special level of protection. It was assessed that its loss to the proposed development would not have a significant negative ecological impact at a site level. Even the proposed residential gardens will provide a greater diversity of habitats and potential refuge for protected species than the modified grassland and it was assessed that this would adequately compensate for its loss. To further enhance the site, a wealth of habitat enhancement and creation is recommended in section 6. These focus on creating a mosaic of different types of grassland which will provide enhanced foraging habitat and refugia for a wide range of species including invertebrates, bats, badger, amphibians, reptiles and birds.

The boundary hedgerows were assessed as being the key habitat feature on site. This is reflected within the development proposals with their retention and enhancement. The hedgerows were used by foraging / commuting bats, dormouse and breeding birds. The proposals focus on protecting the existing hedgerows with the creation of wildlife buffers between hedgerows and the built development. The proposals require removal of a small section of hedgerow 3 to allow creation of an access road and very small section of hedgerow 4 to create a footpath link, and the potential impacts of this on protected species is discussed in section 5.2. The development proposals include the planting of new hedgerows in the street scene, along the western boundary and in the open space in the south of the site. It was assessed that this more than compensates for the loss of the small sections of hedgerow 3 and 4 at the eastern boundary.

A net gain calculation and assessment has been completed for the site and the results are detailed in a separate report by Ethos which should be read in conjunction with this report. The conclusion of the net gain report showed that the proposed development will result in a significant net ecological gain at the site.

5.2 Protected Species

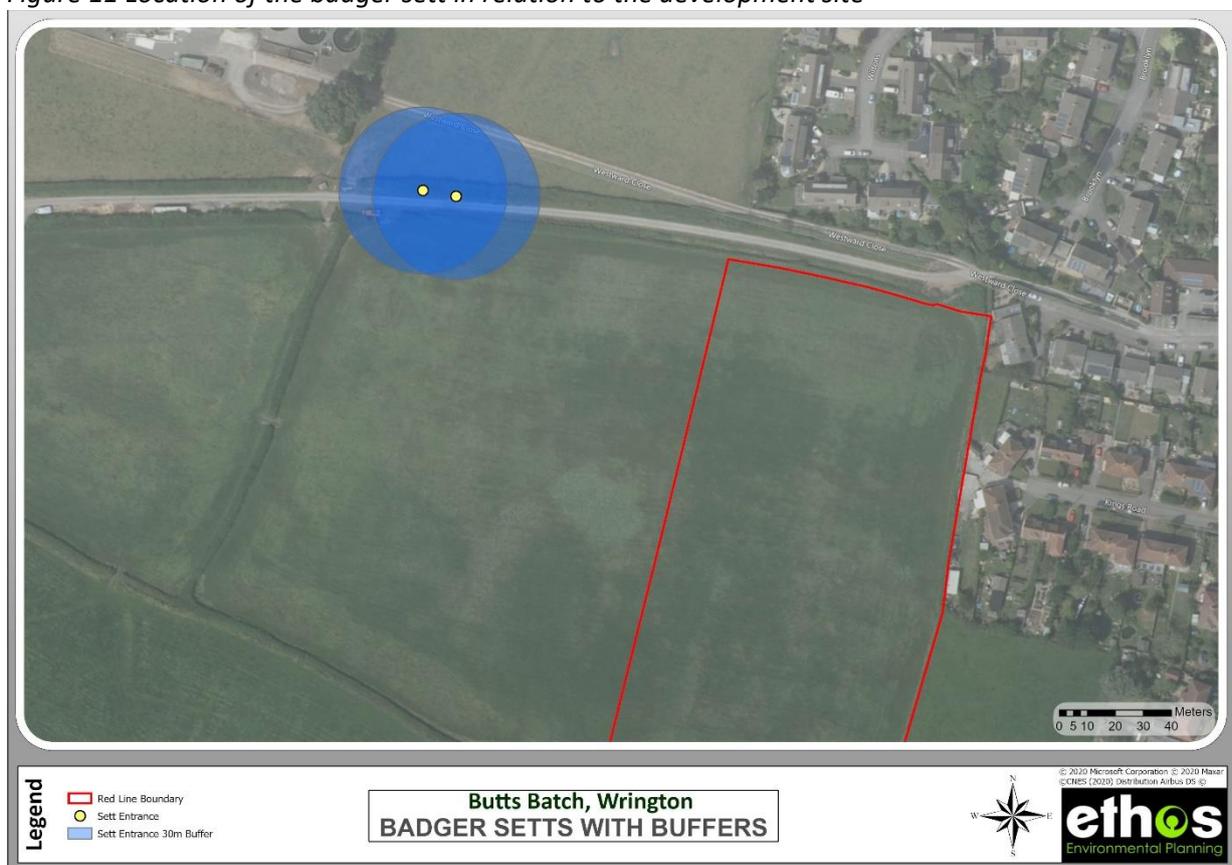
5.2.1 Badger

A single badger sett comprising two holes were identified off-site, approximately 100 metres from the site boundary. As shown in Figure 11 below, the sett is a significant distance from the site boundary (>30m) and so is unlikely to be impacted or disturbed from construction works. Recommendations are detailed in Section 6.2.1 related to a pre-construction survey for badger to identify the potential presence of any new setts on the site. This will ensure that badgers are protected and any new setts can be either incorporated into the design or monitored and closed under licence from Natural England.

The targeted badger surveys also identified signs of badger across the site including a latrine and mammal paths, concluding that badgers use the site for commuting and foraging activities. There is the potential for badgers to be injured/killed during the construction period if precautionary mitigation is not implemented. These mitigation measures are detailed in Section 6.2.1. The development proposals include the retention and enhancement of a green corridor along the north, west and eastern boundaries of the site. This will allow badgers to continue to move across the site for commuting and foraging activities once construction has been completed.

Section 6.1 includes details of habitat enhancement measures. The creation of wildflower meadow, rough grassland and fruit tree planting will provide enhanced habitat for badgers.

Figure 11 Location of the badger sett in relation to the development site



5.2.2 Hazel Dormouse

Two dormouse nests were identified on site, the locations of which are shown in Figure 8. It is likely that dormice are present in low numbers within the hedgerow habitat on the site and within the surrounding area, given the good connectivity of hedgerows in the area. The hedgerows are also well-connected to an area of woodland 180 metres south west of the site, which has the potential to support dormice.

The proposals include the retention and enhancement of the vast majority of existing hedgerow, which will be protected from the impacts of development with suitable habitat buffers. Two small sections of hedgerow removal will be required to facilitate the development;

one to create a footpath link through the eastern end of hedgerow 4 (which runs along the southern edge of the development zone) to the southern open space, and the second is to create an access road through hedgerow 3 (which runs along Half Yard in the south east of the site) at the eastern boundary. The location of the hedgerow gap in hedgerow 4 has been chosen to use an existing gap in the hedgerow, which will require extending by 1 – 2 metres on either side to create the footpath. In relation to the hedgerow removal in hedgerow 3, this hedgerow had poorer connectivity to the north in its existing state, so it was assessed that the creating a gap in the suggested location would not have a significant negative impact on the movement of small mammals across the site and in the wider environment.

The clearance of the small areas of hedgerow will be undertaken using precautionary methods to avoid impacts on dormice present. Due to the minimal amount of hedgerow requiring removal, it was assessed that an EPS licence from NE would not be required.

The hedgerows and boundaries of the site will be enhanced through the planting of native climbing species, native tree and shrub species and rough grassland, as discussed in Section 6. It was assessed that overall, the development proposals had the potential to enhance the site for small mammals such as hazel dormouse.

5.2.3 Bats

The habitats on site were assessed to be suitable for bats; hedgerows offered high quality commuting and foraging habitat, whilst the grassland offered further moderate foraging value. The stream along the south of the site was assessed to be good foraging and commuting habitat for bats. There were no structures on site or trees with potential for roosting bats, and therefore no roost habitat for bats.

Activity surveys identified low levels of bat activity across the site with a maximum of six species recorded, namely common pipistrelle, soprano pipistrelle, noctule bat, Daubenton's bat, Leisler's bat and serotine. The highest levels of activity were recorded along the H5 at the southern boundary of the site adjacent to the stream, followed by H4 where low numbers of commuting and foraging bats were recorded. Very low activity was recorded along the northern and eastern boundaries, with the neighbouring gardens providing the majority of suitable foraging habitat in this area.

Twelve species of bat were recorded on the static detectors, namely common pipistrelle, soprano pipistrelle, Nathusius's pipistrelle, noctule bat, Leisler's bat, serotine, whiskered/Brandt's bat, Natterer's bat, Daubenton's bat, brown long-eared bat, lesser horseshoe bat and greater horseshoe bat. Species most frequently recorded were soprano pipistrelle, common pipistrelle and noctule.

Horseshoe bats

No horseshoe bats were recorded during the activity surveys. LHS and GHS were recorded across the majority of the static surveys and the numbers of records were relatively consistent with the exception of the September and October results which showed a spike in records of LHS (and to a lesser extent GHS). A late summer/ autumn spike in activity is very typical of lesser

horseshoe activity when they ‘bomb burst’ from their traditional breeding grounds to transitional roosts and swarming sites (which may then become their hibernation sites).

On the whole, there was no significant difference between the average number of records between the two main static locations (H1 and H4). The exception to this was the September results where a significantly higher mean number of records of LHS were obtained on H4 than H1 and H5. (39.29 records / night for H4 compared to 1.17 for H1 and 0.29 for H5).

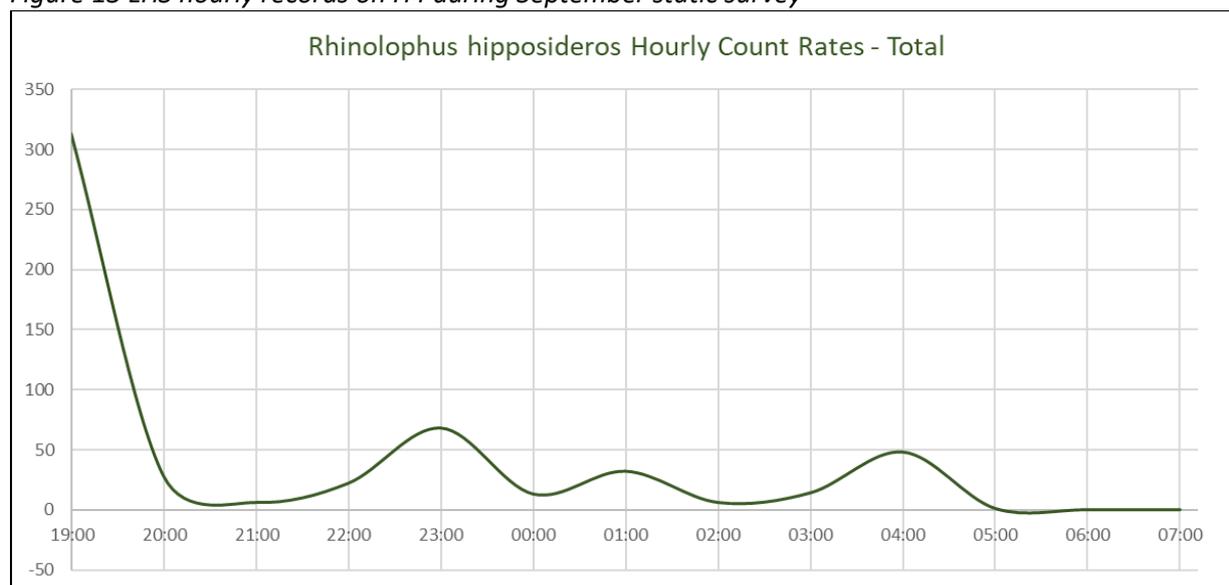
Figures 12 and 13 show a break down of static recording of LHS during the September recording period on H4. Figure 12 shows the nightly record count rate and figure 13 shows the hourly count rate across all nights. Figure 12 shows that whilst there was some variation in the number of records per night, LHS were consistently using H4 across all nights, therefore, it was a regular commuting route. Figure 13 shows that the majority of records were obtained during the first hour of recording, between 19:00 – 20:00pm. During this survey period, the sunset time was 19:38 on 9th September dropping to 19:08 on 23rd September. Closer analysis showed that some of the records were made within 15 minutes of sunset. This suggests that there was a roost nearby and further backs up the aforementioned ‘bomb blast’ theory that this roost was a maternity roost for LHS.

Overall, the results show that for the majority of the year, the hedgerows are equally important but are used on a relatively infrequent basis by LHS and GHS. However, it is highly likely that there is a maternity roost of LHS near to the site, and these bats are using H4 to commute to their hibernation roosts in the wider environment.

Figure 12 LHS number of records per night on H4 during September static survey

Code	Bat Species	09/09/2020	10/09/2020	11/09/2020	12/09/2020	13/09/2020	14/09/2020	15/09/2020	16/09/2020
RHIHIP	Rhinolophus hipposideros	112	63	3	87	34	17	9	4
RHIFER	Rhinolophus ferrumequinum	1	0	2	4	0	0	0	1
		17/09/2020	18/09/2020	19/09/2020	20/09/2020	21/09/2020	22/09/2020	23/09/2020	
RHIHIP	Rhinolophus hipposideros	51	22	18	42	43	45	4	
RHIFER	Rhinolophus ferrumequinum	8	4	8	2	1	1	1	

Figure 13 LHS hourly records on H4 during September static survey



Summary of bat activity

Overall, it was assessed that H4 and H5 were the key hedgerows in relation to bats (across all species) and this is where the majority of foraging activity was observed during surveys. H1 and H4 were used throughout the survey period by LHS and GHS on an occasional basis. H4 was also a key commuting route for LHS during September and is likely to be used by a nearby maternity roost to commute to their hibernation site.

Therefore, the mitigation measures focus on maintaining all hedgerows as dark corridors. Compensation and enhancement measures will focus on creating new commuting routes and a mosaic of high quality foraging habitat in the south of the site adjacent to H4.

Mitigation, compensation and enhancement

The development proposals include the retention and enhancement of hedgerows around the boundaries of the site and a new hedgerow will be created along the western boundary and in the south of the site. This will strengthen the boundaries of the site as foraging and commuting routes. Without appropriate mitigation, there is the potential for these boundaries to be inappropriately lit by artificial lighting, which would affect commuting and foraging bats, particularly light-averse species such as *Myotis* and horseshoe bats. Mitigation has been detailed in Section 6.2 in relation to a sensitive lighting plan to avoid impacts on foraging/commuting bats. The inclusion of buffers between the proposed development and the hedgerows will also help maintain dark corridors.

Proposed water bodies (attenuation basins and shallow scrapes) are included in the east and south of the site respectively. Ponds are listed within the North Somerset and Mendip Bats SAC Guidance as a habitat of value to horseshoe bats, particularly as a prey source for LHS. Other recommended habitats included within the guidance are 'tall, bushy hedgerows at least 3metres wide and 3 metres tall'. Recommendations in section 6.1 focus on enhancement of hedgerows to create tall, bushy hedges and water bodies of value to foraging LHS. These

features will be accessible to LHS bats because they are located along the existing commuting routes.

The habitat enhancement measures detailed in Section 6.1 also include creation of wildflower meadow, planting of native trees (including fruit trees) which will significantly increase the amount of foraging habitat on site for bats. Bat boxes have also been recommended which will provide potential roost features for a range of crevice dwelling species.

5.2.4 Amphibians

There were no ponds on site and therefore no breeding habitat for amphibians such as GCN. The terrestrial habitats on the site mainly comprised modified grassland, which was assessed to be poor quality habitat for GCN, due to the lack of suitable refugia. The hedgerows around the boundaries of the site would provide suitable terrestrial habitat for GCN.

There were four ponds within 500 metres of the site, all of which were located to the east. No access was given to survey any of these ponds and therefore, this is considered a limitation of the assessment. However, given the fact that the cluster of ponds were all located to the east of the site, with no ponds located on the site, it was considered highly unlikely that amphibians would be commuting over the road to areas of low-quality terrestrial habitat on the development site. GCN would be more likely to commute between the ponds to the east, away from the site boundary. The stream along the southern boundary of the site would also be a barrier to GCN dispersal due to the presence of running water. Additionally, the desk study did not identify any records of GCN within 1km of the site.

Due to the fact that there were no ponds on the site, the majority of the site contained poor quality terrestrial habitat and that there were no records of GCN within 1km, it was assessed that there was negligible potential for the presence of GCN on the site.

The development proposals include creation of wetland scrapes, attenuation basins, wildflower meadow, rough grassland and new hedgerow planting; all of which will significantly enhance the site for amphibians such as GCN.

6 RECOMMENDATIONS

6.1 Habitat

The following recommendations have been recommended in relation to the habitats on site. These recommendations supersede the recommendations within the PEA (Ethos, February 2020). It is recommended that if planning permission is granted, production of a Landscape and Ecological Management Plan be conditioned.

6.1.1 Hedgerows

- Retained hedgerows will be enhanced with the following recommendations:
 - Infill existing gaps with the planting of native, woody species such as (but not limited to) hazel, hawthorn, field maple, oak, blackthorn, rowan, honeysuckle and ivy;
 - The fringe grassland habitat will be sown with a species-rich seed mixture such as Emorsgate Seeds EH1 – hedgerow mixture which contains wild flowers and grasses that are tolerant of semi-shade and is suitable for sowing beneath newly planted or established hedges;
 - The planting of honeysuckle, dog rose, and ivy is particularly important to creating enhanced physical structure within the corridor;
 - The hedges will be maintained with high basal density – this will be achieved by allowing bramble and other thorny species such as blackthorn and hawthorn to grow at the base of the hedgerows. ‘Neat’ hedgerows should be avoided;
 - Scalloped edges will be encouraged and this will be achieved by allowing scrub to encroach in specific areas;
 - Infrequent cutting of hedgerows to allow fruit and nut production. Cutting should be carried out on rotation at no more frequently than every 5 years.

New hedgerows will be created within the street scene and in proposed areas of open space. These will be composed of native species where possible, such as those mentioned above. Wildflower mixes (such as Emorsgate Seeds EH1 – Hedgerow Mixture) will be sown adjacent to the proposed hedgerows to create enhanced habitat structure. This mixture contains species suitable for sowing in semi-shaded conditions beneath established and newly planted hedgerows.

6.1.2 Grassland

- All proposed areas of amenity grassland (residential gardens) will be sown with Emorsgate Seeds EL1. This contains a range of slow growing grasses with a few wild flower species that both respond well to regular mowing and have value for butterflies and other pollinators;
- Rough grassland will be created along the boundaries of the site to create wildlife corridors. The grassland will be managed to provide high quality foraging habitat for barn owls, farmland birds and other faunal species such as reptiles. Management should include:
 - A seed mixture such as Emorsgate Seeds EM10 – Tussock Mixture will be sown into the proposed dog walking area,

- The grassland will be cut only every other year and in September / after the flowers have gone to seed;
- The grassland will be cut to a height of no less than 130mm every other year;
- The wildflower grassland in the south of the site will be created and managed to provide high quality habitat for invertebrates, small mammals, reptiles and foraging badgers. Management should include:
 - A seed mixture such as Emorsgate Seeds EM3 – Special General Purpose Seed Mixture will be sown around the proposed SuDS and areas of open grassland;
 - The grassland will be cut once a year, after the flowers have gone to seed (September); and,
 - Any arisings will be collected after allowing the seeds to drop (within a week of cutting).

6.1.3 Attenuation basin

Effective sustainable drainage schemes are those that incorporate a variety of habitats and designs that are beneficial for both water management and wildlife. Therefore, the proposed SuDS ponds will be created with biodiversity in mind. The following recommendations are made:

- Proposed drainage solutions should have gently sloping banks and undulating surfaces which allow wildlife to enter and exit the water easily as well as creating varying depths suitable for a range of aquatic life;
- A mosaic of habitats should be created around the edges of proposed SuDS. These should include sowing of wildflower seed mixes suitable for pond edges (such as Emorsgate Seeds EP1 – Pond Edge Mixture), creation of log and habitat piles and planting of shrubs and trees;
- SuDS should either be left to colonise naturally with local plant species, or else be planted with native pond species appropriate to the local area, soil and hydrology. Plants should be bought from a reputable supplier to reduce the risk of introducing invasive species;
- The spoil from the excavation of the SuDS and swales should be used to vary ground levels and create banks which enhance the structural diversity of habitats on site. This in turn would create habitats for invertebrates, reptiles, amphibians and other faunal species; and,

6.1.4 Wetland scrapes

Shallow wetland scrapes will be created in the southern section of the site. The wetland scrapes will reflect the historic water meadows that were charismatic of the area and will be seeded with a species-rich wetland mix such as Emorsgate Seeds *EM8 Meadow Mixture for Wetlands* for increased habitat value. This will enhance the area for amphibians and invertebrates as well as providing additional foraging habitat for bats and birds.

6.1.5 Proposed tree planting

Scattered trees will be planted throughout the street scene, along the boundaries of the site and within the southern area of open space. Species will comprise native species, with fruiting

species included such as bird cherry (*Prunus padus*), sweet cherry (*Prunus avium*) crab apple (*Malus sylvestris*), plum (*Prunus domestica*) and quince (*Cydonia oblonga*), to provide foraging habitat for birds and badgers. Other suitable species could include hazel, guelder-rose, silver birch (*Betula pendula*), pedunculate oak (*Quercus robur*), spindle (*Euonymus europaeus*) and field maple.

6.2 Protected Species

6.2.1 Badger

The following precautionary mitigation measures will safeguard badgers during the construction period:

- Prior to the commencement of construction activities at the site, a pre-commencement badger survey will be conducted by a Suitably Qualified Ecologist (SQE) to identify the presence of any new badger setts on the site and determine the current status of the badger sett to the north west of the site boundary. Any new setts present on the site will be mapped and the requirement for additional mitigation to protect badgers during construction will be assessed.
- Excavations will be covered at night or contain a ramp to allow badgers (and other species such as hedgehog) to escape, should they fall in.
- Pipes over 600mm will be capped off at night to prevent badgers entering them and potentially being disturbed, injured or killed at a later point when the piping is moved.
- Construction lighting should be switched off at night or be limited to provide dark periods.
- Lighting on the boundary hedgerows should be avoided to prevent disturbing commuting/foraging badgers.

6.2.2 Bats

As there is currently no suitable roost habitat for bats on the development site, 20 integral bat boxes will be installed on new residential properties adjacent to boundary habitats in order to enhance the site for roosting bats. In addition, a free standing maternity box will be installed in the south of the site adjacent to the stream. The proposed locations of the boxes are shown in Figure 14 and a description of suitable boxes has been included in Table 6.

A lighting strategy will be required for the site to demonstrate that proposed bat roost features and proposed and existing bat commuting routes and foraging areas will be protected from proposed lighting at the site. These could include the features detailed below:

- Ensuring the use of controlled light distribution, optimised optics (flat glass - controlled light distribution below the horizontal), shielding accessories and careful luminaire positioning / minimal heights are employed in the scheme design;
- Reducing column heights to the perimeter of the Site may create a requirement for an increased quantity of luminaire positions. However, this may be necessary to reduce the nature of the impact;
- Adopting a light quality of colour rendering in excess of Ra60 allows a notable reduction in light levels due to increased visual acuity. The scheme design should consider the use of

high colour rendering lamp sources (white light) to minimise design criteria, energy usage and reduce resultant impacts;

- Adopting a light quality that minimises disruption to existing ecological systems. Possibly in the form of 'LED' light sources which emit minimal UV light.
- Adopting an appropriate control strategy for the operational lighting so that, when not required and subject to Health and Safety assessment, non-essential lighting is dimmed or switched off in order to further reduce the impact; and,
- Column and luminaires to be of a colour and finish to 'blend' into the daytime landscape view.

6.2.3 Dormouse

The following precautionary methods are recommended to avoid impacts on dormice during the small amount of hedgerow clearance required for the development:

- The hedgerow area to be cleared will be subject to a pre-clearance check by a SQE during the dormouse hibernation season (November – March), followed by an initial cut to ~30cm. Any dormice present within the hedgerow will be hibernating at ground level and will therefore not be impacted by the works.
- The hedgerow will be left until the dormouse active season (April – October), after which it will be subject to a second pre-works check by a SQE, followed by clearance to ground level. The roots of the hedgerow will be grubbed out under supervision of the SQE due to the sensitivity of the habitat.

The habitat enhancement works will enhance the site for dormice and provide additional foraging and hibernating habitat. The species mix in the landscaping plans will include thorny species such as hawthorn and blackthorn, to protect dormice from the impacts of predation associated with the introduction of cats to the development.

6.2.4 Breeding birds

- Hedgerow removal will avoid the bird nesting season (March to August inclusive). If any vegetation removal is required outside of that time period, then a pre-works check will be carried out by a SQE immediately prior to the works. Any active nests identified by the SQE will be protected through the implementation of an exclusion zone around the nest, which will be kept in place until the chicks have fledged.
- The creation of new hedgerows and planting of trees as part of the street scene will provide new potential nest sites for breeding birds.
- 20 bird boxes should be installed integrally onto proposed dwellings at the site. These should be of a style suitable for house sparrow, swallow, starling, swift and house martins, as detailed in Table 6.

6.2.5 Hedgehog

The recommendations provided in Section 6.2.1 will ensure hedgehog are protected during the construction period. In addition, the following measures are recommended:

- Piling of materials should be avoided on the site or be placed above the ground on pallets, to avoid creating potential refugia for hedgehog.
- Hedgehog-friendly holes (25cm x 25cm) should be installed along lengths of non-permeable fencing to ensure that hedgehog can continue to commute and forage across the site post-construction. An example of suitable fencing installation is shown in Table 6.

6.2.6 Invertebrates

The following habitat enhancement measures are recommended to enhance the site for invertebrates post-construction:

- Ten bee bricks should be installed in the walls of new residential properties as shown in Figure 11 and described in Table 6 below.
- Five 'insect hotels' should be installed in areas of open space, such as the areas of rough grassland adjacent to hedgerows as shown in Figure 14 and described in Table 7 below.

Table 7 Ecological provisions

Provision	No.	Description	Installation
 <p>Ibstock Bat Brick</p>	10	<p>215mm x 215mm or, 215mm x 290mm</p> <p>Available in all brick types and various sizes. Large and small. Several roost zones for pipistrelles.</p>	Installed as high as possible in sunny and sheltered spot.
 <p>CJ Wildlife Woodstone integrated bird brick 90096</p>	10	<p>Species: Swift, house sparrow, blue tit, great tit and house martin</p> <ul style="list-style-type: none"> • 33 (l) x 16 (w) x 19 (h) cm <p>Woodstone – mix of cement and wood fibres offering protection from temperature and predators.</p>	Built into the structures at a height of 5m with clear flight path.
 <p>Cambridge system integrated bird nesting brick</p>	5	<p>Species: Swift, house sparrow, blue tit, great tit and house martin.</p> <p>Starling needs minimum 45mm entrance hole</p> <ul style="list-style-type: none"> • 44 x 20 x 2.15 <p>Concrete and brick Brick slip can be colour and style of your choice.</p>	<p>Ideally provide in a colony of 2-3 boxes</p> <p>Starling: Requires 45mm entrance hole and installed 1.5-3m high</p>

Provision	No.	Description	Installation
<p><i>Habibat Starling Nest Brick</i></p> 	5	<p>Species: Starling</p> <ul style="list-style-type: none"> • 215 x 215 x 120 mm • Weight 3kg <p>Concrete plus facing product, made to order with choice of finishes e.g. wood, stone etc..</p>	Height of 1.5 – 3m
<p><i>Eco Hedgehog hole template</i></p> 	1 per line of fencing	<ul style="list-style-type: none"> • 23cm (W) x 26cm (H) <p>UV stabilised recycled plastic template for a do-it-yourself hedgehog hole. Comes with 6 screw holes for easy mounting.</p>	Requires the removal of section of wood panelling at ground level. Template recommended to signpost presence and purpose of hole.
 <p>Green&Blue brick</p>  <p>Green&Blue block</p>	10	<ul style="list-style-type: none"> • Block – 215 x 215 x 102.5 mm at 7kg • Brick – 215 x 105 x 65mm at 2.9kg <p>Cast concrete with up to 75% waste materials from Cornish China Clay industry;</p> <p>Contains cavities where bees will lay their eggs, sealing the entrance with mud or chewed up vegetation. Offspring emerge in the Spring and begin nesting again.</p>	The bee brick should be positioned in a warm sunny spot, south facing, with no vegetation in front of the holes. Ideally placed at around 1 metre from the ground.
MiniBeast HQ	5	Bespoke bug hotels of every design, size and cost available;	Different invertebrates will use the hotel depending on its location. Some

Provision	No.	Description	Installation
		<p>Freestanding or integrated; Do you want it to be simple and secret or standout on your site? It could be installed as a functional piece or art installation.</p> <p>Can be made self-made on site from various materials e.g. pallets, bricks, plant pots, logs, pine cones, straw etc). Visiting Buglife website for instruction recommended.</p> <p>Can be crafted ready-made by contractors e.g. Minibeast HQ – wooden structure with chambers with various materials and pre prepared drilled logs, canes etc).</p>	<p>prefer damp and cool whereas others before warm and sunny E.g. Solitary bees prefer the sun.</p>

Figure 14 Protected species provisions



7 CONCLUSIONS

The site was located at Butts Batch, Wrington, North Somerset (Central Grid Reference ST 46638 62408) and development proposals include the construction of 71 dwellings with associated residential gardens, access and garages.

The PEA undertaken by Ethos in February 2020 identified the potential presence of badger, hazel dormouse and bats on the development site, as well as the potential presence of GCN in ponds within 500m of the site. Subsequently, targeted surveys for badger, bats and dormouse were undertaken in 2020. Surveys for GCN were not possible due to land access limitations.

Surveys identified an active badger sett to the north west of the development site and signs of badger foraging and commuting across the site. The sett was assessed as unlikely to be impacted by the works and recommendations to avoid impacts on badger during construction were recommended.

Surveys identified the presence of dormice within a hedgerow adjacent to the west of the site. Therefore, it was concluded that dormice were likely present within the hedgerow habitat on site, and recommendations include precautionary hedgerow clearance to avoid impacts on dormice, alongside habitat enhancement measures to improve the quality of hedgerow and scrub habitat for dormice on site.

Targeted surveys for bats identified twelve species of bat using the site for foraging and commuting activities. The stream with associated treeline in the south of the site, hedgerows 4 and 5 were assessed to be an important foraging area. Hedgerows 1 and 4 were used by horseshoe bats for commuting and mitigation measures have been included to protect these as dark corridors.

Habitat creation and enhancement recommendations have been included in Section 6.1 and mitigation and enhancement measures for badger, bats, dormouse, birds, hedgehog and invertebrates have been provided in Section 6.2. If the recommendations within this Protected Species Assessment are followed, the development can ensure that protected species are safeguarded during construction and that the site can be enhanced for protected species as part of the landscape proposals.

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APPENDIX I DORMOUSE RESULTS

Tube ref.	Date of First Result	First Result Finding	Date of Second Result	Second Result Finding
633	20/08/2020	Green leaves no structure. Woodhouse nest		
640	20/08/2020	Green leaves no structure. Wood mouse nest		
644	20/08/2020	Wood mouse inside tube	23/09/2020	wood mouse nest
645	20/08/2020	Wood mouse nest with green leaves and some shredded grass		
646	20/08/2020	Wood mouse nest		
647	27/07/2020	Very Fresh green leaves at tube entrance, no structure to nest		
649	20/08/2020	Some dead leaves twigs found in tube. Wood mouse with no structure		
651	20/08/2020	Green leaves with no structure. Wood mouse	23/09/2020	wood mouse nest with 2 juv mice
653	23/09/2020	wood mouse nest		
658	23/09/2020	wood mouse nest		
659	27/07/2020	Has green leaves inside but no structure		
660	27/07/2020	Nest structure made from dried grass but most leaves brown with a few green leaves	20/08/2020	Similar results to last check. Some green moss. Base layer comprises of dried leaves however shredded grass is present but still early. Most likely an early dormouse nest
661	20/08/2020	Wood mouse within tube	23/09/2020	wood mouse nest
665	27/07/2020	Green nest no structure	20/08/2020	Green leaves with no structure. Nest wet indicative of wood mouse
666	27/07/2020	Green leaves with no structure, droppings at entrance of tube	20/08/2020	Wood mouse nest
782	23/09/2020	Few green leaves		

APPENDIX II STATIC DETECTOR RESULTS

Table 8 Static 1, Position 1 27th March – 15th April 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	289	15.21	55	0	15.72
Soprano pipistrelle	951	50.05	264	0	50.00
Nathusius's pipistrelle	4	0.21	3	0	0.21
Noctule	125	6.58	58	0	6.53
Leisler's	2	0.11	1	0	0.11
Whiskered/Brandt's	3	0.16	1	0	0.16
Natterer's	10	0.53	3	0	0.53
Daubenton's	134	7.05	27	0	7.05
Brown long-eared	5	0.26	3	0	0.26
Lesser horseshoe	43	2.26	8	0	2.26
Greater horseshoe	9	0.47	3	0	0.47
Number of Survey Nights:	19	Activity Level:	Low		

Table 9 Static 2, Position 2 27th March – 27th April 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	233	8.63	27	0	7.88
Soprano pipistrelle	213	7.89	37	0	7.19
Nathusius's pipistrelle	2	0.07	1	0	0.07
Noctule	125	4.63	23	0	3.85
Serotine	25	0.93	6	0	0.93
Whiskered/brandt's	1	0.04	1	0	0.04
Natterer's	7	0.26	2	0	0.26
Daubenton's	43	1.59	7	0	1.52
Brown long-eared	14	0.52	3	0	0.48
Lesser horseshoe	19	0.70	7	0	0.63
Greater horseshoe	5	0.19	2	0	0.15
Number of Survey Nights:	27	Activity Level:	Low		

Table 10 Static 3, Position 1, 17th – 24th June 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	173	11.53	32	0	10.57
Soprano pipistrelle	117	7.80	17	1	7.13
Noctule	496	33.07	100	0	32.60
Leisler's	132	8.80	80	0	8.80
Serotine	114	7.60	34	0	7.47
Whiskered/brandt's	1	0.07	1	0	0.07
Daubenton's	7	0.47	2	0	0.47

Brown long-eared	3	0.20	2	0	0.20
Lesser horseshoe	5	0.33	1	0	0.20
Greater horseshoe	4	0.27	2	0	0.27
Number of Survey Nights:	8	Activity Level:	Low		

Table 11 Static 4, Position 2 17th June – 2nd July 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	102	12.75	36	0	10.86
Soprano pipistrelle	88	11.00	35	0	8.00
Noctule	92	11.50	22	0	8.88
Leisler's	11	1.38	6	0	1.25
Serotine	10	1.25	6	0	1.25
Daubenton's	2	0.25	1	0	0.25
Brown long-eared	2	0.25	1	0	0.13
Lesser horseshoe	4	0.50	1	0	0.25
Greater horseshoe	4	0.50	2	0	0.50
Number of Survey Nights:	15	Activity Level:	Low		

Table 12 Static 5, Position 1, 16th -27th July 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	101	9.18	23	1	9.80
Soprano pipistrelle	133	12.09	25	5	12.00
Noctule	302	27.45	91	4	27.45
Serotine	52	4.73	18	1	4.73
Whiskered/brandt's	1	0.09	1	0	0.09
Daubenton's	9	0.82	2	0	0.64
Brown long-eared	1	0.09	1	0	0.09
Number of Survey Nights:	11	Activity Level:	Low		

Table 13 Static 8, Position 2, 11th – 14th August 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	109	36.33	42	23	30.00
Soprano pipistrelle	127	42.33	40	15	26.67
Noctule	42	14.00	15	8	12.00
Leisler's	25	8.33	16	2	7.67
Serotine	20	6.67	8	2	5.67
Daubenton's	15	5.00	8	1	4.33
Brown long-eared	7	2.33	3	0	2.00
Lesser horseshoe	1	0.33	0	0	0.00
Greater horseshoe	3	1.00	2	0	1.00

Number of Survey Nights:	4	Activity Level:	Medium
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Table 14 Static 9, Position 1, 9th – 23rd September 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	113	18.83	55	4	18.17
Soprano pipistrelle	133	22.17	49	9	21.17
Nathusius's pipistrelle	3	0.50	2	0	0.50
Brown long-eared	46	7.67	24	1	7.67
Lesser horseshoe	7	1.17	3	0	1.17
Greater horseshoe	21	3.50	10	1	3.50
Number of Survey Nights:	6	Activity Level:	Low		

Table 15 Static 10, Position 2, 9th – 23rd September 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	186	13.29	38	5	12.77
Soprano pipistrelle	335	23.93	38	10	22.64
Nathusius's pipistrelle	6	0.43	4	0	0.43
Noctule	584	41.71	129	1	40.79
Serotine	46	3.29	14	0	3.21
Whiskered/brandt's	8	0.57	2	0	0.57
Natterer's	16	1.14	2	0	1.07
Daubenton's	23	1.64	3	0	1.64
Brown long-eared	36	2.57	6	0	2.57
Lesser horseshoe	554	39.57	112	3	39.29
Greater horseshoe	33	2.36	8	0	2.29
Number of Survey Nights:	10	Activity Level:	Medium		

Table 16 Static 11, Position 3, 9th – 23rd September 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	16	1.14	13	0	1.23
Soprano pipistrelle	24	1.71	15	0	1.71
Noctule	6	0.43	6	0	0.43
Leisler's	1	0.07	1	0	0.07
Serotine	3	0.21	3	0	0.21
Natterer's	3	0.21	2	0	0.21
Daubenton's	5	0.36	2	0	0.36
Brown long-eared	4	0.29	2	0	0.29
Lesser horseshoe	4	0.29	3	0	0.29
Number of Survey Nights:	14	Activity Level:	Low		

Table 17 Static 13, Position 1, 9th – 13th October 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	33	8.25	14	3	7.75
Soprano pipistrelle	70	17.50	44	5	16.50
Nathusius's pipistrelle	3	0.75	3	0	0.75
Noctule	59	14.75	41	1	13.25
Leisler's	1	0.25	1	0	0.25
Serotine	2	0.50	2	0	0.50
Natterer's	3	0.75	1	0	0.50
Brown long-eared	4	1.00	3	0	1.00
Lesser horseshoe	63	15.75	25	6	15.50
Number of Survey Nights:	4	Activity Level:	Low		

Table 18 Static 14, Position 2, 9th – 13th October 2020

Bat Species	No. recordings	Records / night	Maximum	Minimum	Mean
Common pipistrelle	317	79.25	157	15	79.25
Soprano pipistrelle	75	18.75	29	1	18.75
Noctule	44	11.00	19	3	10.75
Natterer's	2	0.50	2	0	0.50
Daubenton's	9	2.25	3	1	2.25
Brown long-eared	3	0.75	3	0	0.75
Lesser horseshoe	42	10.50	20	0	10.50
Greater horseshoe	4	1.00	4	0	1.00
Number of Survey Nights:	4	Activity Level:	Medium		

APPENDIX III LEGISLATION

Legislation - Species

This section outlines the key legislation related to the habitats and species considered within this survey report.

1.1 Bats

All British bats are fully protected under Section 9 Schedule 5 of the Wildlife and Countryside Act 1981 and amendments. Agreement, and are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended). In addition, they are protected under the Berne Convention; they are given migratory species protection within the Bonn Convention. Regulation 43 (1) of The Conservation of Habitats and Species Regulation 2017 makes it an offence to:

- *deliberately capture, injure or kill any species of bat;*
- *deliberately disturb any species of bat;*
- *damage or destroy a breeding site or resting place of any species of bat.*

It is an offence to disturb any bat roosting site, whether the bats are there or not. Under Regulations 43 (2) disturbance includes in particular any disturbance which is likely:

- *To impair their ability*
 - *to survive, to breed or reproduce, or to rear or nurture their young; or*
 - *in the case of a hibernating or migratory species, to hibernate or migrate; or*
- *To affect significantly the local distribution or abundance of the species to which they belong.*

Presence of bats does not necessarily mean that development cannot go ahead, but that with suitable, approved mitigation, exemptions can be granted from the protection afforded to bats under regulation 43 by means of a licence. Natural England (NE) is the appropriate authority for determining licence applications for works associated with developments affecting bats, including demolition of their roost sites. In cases where licences are required, certain conditions have to be met to satisfy Natural England. Before the Statutory Nature Conservation Organisation (SNCO), in this case NE, can issue a licence to permit otherwise prohibited acts three tests have to be satisfied under the requirement of Regulation 55. These are:

1. Imperative Reasons of Overriding Public Interest [Reg 55(2)(e)];
2. No Satisfactory Alternative [Reg 55(9)(a)];
3. Maintenance of Favourable Conservation Status [Reg 55(9)(b)].

In order to meet the tests, SNCO usually expects the planning position to be fully resolved as this is necessary to satisfy tests 1 and 2. Full planning permission, if applicable, will need to have been granted and any conditions relating to bats fully discharged. ahead of any licence application to the SNCO. The LPA have a legal duty under The Conservation of Habitats and Species Regulations 2017, to assess whether the application is likely to meet the Three Tests

and therefore the requirements for Natural England licensing, prior to determination of an application The Licence application process may take two months before a licence is issued. Planning Permission and granting of a bat licence are separate legal functions. Therefore receiving planning permission from the Local Authority is no guarantee that the SNCO will issue a derogation licence.

A1.3 Badger

The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely and it is important for developers to know how this may affect their work. All the following are criminal offences:

- to wilfully kill, injure, take, possess or cruelly ill-treat a badger;
- to attempt to do so; or
- to intentionally or recklessly interfere with a sett.

Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it is occupying a sett. It is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no badger is disturbed and the sett is not damaged or obstructed.

Development should not be permitted unless it is possible to take steps to ensure the survival of the badgers in their existing range and at the same population status, with provision of adequate alternative habitats if setts and foraging areas are destroyed. Natural England will normally only issue a licence after detailed planning permission has been granted, where applicable, so that there is no conflict with the planning process.

Before the planning application is determined, the local planning authority should request a detailed ecological survey/report and developers should be prepared to provide the following information:

- The numbers and status of badger setts and foraging areas that are affected by the proposal;
- the impact that the proposal is likely to have on badgers and what can be done by way of mitigation;
- judgment on whether the impact is necessary or acceptable; and
- a recommendation on whether a licence will be required.

A badger survey usually requires assessment of the site and a 30-50m buffer area as tunnels can extend up to 20m from sett entrances. As badgers are not a European Protected species the Three Test do not need to be applied, however Planning Permission and badger licensing are separate legal functions. Thus receiving planning permission from the Local Authority is no guarantee that development operations will not breach the Protection of Badgers Act 1992. Similarly planning permission does not guarantee that a badger licence will be granted.

A1.4 Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) and cannot be killed or taken, their nests and eggs taken, damaged or destroyed while their nest is in use or being built. It also prohibits or controls certain methods of killing or taking except under licence. Other activities that are prohibited include possession and sale. Activities such as killing or taking birds (including relocating) which would otherwise be illegal can be carried out under licence where there is suitable justification and the issue cannot be resolved by alternative means.

Specially protected or Schedule 1 birds receive full protection under the Wildlife and Countryside Act 1981 (as amended). Part I birds are protected at all times, Part II during the close season only. In addition to the protection from killing or taking that all birds, their nests and eggs have under the Act, Schedule 1 birds and their young must not be disturbed at the nest.

A1.5 Dormouse

They are protected under both the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). Dormice and their breeding sites and resting places are fully protected. Without a licence it is an offence for anyone to deliberately disturb, capture, injure or kill them. It is also an offence to damage or destroy their breeding or resting places, to disturb or obstruct access to any place used by them for shelter. It is also an offence to possess or sell a wild dormouse.

If it is not possible to avoid harming dormice or damaging or blocking access to their habitats, a derogation licence will be required. Planning permission is required to be in place before a licence application.

Planning Permission and granting of a mitigation licence are separate legal functions. Therefore receiving planning permission from the Local Authority is no guarantee that the SNCO will issue a derogation licence.

A1.6 Great crested newt

Great crested newts are fully protected under UK and European legislation:

- Bern Convention 1979: Appendix III
- Wildlife & Countryside Act (as Amended) 1981: Schedule 5
- EC Habitats Directive 1992: Annex II and IV
- The Conservation of Habitats and Species Regulations 2017 (as amended)
- Countryside Rights of Way Act 2000 (CRoW 2000).

These pieces of legislation prohibit the following:

- Deliberately or intentionally killing and capturing (taking) or intentional injuring.
- Deliberately disturbing
- Deliberately taking or destroying eggs

- Damaging or destroying a breeding site or resting place or intentionally damaging a place used for shelter or protection.
- Intentionally obstructing access to a place used for shelter; and keeping, transporting, selling or exchanging; offering for sale or advertising.

Under Regulations 43 (2) (The Conservation of Habitats and Species Regulations 2017 (as amended)) disturbance includes in particular any disturbance which is likely:

- *To impair their ability*
 - *to survive, to breed or reproduce, or to rear or nurture their young; or*
 - *in the case of a hibernating or migratory species, to hibernate or migrate; or*

To affect significantly the local distribution or abundance of the species to which they belong. Paragraphs 43(1) and 43(2) ensure that protection applies to all stages of their life cycle.

GCN mitigation and licensing can be complex. Natural England have a rapid risk assessment tool which can be used for guidance to assist with determining whether a licence needs to be applied for, or if the development can proceed with Reasonable non-licensed Avoidance Measures (RAM). If a licence is required, the Favourable Conservation Test needs to be met.

A1.7 Otter

The European Otter is fully protected under UK and European law by the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitat and Species Regulations 2017 (as amended). Otters and their breeding sites and resting places are fully protected. It is an offence for anyone to deliberately disturb, capture, injure or kill them; to deliberately damage or destroy their breeding or resting places; to disturb or obstruct access to any place used by them for shelter. It is also an offence to possess or sell an otter.

Under Regulation 43(2) of The Conservation of Habitats and Species Regulations 2017 (as amended) the disturbance of otter includes in particular any disturbance which is likely to impair their ability to survive, breed or reproduce, or to rear or nurture their young; or to affect significantly the local distribution or abundance of the species to which they belong.

If it is not possible to avoid harming otter or damaging or blocking access to their habitats, a derogation licence will be required. Planning permission is required to be in place before a licence application.

Planning Permission and granting of a mitigation licence are separate legal functions. Therefore receiving planning permission from the Local Authority is no guarantee that the SNCO will issue a derogation licence.

A2 Legislation – Habitats

A2.1 European Designated Sites: Special Area of Conservation (SAC) / Special Protection Area (SPA)

The legal requirements relating to the designation, protection and management of SACs and SPAs in England are set out in the Conservation of Habitats and Species Regulations 2017 (as

amended) (SI No. 1012) , often referred to as ‘the Habitats Regulations’. The 2017 regulations encapsulate all the amendments since they were last consolidated in 2010. Amendments have been made pre and post Brexit but these are largely operational to ensure the regulations continue to have the same working effect as now after the transitional period.

SACs are designated under the EC Habitats Directive and SPAs under the EC Birds Directive. Collectively this network of EU-wide nature conservation site is referred to as Natura 2000 sites.

All SACs and SPAs in England are also Sites of Special Scientific Interest (SSSIs). The additional SAC/SPA designation is recognition that some or all of the wildlife habitats and species within a SSSI are particularly valued in a European context and require additional protection.

The Habitats Regulations require that any plans, projects or activities that is likely to significantly affect a SAC/SPA, either alone or in combination with other plans or project, must be subject to an assessment. This is irrespective of whether planning permission or other consent is required. The plan or project can only be consented or proceed if strict conditions are met to ensure protection of the site / favourable conservation status of qualifying species is met with no net negative impacts. The assessment must include consideration of potential off-site impacts to populations for which the sites are designated (for example loss of key foraging habitat beyond the SAC/SPA boundary), and in-direct impacts such as recreational pressure to SAC/SPA habitats and species.

The process is known as a Habitat Regulations Assessment (HRA) and comprises four stages:

- i) *Screening – Test of Likely Significant Effect (TOLSE)*
- ii) *Appropriate Assessment and the Integrity Stage*
- iii) *Alternative Solutions*
- iv) *Imperative Reasons of Overriding Public Interest and Compensatory Measures.*

The first stage is for the Competent Authority, usually the Local Authority, to carry out a TOLSE, or to request that a shadow HRA is completed to be adopted by the Competent Authority. The screening stage can take the form of an iterative process, whereby potential Likely Significant Effects are designed out or mitigated for. Whilst not a legal requirement until Stage 2 of the HRA process, this stage of the assessment is usually carried out in consultation with Natural England. Mitigation measures must be sufficiently detailed to inform the screening assessment and then secured through condition if it is for a planning proposal. In some situations, this may mean that the Competent Authority may request details for the screening process that would not usually be presented or submitted until the later stages of a proposal.

The decision-making authority may only permit or undertake the proposals if the screening assessment concludes that there would no adverse effect on the integrity of the SAC. Where it cannot reach this conclusion, the project can then only proceed by undertaking an ‘Appropriate Assessment’ of the adverse effect(s) which could not be screened out. This must be detailed, objective, based on best available scientific evidence and carried out in on-going consultation with Natural England, a legal requirement under the Habitat Regulations. If, with additional assessment and additional mitigation measures, the Competent Authority can still not ascertain that an adverse effect on the SAC/SPA habitats or favourable conservation status of qualifying species cannot be protected/maintained, permission to proceed with the plan or

project should not be granted – subject to the provisions of Regulations 64 and 68: i) Overriding Public Interest (in the absence of alternative solutions) and ii) Secure Compensatory Measures (to ensure overall coherence of Natura 2000 is protected) respectively.

The HRA process allows those proposals which clearly will not impact upon the special European wildlife interest of a SAC to proceed. Natural England is able to provide advice to authorities on how proposed activities can avoid adverse impacts on a SAC/SPA.

Under the Habitats Regulations planning authorities must also require that any permitted development normally carried out under a general planning permission, but which may affect a SAC requires further approval before being undertaken.

As the statutory nature conservation body in England, Natural England is duty bound to ensure that SACs/SPAs are protected and managed favourably for conservation in line with the requirements of the Habitats Directive. Our experience is that it is usually possible to find mutually acceptable solutions where sustainable land use and wildlife can flourish.

A2.2 UK Designated Sites – National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI)

Nationally protected sites are designated under the Wildlife and Countryside Act 1981 (as amended), reinforcing protection provided by the National Parks and Access to the Countryside Act 1948. SSSIs may also form component units of SACs. Natural England have a statutory duty to protect NNRs and SSSIs and must be consulted for activities or applications where there is risk of damage to the SSSI. Consent from Natural England ('Request permission for works or activity on a SSSI') may be required for certain activities within or near to a SSSI.