

Ecological Assessment Report



Land south of Warren Lane, Long Ashton, North Somerset

14th October 2021



**Tyler
Grange**

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Report No:	Date	Revision	Author	Checked	Approved
1478_R07	21 st July 2021	-	Lucy Mason BSc Hons	Hazel Murrells BSc MSc MCIEEM CEnv	Carly Goodman- Smith MBiolSci MCIEEM
1478_R07a	14 th October 2021	A	Lucy Mason BSc Hons	Hazel Murrells BSc MSc MCIEEM CEnv	Carly Goodman- Smith MBiolSci MCIEEM

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Summary

- S.1 Tyler Grange Ltd was commissioned in 2014 on behalf of Long Ashton Land Company Ltd to carry out an ecological assessment of a parcel of land at south of Warren Lane, Long Ashton, North Somerset; hereafter referred to as the site. The site located to the west of the village of Long Ashton and is centred on grid reference ST 531 699. An update site walkover was also undertaken in May 2017, June 2018, September 2019 and June 2021.
- S.2 The site is not the subject of a statutory designation. Six statutory sites are located within 10km and there are 14 non-statutory sites, termed Sites of Nature Conservation Interest (SNCI) in North Somerset, within 2km of the site; however, adverse impacts on these sites are not anticipated as a result of the development.
- S.3 The site is comprised of an arable field, bounded by narrow, species-poor field margins, and hedgerows on the north and east boundaries. A stone wall and scattered scrub are also present at the southern boundary. Arable land has negligible ecological importance and scattered scrub and stone wall is of ecological importance within the context of the site. The hedgerows on the northern and eastern boundaries are considered to be of local ecological importance. There are no priority habitats present on the site.
- S.4 The proposals will result in the loss of arable and scattered scrub habitats of negligible and site ecological importance with all the features of most importance including hedgerows being retained with appropriate buffers. Additional tree and hedgerow planting around the site as well as the provision of allotments and a strip of wildflower grassland on the western boundary will all contribute to an increase in ecological importance of the on-site habitats.
- S.5 In terms of protected species, the updated Phase I Habitat survey in 2021 recorded an active badger sett approximately 27m north west of the red line boundary and badgers were noted foraging on the site during the 2017 bat surveys. As there will be no direct impacts to the sett as a result of the development, a licence from Natural England will not be required; however, precautionary working methods will need to be implemented during construction. Furthermore, as badgers readily dig new setts, prior to the works an update badger survey will be conducted. Should a new sett be discovered that is likely to be directly affected by the development, a mitigation strategy and licence from Natural England will be required.
- S.6 Precautionary working is also recommended in relation to reptiles and hedgehogs.
- S.7 Bat activity surveys were undertaken during the 2017 ecology season, in September 2019 and June to September 2021. The boundary features found to be used by bats are to be retained, protected and enhanced by creation of new habitats to provide new opportunities for foraging bats. The surveys have confirmed that the site is used by both greater and lesser horseshoe bats, both of which are features of the North Somerset and Mendips Bat Special Area of Conservation (SAC). As the site is within the consultation zones for the SAC, calculations were undertaken which confirm that there will be an increase in biodiversity units for both species post development and therefore no off-site compensation is required. In addition, a sensitive lighting strategy has been designed to ensure no net increase in lighting spill onto boundary features. Therefore, adverse impacts on the bat assemblage are not anticipated and the development is likely to lead to an increase in the importance of the site to bats due to new planting and habitat creation.



- S.8 The details of the mitigation could be controlled, by condition, through the production and implementation of a Construction and Environmental Management Plan (CEMP) and a Landscape and Ecological Management Plan (LEMP).
- S.9 In conclusion, with the mitigation and enhancement strategy proposed, which could be controlled by appropriately worded planning controls, the development would be in conformity with planning policy and legislation (refer to **Appendix 1**)



Section 1: Introduction, Context & Purpose

Introduction

- 1.1. This report has been prepared by Tyler Grange Ltd on behalf of Long Ashton Land Company Ltd. It sets out the findings of an ecological assessment in respect of land south of Warren Lane , Long Ashton, North Somerset. The site is located to the west of the village of Long Ashton and is centred on grid reference ST 53170 69901.

Context

- 1.2. An outline planning application for residential development is to be submitted to North Somerset Council (NSC) for up to 35 dwellings, allotments and associated access, parking, drainage infrastructure and landscaping.
- 1.3. This report:
 - Uses available background data and results of field surveys, to describe and evaluate the ecological features present within the likely 'zone of influence' (Zoi)¹ of the proposed development;
 - Describes the ecological issues and opportunities that might arise as a result of the site's development for housing; and
 - Where appropriate, describes mitigation of adverse effects and ecological enhancement, to ensure conformity with policy and legislation listed in Appendix 1.
- 1.4. This assessment and the terminology used are consistent with the 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018).

¹ Defined as the area over which ecological features may be subject to significant effects as a result of activities associated with a project and associated activities (CIEEM 2018).



Section 2: Methodology

Introduction

- 2.1 The 'site' is defined by the application red-line boundary submitted with the application. The 'study area' extends to a 4km radius for protected and priority species² records, 2km for non-statutory site designations and nationally designated statutory sites and a 10km radius for European statutory site designations.

Scoping

- 2.2 The scope of this ecological assessment was determined by undertaking a desk-based assessment, together with a Phase I habitat survey. With this information, the Zol of the proposed development was established, together with any further detailed work - such as detailed surveys - that might be necessary to inform the assessment.
- 2.3 The site was previously part of a larger proposal for which great crested newt (GCN) *Triturus cristatus* environmental DNA and bat activity surveys were undertaken in 2014 and 2015 (Tyler Grange Report reference 1478_R03_CGS_SMC). In 2016, the proposed development site was significantly reduced in size as a result of other site constraints and an updated GCN eDNA survey was undertaken; however, further bat surveys were scoped out.
- 2.4 The scope of further Phase II surveys required to inform the 2017 application was agreed with North Somerset District Council (NSDC). This confirmed that no further survey effort in relation to GCN was required; however, as the site is within consultation zones of the NSDC's North Somerset and Mendips SAC Technical Guidance, refer to Plan 1 (Somerset County Council, 2018), although bat surveys had previously been scoped out due to the proposed scale of development, data for spring, summer and autumn bats surveys on the site was requested.
- 2.5 In 2018 and 2019, the NSDC ecologists did not comment on the scope of ecological surveys despite efforts to contact them.
- 2.6 In 2021, the scope of further surveys was not agreed with the NSDC ecologists as there was no one available to liaise with; however, update Phase I, GCN and bat surveys were undertaken given the age of the previous data.

Data Search

- 2.7 The aim of the data search is to collate existing ecological records for the site and adjacent areas. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site. The data search covered the study area

² Priority species are those identified as Species of Principal Importance (SoPI) and listed at Section 41 of the Natural Environment and Rural Communities Act 2006. Section 40 of the Act puts a duty on local authorities to have regard for the conservation of these species



using the distances defined in paragraph 2.1 and was conducted in June 2017. The following organisations and resources were contacted and consulted:

- Bristol Regional Environmental Record Centre (BRERC), for protected and priority species and habitats, and locations of non-statutory sites;
- Multi-Agency Geographic Information for the Countryside (MAGIC) Interactive Maps website³, for locations of statutory sites;
- Natural England's (NE) website⁴ for citations of nationally designated sites;
- Joint Nature Conservation Committee website⁵ for citations of internationally designated sites; and
- NSDC's website for details of relevant local planning policies and supplementary planning guidance.

2.8 An update data search was conducted in June 2021, whereby the above organisations were contacted and consulted for updated ecological records for the site and adjacent areas.

2.9 Information supplied by these organisations has, where relevant, been incorporated into the following account with due acknowledgement.

Extended Phase I Survey

2.10 An extended Phase I habitat survey of the site was undertaken on 25th May 2017 by Hazel Marsh and Paul Webb, a full and Graduate member of CIEEM respectively. The habitat survey methodology for both surveys was based on guidance set out in the 'Handbook for Phase I habitat survey' (JNCC; 2010). This entailed recording the main plant species and classifying and mapping broad habitat types present. Update site walkovers were subsequently completed by Paul Webb and Owen Pearson in June 2018 and September 2019 respectively, and in June 2021 by Sara Curtis and Lucy Mason, to confirm site conditions remain unchanged.

2.11 Note was taken of the more conspicuous fauna, and any evidence of, or potential for the presence of protected/notable flora and fauna. A basic inventory of the habitats and a representative species list was produced. Where access allowed, adjacent habitats were also considered, in order to assess the site within the wider landscape and to provide information with which to assess possible impacts within the context of the site boundary.

Detailed Phase II Surveys

Great Crested Newt

2.12 Off-site ponds were identified during the 2014 surveys and are located approximately 420m to the north-east and 450m to the west of the site boundary. Given the proximity of the site to residential

³ <http://www.magic.gov.uk/MagicMap.aspx>

⁴ <http://www.sssi.naturalengland.org.uk/special/sssi/search.cfm>

⁵ <http://jncc.defra.gov.uk/page-4>



development, a questionnaire drop was made to properties within 250m of the site in 2014, which asked residents whether they had ponds in their garden and requesting access for GCN survey.

- 2.13 From the questionnaires delivered one local resident responded positively and provided access to survey their pond. The pond was located within a residential garden at the northern end of Warren Lane, approximately 30m to the north of the site.
- 2.14 A Habitat Suitability Index (HSI) assessment of the ponds on site and within 250m of the site was undertaken in line with published guidance (English Nature, 2001 and Oldham et al., 2001).
- 2.15 The HSI was calculated for each waterbody. The National Amphibian and Reptile Recording Scheme (NARRS) HSI guidance (based on the Oldham et al. methods) was used whereby a number of factors including pond location, water quality, macrophyte cover and shading were assessed. A score is given to each waterbody between 0 and 1, with scores closer to 0 having lower probability of great crested newt occurrence. Although the HSI score cannot confirm the presence or likely absence of GCN, it can be used as a guide to assess the habitat in terms of its potential to support GCN.
- 2.16 The HSI is scored using the following categories:
- <0.5 Poor;
 - 0.5 – 0.59 Below average;
 - 0.6 – 0.69 Average;
 - 0.7 – 0.79 Good; and
 - >0.8 Excellent.
- 2.17 The pond 420 m north was dry at the time of survey in 2014 and the pond 450m west is heavily used and disturbed by waterfowl and livestock, hence given the distances from the site and their low HSI scores no further survey was considered necessary. The status of these ponds was checked again in 2017,2018 and 2021 and remained the same therefore no further surveys were undertaken.
- 2.18 Given the proximity of the pond at the end of Warren Lane to the development this was subject to eDNA analysis in 2015 and 2017. The latest water samples were collected following the current methodology (Biggs, et al., 2014) on the 30th June 2017 by great crested newt licensed surveyor Carly Goodman-Smith and sent for laboratory analysis. Attempts were made to contact the landowner to undertake a further eDNA survey in 2018 and 2021; however, the landowner was unresponsive so no further eDNA surveys could be undertaken.

Bats

Transect Surveys

- 2.19 The site comprises part of a single arable field bounded to the north and east by hedgerows, arable fields to the west and a wall, scrub and Weston Road to the south. Bat activity surveys of the site were undertaken in May, July and September of 2017 to provide an indication of the likely



use of the site by bats and to further inform the development design. These were undertaken using Anabat Express detectors set to record sonograms and GPS co-ordinates for every bat pass. A bat pass is defined as a single call, or series of calls which are recorded by the Anabat express in a 0.1 – 15 second window (as determined by the triggering algorithm used in Anabat Express units).

2.20 The key features of the site and how they were being used by bats as well as behavioural observations were recorded manually, using a Bat Box Duet to listen to bats during the transect. All sonograms were analysed using Anlook software. The metadata for the transect surveys undertaken in 2017 are provided in Table 2.1 below. Three-hour surveys were undertaken given the presence of greater horseshoe bat *Rhinolophus ferrumequinum* records within 4km of the site and the habit of this species to travel large distances from their roosts to forage.

Date	Sunset	Temperature at dusk (°C)	Wind speed (Beaufort scale)	Precipitation
25.05.17	21:10	22°C	0	None
06.07.17	21.28	20°C	2/3	None
14.09.17	19.25	13.6°C	2	None

Table 2.1 Metadata for activity transect Survey

Static Detector Survey

2.21 Two static detectors were placed around the site in May, July and September 2017 for five consecutive nights and a further three were put in place in September 2019. Two static detectors were again deployed in June, July and September 2021 for five consecutive nights. The locations of these detectors are shown in Plan 1478/P11a. Metadata from the static detector surveys is provided in Table 2.2.



Survey	Date	Time of Sunset	Time of Sunrise	Weather Conditions		
				Air temperature at sunset (°C)	Precipitation	Wind at sunset (Beaufort Scale)
2017 Survey Data						
Visit 1	26.05.17	21.11	05.03	21.3	Dry	0
	27.05.17	21.12	05.03	15.1	Light rain - day	0
	28.05.17	21.13	05.02	18.3	Light rain - day	0
	29.05.17	21.14	05.01	15.3	Showers	0
	30.05.17	21.15	05.00	15.8	Light rain - day	0
Visit 2	07.07.17	21.27	05.04	18.8	Dry	1.1
	08.07.17	21.26	05.05	20.6	Dry	1.1
	09.07.17	21.26	05.06	18.2	Dry	3.5
	10.07.17	21.25	05.07	16.7	Dry	6.1
	11.07.17	21.24	05.08	15.7	Heavy rain	0
Visit 3	15.09.17	19.24	06.47	11.9	Light rain - day	0
	16.09.17	19.22	06.48	12.1	Heavy rain	1.1
	17.09.17	19.20	06.50	12.8	Dry	0
	18.09.17	19.17	06.52	12.3	Light rain - day	0
	19.09.17	19.15	06.53	14.2	Light rain - day	0
2019 Survey Data						
Visit 1	18.09.19	19:18	06:49	12.4	Dry	2
	19.09.19	19:16	06:51	14.1	Dry	2
	20.09.19	19:14	06:52	14.1	Dry	3
	21.09.19	19:11	06:54	16.4	Dry	3
	22.09.19	19:09	06:55	15.9	Dry	3
2021 Survey data						
Visit 1	16.06.21	21:29	04:53	17.2	Dry	2
	17.06.21	21:30	04:53	15.3	Dry	2
	18.06.21	21:30	04:53	13.2	Dry	4
	19.06.21	21:30	04:53	12.7	Dry	3
	20.06.21	21:31	04:53	12.8	Dry	4
Visit 2	28.07.2021	21:06	05:30	14.7	Dry	5
	29.07.2021	21:05	05:31	14.8	Dry	5
	30.07.2021	21:03	05:33	14.7	Dry	5
	31.07.2021	21:00	05:36	15.2	Dry	3
	01.08.2021	20:58	05:37	14.1	Dry	3
Visit 3	16.09.2021	19:25	06:48	15.7	Dry	3
	17.09.2021	19:23	06:50	15.4	Dry	4
	18.09.2021	19:20	06:51	15.9	Dry	3
	19.09.2021	19:18	06:53	14.5	Dry	4
	20.09.2021	19:16	06:55	13.9	Dry	3

Table 2.2 Metadata for static survey



Habitat Evaluation Procedure

- 2.22 The results of the surveys outlined above, as well as the proposed development layout were used to inform a Habitat Evaluation Procedure (HEP). As outlined in the North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development: Supplementary Planning Document (March 2019) this calculation required to be undertaken for any sites within the consultation zones of the North Somerset and Mendip Bats SAC to ensure that developments allow for appropriate on site mitigation, and if necessary off site compensation, for the bat species (namely greater and lesser horseshoe) supported by the SAC.
- 2.23 A detailed methodology for how this calculation is undertaken is provided within Annex 5 of the North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development: Supplementary Planning Document (March 2019).

Badgers

- 2.24 A badger survey was conducted in combination with the Phase I habitat survey 25th May 2017 and update surveys were completed on the 15th June 2018, 18th September 2019 and 16th June 2021. All field boundaries and habitats likely to be of value were searched for evidence of badgers and signs badger activity (such as setts, latrines, badger paths, foraging signs and tree scratching) were mapped. A note of the general habitat suitability for badgers was also made.
- 2.25 Where setts were found, these were assessed as being either active or disused (see Table 2.3). Setts classed as active showed obvious signs of current use by badgers such as bedding, footprints, guard hairs or fresh spoil. Setts classed as disused showed no signs of recent use by badger. The latter in reality, could be easily opened up and re-used, however, given badgers can rapidly excavate new setts, disused setts are not considered to be a constraint to development. Well used or partially used setts were also classed as either main, annexe, subsidiary or outlier setts (see Table 2.4). A main sett is the most important within a social badger group's territory. It is used throughout the year and is the main breeding sett. It can comprise of as few as two holes.
- 2.26 An annexe sett normally lies close to the main sett. It is connected to it by obvious paths. This may be used by immature or sub-dominant individuals or as alternative breeding dens when more than one female is breeding at the same time. Subsidiary setts are not connected to the main sett by paths but may be used in a similar way to annexe setts. Outlier setts are simple structures with just one or two entrances and normally lie in the group's territory at some distance from the main sett. These are generally used as temporary refuges, often by just one or two badgers. However, the distinction between these categories is often blurred.

Classification of Use	Description
Well-Used	Clear of debris and vegetation, obviously in regular use
Partially-Used	Not in regular use, with leaves or twigs in entrance or moss and other plants growing around the entrance
Disused	Partially or completely blocked entrances, unable to be used without a considerable amount of clearance

Table 2.3: Indicators of Use of Badger Sett



Main Setts

These usually have a large number of holes with large spoil heaps, and the sett generally looks well used. There will be well-used paths to and from the sett and between sett entrances. Although normally the breeding sett is in continuous use, it is possible to find a main sett that has become disused due to excessive digging or some other reason; it should be recorded as a disused main sett. The average size of an active main sett is twelve holes (including all categories of use).

Annexe Setts

They are often close to a main sett, usually less than 150m away, and are usually connected to the main sett by one or more obvious well-worn paths. They usually have several holes, but may not be in use all the time even if the main sett is very active. The average size is five holes (including all categories of use)

Subsidiary Setts

These often only have a few holes; four (including all categories of use) being the average number. They are usually at least 50m from a main sett, and do not have an obvious path connecting with another sett. They are not continuously active.

Outlying Setts

These usually have only one or two holes, often have little spoil outside the hole, have no obvious path connecting with another sett and are only used sporadically. When not in use by badgers, they are often taken over by foxes or even rabbits. However, they can still be recognised as badger setts by the shape of the tunnel (not the actual entrance hole), which is usually at least 250mm in diameter, and is rounded or a flattened oval shape. Fox and rabbit tunnels are smaller and often taller than broad.

Table 2.4: Classification of Badger Sett

Limitations

- 2.27 The site was fully accessible for surveys therefore there were no limitations to obtaining the data on site.
- 2.28 In 2018 and 2021, the owner of the off-site pond to the east of the proposed development could not be contacted so eDNA surveys could not be undertaken. Given the previous two surveys came back with negative results and the local conditions remain unchanged, it is considered that this result is highly unlikely to have changed since the 2017 surveys result.
- 2.29 In 2021, the data on one of the static detectors during the September survey was corrupted and could not be analysed. However, given the extensive bat data available for the site from 2017 – 2021, the lack of data from this month is unlikely to alter the conclusions of the assessment.

Evaluation

- 2.30 The evaluation of habitats and species is defined in accordance with published guidance (CIEEM, 2018). 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.
- 2.31 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.



Quality Control

- 2.32 This report was prepared and reviewed by members of CIEEM who abide by the Institute's Code of Professional Conduct.



Section 3: Ecological Features and Evaluation

Site Context

- 3.1. The site is to the immediate west of the village of Long Ashton, which is located on the west fringe of the city of Bristol.
- 3.2. The site is on a south facing slope, and comprises part of an arable field, with a post and wire fence and the wider arable field to the west, hedgerows and trees to the north and east and to the south by a stone wall and associated scrub and Weston Road. Similar arable and pastoral land is located to the north, west and south along with areas of woodland, streams and other village settlements. Warren Lane runs along the east boundary of the site, beyond which to the east is residential development. An aerial photograph of the site is provided in Figure 1 below.



Figure 1: Aerial photo of the site courtesy of Google Maps

Protected Sites

Statutorily protected sites

- 3.3. The site is not the subject of a statutory designation. There are six European statutory sites of ecological interest within 10km of the site, described in Table 3.1.



Site Name	Designation	Distance and Direction from Site (km - N/S/W/E)	Description/Summary of Reason for Designation
Avon Gorge Woodland	Special Area of Conservation (SAC)	3.7km N/E	Limestone cliffs and screes with presence of rare whitebeams <i>Sorbus</i> spp. Including two unique to the Avon Gorge (<i>S. bristoliensis</i> and <i>S. wilmottiana</i>). Primary Annex 1 habitats - <i>Tilio-Acerion</i> forests of slopes, screes and ravines. Qualifying Annex 1 habitats - Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i> (*important orchid sites)
Severn Estuary	SAC	6.4km NW	Primary Annex 1 habitats - Estuaries, Mudflats and sandflats not covered by water at low tide and Atlantic sea meadows (<i>Glauco-Puccinellietalia maritimae</i>). Qualifying Annex 1 habitats- Sandbanks which are slightly covered by sea water all the time and Reefs. Primary Annex 2 species - sea lamprey <i>Petromyzon marinus</i> , river lamprey <i>Lampetra fluviatilis</i> and twaite shad <i>Alosa fallax</i> .
Severn Estuary	Ramsar	6.4km NW	Large estuary with extensive inter-tidal zones comprising mudflats, sand banks, shingle and rocky platforms. Internationally important for migratory fish and wading birds.
Severn Estuary	Special protection Area (SPA)	6.4km NW	Large estuary that supports overwintering Bewick's swan <i>Cygnus columbianus bewickii</i> , Greater white-fronted goose, <i>Anser albifrons albifrons</i> , on passage ringed plover <i>Charadrius hiaticula</i> and overwintering curlew <i>Numenius arquata</i> , dunlin <i>Calidris alpina alpina</i> , pintail <i>Anas acuta</i> , redshank <i>Tringa tetanus</i> , and shelduck <i>Tadorna tadorna</i> and Gadwall, <i>Anas strepera</i> . It also regularly supports at least 20,000 waterfowl.
North Somerset and Mendip Bats	SAC	7.9km SW	Primary Annex 1 habitats - Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i> (*important orchid sites) and <i>Tilio-Acerion</i> forests of slopes, screes and ravines. Qualifying Annex 1 habitats - Caves not open to the public. Primary Annex 2 species - Lesser horseshoe bat <i>Rhinolophus hipposideros</i> and Greater horseshoe bat <i>Rhinolophus ferrumequinum</i> .
Chew Valley Lake	SPA	9.2km S	Large eutrophic reservoir with some fringing reed beds, carr woodland and grassland. Internationally important for wintering birds.

Table 3.1: European statutorily protected sites within 10km of the site

- 3.4. In addition, Ashton Court Site of Special Scientific Interest (SSSI) which is designed for broadleaved, mixed and yew woodland is located approximately 1.7km north east of the site. Hartcliff Rocks Quarry SSSI, Lulsgate Quarry SSSI and Barns Batch Spinney SSSI are also located



within the vicinity but are designated on account of their geological interest, and as such are not considered further.

- 3.5. By virtue of their international designations the sites in Table 1 are considered to be of **international ecological importance** and Ashton Court SSSI is of **national ecological importance**.

Non- Statutorily protected sites

- 3.6. There are 14 non-statutory sites, termed 'Sites of Nature Conservation Interest (SNCI) in North Somerset, within 2km. They are described in Table 3.2 below.

SNCI	Distance from Site in km (approximate)	Site Description / Reason for Designation
Ashton Hill Plantation (NS8)	370m north	Ancient semi-natural and semi-natural broad-leaved woodland, with unimproved and semi-improved neutral grasslands.
Fenn's Wood (NS66)	475m north	Ancient semi-natural broad-leaved woodland.
Cambridge Batch road verges (NS39)	850m south-west	Species rich semi-improved neutral grassland.
Dawsons Walk and Lye Brook (NS55)	900m east	Semi-natural broad-leaved woodland, running water and unimproved and semi-improved neutral grassland.
Crossgrove Wood (NS54)	950m south	Ancient semi-natural broad-leaved woodland.
Barrow Tanks (NS16)	950m south-east	Ancient semi-natural broad-leaved woodland with mixed and broad-leaved plantation, a reservoir and semi-improved neutral grassland
A370 (Long Ashton By-pass) and Ashton Brook (NS1)	1km east	Diverse semi-improved neutral grassland, stream and reservoir with semi-natural broad-leaved woodland and scrub. Presence of four orchids: bee orchid <i>Ophrys apifera</i> , southern marsh <i>Dactylorhiza praetermissa</i> , pyramidal orchid <i>Anacamptis pyramidalis</i> and common spotted orchid <i>Dactylorhiza fuchsii</i> .
Long Ashton Golf Course (NS116)	1.1km north-east	Unimproved and semi-improved calcareous grassland, standing water; and semi-natural broad-leaved woodland.
Ashton Hill Fields (NS7)	1.2km north	Translocated semi-natural neutral grassland.
Breach Wood (Flax Bourton) (NS30)	1.4km south-west	Ancient semi-natural broad-leaved woodland with diverse flora.
Bristol and Clifton Golf Course and Fifty Acre Wood	1.8km north	Unimproved and semi-improved calcareous grassland, with semi-natural broad-leaved woodland and mixed and coniferous woodland plantation



(NS33)		
Ashton Court Estate (NS6)	1.8km north-east	Unimproved and semi-improved calcareous and neutral grassland, with semi-natural broad-leaved woodland, mixed and broad-leaved woodland plantation. Ancient trees and presence of green hellebore & narrow-lipped helleborine in Clarkencombe Wood
Steven's Farm Fields (NS171)	1.8km south	Neutral grassland.
Gable Wood (NS92)	2km west	Ancient semi-natural broad-leaved woodland.

Table 3.2: Non-statutory sites within 2km of the site

- 3.7. SNCIs are designated on account of their ecological importance at a county level and hence they are considered to be of county ecological importance.

Habitats and Flora

- 3.8. The habitat features recorded within the site, and where relevant on adjacent land, during the Phase I survey are illustrated on Plan 1478/P01a. A description of those habitats present is provided below.

Arable

- 3.9. The majority of the site comprises part of arable field (Photograph 1), with a post and wire fence on the western boundary splitting the wider field in half. During the 2017 and 2021 surveys, the field was sown with barley *Hordeum vulgare* L.; however, it was not harvested so had become overgrown and rank by the July 2017 bat survey.

Photograph 1: Arable field comprising the majority of the site (taken in June 2021).



- 3.10. Margins around the fields are narrow (0.5m wide) and comprise false oat grass *Arrhenatherum elatius*, Yorkshire fog *Holcus lanatus*, annual meadow grass *Poa annua*, selfheal *Prunella vulgaris*, cleavers *Galium aparine*, common field speedwell *Veronica persica*, pineapple mayweed *Matricaria discoidea* and red campion *Silene dioica*.
- 3.11. In terms of botanical interest, the arable habitat is of **negligible importance**, being common and widespread in the local area and offering little to the local biodiversity resource.

Hedgerows

- 3.12. The arable field is bounded by hedgerows to the east and north. Table 3.3 includes details on the hedgerows present and their locations are shown on Plan 1478/P01a.







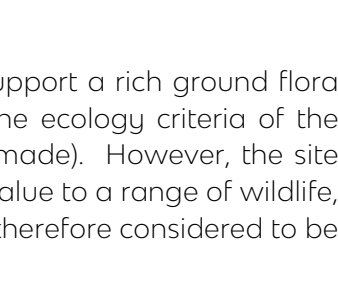
Hedgerow Number	Species Present	Description and Management	Photograph (taken June 2021)
H1	Hawthorn, blackthorn, hazel, bramble, ivy, lords and ladies, cleavers.	c. 3m high, 1- 2m wide. Well managed and dense. 4m high, 2m wide. Well managed and dense.	
H2	Beech.	c. 3m high, 1 – 2m wide. Garden boundary beech hedge.	
H3	Hawthorn, ivy, cleavers.	c. 1.5m high, 1 – 2m wide. Well managed and dense.	
H4	Hazel dominated with hawthorn, blackthorn, holly and bramble. Nettle, cleavers and lords and ladies.	c. 2m high, 1 – 2m wide. Dense and managed. c.3m high, 1-2 m wide. Dense and well managed.	
H5	Semi-mature ash and field maples with leggy understorey of hazel, hawthorn bramble and ivy with Yorkshire fog and cock's foot.	Tall and leggy with gaps and dominated by young and semi-mature trees. 4m high, 2-3 m wide. Intact hedgerow with trees, well managed. During the 2021 survey, a rubble pile and compost heap was present in this hedgerow.	

Table 3.3: Hedgerow descriptions

- 3.13. Hedgerows on the site are not particularly species-rich and do not support a rich ground flora hence they are unlikely to qualify as 'Important' hedgerows under the ecology criteria of the Hedgerows Regulations 1997 (although no detailed assessment was made). However, the site hedgerows are of inherent value and are likely to provide supporting value to a range of wildlife, as well as providing valuable movement corridors for fauna. They are therefore considered to be of **local ecological importance**.



Stone Wall and Scattered Scrub

- 3.14. The southern boundary of the site with Weston Road comprises a stone wall with scattered bramble, elm and sycamore scrub with narrow grassy field margins of annual meadow grass, cocksfoot *Dactylis glomerata*, false oat grass and timothy *Phleum pratense*, with bindweed *Calystegia sepium*, creeping buttercup *Ranunculus repens*, daisy *Bellis perennis*, greater plantain *Plantago major* and red campion *Silene dioica*. The stone wall and scattered scrub are considered to be of **site ecological importance**.

Off-site Habitats

Ponds

- 3.15. The pond approximately 420m to the north-west of the site and is approximately 8m by 4m; surrounded and heavily shaded by hawthorn and willow *Salix alba* scrub. Floating sweet grass *Glyceria fluitans* is present on one edge. The pond was dry at the time of survey in 2014 and subsequent visits in 2017 and 2018 and the banks were heavily poached by cattle. During the 2021 update survey, the pond was not disturbed by cattle but was almost entirely dry, with a small puddle of water in the centre (<5cm) and no marginal vegetation.
- 3.16. The pond approximately 450m to the west and is approximately 40m by 20m. It has no aquatic or emergent vegetation. The banks are heavily disturbed by wild and domestic waterfowl and livestock.
- 3.17. The pond within the garden of a property approximately 11m to the east of the site is a small ornamental garden pond approximately 1m by 2m with stone banks. It has dense submerged vegetation, largely dominated by Canadian pondweed *Elodea canadensis*. During the 2021 survey, the property was visited by surveyors to attempt to gain access to survey the pond and although access was not granted, it did appear that the pond may no longer be present.
- 3.18. Ponds are a Habitat of Principal Importance within Section 41 (England) the Natural Environment and Rural Communities (NERC) Act 2006. Given their potential to support a range of wildlife and when taken in the context of the wider pond network, they are considered to be of **local ecological importance**.

Protected and Priority Fauna

Badgers

- 3.19. BRERC hold several records for badger *Meles meles* including several road casualties 500m to the south-west and 'field' records at Ashton Hill Plantation to the north. It is not known whether the latter are of setts or field signs.
- 3.20. No setts have been recorded within the red line boundary during any surveys undertaken between 2017 and 2021.
- 3.21. However, during the 2021 update survey, an active well-used badger sett with multiple entrances was identified in hedgerow (H5) approximately 27m north west of the red line boundary. Signs identified included recently excavated earth, recent bedding, hairs and mammal runs. Latrines



were also identified within proximity of the sett. Given the signs identified and the size of the sett, it is considered likely to be a main or an annexe sett.

- 3.22. During previous surveys (2017 – 2019) several mammal runs were recorded across the arable fields together with signs of foraging in the field margins and during the July 2017 bat survey, three badger cubs were observed playing on site.
- 3.23. Therefore badgers do use the site as part of a wider foraging resource; however, they are unlikely to be reliant on the site. Badgers are afforded protection due to historical issues of persecution rather than because of their conservation status therefore any population present within the vicinity of the site is of **negligible ecological importance**.

Bats

- 3.24. BRERC hold several records of common pipistrelle *Pipistrellus pipistrellus*, lesser horseshoe bat *Rhinolophus hipposideros*, noctule bat *Nyctalus noctula*, serotine bat *Eptesicus serotinus*, brown long eared bat *Plecotus auritus*, Leisler's bat *Nyctalus leisleri*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, Natterer's bat *Myotis nattereri* and Daubenton's bat *Myotis daubentonii*. BRERC also hold several records of greater horseshoe roosts within the extended 4km search for this species.
- 3.25. There are no features on site that offer potential for roosting bats so roosting bats are not considered to be a feature of the site. However, during the 2021 update survey, a single semi-mature ash tree *Fraxinus excelsior* in the northern boundary hedgerow (H5) outside the red line boundary was identified as having features with moderate potential to support roosting bats, namely rot holes and healed cracks on south facing limbs.

2017 Bat Activity Surveys

- 3.26. In summary, the bat activity transects in 2017 identified the following:
- Species recorded included common pipistrelle, myotis bat *Myotis* sp., Nathusius' pipistrelle *Pipistrellus nathusii*, nyctalus bat *Nyctalus* sp. and soprano pipistrelle;
 - The majority of activity was by low numbers of common pipistrelle and *Nyctalus* bats, which used all boundaries of the site but appeared to favour the tree lines along northern boundary and the south-eastern corner of the site;
 - A lower number of soprano pipistrelle and myotis bat passes were recorded in the same locations; and
 - A single pass by Nathusius' pipistrelle was recorded on H1 during the July survey.
- 3.27. Species recorded during the automated surveys in 2017 included common pipistrelle (Ppi), soprano pipistrelle (Ppy), brown long-eared bat (Pl), serotine (Ep), *Myotis* bat (My), greater horseshoe bat (Rf), lesser horseshoe bat (Rh), Nathusius' pipistrelle (Pn), noctule (Nn), Leisler's bat (Nl), *Nyctalus* bat (Nyc) and *Nyctalus/Eptesiscus* (Nyc/Ep) bat. See Table 3.4 below for the total activity across all visits.



No. passes	Ppi	Ppy	PI	Ep	My	Rf	Rh	Pn	Nyc	Nn	NI	Nyc/Ep	Grand Total
Total	659	127	8	31	151	7	10	2	565	138	5	31	1734
%	38	7	0.5	1.8	8.7	0.4	0.6	0.1	33	8	0.3	1.8	100%

Table 3.4: Total bat activity recorded during all automated surveys in 2017.

2019 Bat Activity Surveys

- 3.28. Species recorded during the automated survey in 2019 included all the above species with the exception of serotine and Leisler's bat. The total number of calls recorded during the surveys totalled 491 with 44% being common pipistrelle, 12% *Nyctalus* and 12% noctule. Once again, the rarer species and greater and lesser horseshoe were recorded in extremely low numbers, representing 0.2% and 3.8% of the assemblage respectively. These results indicate that the species assemblage recorded has not significantly altered since the 2017 surveys.

2021 Bat Activity Surveys

- 3.29. Species recorded during the automated surveys in 2021 included common pipistrelle (Ppi), soprano pipistrelle (Ppy), brown long-eared bat (PI), serotine (Ep), *Myotis* bat (My), greater horseshoe bat (Rf), lesser horseshoe bat (Rh), Nathusius' pipistrelle (Pn), noctule (Nn), Leisler's bat (NI), *Nyctalus* bat (Nyc) Serotine (Ep) bat and barbastelle (Barb) bat. See Table 3.5 below for the total activity across all visits.

No. passes	Ppi	Ppy	PI	My	Rf	Rh	Pn	Barb	Nn	NI	Ep	Grand Total
Total	1124	139	44	193	1	53	3	1	133	22	60	1773
%	63	8	2	11	0.05	3	0.2	0.05	8	1	3	100%

Table 3.5: Total bat activity recorded during all automated surveys in 2021.

- 3.30. The survey results do not show any significant changes from the 2017 and 2019 data. Once again common pipistrelle is dominant (63%) of calls with the rarer species of greater and lesser horseshoe and barbastelle were recorded in extremely low numbers, representing 0.05%, 3% and 0.05% of the assemblage respectively.

Summary

- 3.31. During surveys it was noted that both Weston Road and Warren Lane are subject to street lighting which spills across the site along the south and east boundaries in particular. This may limit the use of the site by those species more sensitive to ambient lighting such as long-eared, *Myotis* and horseshoe bats. Common and soprano pipistrelle are more tolerant of ambient lighting and appear to use lit areas of the site (see **Plan 1478/P11a**).
- 3.32. Given the nature of the habitats present and current disturbance levels from lighting, the site is unlikely to be fundamental in the maintenance of the bat assemblage present, given the abundance of more suitable habitat in the wider area. The bat assemblage using the site is considered to be of **local ecological importance**.

Birds



- 3.33. BRERC hold records of field fare *Turdus pilaris*, house sparrow *Passer domesticus*, linnet *Carduelis cannabina*, redwing *Turdus iliacus*, skylark *Alauda arvensis*, song thrush *Turdus philomelos*, starling *Sturnus vulgaris*, willow tit *Poecile montanus* and yellowhammer *Emberiza citrinella* (all red list species) within the study area.
- 3.34. The site offers potential nesting and feeding opportunities for some farmland birds, including some species of conservation concern and blackbird *Turdus merula* were noted nesting in H3. During the 2021 survey, skylark were observed about the site and adjacent field to the west. The features of most importance are likely to be the hedgerows and tree lines on the eastern and northern boundaries. However, given the size of the site and the abundance of similar or more suitable habitat in the wider vicinity, the site would not be expected to support a breeding bird assemblage of more than **site ecological importance**.

Dormouse

- 3.35. BRERC hold records of dormouse *Muscardinus avellanarius* within the study area located 1.2km NE of the site from 2013 and they are known to be present in the local area to the north and north-west (*pers comm* Dr. Nick Michael, NSDC, 2014).
- 3.36. Hedgerows on site offer some opportunities for foraging and nesting by dormouse, although more suitable habitat is present in mature hedgerows and woodland to the north. The ornamental hedgerows offer negligible opportunities. As such, and given the size of the site, and the presence of more optimal habitat in the wider area, dormice are considered highly unlikely to be a feature of the site.

Great Crested Newt

- 3.37. BRERC holds a single record of great crested newt within the study area from 2018, located 1.6km NE of the site.
- 3.38. Water samples collected from the pond to the east of the development tested negative for the presence of GCN DNA in both 2015 and 2017. In 2014, the other two ponds to the north and west were not sampled as one was dry and the other was considered unsuitable for this species given a lack of egg-laying substrate and high disturbance. Subsequent assessments undertaken in 2017 and 2021 did not alter these conclusions.
- 3.39. As such GCN are considered to be absent from the site and its immediate environs and they are not considered further.

Hedgehog

- 3.40. BRERC holds multiple records of hedgehog within the study. Habitats on site suitable for supporting hedgehogs are limited to the hedgerow on the eastern boundary adjacent to private gardens and the hedgerow on the northern boundary. Given the limited nature of these habitats, hedgehogs are unlikely to be reliant on the habitats present on site although the site habitats may form part of a wider foraging resource. If present, hedgehogs would be expected to be part of a larger population in the wider area that would be of **local ecological importance**.



Invertebrates

- 3.41. BRERC hold records of scarce chaser dragonfly *Libellula fulva* (LBAP species), satin beauty moth *Deileptenia ribeata* (LBAP species), shaded broadbar *Scotopteryx chenopodiata* (SoPI) and a LBAP ground beetle *Asaphidion* sp. The site offers limited opportunities for invertebrates, with hedgerows likely to be of most importance and only likely to support a common assemblage. The identified LBAP species and SoPI in the study area are unlikely to be present owing to a lack of suitable host or food plants being available.

Reptiles

- 3.42. BRERC hold records of slow worm *Anguis fragilis* and grass snake *Natrix natrix* within the study area. The majority of the site offers negligible opportunities for reptiles. There is some potential for common species known within the study area to utilise grassy margins around the arable field, however they are generally narrow and would be unlikely to support more than occasional individuals. The stone wall on the southern boundary is largely intact with limited opportunities therefore is unlikely to support any individuals. During the 2021 survey, rubble piles and a compost heap were present in the northern hedgerow, both of which may provide suitable habitat for reptiles. If present, reptiles would be expected to be part of a larger population in similar contiguous habitat that would be of **local ecological importance**.

Other Protected Species

- 3.43. The site is not considered to support any other protected or priority fauna.



Section 4: Potential Impacts and Mitigation Strategy

Proposed Development

- 4.1. An outline planning application for residential development is to be submitted to North Somerset Council (NSC) for up to 35 dwellings, allotments and associated access, parking, drainage infrastructure and landscaping (see Illustrative Site Plan prepared by Nash Partnership).
- 4.2. Both the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006 give 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 NSC to take measures to protect species or habitats from the adverse effects of development, where appropriate, by using planning conditions or obligations. Planning authorities should refuse permission where harm to the species or their habitats would result, unless the need for, and benefits of, the development clearly outweigh the harm.
- 4.3. The results of the ecological surveys conducted have informed the design of the masterplan, with a focus on the retention of the features of most importance. Where there are potential impacts to ecological features identified in Section 3 during the construction and operational phases of the development which would trigger legislation or planning policy (see **Appendix 1**), these are described below together with the proposed mitigation. In line with local and national planning policy, a strategy for enhancement of the biodiversity on the site is also outlined.
- 4.4. Central to the mitigation and enhancement strategy is the provision of high quality multi-functional green infrastructure and provision of:
 - A Construction Environmental Management Plan (CEMP), based on principles outlined in this report, which will set out the measures to protect retained habitats of importance, namely the retained boundary features; and protected and priority fauna, including bats, breeding birds and reptiles; and
 - The implementation of a Landscape and Ecological Management Plan (LEMP) to maximise the biodiversity potential of retained and newly created habitats. Also included would be a programme of monitoring and a mechanism to modify the management prescriptions, if required.

Designated Sites

Statutorily Designated Sites

- 4.5. Given the distances involved, direct impacts upon the three internationally designated sites within 10km of the site would not be anticipated. However, there is potential for indirect impacts as outlined below.



Avon Gorge Woodland SAC

- 4.6. The Site Improvement Plan for the Avon Gorge Woodlands SAC (Natural England, 2015) identified public access and disturbance as a significant pressure on the interest features of the site; however, it highlights the majority of these issues to be caused by inappropriate and illegal access including mountain biking and vandalism. The site is small and located on the outskirts of a small settlement and combined with the green infrastructure proposed on site, is also linked to the surrounding rural area through a number of public footpaths. It is recommended that information on the existing recreational opportunities available in the immediate vicinity of the site and also detail of the sensitivity of the Avon Gorge Woodlands SAC is included within homeowner packs provided upon purchase of the properties to highlight the activities that cause adverse impacts.
- 4.7. Given the size of the development and the ample available recreational options within the immediate vicinity of the site it is considered that impacts arising from walking/dog walking are highly unlikely to result in a Likely Significant Effect (LSE) on the Avon Gorge Woodlands SAC alone or in-combination with other developments.

Severn Estuary SAC, SPA and Ramsar

- 4.8. The site does not support any habitats likely to be used by the interest features of the Severn Estuary and given the distance from the site to the SPA (6.4km as the crow flies) and the limited nature of the development it is considered highly unlikely that recreational impacts as a result of the development would result in a Likely Significant Effect (LSE) on the Severn Estuary alone or in-combination with other developments.

North Somerset and Mendip Bats SAC

- 4.9. As outlined in the North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development: Supplementary Planning Document (March 2019), the site is located within consultation zone for the designated site. During bat surveys in 2017, both lesser and greater horseshoe bats were recorded at the site. The North Somerset and Mendip Bats SAC Guidance on Development provides a means for defining horseshoe bat activity, where commuting activity is defined as individual registrations, where the species is recorded during one minute but not the minute on either side; and foraging activity is defined as six or more occasions during the survey period where registrations are recorded in consecutive minutes on any automated detector. In accordance with these definitions, whilst both lesser and greater horseshoe were confirmed as commuting at the site, no evidence of foraging activity was recorded.
- 4.10. There is potential for impacts to the bat assemblage using the site as a result of the development; however, the boundary features of most importance to the bat assemblage are to be retained, protected and enhanced within the proposed development. Appropriate buffers will be incorporated to the eastern boundary which will be supplemented within additional tree and hedgerow planting so gardens will not back on to existing field boundaries. Furthermore, additional hedgerow and tree planting along the southern and western boundaries as well as proposed allotments and green infrastructure including wildlife grassland will increase the existing foraging potential on the site.
- 4.11. Furthermore, the lighting assessment undertaken (Buro Happold, 2021) shows that the lighting strategy contains the lighting within the development and does not result in any increase in lux



levels on the boundary features that have been highlighted as being of importance to bats. This should ensure adverse impacts to those light sensitive species recorded in low numbers such as horseshoe bats (albeit they already appear to be using features subject to lighting such as along Weston Road) are avoided. Providing the proposals in the lighting assessment are followed, adverse impacts on the bat assemblage, including those that are the interest features of the SAC are not anticipated.

- 4.12. In addition, the HEP calculation undertaken (refer to **Appendix 3** for the detailed results), confirms that with the proposed layout, there is a net gain of 0.28ha equivalent on site for greater horseshoe bats and 0.07 hectares equivalent for lesser horseshoe bats, therefore no off site compensation is required and LSE on the interest features of the SAC would not be anticipated.

Chew Valley Lake SPA

- 4.13. The site does not support any habitats likely to be used by the interest features of Chew Valley Lake SPA and given the distance from the site to the SPA (9.2km as the crow flies) and the limited nature of the development it is considered highly unlikely that recreational impacts as a result of the development would result in a Likely Significant Effect (LSE) on the Chew Valley Lake SPA alone or in-combination with other developments.

Ashton Court SSSI

- 4.14. The site falls within the impact risk zone for Ashton Court SSSI; however, it does not fall into any of the categories of development type that are likely to have an impact on the features of the SSSI therefore impacts are not anticipated and no specific mitigation is required.

Non-Statutorily Designated Sites

- 4.15. Given the distances involved, and the lack of connectivity (e.g. through hydrological flow) none of the SNCIs will be subject to direct impacts from the proposals. There is potential for increased recreational pressure as a result of increased people living in the local area; however, the majority of the SNCIs identified are either not publicly accessible (e.g. Fenn's Wood and Barrow Tanks) or are managed for public access (e.g. Ashton Hill Plantation and Long Ashton Golf Course). This combined with the limited number of dwellings proposed and the outdoor space that is incorporated into the development including allotments and green infrastructure to the west and east of the development means that indirect adverse impacts on these sites are considered unlikely and therefore no specific mitigation is required.

Habitats

- 4.16. The proposals will result in the loss of arable habitats and the stone wall/scrub along the southern boundary of negligible and site ecological importance respectively. The features of most importance, the hedgerows on the eastern and northern boundary will be retained with appropriate buffers and parallel hedgerows to avoid gardens backing directly onto existing boundaries.
- 4.17. There is some potential for damage to the hedgerows during the construction period as a result of damage from machinery or storage of materials. As such appropriate fencing in line with British



Standards (BS 5837:2012) and as informed by the root protection areas (see Tyler Grange Arboriculture reports) will be erected for the duration of the construction period and details could be included within the CEMP.

- 4.18. No other impacts to habitats are anticipated and no further mitigation is required.
- 4.19. The masterplan has been designed to deliver a number of habitat enhancements, which will lead to an overall increase in the ecological importance of the site namely:
- New native hedgerow and tree planting along the south and east site boundaries;
 - New native tree planting along the western and northern boundary;
 - New allotments surrounded by tree planting on the northern edge of the development which through appropriate management will deliver both community and wildlife benefits; and
 - Creation of a wide strip of grassland along the western and eastern edges of the site, which will be seeded with a wildflower grass mix and informally managed to maximise its ecological importance.
- 4.20. Once the development is operational, there is a risk of increased disturbance to retained and newly created features of ecological importance, as a result of trampling, littering, dogs (from fouling and disturbance), predation (from increased numbers of domestic pets) and general disturbance by members of the public. To minimise such effects, retained and newly created habitats within the proposed development would be managed, through the LEMP, to ensure that their ecological importance is maintained or enhanced where possible, with consideration of their own inherent ecological importance as well as their ability to support protected and priority fauna species.

Protected and Priority Fauna

Badgers

- 4.21. The badger sett identified within H5 is located 27m from the red line boundary and 70m from built development with tree planting and allotments being the closest. Given the distances involved and the fact that H5 is being fully retained, direct impacts to the badger sett would not be anticipated, therefore a badger licence from Natural England is not considered necessary. However, given some limited work will be required within 30m of the sett, it is recommended that a precautionary working method statement (PWMS), to be conditioned, is produced for work closest to the sett to minimise the potential for indirect impacts. This will include details of exclusion fencing, Ecological Clerk of Works (ECoW) supervision and working methods.
- 4.22. As the site is used by badgers as part of a foraging resource, there is a risk of injury to individuals during construction therefore, good site practice, to be detailed within the CEMP, such as ensuring excavations are covered or left with suitable egress overnight and that chemicals are securely stored should be implemented.
- 4.23. Given badgers can readily dig new setts, in advance of the commencement of development an update badger survey will be conducted to check for the presence of any newly dug setts. Should



a new sett be discovered during this update survey and is likely to be directly affected by the development, a mitigation strategy and licence from Natural England (NE) will be required.

- 4.24. Once construction is complete, although there will be some loss of foraging habitat, the green infrastructure proposed will allow the badgers to continue to use the site for foraging and therefore significant adverse impact would not be anticipated.

Bats and Birds

- 4.25. Consideration of bats using the site is outlined above in relation to the North Somerset and Mendip Bats SAC.
- 4.26. Given the legal protection afforded to actively nesting birds under the Wildlife and Countryside Act 1981 (as amended), precautions will be taken during construction to avoid removal of any woody vegetation during the nesting season (generally taken as March to August, inclusive, though birds can sometimes nest outside of this period) or where not possible it will be preceded by a check by a suitably qualified ecologist for active nests.
- 4.27. The habitats proposed within the development are likely to increase opportunities available for nesting birds and further enhancements could be delivered through erection of bird and bat boxes on retained trees on the north boundary (e.g. Schwegler 3SV bird box and 1FF bat box⁶).

Hedgehog

- 4.28. Should any hedgehogs be encountered during site clearance or construction works they will be safely removed by hand placed in suitable and similar habitat to where originally located, out of harm's way, details of which will be provided in the CEMP. The precautionary work for reptiles as described below would include searches for hedgehog as appropriate. Given the presence of suitable habitat in the wider area including farmland, hedgerows and residential gardens, the retention of the majority of suitable habitats on site and the fact that detailed design/specification allows for gaps under site boundaries, commuting and foraging corridors will remain for hedgehog during the operational phase.

Reptiles

- 4.29. Given limited suitable habitat, common reptiles (which are afforded protection from killing and injury under the Wildlife and Countryside Act 1981) would only be expected in low numbers (if at all) within field margins and potentially within the stone wall on the southern boundary. The northern boundary (H5) which contains a rubble pile and compost heap suitable for reptiles, is being retained.
- 4.30. The majority of the field margins will be retained and protected within appropriate tree and hedgerow protection fencing during construction, however where works are required that would disturb field margins, such as planting of new hedgerows, a precautionary approach would be adopted. This would include phased strimming of grass margins under an ecological watching brief and during the active reptile season (March/April to October inclusive and in suitable weather) to allow individuals to move out of areas to be disturbed in advance of works and details

⁶ Available from www.wildcareshop.com



can be documented within the CEMP. Furthermore, the wall on the southern boundary offers some limited potential for reptiles, so this will be removed by hand under ecological supervision.

- 4.31. Retention and protection of the hedgerow network and the habitat creation and enhancements described above will ensure that features of importance to reptiles would be retained and enhanced as a result of the proposed development.



Section 5: Conclusions

- 5.1. The site is of limited ecological importance and therefore with the implementation of the mitigation and enhancement strategy described in Section 4, the proposed development should more than mitigate adverse effects, leading to slight biodiversity gain. It would therefore be in conformity with relevant planning policy and legislation as listed in **Appendix 1**. The mitigation and enhancement strategy could be controlled by appropriately worded planning controls devised to:
- Secure a mitigation strategy within a Construction Environmental Management Plan (CEMP) to avoid impacts to important habitats, badgers, bats, birds, reptiles and hedgehogs based on the principles outlined in this report, to be submitted to and subject to agreement by the LPA prior to commencement of works on site; and
 - Secure the production and implementation of a Landscape and Ecological Management Plan (LEMP), to include newly created habitats and a programme of monitoring and a mechanism to modify the management prescriptions, if required.



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Appendix 1: Legislation and Planning Policy

A1.1. This section summarises the legislation and national, regional and local planning policies, as well as other reference documents, relevant to the baseline ecology results.

Legislation

A1.2. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:

- The Wildlife and Countryside Act 1981 (as amended)
- The Conservation of Habitats and Species Regulations 2017 (as amended)
- The Countryside and Rights of Way Act 2000
- The Natural Environment and Rural Communities Act 2006
- The Hedgerows Regulations 1997
- The Protection of Badgers Act 1992

A1.3. 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 Conservation of Habitats and Species Regulations 2017 (as amended).

A1.4. 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.

A1.5. 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.

Species and Habitats of Principal Importance and the UK Biodiversity Action Plan

A1.6. The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species and Habitats agreed under the UKBAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A Strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been succeeded, Species Action Plans (SAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.

A1.7. Priority Species and Habitats identified under the UKBAP are also referred to as Species and Habitats of Principal Importance for the conservation of biodiversity in England and Wales within



Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Planning Policy

National Planning Policy Framework (NPPF), July 2021

A1.8 The National Planning Policy Framework (NPPF) was updated in July 2021 and sets out the Government's planning policies for England and how these should be applied. It replaces the National Planning Policy Framework published in July 2019.

A1.9 Paragraph 11 states that:

“Plans and decisions should apply a presumption in favour of sustainable development.”

Section 15 of the NPPF (paragraphs 174 to 182) considers the conservation and enhancement of the natural environment including habitats and biodiversity (paragraphs 179-182)

A1.10 Paragraph 174 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”

A1.11 Paragraph 175 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.

A1.12 Paragraph 179 states that in order to protect and enhance biodiversity and geodiversity, plans should:

“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

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.”



When determining planning applications, Paragraph 1780 states that local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

“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;

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;

development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”

As stated in paragraph 181 the following should be given the same protection as habitats sites:

“potential Special Protection Areas and possible Special Areas of Conservation;

listed or proposed Ramsar sites; and 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.”

A1.13 Paragraph 182 states that the presumption in favour of sustainable development does not apply where the planned project is likely to have a significant effect on a habitat site (alone or in combination with other plans or projects) unless an appropriate assessment has concluded the plan or project will not adversely affect the integrity of the habitats site.

Office of the Deputy Prime Minister (ODPM) Circular 06/2005: Biodiversity and Geological Conservation - Statutory Obligations and their Impact within the Planning System

A1.14 ODPM Circular 06/05 was prepared to accompany PPS9, however continues to be valid, and material in the consideration of planning applications since PPS9's replacement by the NPPF.

A1.15 ODPM Circular 06/05 provides guidance on applying legislation in relation to nature conservation and planning in England. Part I considers the legal protection and conservation of internationally designated sites (namely candidate Special Areas of Conservation (cSACs), SACs, potential Special Protection Areas (pSPAs), SPAs and Ramsar sites) and Part II considers the legal protection and conservation of nationally designated sites, namely Sites of Special Scientific Interest (SSSIs).

A1.16 Part III considers the protection of habitats and species outside of designated areas (particularly UK Biodiversity Action Plan species and habitats, which it states are capable of being a material consideration in the preparation of local development documents and the making of planning decisions.



A1.17 Part IV considers species protected by law and states that the presence of a protected species is a material consideration in the consideration of a development proposal that, if carried out, would be likely to result in harm to the species or its habitat and that it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted.

Local Planning Policy

A1.18 North Somerset Council are currently preparing a new Local Plan which will last until 2038. The initial draft of the local plan will not be available to review until the end of 2021, so the local planning policy outlined below is most relevant to the scheme.

North Somerset Council Core Strategy, January 2017

A1.19 The Core Strategy for North Somerset was initially adopted in 2012 but following a high court challenge nine policies were remitted for re-examination. Up to January 2017, policies were re-examined, and the final document adopted in January 2017. Relevant policies to ecology include:

CS4: Nature conservation

A1.20 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.

A1.21 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.

*Supplementary planning document for developments within North Somerset:
Biodiversity and Trees*

A1.22 Adopted by North Somerset Council in 2005, this document includes policies for the protection of trees, protected sites and protected species within the North Somerset district and all policies outlined are relevant.



North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development: Supplementary Planning Document

- A1.23 Adopted in January 2018, and subject to an update in March 2019, this document advises developers, consultants, and planners involved in planning and assessing development proposals in the landscapes surrounding the North Somerset and Mendip Bats SAC on considering the impacts of development on the SAC and its interest features and ensuring appropriate mitigation/compensation is secured.



Appendix 2: Bat Survey Results

Manned Activity Surveys (2017)

Visit No.	Ppi	Ppy	My	Rh	Pn	Nyc	Nn	Nyc/Ep	Grand Total
1 – May 2017	10		1			40	9	2	62
2 – July 2017	3	2			2	3		1	11
3 – September 2017	41	23	19	1		8			92
Grand Total	54	25	20	1	2	51	9	3	165

Table A2.21: Manned Activity Survey data (2017)

Automated Static Surveys (2017)

Visit 1

Dusk Date	Ppi	Ppy	Pl	Ep	My	Rf	Rh	Pn	Nyc	Nn	Ni	Nyc/Ep	Grand Total
26.05.17	35	1		14	10		1		50	18		1	130
27.05.17	42	3			6				28	14	3	13	109
28.05.17	7				2				19	2			30
29.05.17	8	1			2				3	1	1		16
30.05.17	25	2			6			1	2	7		1	44
Grand Total	117	7	0	14	26	0	1	1	102	42	4	15	329

Table A2.22: Static survey data – Visit 1 Location 1

Dusk Date	Ppi	Ppy	Pl	Ep	My	Rf	Rh	Pn	Nyc	Nn	Ni	Nyc/Ep	Grand Total
26.05.17	43	2		17	48		1		153	9		12	285
27.05.17	9				5				42	2	1		59
28.05.17	62				5				19	41			127
29.05.17	5								2	2			9
30.05.17	7	1	1				1		4	3		1	18
Grand Total	186	6	1	17	74	0	4	0	258	57	1	50	654

Table A2.23: Static survey data – Visit 1 Location 2



Visit 2

Dusk Date	Ppi	Ppy	Pl	Ep	My	Rf	Rh	Pn	Ny _c	Nn	Ni	Ny _c /E _p	Grand Total
07.07.17	29	1				1		1	3	1			36
08.07.17	58	2			1	1			140	7			209
09.07.17	18	4	1						1	4			28
10.07.17	16	2	2			2	1		6	4			33
11.07.17													0
Grand Total	121	9	3	0	1	4	1	1	150	16	0	0	306

Table A2.24: Static survey data – Visit 2 Location 1

Dusk Date	Ppi	Ppy	Pl	Ep	My	Rf	Rh	Pn	Ny _c	Nn	Ni	Ny _c /E _p	Grand Total
07.07.17	12								1				13
08.07.17	23	1				1			65				90
09.07.17	15	1							2				18
10.07.17	1	1				1			1				4
11.07.17													0
Grand Total	51	3	0	0	0	2	0	0	69	0	0	0	125

Table A2.25: Static survey data – Visit 2 Location 2

Visit 3

Dusk Date	Ppi	Ppy	Pl	Ep	My	Rf	Rh	Pn	Ny _c	Nn	Ni	Ny _c /E _p	Grand Total
15.09.17	31	5			3		3			4			46
16.09.17													0
17.09.17	58	12	1		1	1	1		1	4		3	82
18.09.17	17	8			1		1		1	4			32
19.09.17	49	28			2				6	5			90
Grand Total	155	53	1	0	7	1	5	0	8	17	0	3	250

Table A2.26: Static survey data – Visit 3 Location 1



Dusk Date	Ppi	Ppy	Pl	Ep	My	Rf	Rh	Pn	Nyc	Nn	Ni	Nyc/Ep	Grand Total
15.09.17	12	8			2				2	5			29
16.09.17													0
17.09.17	7	7			1				4				19
18.09.17	4	6	2						4				16
19.09.17	6	28	2		9				6	1			52
Grand Total	29	49	4	0	12	0	0	0	16	6	0	0	116

Table A2.27: Static survey data – Visit 3 Location 2

Automated Static Surveys (2019)

Dusk Date	E	Rf	Rh	My	Nn	Nyc/Ep	Nyc	Pl	Pn	Ppi	Ppy	Grand Total
18.09.19			4	3		1	1	2		9	4	24
19.09.19		1	1	3	3	3		2		17	8	38
20.09.19	1			2	2		2	2		13	1	23
21.09.19	1			2		2	5	4		55	9	78
22.09.19					8		3	1		4	3	19
Grand Total	2	1	5	10	13	6	11	11	0	98	24	182

Table A2.28: Static survey data – Visit 1 Location 1

Dusk Date	E	Rf	Rh	My	Nn	Nyc/Ep	Nyc	Pl	Pn	Ppi	Ppy	Grand Total
18.09.19			3	2	1		2	1		8	9	26
19.09.19	1		2	2	1	1	8	1		9	11	36
20.09.19			5	1	3		4	2		12	7	34
21.09.19			1	3	2	2	20			34	5	67
22.09.19			1		1	2	2	1	1	11	7	26
Grand Total	1	0	12	8	8	6	36	5	1	74	39	190

Table A2.29: Static survey data – Visit 1 Location 2



Dusk Date	E	Rf	Rh	My	Nn	Nyc /Ep	Nyc	Pl	Pn	Ppi	Ppy	Grand Total
18.09.19				1	4		1	4		4	1	15
19.09.19			1		8		1	6		11	3	30
20.09.19			1		3		3			4		11
21.09.19					11		6	3		13	1	34
22.09.19				1	10		1			12	5	29
Grand Total	0	0	2	2	36	0	12	13	0	44	10	119

Table A2.30: Static survey data – Visit 1 Location 3

Automated Static Surveys (2021)

Dusk Date	Ep	Rf	Rh	My	Nn	Ni	Nyc/Ep	Nyc	Pl	Pn	Ppi	Ppy	Grand Total
16.06.21	3			5							27	2	37
17.06.21	1		8	25	3	5					11		53
18.06.21	4		6	19	1						27	8	65
19.06.21											3		3
20.06.21			2	7							6	1	16
Grand Total	8	0	16	56	4	5	0	0	0	0	74	11	174

Table A2.31: Static survey data – Visit 1 Location 1

Dusk date	Ep	Rf	Rh	My	Nn	Ni	Nyc/Ep	Bar b	BLE	Pn	Ppi	Ppy	Grand Total
16.06.21	15		1	19	1	1			3	1	31	3	75
17.06.21	13		4	45	3	1		1	8		154	10	239
18.06.21	15		5	38	3						134	4	199
19.06.21											63		63
20.06.21	1		2	15	3				1		95	8	125
Grand Total	44	0	12	117	10	2	0	1	12	1	477	25	701

Table A2.32: Statics survey data – Visit 1 Location 2



Dusk Date	Ep	Pl	Rf	Rh	My	Nn	Ppi	Ppy	Grand Total
28.07.2021		3				2	19	7	31
29.07.2021	1	2				4	40	4	57
30.07.2021		8			3	51	57	6	125
31.07.2021		2				5	14	6	30
01.08.2021	1	13	1	2	1	13	60	10	102
Grand Total	2	28	1	2	4	75	190	33	345

Table A2.33: Static survey data – Visit 2 Location 1

Dusk date	Ep	Rh	My	Nn	Nl	Ppi	Ppy	Grand Total
28.07.2021		1	1			106	1	109
29.07.2021				2	1	11		14
30.07.2021	2		2	18		49	11	82
31.07.2021	1	1			6	10	2	20
01.08.2021			2	2	4	29	6	43
Grand Total	3	2	5	22	11	205	20	268

Table A2.34: Statics survey data – Visit 2 Location 2

Dusk Date	Ep	Rh	My	Nn	Nl	Pl	Pn	Ppi	Ppy	Grand Total
16.08.2021		7	1	7		1	1	32	14	63
17.08.2021	2	1	1	9	1			45	6	65
18.08.2021	1	4	3	2	2	2	1	39	8	62
19.08.2021		6	1	4		1		32	12	56
20.08.2021		3	5		1			30	10	49
Grand Total	3	21	11	22	4	4	2	178	50	295

Table A2.35: Static survey data – Visit 3 Location 1



Appendix 3: Habitat Evaluation Procedure Results



Field No	Habitat	Primary Habitat		Matrix		Formation		Management / Land use		HSI Score	Density Band Score	Hectares	Habitat Units	Species / Notes	Band
		Code	Score	Code	Score	Code	Score	Code	Score						
F1	Arable - Cereal crops	CR2	1	n/a	0	n/a	1.00	CL5Z	0.50	0.50	2.0	2.045	2.05	Barley at time of most recent survey but is managed on rotation - and not managed for wildlife.	B
N/A	Roadway	LF271.UL2	0	n/a	0	n/a	1.00	UL2	0.00	0.00	2.0	0.13	0.00	Road without verge	B
N/A	Wall	LF23	1	n/a	0	n/a	1.00	n/a	0.00	0.00	2.0	0.005	0.00	Low wall along southern boundary	B
N/A	Scattered scrub on margin - grass with scrub	GI0	2	SC2	1	n/a	1.00	GM4	1.00	3.00	2.0	0.005	0.03	Scattered scrub along boundary	B
H1	Species poor hedge	LF11Z	5	n/a	0	n/a	1.00	LM22	0.80	4.00	2.0	0.014	0.11	Species poor hedge	B
H2	Ornamental beech hedgerow	LF11Z	5	n/a	0	n/a	1.00	LM22	0.80	4.00	2.0	0.008	0.06	Ornamental beech hedgerow	B
H3	Species poor hedge	LF11Z	5	n/a	0	n/a	1.00	LM12	0.20	1.00	2.0	0.008	0.02	Species poor hedge	B
H4	Species poor hedge	LF11Z	5	n/a	0	n/a	1.00	LM12	0.20	1.00	2.0	0.021	0.04	Species poor hedge	B
H5	Species poor hedge - semi-mature	LF11Z	5	n/a	0	n/a	1.00	LM31	1.00	5.00	2.0	0.004	0.04	Species poor hedge - semi-mature	B
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
												2.24			
												Habitat Units	2.35		
												Hectares Required	0.13		

Value from 'Replacement Habitat' worksheet

Equivalent Hectares Provided	0.20
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Note: Where there is significant residual replacement habitat that cannot be accommodated within the proposed development site off site enhancement will be needed. The amount required will be increased by the value of the existing habitat on the receptor site (see A5.54 in the Technical Guidance)

If required, Value from Receptor Habitat Worksheet

Equivalent Hectares of Existing Habitat on Receptor	0.00
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If deficit then further input is required into either 'Replacement Habitat' and/or Off-site Replacement Habitat' worksheets until an equal or gain is provided. (Non-significant amounts of loss need to be agreed with planning authority ecologist)

Gain/ Deficit	0.07
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Habitat	Primary Habitat		Matrix		Formation		Management / Land use		HSI Score	Hectares	Delivery Risk	Temporal Risk	Spatial Risk		Equivalent Hectares
	IHS Code	Score	Code	Score	Code	Score	Code	Score					Development Site Band Score	Replacement Site Band Score	
Buildings	UR0	1	n/a	0	n/a	1.00	UA3	0.00	0.00	0.209	1.00	1.00	2.0	2.0	0.00
Hardstanding/Roads	LF271	0	n/a	0	n/a	1.00	UL2	0.00	0.00	0.616	1.00	1.00	2.0	2.0	0.00
Gardens	UR0	1	n/a	0	n/a	1.00	UA32	0.10	0.10	0.395	1.00	1.00	2.0	2.0	0.04
Amenity grassland	GIO	2	n/a	0	n/a	1.00	GL1	0.10	0.20	0.287	1.00	1.00	2.0	2.0	0.06
Allotments	UR0	1	n/a	0	n/a	1.00	UA33	0.10	0.10	0.088	1.00	1.00	2.0	2.0	0.01
Wildflower	GN0	3	HSO	0	n/a	1.00	GL2	1.00	3.00	0.521	0.67	0.71	2.0	2.0	0.74
Hedgerows new and re	LF11	6	n/a	0	n/a	1.00	LM21	0.90	5.40	0.118	1.00	0.50	2.0	2.0	0.32
Orchard	GN0	3	n/a	0	n/a	1.00	CL3Z	1.00	3.00	0.006	0.67	0.59	2.0	2.0	0.01
										2.240					
Value of Habitat Provided in Hectares															0.196
										Woodland, etc provided at HSI 6					
										Grassland provided					
										Total Habitat Provided					

Habitat	Primary Habitat		Matrix		Formation		Management / Land		HSI Score	Density Band		Equivalent Hectares
	IHS Code	Score	Code	Score	Code	Score	Code	Score		Score	Hectares	
		0		0		1.00		1.00	0.00			0.00
		0		0		1.00		1.00	0.00			0.00
		0		0		1.00		1.00	0.00			0.00
		0		0		1.00		1.00	0.00			0.00
Equivalent Value of Habitat Provided in Hectares												0.00

Use this sheet where some or all of the replacement habitat is not provided within the development site. The value of the existing off site habitat needs to be taken away from the value of that provided.

Field No	Habitat	Primary Habitat		Matrix		Formation		Management / Land use		HSI Score	Density Band Score	Hectares	Habitat Units	Species / Notes	Band
		Code	Score	Code	Score	Code	Score	Code	Score						
F1	Arable - Cereal crops	CR2	1	n/a	0	n/a	1.00	CL5Z	0.25	0.25	1.0	2.045	0.51	Barley at time of most recent survey but is managed on rotation - and not managed for wildlife.	C
N/A	Roadway	LF271.UL2	0	n/a	0	n/a	1.00	UL2	0.00	0.00	1.0	0.13	0.00	Road without verge	C
N/A	Wall	LF23	2	n/a	0	n/a	1.00	n/a	0.00	0.00	1.0	0.005	0.00	Low wall along southern boundary	C
N/A	Scattered scrub on margin - grass with scrub	GI0	3	SC2	1	n/a	1.00	GM4	1.00	4.00	1.0	0.005	0.02	Scattered scrub along boundary	C
H1	Species poor hedge	LF11Z	5	n/a	0	n/a	1.00	LM22	0.80	4.00	1.0	0.014	0.06	Species poor hedge	C
H2	Ornamental beech hedgerow	LF11Z	5	n/a	0	n/a	1.00	LM22	0.80	4.00	1.0	0.008	0.03	Ornamental beech hedgerow	C
H3	Species poor hedge	LF11Z	5	n/a	0	n/a	1.00	LM12	0.20	1.00	1.0	0.008	0.01	Species poor hedge	C
H4	Species poor hedge	LF11Z	5	n/a	0	n/a	1.00	LM12	0.20	1.00	1.0	0.021	0.02	Species poor hedge	C
H5	Species poor hedge - semi-mature	LF11Z	5	n/a	0	n/a	1.00	LM31	1.00	5.00	1.0	0.004	0.02	Species poor hedge - semi-mature	C
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
			0		0		1.00		1.00	0.00			0.00		
												2.24			
												Habitat Units	0.67		
												Hectares Required	0.04		

Value from 'Replacement Habitat' worksheet

Equivalent Hectares Provided	0.32
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Note: Where there is significant residual replacement habitat that cannot be accommodated within the proposed development site off site enhancement will be needed. The amount required will be increased by the value of the existing habitat on the receptor site (see A5.54 in the Technical Guidance)

If required, Value from Receptor Habitat Worksheet

Equivalent Hectares of Existing Habitat on Receptor	0.00
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If deficit then further input is required into either 'Replacement Habitat' and/or Off-site Replacement Habitat' worksheets until an equal or gain is provided. (Non-significant amounts of loss need to be agreed with planning authority ecologist)

Gain/ Deficit	0.28
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Habitat	Primary Habitat		Matrix		Formation		Management /		HSI Score	Hectares	Delivery Risk	Temporal Risk	Spatial Risk		Equivalent Hectares
	IHS Code	Score	Code	Score	Code	Score	Code	Score					Development Site Band Score	Replacement Site Band Score	
Buildings	UR0	1	n/a	0	n/a	1.00	UA3	0.00	0.00	0.209	1.00	1.00	1.0	1.0	0.00
Hardstanding/Roads	LF271.UL2	0	n/a	0	n/a	1.00	UL2	0.00	0.00	0.616	1.00	1.00	1.0	1.0	0.00
Gardens	UR0	1	n/a	0	n/a	1.00	UA32	0.00	0.00	0.395	1.00	1.00	1.0	1.0	0.00
Amenity grassland	GI0	3	n/a	0	n/a	1.00	GL1	0.10	0.30	0.287	1.00	1.00	1.0	1.0	0.09
Allotments	UR0	1	n/a	0	n/a	1.00	UA33	0.00	0.00	0.088	1.00	1.00	1.0	1.0	0.00
Wildflower	GN0	6	HS0	0	n/a	1.00	GL2	1.00	6.00	0.521	0.67	0.71	1.0	1.0	1.49
Hedgerows new and re	LF11	6	n/a	0	n/a	1.00	LM21	0.90	5.40	0.118	1.00	0.50	1.0	1.0	0.32
Orchard	GN0	6	n/a	0	n/a	1.00	CL3Z	1.00	6.00	0.006	0.67	0.59	1.0	1.0	0.01
										2.240					
Value of Habitat Provided in Hectares															0.318
										Woodland, etc provided at HSI 6					
										Grassland provided					
										Total Habitat Provided					

Habitat	Primary Habitat		Matrix		Formation		Management / Land		HSI Score	Density Band		Equivalent Hectares
	IHS Code	Score	Code	Score	Code	Score	Code	Score		Score	Hectares	
		0		0		1.00		1.00	0.00			0.00
		0		0		1.00		1.00	0.00			0.00
		0		0		1.00		1.00	0.00			0.00
		0		0		1.00		1.00	0.00			0.00
Equivalent Value of Habitat Provided in Hectares												0.00

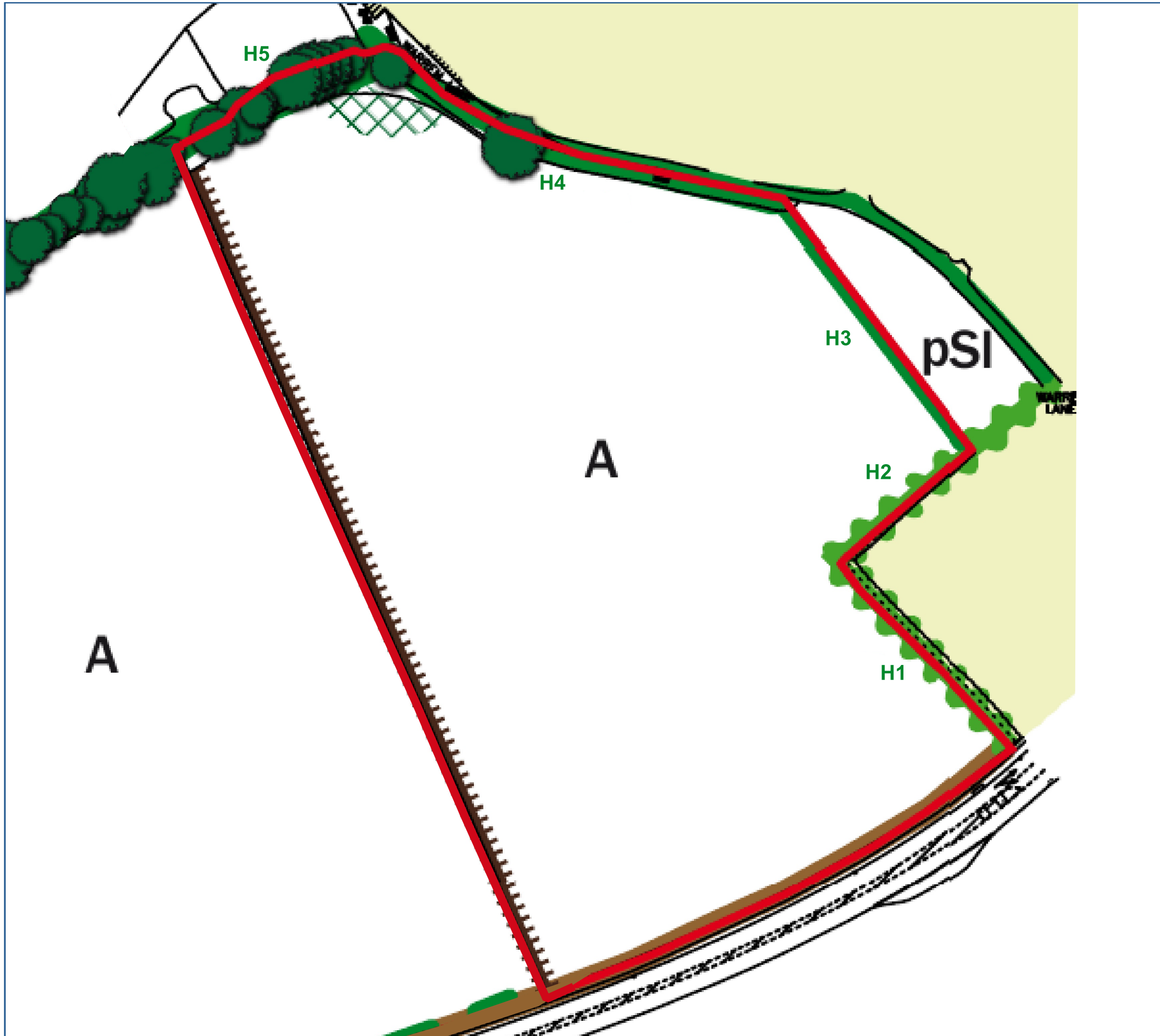
Use this sheet where some or all of the replacement habitat is not provided within the development site. The value of the existing off site habitat needs to be taken away from the value of that provided.










Plans:

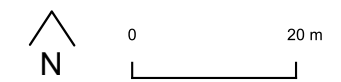
Plan 1: Habitat Features Plan (1478_P01a)

Plan 2: Bat Activity Survey Plan (1478_P11a)





-  Site Boundary
-  Arable
-  Poor semi-improved grassland
-  Species poor hedgerow
-  Ornamental hedgerow
-  Line of trees
-  Scrub
-  Fence
-  Stone wall



Project Land south of Warren Lane, Long Ashton, North Somerset

Drawing Title **Habitat Features**

Scale As Shown (Approximate)

Drawing No. 1478/P01a








Date March 2020

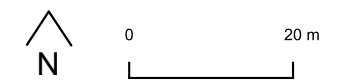
Checked AH/HM



Marsden Estate, Rendcomb, Cirencester, GL7 7EX
 T: 01285 831804 E: info@tylergrange.co.uk W: www.tylergrange.co.uk



-  Site Boundary
-  Common pipistrelle
-  Myotis sp.
-  Nathusius' pipistrelle
-  Nyctalus sp.
-  Soprano pipistrelle
-  Static Detector Locations



Project Land south of Warren Lane, Long Ashton, North Somerset
 Drawing Title **Bat Activity Survey Plan**
 Scale As Shown (Approximate)
 Drawing No. 1478/P11a
 Date March 2020
 Checked AH/HM



Marsden Estate, Rendcomb, Cirencester, GL7 7EX
 T: 01285 831804 E: info@tylgrange.co.uk W: www.tylgrange.co.uk



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