Ecological Assessment

Land at Hoodlands Farm, Stoke Gifford

30th June 2021

Tyler Grange

TG Report No. 11857_R02a_LT_CW

Report No:	Date	Revision	Author	Checked
11857 – R02a	30th June 2021	A	Lindsay Taylor BSc Hons MSc	Carly Goodman-Smith MBiolSci MCIEEM

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Summary

S.1. This report has been prepared by Tyler Grange Group Ltd for Boklok. It sets out the findings of an updated Ecological Assessment of land at Hoodlands Farm, Stoke Gifford, Bristol, (National Grid Reference ST 63565 79473) hereinafter referred to as the 'site' to inform a planning application for residential development comprising 50 dwellings, creation of new access, public open space and other associated ancillary works.

S.2. The site comprises buildings, hardstanding, fences, walls, a non-native species-poor hedgerow and introduced shrub of negligible ecological importance; and poor semi-improved grassland, native species-rich hedgerows, native species-poor hedgerows and scattered trees of local ecological importance.

S.3. The site is not covered by or adjacent to any sites that are the subject of statutory or non-statutory protection, and no such sites, located within the study area, would be affected by the proposed development.

S.4. Habitats onsite also have the potential to support a range of protected and notable species namely amphibians (common toad and great crested newt), badger, bats, birds, invertebrates, reptiles and hedgehog. Further surveys were undertaken for reptiles and roosting bats.

S.5. Reptile surveys conducted in 2021 indicate small population of slow worm is present at the site. Precautionary methods will be employed during habitat clearance in order to avoid harm.

S.6. Emergence surveys of the main house (B1) and the annex (B2) confirm no bat roost is present. However, as a precaution due to some early activity between the house and the southern boundary, the southern end of the roof of B1 will be soft-stripped by hand under supervision of a licenced bat worker. Due to a lack of approved access to inspect the loft space, the roof of B2 will also be subject to a soft-strip under supervision.

S.7. Further surveys for great crested newt were not undertaken however Tyler Grange have surveyed extensively for the species over a period of approximately 10 years. There is a medium population in an offsite pond c.0.15km to the southeast which could be impacted by the development if they use on site habitats during their terrestrial phase. The site will be registered to join the Natural England District Licensing scheme in order to mitigate for any impact to the conservation status of great crested newt on the site.

S.8. The site layout, planting plan and lighting have been designed based on ecological considerations to ensure retention and protection of the most importance ecological features on the site, namely species-rich hedgerows and trees. Retention of these habitats will ensure continued opportunities for commuting and foraging bats, reptiles, great crested newt, birds and hedgehog. In addition, habitat creation and enhancement of retained habitats will ensure the favourable conservation status of these species is maintained.

S.9. With the implementation of the mitigation and enhancement strategy described, the proposed development would be in conformity with relevant planning policy and legislation, as set out in **Appendix 2**. The strategy would be controlled by appropriately worded planning conditions to ensure the production and implementation of a Construction and Environmental Management Plan (CEMP), to include relevant species mitigation strategies, and a Landscape and Ecological Management Plan (LEMP).

Section 1: Introduction and Site Context

Introduction

1.1. Tyler Grange Group Ltd was instructed by Boklok in March 2021 to undertake an Ecological Assessment of land at Hoodlands Farm, Stoke Gifford, Bristol, hereafter referred to as the 'site'. A planning application is to be submitted to South Gloucestershire Council (SGC) in June 2021 for residential development comprising 50 dwellings, creation of new access, public open space and other associated ancillary works. The site is centred on National Grid Reference ST 63565 79473 and the extent of the site is shown in **Figure 1**.

Figure 1: Site Context and Boundary
(Aerial Imagery © Bing Maps, courtesy of Ordnance Survey 2021)

1.2. The purpose of this report is to:

- Using available background data and results of field surveys undertaken in April, May and June 2021, describe and evaluate the ecological resources present within the likely 'zone of influence' (ZoI)[1] of the proposed development;
- Assess ecological impacts and opportunities as a result of development; and
- Make commitments to mitigation and enhancement strategies and describing planning controls to ensure their delivery, to ensure conformity with policy and legislation.

[1] Defined as the areas/resources that may be affected by the biophysical changes caused by activities associated with a project (CIEEM, 2018).

Site Context

1.3. The site comprises a parcel of land to the east of the parish of Stoke Gifford, South Gloucestershire. Its immediate environs comprise several pastoral fields, which are enclosed within the Stoke Gifford Bypass to the west, Hambrook Lane to the south, the M4 to the east and the railway to the north. The wider landscape comprises the city of Bristol to the west and south and the village of Winterbourne to the east.

Methodology

1.4. Detailed methods are provided at **Appendix 1**. This Ecological Assessment has been informed by the following:

- Data search, including review of protected sites within the Zone of Influence[2] (ZOI). Records were purchased in 2018 for a previous report (Ecological Appraisal, All Ecology – Ref 1869: 1.2). In addition, Tyler Grange have extensive knowledge of the area from previous projects relating to the consented schemes at Land at Harry Stoke (Planning ref: **PT06/1001/O** and Land East of Harry Stoke site (Planning ref: PT16/4782/O). As such, updated data records have not been requested;

- Updated site survey comprising 'extended' Phase I habitat survey (JNCC, 2010): and

- Detailed Phase 2 surveys for bats (emergence) (Collins, 2016) and reptiles (Froglife, 1999).

1.5. The above scope of work has informed the description and assessment of importance of ecological features (in line with Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines (CIEEM, 2018)), the consideration of opportunities and constraints to development, and mitigation and enhancement requirements to ensure conformity with legislation and policy (see **Appendix 2**).

Quality Assurance

1.6. Ecologists at TG are members of CIEEM and abide by the Institute's Code of Professional Conduct.

Limitations

1.7. Owing to the timing of the survey, some plant species may not have been visible; however, given the nature of the habitats present, it is not considered likely to affect the conclusions of the survey.

1.8. All Phase 2 surveys have been undertaken within the optimal survey season respective to each species therefore it is considered that there are no limitations for these surveys.

[2] 10km for European protected sites and 2km for nationally protected sites.

Section 2: Ecological Features

2.1 Ecological features within the site and wider study area (see **Appendix 1**) are described below, together with an assessment of their importance using a geographical frame of reference advocated by CIEEM.

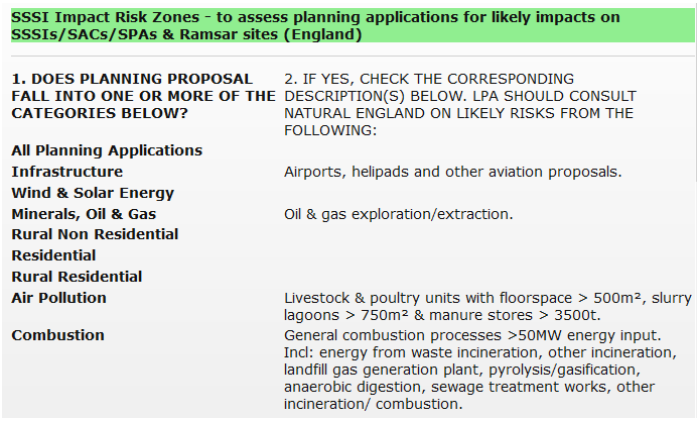
Protected Sites

2.2 The site is not covered by any statutory or non-statutory sites designated for nature conservation importance. Several such sites are present in the study area (defined in **Appendix 1**) as set out in **Table 2.1**.

Table 2.1: Ecological Designations

Designation	Sites within Study Area	Ecological Importance
European Statutory Designations	**Avon Gorge Woodlands Special Area of Conservation (SAC)** c.8.4km south-west Annex I habitats: Tilio-Acerion forests of slopes, screes and ravines and Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites). No Annex II species listed.	International
National Statutory Designations	**Monks Pool and Bradley Brook Local Nature Reserve (LNR)** c. 1.4km north No information provided on SGC's website.	Local
	Huckford Quarry LNR c. 1.9km east Variety of habitats which support species such as polypody Polypodium virginianum, lady fern Athyrium filix-femina, bluebell Hyacinthoides non-scripta, violet Viola sororia, wood anemone Anemone nemorosa, woodspurge Euphorbia amygdaloides and wild arum Arum maculatum.	
	Three Brooks LNR c. 1.9km north-west A rich mix of habitats which support species such as reed bunting Emberiza schoeniclus, skylark Alauda arvensis, great crested newt Triturus cristatus and slow worm Anguis fragilis.	
Non-statutory Designations	**Bradley Brook (part of) SNCI** c. 0.6 km east Flowing open water and bankside vegetation. Protected fauna. Rich in bird and insect life.	County
	Parkway Park and Ride Site of Nature Conservation Interest (SNCI) c. 0.7km west Grassland with high invertebrate value, especially small blue butterfly *Cupido minimus*.	
	River Frome and Oldbury Court Estate SNCI c. 0.7km north-east Flowing open water and bankside vegetation, woodland and grassland. Protected fauna, aquatic species and species-rich woodland ground flora and grassland.	

2.3 The site also lies within the Impact Risk Zone (IRZ) for the Pen Park Hole SSSI, which lies c. 4.9km to the west however residential developments are not a consideration at this distance (see **Figure 2** below).



SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)	
1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?	2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Airports, helipads and other aviation proposals.
Wind & Solar Energy	
Minerals, Oil & Gas	Oil & gas exploration/extraction.
Rural Non Residential	
Residential	
Rural Residential	
Air Pollution	Livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t.
Combustion	General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Figure 2: Likely risks within the IRZ for Pen Park Hole SSSI.

Site Habitats

2.4 Habitats present within the site and adjacent to it, along with their ecological importance, are detailed in **Table 2.2** (in alphabetical order for ease). This should be read in conjunction with **Appendix 3** for referenced site photographs and habitats area mapped on the Habitat Features **Plan 11857/P03**.

2.5 The site supports the following habitats:

- Buildings;
- Grassland – Poor semi-improved;
- Hardstanding, fence and wall;
- Hedgerows - Native species-rich;
- Hedgerows – Species-poor;
- Introduced shrub; and
- Scattered trees.

Table 2.2: Habitats

Habitat	Description and Importance	Ecological Importance
Building	Two buildings on site. B1 is the main house. A two-storey building of brick construction with a pitched tiled roof and Velux-style windows (**Photo 1**). The walls are rendered with some exposed brickwork along the gable end, corners and around the windows and chimney stack. All rendering and brickwork appear to be in good condition with no cracks or gaps. The roof tiles also appear to be in good condition with the exception of one missing tile on the eastern aspect near the ridge (**Photo 2**) The upstairs rooms are open to the eaves and there is no loft space within B1. B2 is the annex, of similar construction to the main house (**Photo 3**). A small loft space is present above the upstairs rooms. A small gap is present underneath the roof tiles at the north-western corner (**Photo 4**).	Negligible
Grassland (Poor Semi-improved)	Dominant habitat onsite. The majority of the field is managed to a sward height of approximately 10-15cm (**Photo 5**). A fenced off area in the north-western corner is less managed with a sward of up to 40cm with good formation of tussocks (**Photo 6**). The area immediately adjacent to the house is managed as amenity grassland with a very short sward (less than 5cm) (**Photo 7**). A drainage basin, comprising a shallow depression with enclosing bunds, is present in the north-eastern corner of the site. Similar species to the surrounding grassland but with some indication that is does sometimes contain water (**Photo 8**). Species present include false oat grass *Arrhenatherum elatius*, Yorkshire fog *Holcus lanatus*, cock's foot *Dactylis glomerata*, perennial rye grass *Lolium perenne*, ribwort plantain *Plantago lanceolata*, forget-me-not *Myosotis scorpioides*, dandelion *Taraxacum* sp., creeping buttercup *Ranunculus repens*, daisy *Bellis perennis* and bird's-foot trefoil *Lotus corniculatus* with hogweed *Heracleum sphondylium*, cleavers *Galium aparine* and broad-leaved dock *Rumex obtusifolius* in the margins. The poor semi-improved grassland on the site is relatively species-poor comprising common and	Local

	widespread species.	
Hardstanding, fence and wall	The south-eastern corner of the site comprises an area of hard standing with several piles of building materials scattered throughout (**Photo 9**). The access track also consists of hardstanding. Post-and-rail fences enclose the north-western corner and the garden area immediately adjacent to the house (**Photo 10**). Low walls form the edges of the introduced shrub beds (**Photo 11**).	Negligible

Hedgerow with Trees - Native species-rich	A native species-rich hedgerow (H1 – see Plan 11857/P03) with several mature trees is present along the northern boundary of the site (Photo 12). The hedgerow is unmanaged and stands at a height up to 6 to 7m. Species present include hawthorn ***Crataegus monogyna***, blackthorn ***Prunus spinosa***, English elm ***Ulmus procera***, field maple ***Acer campestre*** and elder ***Sambucus nigra*** with mature oak ***Quercus*** sp. and ash ***Fraxinus excelsior*** trees towards the north-western corner. H7 and H8 lie on either side of the access track. They are both set on banks and managed to a height of 1.5 to 2m towards the north, showing signs of being heavily flailed over the winter (Photo 13). Further south they are less managed to a height of 2 to 3m. Species present include hazel, hawthorn, English elm, field maple and dogwood ***Cornus sanguinea***.	Local HoPI[3]
Hedgerows – Native Species-poor	H2 - (**Photo 14**) – Dominated by hawthorn with blackthorn, dogwood, field maple and hazel Corylus avellana and several mature ash trees also present. H4 - (**Photo 15**) – Dominated by blackthorn with field maple, English elm and a mature ash tree . H5 - (**Photo 16**) – Dominated by blackthorn with field maple also present. H6 - (**Photo 17**) – unmanaged hedgerow/treeline with English elm, hawthorn and field maple with several mature ash specimens present.	Local HoPI
Hedgerows – Non-native Species-poor	H3 - (**Photo 18**) – Leyland cypress Cupressus × leylandii hedgerow.	Negligible
Introduced shrub	Several introduced shrub beds (**Photograph 19**) are present within the hardstanding adjacent to the house. Species present include copper beech Fagus sylvatica f. purpurea and common box Buxus sempervirens.	Negligible

[3] UK priority habitats and species are those subject to conservation action and referred to as Species of Principal Importance (SoPIs) or Habitats of Principal Importance (HoPIs). They are listed at Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act states that local planning authorities must have regard for the conservation of SoPIs and HoPIs.

Scattered Trees	A number of semi-mature and mature scattered trees are present within and immediately adjacent to the site, including pear *Pyrus* sp., silver birch *Betula pendula*, oak and goat willow *Salix caprea*. Scattered trees include a number of semi-mature and mature trees which are not replaceable in the short to medium term.	Local HoPI LBAP[4]

2.6 For ease of reference, descriptions of the potential for fauna have been described alphabetically, in **Table 2.3** below.

Table 2.3: Protected and Priority Species

Species / Group	Records within 1km – taken from previous Ecological Appraisal unless stated	On-site Fauna	Ecological Importance
Amphibians - great crested newt (GCN) *Triturus cristatus* and other amphibians	Bristol Regional Environmental Record Centre (BRERC) provided records for GCN and common toad *Bufo bufo*. The closest GCN record was 0.5km to the west of the site. According to Multi-Agency Geographic Information for the countryside (MAGIC) website[5], four European Protected Species (EPS) licence applications for GCN have been granted within 2km of the site, all for the Harry Stoke and East of Harry Stoke developments nearby.	Tyler Grange have undertaken extensive surveys for GCN within the area over a period of approximately 10 years, therefore there is a well-documented medium population with a pond c. 0.15km to the south-east. The site does support areas of suitable terrestrial habitat, namely the tussocky areas of grassland and hedgerow bases which could support GCN and common toad in their terrestrial phase.	Local GCN are an EPS, SoPI and LBAP species (see **Appendix 2**). Common toad is a SoPI.

[4] Local Biodiversity Action Plan: https://www.southglos.gov.uk/documents/Biodiversity-Action-Plan-2016-26.pdf
[5] https://magic.defra.gov.uk/

Badger *Meles meles*	A number of records of badger have been returned from the records centre.	No evidence directly attributed to badgers was seen during the survey. The grassland provides optimal foraging habitat and there is potential for sett-making within the boundary hedgerows. The site is likely to be used as part of the wider foraging resource.	Negligible Badger is a protected species – see **Appendix 2**

Bats	BRERC returned records of pipistrelle sp., common pipistrelle *Pipistrellus pipistrellus*, myotis sp. and noctule *Nyctalus noctula*, none of which were of roosts on or close to the site. According to MAGIC website, there are no EPS licences granted within the site boundary, with the closest being c.1.5km south-east for the destruction of a resting place of common pipistrelle and soprano pipistrelle *Pipistrellus pygmaeus*. There are two others within 2km of the site, both for destruction of a resting place of common pipistrelle at 1.6km and 1.8km from the site.	*Roosting* There are two opportunities for roosting bats within the buildings: the missing tile on B1 and the gaps under the tiles at the north-west corner of B2. No bats were seen to emerge during the survey (see Appendix 4 for details), however early socialising and foraging were noted along the southern boundary. No surveyor was placed in this location during the emergence surveys, however emergence from the building is unlikely due to the lack of suitable roosting features on that aspect of the house. One tree within the site boundary (T16) has low potential to support roosting bats, with several small cracks and fissures on limbs. *Foraging and commuting* The site supports habitats that could be used for foraging by bats, namely the boundary habitats. It is unlikely to be well lit along these habitats, with just light spill from the house likely to be the source of any lighting.	Low potential for roosting bats Low potential for roosting bats Local Bats are legally protected (see Appendix 2)

		Species recorded during surveys for the Harry Stoke and East of Harry Stoke sites include common pipistrelle, Natterer's bat *Myotis nattereri*, noctule, Leisler's bat *Nyctalus leislerii* and brown long-eared bat *Plecotus auritus*. **Site likely to be part of a wider foraging resource for the local bat assemblage which includes a number of SoPI, although due to the presence of optimal habitat in the surrounding area, it is unlikely the local bat assemblage would be reliant on the site alone.**	

Birds (priority and LBAP species and red[6] and amber[7] BoCC list)	**BRERC returned a number of records of notable bird species including a range of farmland, garden and woodland species as well as various birds of prey.**	**Potential for common and widespread garden species to utilise the hedgerows and scattered trees across the site including some declining species, such as house sparrow *Passer domesticus* would be expected. Potential for ground nesting birds is limited given the relatively small size of the site.** **Any assemblage of breeding birds utilising the site would be expected to be typical of the habitats available within the site, namely residential and agricultural hedgerows, which are commonplace and abundant within the local area.**	**Local**
Dormouse *Muscardinus avellanarius*	There are no records of dormice within 1km of the site boundary.	Whilst the hedgerows might be considered suitable habitat for dormouse, they are part of a limited network which is cut off from the wider network by the surrounding infrastructure. In addition, no evidence of dormouse was ever found during surveys undertaken for the Harry Stoke and East of Harry Stoke sites over the last ten years. It is therefore considered unlikely that dormouse are	N/A

[6] Red listed bird species are those identified as having suffered major population declines over the last 25 years (Eaton *et* al., 2015)

[7] Amber listed bird species are those identified as having suffered moderate population declines over the last 25 years (Eaton, et al., 2015)

		present on site and as such, they are not considered further in this report.	
Invertebrates	BRERC returned records for a number of species including many butterflies and moths as well as a species of snail and crayfish.	Habitats on site, including hedgerows, trees and, to a lesser extent, the grassland, could provide suitable habitat for an assemblage of more common and widespread invertebrate species to be present on the site.	Site
Reptiles	BRERC returned five records for slow worm *Anguis fragilis*, all from the other side of the Stoke Gifford Bypass.	The grassland, particularly in the north-western corner, and hedgerow bases provide optimal habitat onsite for reptiles. Surveys confirm a small population (Froglife, 1999) of slow worm (six individuals found in total with a peak count of 2), mainly within the field margin of the grassland field adjacent (see **Appendix 5**). The longer grassland margins at hedgerow bases, areas of poor semi-improved grassland and tall ruderal vegetation provide suitable cover and foraging for slow worm.	Local
West European Hedgehog ***Erinaceus europaeus***	BRERC provided several records of hedgehog.	The hedgerow bases and longer grassland provide cover and foraging opportunities if present. Habitats within the wider area also	Local

		provide optimal habitat for foraging and hibernation, including the small network of hedgerows and wooded areas.	
Other species	BRERC returned records for otter *Lutra lutra,* water vole *Arvicola amphibius* and water shrew *Neomys fodiens*.	There are no water bodies or water courses within the site boundary and no suitable habitat to support these species. It is therefore considered that otter, water vole and water shrew are absent from the site and as such will not be discussed further within this report.	N/A

Section 3: Impacts, Mitigation and Enhancement Strategy

Site Proposals

3.1. The proposals for the site include the construction of 50 residential properties with associated access, residential gardens, hardstanding and landscape planting with multi-functional green infrastructure as shown on the proposed layout (see **Appendix 6**). The mitigation hierarchy has been applied to ensure the proposals retain and protect features of highest ecological importance on the site, namely species-rich hedgerows and mature trees. The proposals will result in the following:

- Loss of the buildings, hardstanding, fences, walls, non-native species-poor hedgerow (H3) and introduced shrub, all of negligible ecological importance;
- Loss of poor semi-improved grassland of local ecological importance;
- Loss of sixteen trees (see Tree Retention and Removal Plan **11857/P04**) of local ecological importance; and
- Loss of discrete sections of native species-poor hedgerow of local ecological importance, to make way for access roads and footpaths.

3.2. Habitats of local ecological importance or above require specific mitigation. Loss of negligible and site importance habitats require no mitigation or compensation.

Potential Impacts and Requirement for Mitigation and Enhancement Strategy

3.3. The Natural Environment and Rural Communities Act (NERC) 2006 gives the importance of conserving biodiversity a statutory basis, requiring government departments (which includes Local Planning Authorities) to have regard for biodiversity in carrying out their obligations (which includes determination of planning applications) and to take positive steps to further the conservation of listed species and habitats. These articles of legislation require Gloucestershire County Council to take measures to protect species or habitats from the adverse effects of development, where appropriate, by using planning conditions or obligations.

3.4. Where there are potential impacts in the construction and operational stages of the development to the important ecological features described in Section 2, these are described below, in **Table 3.1**, together with their potential significance. Where impacts would trigger legislation or planning policy (as set out in **Appendix 2**), mitigation is noted. As required by planning policy, ecological enhancements are also described.

3.5. In line with the NPPF requirements and where appropriate, there are opportunities within the scheme to deliver biodiversity net gain through:

- Incorporating native species rich hedgerows and trees;
- Enhancing species-poor hedgerows with infill planting;

- Incorporating drainage pond designed with ecological benefits including with wetland planting;
- Incorporating landscape planting that is of benefit to wildlife; and
- Incorporating hibernacula, log piles, bird and bat boxes within the site.

3.6. A Construction and Environmental Management Plan (CEMP) will be produced and implemented to avoid impacts to retained habitats of importance, namely hedgerows and trees; and protected and priority fauna. This will include measures to avoid impacts through pollution (noise, air and run-off).

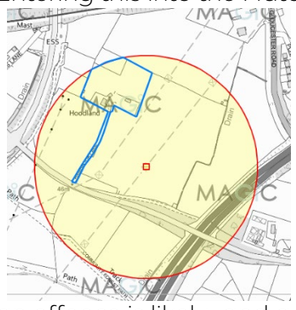
3.7. A Landscape and Ecological Management Plan (LEMP) will also be produced and implemented to maximise the biodiversity potential of retained and newly created habitats, both in terms of their biodiversity net gain requirements and their ability to support protected and priority species, as described in this section of the report.

Table 3.1: Summary of impacts, significance, mitigation and enhancement

Feature	Impacts	Potential significance before mitigation (* denotes legal implications)	Mitigation and Enhancement
Protected Sites			
Internationally Designated site	Due to the distances involved and the nature of the development, direct impacts to the Avon Gorge SAC are not anticipated, either alone or in combination. It is possible that developments can have indirect impact on a protected site, e.g. recreational impacts or air quality, however discussions with Natural England (NE) for a Habitats Regulations Assessment (HRA)[8] undertaken for the now defunct Joint Spatial Plan, identified a buffer of 7km from the Avon Gorge SAC in which impacts would be likely. Therefore, at 8.4km from the protected site, it is anticipated that no indirect impacts will occur as a result of the development.	Not significant	No specific mitigation
Locally Protected Sites	No direct impacts caused by the proposals are expected. Potential increase in visitor number on locally protected sites.	Significant at the County level	Walking routes / green spaces within the site to reduce recreational pressures on locally protected sites.
Habitats			
Grassland – species poor semi-improved	All grassland anticipated to be lost with the exception of the margins.	Significant at local level.	Retained areas around the margins will be enhanced with species-rich seed mixes and be subject to a relaxed management regime to allow flowering and self-seeding. The new SuDS basin in the north-eastern corner of the development will be planted with a variety of wetland type species, creating a new habitat which will encourage a range of species including invertebrates and, in turn, birds and bats to utilise the site. This newly created habitat will be a species-diverse area, introducing a wider variety of species into the site than is already present which will more than compensate for the loss of the grassland.
Hedgerow with Trees - Native species-rich	To be retained where possible. Some discrete removal may be necessary along hedgerow H7 and H8, however this is not currently anticipated.	Not significant	Whilst the track between H7 and H8 will form the main access to the site for the next few years, following completion of the adjacent Crest development access will switch to the road in the south-eastern corner of the main site. The current track will then be closed to traffic and developed into a green corridor with a pedestrian/cycle path running through. The existing hedgerows (H7 and H8) will be infill planted with new native specimens. This will more than compensate for any discrete loss that may be necessary.
Hedgerows – Native species-poor	Discrete sections of H2 and H5 will be removed to make way for the access roads and footpaths.	Not significant	Hedgerows will be infill planted with native species of local provenance.

[8] https://democracy.bristol.gov.uk/documents/s17189/13e

<table>
<tr><td>Scattered Trees</td><td>Sixteen trees to be removed from within the site.</td><td>Significant at local level.</td><td>New tree planting within the proposed landscaping, particularly along the green corridor, will more than compensate for this loss. Trees will be of native or ecologically beneficial species from local stock such as oak, beech and apple Malus sp. and pear. Hedgerow trees will also be planted within H7 and H8 with species such as field maple, rowan Sorbus aucuparia, holly Ilex aquifolium and birch Betula sp. included.</td></tr>
<tr><td colspan="4">Fauna</td></tr>
<tr><td>Amphibians – GCN and other amphibians</td><td>There is a known medium population of GCN within an offsite pond, c. 0.15km to the south-east of the site. This pond is scheduled to be removed as part of the adjacent Crest development but not for some years yet. As such, the impacts as a result of this development would trigger legislation protecting GCN. Approximately 1.5ha of the site falls within 100-250m of the pond:

Entering this into the Natural England rapid Risk Assessment Tool indicates that
 
an offence is likely, and a mitigation licence would be required:

<table><tr><th>Component</th><th>Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)</th><th>Notional offence probability score</th></tr><tr><td>Great crested newt breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Land within 100m of any breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Land 100-250m from any breeding pond(s)</td><td>1 - 5 ha lost or damaged</td><td>0.4</td></tr><tr><td>Land >250m from any breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Individual great crested newts</td><td>No effect</td><td>0</td></tr><tr><td></td><td>Maximum:</td><td>0.4</td></tr><tr><td>Rapid risk assessment result:</td><td colspan="2">AMBER: OFFENCE LIKELY</td></tr></table>
Connectivity around the site to offsite habitat will be retained along the eastern and northern boundaries.</td><td>Significant at local level</td><td>It is anticipated that the site will be joining the Natural England District Licensing scheme (Appendix 5), once planning consent is granted. As part of District Licensing, mitigation for GCN is not required onsite but provided within a suitable site within the County provided by Natural England. However, reasonable avoidance measures may be adopted to minimise impacts to GCN during works.

For the licence evidence must be provided that the three legal tests will be met, namely:

• There are no feasible alternative solutions to the development that are less damaging;
• There are “imperative reasons of overriding public interest” (IROPI) for the development to proceed; and
• The proposal will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range.

The first two tests, above, are addressed within the Planning Statement, to be submitted with the application. The strategy to ensure the proposed development will meet the favourable conservation status test within the Habitats Regulations is provided below.

There are no requirements for translocation of GCN during construction with District Licensing however, clearance of suitable habitat, namely tussocky grassland and hedgerow bases, within 250m of the offsite pond will be subject to a Precautionary Method of Working (PWMS) by a suitably qualified ecologist during the active season for GCN (March to October inclusive).

It is not expected that GCN would use the introduced shrubs and grassland managed as amenity nearest to the house, so no supervision is required for these areas.</td></tr>
</table>

			Although mitigation on-site is not required, habitats created within the scheme for other fauna will also provide additional compensation for GCN.
Badger	No impacts, but as badgers can readily dig new setts, should a new badger sett be dug on the site before construction activities begin and would be affected by the proposals, the legislation protection badgers (**Appendix 2**) could be triggered.	Not significant	Precautionary check prior to construction. Should any new sett entrances be recorded on or immediately adjacent to the site which may be impacted by the proposed development, a mitigation strategy would be devised prior to commencement of works, and if necessary, a licence obtained from Natural England, to allow the works to proceed lawfully with respect to badgers.

Bats	Habitats of most importance to foraging and commuting bats would be retained along the boundaries. No impacts anticipated for roosting bats.	Not significant	*Roosting* No roosts were observed within either B1 or B2. However, due to the early foraging between the southern boundary and B1, it is likely that there is a roost in the vicinity therefore as a precaution, the southern section of the roof will be removed by hand under the supervision of a licensed bat worker or be immediately preceded by an emergence or dawn survey to confirm no transient roosts have moved into the building. Access has not been possible to inspect the loft space within B2 (see limitations in Appendix 4). Access will continue to be sought however should it not be possible, the roof of B2 will also be stripped by hand under the supervision of a licensed bat worker or preceded by an emergence/dawn re-entry survey. Detailed methodology for both areas would be described in a method statement which could be controlled by an appropriately worded planning condition. Should evidence of an active roost or any bats themselves are found all work will stop and a licence from NE sought. No further surveys are required on T16 (low potential) however, should it be necessary to prune any limbs with potential roosting features, a pre-felling check by a licensed bat worker will be required. *Foraging and Commuting* Features of most importance to commuting and foraging bats, namely the boundary hedgerows and trees, are being retained. *Enhancement* Creation of new roosting opportunities with six new bat boxes[9] on retained trees along the northern or western boundary will enhance the site for roosting bats.

[9] https://www.nhbs.com/4/bat-boxes?q=&hPP=60&idx=titles&p=0&fR%5Bhide%5D%5B0%5D=false&fR%5Blive%5D%5B0%5D=true&fR%5Bshops.id%5D%5B0%5D=4&fR%5Bsubsidiaries%5D%5B0%5D=1&hFR%5Bsubjects_equipment.lvl1%5D%5B0%5D=Bat%20Boxes%20%3E%20Bat%20Boxes%20for%20Trees

			Lighting onsite will be carefully designed to be directed away from boundary features, particularly the western boundary which will be maintained as a dark corridor for bats to allow continued foraging and commuting along the boundary. Some bat species, such as pipistrelles, will continue to forage on the site where light levels are higher, such as around the proposed buildings, as these species are known to feed around streetlights to feed on insects attracted to the light (BCT and ILE, 2018). **Native species planting throughout the site, will create additional foraging opportunities not currently present on the site and improve connectivity to offsite habitat to the east and south east. With the construction protection, lighting, bat boxes and new habitats and planting, bats, including rarer species can continue to use the site for foraging and commuting.**
Birds	Direct loss of feeding and nesting habitat within H3 and the trees. Habitats of most importance for breeding birds is mainly being retained, except for the H3 and the sixteen trees scheduled for removal.	Significant at site level*	All birds, their nests and eggs, are protected by law and an inspection of woody vegetation will be required by a suitably qualified ecologist to ensure there are no active nests before removal. It is recommended that the removal of woody vegetation is undertaken outside of the breeding bird season, which is usually taken to be between 1st March and 31st August to avoid triggering the legislation affecting nesting birds (see **Appendix 2**). Should this not be possible, the vegetation would be checked immediately prior to removal by a suitably qualified ecologist. Any active nests identified must be retained with a suitable buffer until such time as the nest is deemed to be no longer supporting young by a suitably qualified ecologist. Planting throughout the site including native species hedgerows, trees and shrubs will compensate for the loss of hedgerows and scrub. In order to provide enhanced nesting opportunities for birds, six bird boxes[10] will be installed on retained trees along the northern boundary of the site.

[10] https://www.nhbs.com/vivara-pro-seville-32mm-woodstone-nest-box

Reptiles	Direct loss of habitat supporting a small population of slow worm. Potential for killing and injury of slow worm during site clearance.	Significant at site level	A PWMS will be used to prevent harm to the small population of slow worm onsite. This method will involve hand searches by a suitably qualified ecologist and vegetation clearance in stages to actively encourage reptiles into offsite habitats to the west of the site. In time, log piles and hibernacula will be created along the green corridor and adjacent to the SuDS feature to further enhance the site for reptiles and grassland retained and enhanced for reptiles around the margins as well as the new residential gardens will continue to provide opportunities for reptiles on the site.
West European Hedgehog	Loss of suitable habitat for hedgehog along the western boundary.	Not significant	Additional native species planting will create enhanced opportunities for hedgehog through the site. Checks prior to removal of suitable grassland areas and discrete sections of hedgerows. In the event hedgehog are found on site during construction activities, they should be carefully moved by gloved hands out of harm's way, into an area of suitable retained habitat, such as the southern or eastern boundary.

Section 4: Conclusion

4.1. With the implementation of the mitigation and enhancement measures described in Section 3, the proposed development would be in conformity with relevant planning policy and legislation (see **Appendix 2**).

4.2. The mitigation and enhancement strategy could be controlled through appropriately worded planning controls devised to:

- Secure the production and implementation of a Construction Environmental Management Plan (CEMP), based on the principles outlined in this report to avoid impacts to retained habitats of importance, namely hedgerows and trees; and protected and priority fauna, including GCN, bats, badgers, birds, reptiles and hedgehog;

- Secure the design of a detailed mitigation strategy for GCN based on the principles outlined in this report that would be submitted in due course with a district licensing application;

- Secure the design of a precautionary method of working for reptiles and bats in order to avoid harm; and

- Secure the production and implementation of a Landscape and Ecological Management Plan (LEMP), to maximise the biodiversity potential of retained and newly created habitats both in terms of their biodiversity net gain requirements and their ability to support protected and priority species, as described in this report. This document would include a programme of monitoring and a mechanism to modify the management prescriptions, if required.

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2010, JNCC. *Handbook for Phase I Habitat Survey – A technique for Environmental Audit*

Appendix 1: Survey Methodology

A1.1. A desk-based study was conducted utilising the following resources:

- Multi-Agency Geographic Information for the countryside (MAGIC) website[11];
- Gloucestershire County Council Planning Website[12];
- Joint Nature Conservation Committee (JNCC) website[13];
- Natural England (NE) designated sites website[14];
- UK Biodiversity Action Plan (UKBAP), now Biodiversity 2020: A strategy for England's wildlife and ecosystem services[15];
- The Local Biodiversity Action Plan (LBAP) known as 'Gloucestershire Local Nature Plan [16];
- Ordnance Survey mapping; and
- Google Maps, including aerial photography.

A1.2. Biological records purchased from the previous Ecological Appraisal were also used (Ecological Appraisal, All Ecology, Ref 1826:1.2).

A1.3. The following areas of search around the boundary of the site boundary were applied:

- 2km for protected and priority species;
- 2km for non-statutory and statutory designated sites; and
- 10km for European statutory sites.

A1.4. An 'extended' Phase I survey was conducted on the 26th April 2021 by Lindsay Taylor, an experienced field ecologist. This survey methodology was based on guidance set out in the 'Handbook for Phase 1 habitat survey'[2] and entailed recording the main plant species and classifying and mapping broad habitat types present.

A1.5. Note was taken of the more conspicuous fauna and any evidence of, or potential for the presence of protected or notable flora and fauna. A basic inventory of the habitats and a representative species list was produced.

A1.6. The weather conditions during the survey were dry with a breeze with a temperature of 13°C.

[11] https://magic.defra.gov.uk/MagicMap.aspx
[12] https://beta.southglos.gov.uk/planning-policy-guidance/
[13] http://jncc.defra.gov.uk/ProtectedSites/
[14] https://designatedsites.naturalengland.org.uk/
15 https://www.arc-trust.org/Handlers/Download.ashx?IDMF=ff972cdb-34db-4eeb-97c4-a29657268caa
16 https://f55bc3b4-dbac-4e43-8254-a45b43ca06b3.filesusr.com/ugd/49624c_bd3f73911fb74e4f8d5d4cdba374dc14.pdf

Assessment of Importance

A1.7. The Assessment of Importance of habitats and species is defined in accordance with published guidance. The level of importance of specific ecological features is assigned using a geographic frame of reference, with international being most important, then national, regional, county, district, local and lastly, within the site boundary only. Evaluation is based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

Appendix 2: Planning and Legislative Context

Legislation

A2.1. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:

- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2018;
- The Countryside and Rights of Way (CRoW) Act 2000;
- The Natural Environment and Rural Communities Act (NERC) 2006;
- The Hedgerows Regulations 1997; and
- The Protection of Badgers Act 1992.

A2.2. The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2018 (as amended).

A2.3. In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.

A2.4. The CRoW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.

National Planning Policy

National Planning Policy Framework (NPPF), February 2019

A2.5. The updated National Planning Policy Framework (NPPF) was published in February 2019 and sets out the Government's planning policies for England and how these should be applied. It replaces the first National Planning Policy Framework published in March 2012.

A2.6. Paragraph 11 states that:
"Plans and decisions should apply a presumption in favour of sustainable development."

A2.7. Section 15 of the NPPF (paragraphs 170 to 177) considers the conservation and enhancement of the natural environment.

A2.8. Paragraph 170 states that planning and decisions should contribute to and enhance the natural and local environment by:

- *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; and*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"*

A2.9. Paragraph 171 states that plans should distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

A2.10. Paragraph 174 states that in order to protect and enhance biodiversity and geodiversity, plans should:

a) "Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

A2.11. When determining planning applications, Paragraph 175 states that local planning authorities should aim to conserve and enhance biodiversity by applying 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 reasons58 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."

A2.12. As stated in paragraph 176 the following should be given the same protection as habitats sites:

a) "potential Special Protection Areas and possible Special Areas of Conservation;
b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."

A2.13. Paragraph 177 states that the presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

Local Planning Policy

South Gloucestershire's Local Development Framework

A2.14. The South Gloucestershire Core Strategy is the key planning document within the Local Development Framework (LDF) which will set out the long-term vision for the area and the policies needed to deliver sustainable communities in the period up to 2026.

A2.15. South Gloucestershire Council submitted its Core Strategy Development Plan Document to the Secretary of State on 31 March 2011 for Examination. Following the submission of the Core Strategy the Inspector requested that the Council undertakes further technical work, which is now complete and a number of Post-Submission Changes to the Core Strategy have been made.

A2.16. The policies which make reference to ecology and nature conservation issues within this document and are of relevance to the site are:

- **Policy CS1** - High Quality Design, which states that development proposals should inter alia safeguard and enhance features of nature conservation value and ensure soft landscape proposals prioritise biodiversity objectives;
- **Policy CS2** - Green Infrastructure, which states that SGC and its partners will ensure that existing and new Green Infrastructure (GI) is planned, delivered and managed, considering a number of GI objectives including protection and enhancement of species and habitats, and creation of new habitats and wildlife linkages between them. It also states that the integrity, multi-functionality, quality and connectivity of the Strategic Green Infrastructure Network will be protected and enhanced; and
- **Policy CS25** – Communities of the North Fringe of Bristol, which states that development proposals will provide new and enhanced wildlife and amenity routes, including from Three Brooks Nature Reserve to Stoke Park, along the M32 Corridor via the East of Harry Stoke.

South Gloucestershire Local Plan

A2.17. Until adoption of the South Gloucestershire Core Strategy a number of policies within the South Gloucestershire Local Plan (adopted on 6th January 2006) are saved. Those of relevance to ecology and nature conservation include:

- L7 - Sites of National Nature Conservation Interest, which protects National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs) from damage as a result of development;
- L8 - Sites of Regional and Local Nature Conservation Interest, which protects local nature conservation sites such as Local Nature Reserves (LNRs) and Site of Importance for Nature Conservation (SINCs) from damage as a result of development;
- L9 - Species Protection, which protects nationally or internationally protected species of flora or fauna, or species or habitats listed in national, regional or local biodiversity action plans; and

- L17 - The Water Environment, which protects surface water and groundwater quality and quantity, river corridors and associated wetlands.

Supplementary Planning Guidance

A2.18. South Gloucestershire Council has adopted Supplementary Planning Guidance (SPG) in relation to nature conservation and development, namely "Biodiversity and the Planning Process". This document outlines how wildlife should be protected within planning design and development sites and due consideration to this document has been made in this report.

Protected Species

All European Protected Species.

A2.19. As European protected species, all UK bats receive legal protection in England under the Conservation of Habitats and Species Regulations 2018 (as amended) and the Wildlife and Countryside Act (WCA) 1981 (as amended). In addition, planning policy set out in the National Planning Policy Framework (February 2019) requires planning authorities to consider bats (alongside other protected species) when determining planning applications and to ensure that development proposals do not lead to an adverse effect on the conservation status of bats or other protected species.

A2.20. All British species of bat are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2018 (as amended) as a European protected species (EPS) of animal. Regulation 41 (1) makes it an offence to:

- Deliberately capture or injure an EPS;
- Deliberately disturb an EPS;
- Deliberately take or destroy the eggs of an EPS; or
- Damage or destroy a breeding site or resting place of an EPS.

National Protection

Badgers

A2.21. The Protection of Badgers Act 1992 consolidates the previous Badger Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage, or obstruction of a badger sett an offence.

A2.22. A sett is defined as 'any structure or place which displays signs indicating current use by a badger'. In addition, the intentional elimination of sufficient foraging area to support a known social group of badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a badger. Badgers are not the subject of conservation action.

A2.23. Due to the continued persecution of this species, all details relating to the location of badger setts must be kept out of the public domain and not submitted to any public portal as part of the application submission.

Bats

A2.24. Several species of bats barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, brown long-eared *Plecotus auritus*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *R. hipposideros*, noctule and soprano pipistrelle are listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

A2.25. All British bats are listed in Schedule 5 of the WCA and in England and Wales are protected under Section 9 subsections 4b, 4c and 5 which makes it an offence to:

- Disturb any bat while it is occupying a structure or place which it uses for shelter or protection; or
- Obstruct access to any structure or place which any such animal uses for shelter or protection;
- Sell, offer, or expose for sale, or have in possession or transport for the purpose of sale (any live or dead wild Schedule 5 animal or any part or anything derived from such an animal); or
- Publish or cause to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things.

A2.26. All British bats are also listed under Schedule 6, Section 11 of the WCA 1981 (as amended), which states that bats cannot be killed or taken by certain methods, such as traps and nets, poisons, automatic weapons, electrical devices, smoke / gases etc.

Birds

A2.27. All birds are protected under the provisions of the Wildlife and Countryside Act (WCA) 1981 (as amended). Some receive additional species protection under Schedule 1 of the Act.

A2.28. Several bird species are listed as Species of Principal Importance (SoPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A2.29. Reference is made to Birds of Conservation Concern (BoCC) compiled by Royal Society for the Protection of Birds (RSPB)/British Trust for Ornithology (BTO). All breeding and wintering bird species in the UK, Channel Islands and the Isle of Man have been assigned to one of three groups (Red, Amber or Green) based on their conservation status. Each group is defined as follows:

- RED List species are those that are globally threatened according to the International Union for Conservation of Nature (IUCN) criteria; those whose population or range has declined rapidly (≥ 50%) in recent years; and those that have declined historically and not shown a substantial recent recovery;
- AMBER List species are those with an unfavourable conservation status in Europe, those whose population or range has declined moderately (25%-49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations; and
- The remaining species are placed on the GREEN List, indicating that they are of low conservation priority, although population sizes should be monitored.

GCN

A2.30. GCN are a European protected Species and subject to stringent protection under the Conservation of Habitats and Species Regulations 2010 (as amended), and Wildlife and Countryside Act (WCA)1981 (as amended). GCN are also listed as a Species of Principal Importance (SoPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. National Planning Policy Framework (NPPF) 2012 requires planning authorities to consider GCN when determining planning applications and to ensure that development proposals do not lead to adverse effects on the conservation status of GCN.

Reptiles

A2.31. All of Britain's native reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA). The four common species of reptile: adder , grass snake, slow worm and common lizard are listed on Schedule 5, Section 9, Parts 1 and 5 of the WCA and as such, it is an offence to:

- Intentionally kill, injure or take reptiles; and
- Sell, offer or advertise for sale any live or dead specimen or anything derived from reptiles.

Appendix 3: Site Photographs

Photograph 1: View of the north-western aspect of B1

Photograph 2: Missing tile on the eastern aspect of B1

Photograph 3: View of the south-eastern aspect of B2

Photograph 4: Gaps under the tiles at the north-western corner of B2.

Photograph 5: Majority of the poor semi-improved grassland is a relatively short sward.

Photograph 6: More tussocky grassland within the north-western corner.

Photograph 7: Amenity grassland adjacent to B1.

Photograph 8: Drainage basin in the north-eastern corner.

Photograph 9: Hardstanding with rubble piles.

Photograph 11: Post-and-rail fence along the amenity grassland edge.

Photograph 12: View of H1.

Photograph 13: View down the track with H7 on the left and H8 on the right.

Photograph 14: View of H2.

Photograph 15: View of H4.

Photograph 16: View of H5.

Photograph 17: View of H6.

Photograph 18: View of H3.

Photograph 19: Introduced shrub.

Appendix 4: Bat Methodology and Results

Introduction

A4.1. Due to the suitability of the site to support roosting bats, an internal inspection and emergence surveys were undertaken in May and June 2021.

Methodology

A4.2. The surveys followed standard methodologies set out in the Bat Mitigation Guidelines[Error! Bookmark not defined.], the Bat Workers Manual[17] and Bat Surveys - Good Practice Guidelines[Error! Bookmark not defined.] and comprised:

- Preliminary Roost Assessment (PRA) – Ground level inspection of trees and buildings to assess potential of trees on site to support roosting bats; and
- Internal inspection of B2.

PRA

A4.3. A PRA was undertaken on the trees and buildings within the site boundary. The assessment was undertaken on 26th April 2021 by Lindsay Taylor (2017-32853-CLS-CLS). All surveys were daytime inspections and the conditions for all surveys was considered optimal. The location of the trees at the site are shown on the Tree Constraints Plan 11857/P01e. All trees and buildings were inspected from the ground using binoculars and a high-powered torch. In relation to trees, such features may include woodpecker holes, frost cracks, deadwood, knot holes and limb wounds. In relation to buildings, features may include lifted tiles, gaps/holes in the mortar or soffits/barge boards etc.

A4.4. The potential of the trees to support roosting bats was assessed using the criteria shown in Table A5.1 below.

Table A5.1: Structure Assessment Criteria - adapted from Bat Mitigation Guidelines.

[17] Mitchell-Jones, A.J, & McLeish, A.P. (eds). 2004., 3rd Edition *Bat Workers' Manual*, JNCC, Peterborough, ISBN 1 86107 558 8

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain Potential Roost Features (PRFs) but with none seen from the ground or features seen with only very limited potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.

A4.5. Any evidence of nesting birds was also recorded.

Roost Survey

A4.6. The nocturnal survey of buildings B1 and B2 within the site assessed as providing low bat roost potential were undertaken (for survey dates and weather conditions see **Table A5.2 below**) and survey effort was informed by best practice guidelines.

Table A5.2: Metadata for roost survey

Date	Time of sunset	Weather conditions		
		Air temp at sunset (°C)	Prec.	Wind at sunset
26/05/2021	21:09	11	None	1

A4.7. Surveyors were positioned around the buildings and trees to provide adequate coverage of all suitable features. Surveyors used a combination of visual observation and echolocation detection to identify any bats emerging from or re-entering the buildings and trees.

A4.8. Bat echolocation calls were monitored in the field using frequency division and were also recorded in full spectrum formats for post survey analysis.

A4.9. The bat detectors used by surveyors were Batlogger M2s.

A4.10. In line with survey guidance, the dusk surveys began 15 minutes before sunset and continued for a minimum of 1.5 hours after sunset.

Survey Limitations

A4.11. Bat surveys are subject to numerous variables. The echolocation calls of species such as brown long-eared bats are of low amplitude and may not always be picked up on bat detectors. Survey results represent a sample of bat activity during the surveys. It is possible that bats may use the site at other times.

A4.12. Access to the loft space within B2 has not been possible due to a lack of response by the tenant. No features by which bats could gain access to the loft space were observed during the PRA.

Appendix 5: Reptiles Methodology and Results

Introduction

A5.1. Reptile survey were undertaken in May and June 2021 to identify the presence or likely absence of common reptile species within areas of suitable habitat within the surveyed site, and if found to be present, determine their population size class. The survey was conducted in line with Froglife Advice Sheet 10[18].

A5.2. Twenty-five refugia comprising 0.5x1m pieces of bitumen roofing felt, were deployed on 11th May 2021 within suitable areas of habitat, identified during the 'extended' Phase 1 habitat survey which included the majority of the site area.

A5.3. Refugia were allowed a week bedding in period before seven subsequent visits during suitable weather conditions (air temperature between 9-18°C (or up to 21°C if grass snakes are expected, dry, intermittent sun and light winds).

A5.4. Visual searches on top of the refugia and at natural basking spots were carried out, as well as searches of natural refugia, where present, were undertaken during each reptile survey visit.

A5.5. The visit number, date, time and weather conditions for each survey visit are shown in Table A7.1 below.

Table A5.1 Reptile Survey Metadata

Visit No.	Date	Start Time	End Time	Sur-veyor	Temperature (°C)		Cloud Cover (%)		Wind	Rain
					Start	End	Start	End		
1	19/05/21	16:50	17:30	AS	14	14	35	40	1	Dry
2	23/05/21	9.28	9.45	AS	11	11	90	90	1	Dry
3	27/05/21	16.45	17.00	AS	19	19	25	25	None	Dry
4	31/05/21	09.30	09.47	AS	15	15	50	50	None	Dry
5	06/06/21	17.30	17.51	AS	18	19	50	50	None	Dry
6	10/06/21	9.15	9.38	AS	16	16	100	100	None	Dry
7	15/06/21	10.27	10.49	AS	16	17	0	0	1	Dry

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

Survey Results

A5.6. Results of the reptile survey have confirmed the presence of slow worm within the surveyed site with all reptiles recorded in the north-eastern area of the site.

Table A5.2 Reptile Survey Results

Reptile Species*	AF ♂	AF ♀	AF ?/j	ZV ♂	ZV ♀	ZV ?/j	NN ♂	NN ♀	NN ?/j	Where on site was the species seen?
V1										
V2										
V3		1								NE of site (RHS of fenced section)
V4										
V5		1	1							Juvenile: Northern central mat within fenced section Female: Central west fenced side
V6		1								North-eastern fenced side
V7		1	1							Both found northeastern fenced side (different mats)
Totals	0	4	2	0	0	0	0	0	0	

* AF = slow worm, ZV = common lizard, NN = grass snake.

Limitations

A5.7. Surveys were undertaken in the optimal survey season in suitable weather conditions therefore it is considered that there were no limitations.

Appendix 6: Proposed Layout

Notes:
Do not scale from this drawing.
All contractors must visit the site and be responsible for taking and checking Dimensions.
All construction information should be taken from figured dimensions only.
Any discrepancies between drawings, specifications and site conditions must be brought to the attention of the supervising officer.
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Hoodlands Farm - Accommodation Schedule

OMS Units		GIA		Sub-total GIA		
Unit Type		ft²	m²	ft²	m²	No.
THC2	2B4P	882	81.9	13,230	1,228.5	15
THC3	3B4P	957	88.9	17,226	1,600.2	18
OMS Totals				30,456	2,828.7	33

AFFORDABLE Units		GIA		Sub-total GIA		
Shared Ownership		ft²	m²	ft²	m²	No.
THC2	2B4P	882	81.9	2,646	245.7	3
THC3	3B4P	957	88.9	2,871	266.7	3
Shared Ownership Totals				5,517	512.4	6
AFFORDABLE Units		GIA		Sub-total GIA		
Social Rent Units		ft²	m²	ft²	m²	No.
THC6	2B4P mobility unit	1005	93.4	2,010	186.8	2
THC2	2B4P	882	81.9	4,410	409.5	5
THC3	3B4P	957	88.9	4,785	444.5	5
Social Rent Totals				11,205	1,040.8	12
Affordable Totals				16,722	1,553.2	18
Site Totals				47,178	4,381.9	51

Rev	Date	Description	Drawn	Chkd
H	03.06.21	Affordable mix updated. Terraces on northern and southern boundaries separated into semi-detached to allow access to rear gardens. Plots 15>31 reconfigured to removed shared rear access and additional plot added. Boundary to plots now defined by Heras fence.	GA	-
G	01.06.21	Topo survey attached. Play park moved north.	GA	-
F	31.05.21	Road layout moved to the west and margin replaced footpath. Road geometry revised at proposed access to align with engineer's drawing. VP added. Houses and parking reconfigured.	GA	-
E	26.05.21	Road layout revised to run along western boundary. units replotted to run with contours where possible	GA	-
D	18.05.21	Southern access added from Crest development. Northern access blocked up. One less unit as a result.	DS	-
C	06.05.21	Plot 35 changed to a 3 bed unit.	DS	-
B	05.05.21	2 no. mobility units added at plots 1 & 2 to meet LA policy requirements. 2bed/3bed mix adjusted to suit. Affordable mix and locations adjusted as per email from Bo/klok sales. Pumping station and substation added to layout. Plots 17 to 19 pulled forward 2m.	DS	-
A	26.04.21	4 no. additional plots added in place of existing house.	DS	-
-	21.04.21	First issue.	DS	-

Drawing Status

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Project

Hoodlands Farm

Drawing Title

Site Layout

Scale @ A2 1:100 Job Ref. 01784A

Drawing No. HDF-JTP-SW-GL-DR-A-SL-5000 Revision H

Scale Bar 0 1 2 3m

Plans:

Habitat Features – 11857/P03