

Preliminary Ecological Appraisal:

Mayflower Way, Angmering, West Sussex



July 2017 (Amended February 2018)

Version Number: 1.4

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Quality Control

The information and data which has been prepared and provided is true and has been prepared and provided in accordance with the '*Guidelines for Preliminary Ecological Appraisal*' and '*Code of Professional Conduct*' issued by the Chartered Institute of Ecology and Environmental Management (CIEEM). We confirm that the opinions expressed are our true and professional bona fide opinions.

Survey Ecologist/s	Danial Winchester BSc (Hons) MCIEEM Jamel Guenioui BSc (Hons)	Survey date 06/07/2017
Report Author	Jamel Guenioui BSc (Hons)	Date passed on for authorisation 13/07/2017 Amended 01/02/2018
Approved by	Danial Winchester BSc (Hons) MCIEEM	Date authorised as complete 17/07/2017 Amended version 01/02/2018

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Summary

Surrey Wildlife Trust (SWT) Ecology Services were commissioned on 28 June 2017 by The Angmering Community Land Trust to undertake an Ecological Appraisal at Mayflower Way, Angmering. This is required for potential planning permission being sought for development.

Following further proposed drawing information (Drawing no 201) received on 23/01/2018 by the client some ecological recommendations have been given in light of this further information as detailed in this amended report.

The aim of the appraisal was to visit and assess the overall ecology of the survey area (see Figure 1 & Photographs), as well as the likelihood of the proposed development to affect species which are protected by law. A site visit was made on 06 June 2017 and a data search was conducted by the Surrey Biodiversity Information Centre (SBIC) to inform the appraisal.

Six Phase I habitat types were recorded during the field survey; semi-improved neutral grassland, tall ruderal, non-ruderal, native species poor hedge, fences, hard standing, plus a target note. The survey area does not have any statutory or non-statutory designation. Habitats with potential to support protected species were not identified within the survey area.

The following recommendations should be followed:

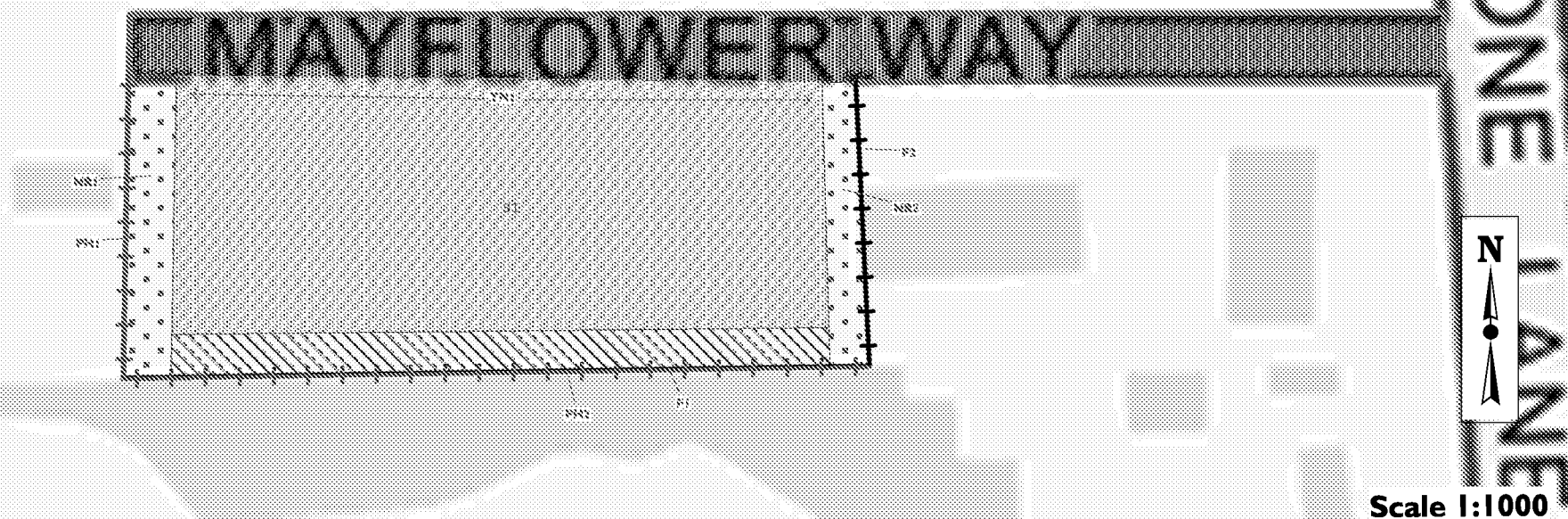
- Although no records of Great Crested Newts (GCN) were received from Sussex Biodiversity Record Centre, there is an attenuation pond located within a recreational ground approximately 80m from the north boundary of the site. At the time of the site visit (06/07/2017) there was very low water levels and dense marginal vegetation within the pond, where conditions to undertake a Great Crested Newt Habitat Suitability Index Assessment (HSI) were not suitable. Natural England recommend that any ponds within 500m of a proposed development may offer some suitability for Great Crested Newts.
- As there is a possibility that this pond may be suitable for breeding Great Crested Newts it is recommended that providing access can be given from the landowner that a Great Crested Newt Habitat Suitability Index Assessment (HSI) is undertaken to assess whether further Great Crested Newts presence/likely absence surveys are required.
- Hedgerows on the edge of the survey area have the potential to support bats and further surveys should be carried out if these features are affected in any way by the proposals.
- Breeding birds may be present within the hedgerows and any proposal which affect these features should be undertaken outside the bird nesting season (which is typically 1st March to 31st August).

- A precautionary and appropriately timed approach to site clearance as well as good building practice is recommended as to minimize any impact on other fauna such as mammals, reptiles, and amphibians.
- If the proposals are subject to Code for Sustainable Homes accreditation, consideration should be given to the Ecology Land Use and Ecology section (Category 9) as the plans suggest that points can be achieved under this category.
- A range of environmental enhancement measures have been identified (see section 4.8) and these should be included and carried out wherever possible.

Figure 1: Phase 1 Survey Results

Key

-  Survey Area
-  Semi-improved Neutral Grassland
-  Tall Ruderal Vegetation
-  Non Ruderal Vegetation (NRI-NR2)
-  Hardstanding
-  Species-poor Hedge With Trees (PHI-PH2)
-  Fence (F1-F2)
-  Target Note



Please note: locations are approximate

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C3039 July 2017

Figure 1
Mayflower Way, Angmering, Sussex
Phase I Survey Results



1.0 Introduction and Terms of Reference

- 1.1 Surrey Wildlife Trust (SWT) Ecology Services were commissioned on 28 June 2017 by Angmering Community Land Trust to undertake a Preliminary Ecological Appraisal at Mayflower Way, Angmering, West Sussex. This is required as the client is seeking planning permission for the site. A map of the site outlining the boundary in red was provided.
- 1.2 The aim of the survey was to visit and assess the overall ecology of the survey area (see Figure 1 & Photographs), as well as the likelihood of the proposed development to affect species which are protected by law.

2.0 Description of Site

- 2.1 The site is 0.7 hectares (ha) in size and located at OS Grid reference TQ07263 03277 off Mayflower Way, Angmering, West Sussex. The site is located immediately north of an over stood hedge which separates the site from a grassland area to the south. An industrial estate is located to the northwest across Mayflower Way. Residential properties lie to the east and there is a residential property and open grassland areas to the west.
- 2.2 The wider area is consists of high density housing, with some industrial areas, arable fields, and a busy A-road (A259) to the south.

3.0 Methodology

3.1 Phase 1 survey

- 3.1.1 A survey area was defined that included the development site and the surrounding hedges and a section of Mayflower Way leading up to Roundstone Lane. Note that the proposed development is confined to an area within a boundary outlined in red on a map provided by the client, therefore survey effort was concentrated in this area; however, where accessible, parts of the wider site were briefly walked over or observed to put the survey area into context and to highlight potential areas for ecological enhancement.
- 3.1.2 A site visit was made on 06 June 2017 by Jamel Guenioui BSc (Hons) and Danial Winchester BSc (Hons) MCIEEM to conduct the survey. The survey area was systematically walked and surveyed according to Phase 1 criteria during daylight hours. Phase 1 survey is a standardised system for classifying and mapping semi-natural vegetation and wildlife habitats in Great Britain. Vegetation is mapped in terms of standard habitat types as defined in the JNCC Handbook for Phase 1 Habitat Survey (2010).
- 3.1.3 Where the abundances of species are mentioned, these are based on the DAFOR scale and refer to that within a particular habitat area. The DAFOR scale is a way of describing the abundance of a species using the following key (**L**ocally), **D**ominant, **A**bundant, **F**requent, **O**ccasional and **R**are. Therefore, plants described as “rare” in this context means that they were not found often.

The double DAFOR system records two abundance values. The first value is an assessment of the overall abundance of species and the second value indicates whether the species is distinctly clumped or is significantly more abundant locally.

- 3.1.4 Nomenclature follows Stace (2010) for vascular plants. Species are referred to in the text using common names throughout. The full list of vascular plants with common and scientific names and abundance recorded at the site visit are provided in Section 6.

3.2 Desk Study

- 3.2.1 A data search was conducted by the Sussex Biodiversity Record Centre (SxBRC) on behalf of SWT Ecology Services. This searched for records of notable species within 1km of the site and statutory and non-statutory sites within 2km of the site.
- 3.2.2 Ponds within 500m of the survey area boundary were identified from 1:10,000 OS map held at SWT.
- 3.2.3 In addition maps held by SWT / MAGIC were checked for SPAs within 5km.

3.3 Site Evaluation

- 3.3.1 The development proposals are looked at in association with the Phase 1 habitat survey results in order to identify potential impacts of the development.
- 3.3.2 A brief evaluation of the ecological value of the habitats and plant species identified within the survey area is made.

3.4 Protected and Notable Species Assessment

- 3.4.1 The Phase 1 methodology was extended to include an assessment of the suitability or potential of the habitats present to support protected species. Trees were assessed from ground level, note buildings were not entered. Any signs of protected species (such as runs, setts or foraging remains) were recorded. Site boundaries were checked for push throughs and connective habitat.
- 3.4.2 The location of the site within a wider landscape context and the data search findings were taken into account.
- 3.4.3 Anecdotal faunal sightings and invasive species within the survey area were noted.

Limitations

- 3.4.4 Optimal time frame for conducting these surveys is March to September, as this is the time when most plant species are evident, however they can be conducted at any time of year. Therefore, a full appraisal of the plant species and habitats present was conducted within the optimal timeframe.
- 3.4.5 Whilst every effort has gone into providing a comprehensive description, the preliminary ecological appraisal can only give an initial view of the site. It should be noted that the ecologist's recommendations are based on what is evident at the time of the survey and from the available information from the desk study. The extended element of this survey can often only identify the potential for protected species to be present and, therefore, is not a complete survey of those species.
- 3.4.6 Weather conditions at time of the survey were fine and sunny.
- 3.4.7 Recommendations provided relate to the plans / proposals and boundaries provided to us by the client; any subsequent changes may alter those recommendations and any proposed mitigation or enhancement measures.
- 3.4.8 No development plans were provided at the time of commissioning and therefore the recommendations are general in nature, once detailed plans are known further ecological advice can be provided.
- 3.4.9 Following further proposed drawing information (Drawing no 201) received on 23/01/2018 by the client some ecological recommendations have been given in light of this further information as detailed in this amended report.

4.0 Results and Recommendations

4.1 Phase 1 survey

Descriptions of each habitat found on the site are provided below, the approximate locations of which are identified on the attached map (Figure 1).

Semi-improved Neutral Grassland

4.1.1 Shown in orange and labelled SI on Figure 1. This habitat covers the majority of the site.

4.1.2 This grassland has been cut making it a little more difficult to identify some species. Species present include Perennial Ryegrass, Cocksfoot, Creeping Bent, Yorkshire Fog, Bird's-foot Trefoil, Yarrow, White Clover, Creeping Buttercup, Common Mouse-ear, Field Bindweed, and Creeping Thistle.

Photo 1: Semi-improved Neutral Grassland (SI)



Tall Ruderal

4.1.3 Shown as terracotta diagonal lines on Figure 1. A strip of taller vegetation along the southern edge of the grassland (SI) inside of north of hedge line. This strip is dominated by Common Nettle. Other species recorded include Bramble, Spear Thistle, and Ivy.

Photo 2: Tall Ruderal



Non-Ruderal

4.1.4 Shown as terracotta dots on Figure 1. There are two areas of non-ruderal habitat labelled as NR1 and NR2 in Figure 1.

NR1: An unmown thin strip of vegetation on the western edge of the grassland (SI) approximately 3 metres wide. Species include Common Nettle, Hogweed, Bramble, Cleavers, Spear Thistle, and locally frequent Yorkshire Fog.

NR2: An unmown strip on the eastern edge of the grassland (SI) consisting of Bramble, Yorkshire Fog, locally frequent Virginia Creeper, occasional Hogweed, occasional Spear Thistle, locally frequent Large Bindweed, Goat Willow, and Cherry spp.

Photo 3: Non-Ruderal (NR1)



Native Species-poor Hedge

4.1.5 Shown as a straight green line on Figure 1. There are two hedges next to the survey area boundary labelled as PH1 and PH2.

PH1: Hedge of western edge of the site is dominated by Hawthorn, with frequent Elder and Bramble, and occasional Goat Willow and Ivy.

PH2: Overstood hedge on southern edge of grassland (SI) with Hawthorn, Ivy, Bramble, Blackthorn, Elder, Crab Apple, and Butterfly-bush.

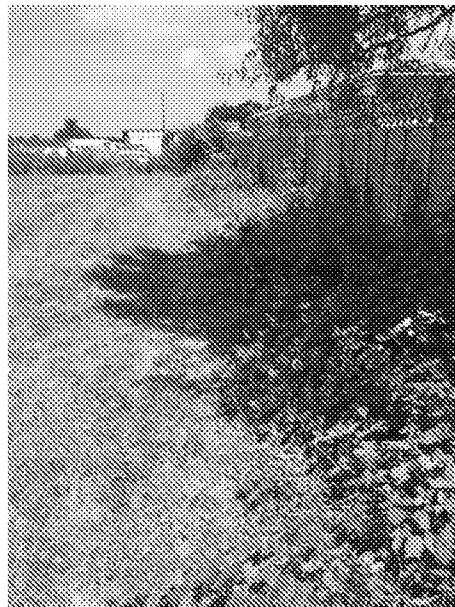
Fence

4.1.6 Shown as a straight black line with cross hatching on Figure 1. There are two fences on the survey area boundary and these are labelled as F1 and F2 on Figure 1.

F1: Heras fencing on southern boundary of survey area. This has fallen over in places and some sections were difficult to see due to dense vegetation.

F2: Garden fencing on eastern edge of grassland area.

Photos 4 and 5: Fences (F1(left) and F2 (right))



Hard Standing

4.1.7 Shown in grey on Figure 1. This is the hard standing surface of Mayflower Way. Sparse vegetation is present along the edge of the hard standing roadside of the kerb including Annual Meadow Grass, Dandelion spp, Knotgrass, Bristly Oxtongue, and Pineappleweed.

Photo 6: Hard Standing (HS)

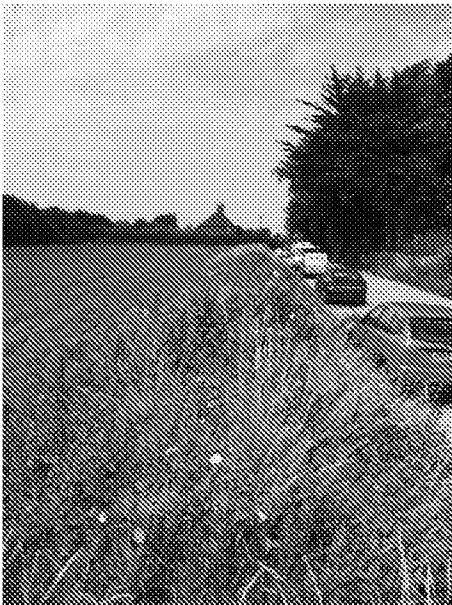


Target Notes

4.1.8 Shown as a red circle and numbered TN1 on Figure 1.

TN1: Earth bank approximately 4 metres wide along the northern edge of the grassland area SI. This bank is unmown and therefore managed differently to the neighbouring grassland. Species present include abundant Creeping Thistle, frequent Large Bindweed (dominant in places), Broad-leaved Dock, Common Nettle, False Oat-grass, Common Mallow, and occasional Red Fescue.

Photo 7: Earth bank (TN1)



Anecdotal faunal records

4.1.9 Signs of mammal activity were observed within the survey area. A Rabbit was spotted close to the southern boundary hedge (PH2), and Fox droppings were recorded on the earth bank (TN1) next to Mayflower Way. A number of birds were recorded within the survey area, which include Herring Gull observed overhead, Robin, Blue Tit, Magpie, Dunnock, and Blackcap singing/calling in southern hedge (PH2), Chaffinch, Wren and Goldfinch observed/calling from the eastern boundary, and Blackbird close to Mayflower Way. Invertebrates recorded include Soldier Beetle spp, Short-winged Conehead Cricket, Meadow Grasshopper, Dark Bush-cricket, Meadow Brown Butterfly, Gatekeeper Butterfly, Honey Bee, and Red-tailed Bumblebee.

4.2 Direct and indirect habitat impacts

4.2.1 The details of the planning proposals for the site are unknown at this stage. As a result it is not possible to ascertain what the exact ecological impacts will be upon the survey area.

4.3 Site Designations

4.3.1 The government ODPM Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System (2005) states the **legal requirement for planning authorities in regard to protected sites and species protected by law**.

4.3.2 The full data search is given in Appendix 1 and should be referred to for full details. The results are summarised below for information only.

Statutory Sites

4.3.3 *The National Planning Policy Framework (NPPF, 2012) states that any schemes that destroy irreplaceable habitats such as ancient woodland should be avoided. Schemes that impact directly or indirectly, within or near nationally designated sites such as SSSI's and internationally designated sites such as SPA's and SAC's should also be avoided with exceptions where economical benefits outweigh the negative impacts (Para 118).*

Internationally designated sites: Special Protection Areas (SPA), Special Areas of Conservation (SAC) & RAMSAR sites

4.3.4 *Development proposals which will adversely affect these sites are not permitted (except where there are no alternative solutions and the proposal is necessary for imperative reasons of overriding public interest). If a development could possibly impact on a SPA or SAC, the applicant will need to submit an assessment of potential impacts and their significance with their planning application for the local authority to make an 'Appropriate Assessment'. Indirect impacts could result from development proposals some distance from a SPA/SAC; impacts on internationally designated sites in other counties should also be considered.*

- 4.3.5 The survey area is not within any SPA, SAC or Ramsar sites and the data search shows it is not within 2km/1km of any of these sites.

Sites of Special Scientific Interest (SSSIs)

- 4.3.6 *SSSIs are given a high level of protection through both the planning and legal system. Development which would adversely affect a SSSI is not acceptable except only in special cases, where the importance of a development outweighs the impact on the SSSI when planning conditions or obligations would be used to mitigate the impact. Developments likely to impact on a SSSI will likely require an Environmental Impact Assessment.*
- 4.3.7 *The Impact Risk Zones (IRZs) dataset is a GIS tool which maps zones around each SSSI according to the particular sensitivities of the features for which it is notified and specifies the types of development that have the potential to have adverse impacts. Natural England uses the IRZs to make an initial assessment of the likely risk of impacts on SSSIs and to quickly determine which consultations are unlikely to pose risks and which require more detailed consideration. LPAs have a duty to consult Natural England before granting planning permission on any development that is in or likely to affect a SSSI.*
- 4.3.8 The survey area is not within any SSSIs and the data search shows it is not within 1km of any of these sites.
- 4.3.9 There should not be any effect on the nearby SSSIs from the proposed works.

Local Nature Reserves (LNRs)

- 4.3.10 *LNRs are a statutory designation made by local authorities.*
- 4.3.11 The survey area is not a LNR.
- 4.3.12 There will be no effects on the nearby LNRs from the proposed works.

Sites of Nature Conservation Importance (SNCI)

- 4.3.13 Local wildlife sites are known as Sites of Nature Conservation Importance (SNCIs) in Sussex. SNCIs have no statutory protection but are subject control policies in local plans.
- 4.3.14 The survey area is not an SNCI.
- 4.3.15 There should be no effect on the nearby SNCIs from the proposed works.

Ancient woodland and veteran trees

4.3.16 *The National Planning Policy Framework (2012) states that 'Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss'. In addition Natural England's standing advice for ancient woodland indicates that a 15m buffer is retained between ancient woodland and any works or development. Ancient woodlands, and ancient and veteran trees, may also be protected by Tree Preservation Orders.*

4.3.17 There is not any woodland or veteran trees within the survey area or adjacent to within 15m of the survey area.

Hedgerows

4.3.18 *Under the Hedgerows Regulations 1997 it is against the law to remove or destroy certain hedgerows without permission from the local planning authority, which are also the enforcement body for offences created by the Regulations. Local planning authority permission is normally required before removing hedges that are at least 20 metres (66 feet) in length, more than 30 years old and contain certain plant species. The authority will assess the importance of the hedgerow using criteria set out in the regulations. The regulations **do not** apply to hedgerows within the curtilage of, or marking a boundary of the curtilage of, a dwelling house.*

4.3.19 The hedgerows in the survey area and adjacent to the survey area are unlikely to meet the criteria for an important hedgerow.

Habitats of Principal Importance

4.3.20 *UK Biodiversity Action Plan (UK BAP) Priority Habitats are also Habitats of Principle Importance (HPI) listed under The Natural Environment and Rural Communities Act 2006 Section 41 (NERC S41). These habitats do not receive statutory protection, but the S41 list is intended to provide guidance to decision-makers, e.g. those representing public bodies and local/regional authorities, in implementing their duty under Section 40 of the NERC Act to '...have regard to the conservation of biodiversity in England when carrying out their normal functions'.*

4.3.21 The habitats recorded are typical of the wider area.

4.3.22 No UK BAP Priority Habitats / HPI were found within the survey area. Although the hedgerows adjoining the survey area to the south and west would be classified as habitats of principal importance under the UK Biodiversity Action Plan priority habitat descriptions (JNCC, 2008).

Biodiversity Opportunity Areas (BOAs)

4.3.23 *BOAs cover a variety of habitats and are regional priority areas for restoration and creation of Biodiversity Action plan (BAP) habitats. These are mapped on the South East Biodiversity Strategy website and are spatial representations of the BAP targets and are areas of opportunity, not constraint. BOAs are intended to complement the work of regional and local organisations; delivering BAP targets and actions through this agreed area based approach will result in a landscape scale approach to conservation to restore and create areas rich in biodiversity, making our wildlife more robust to changing climate and socio-economic pressures.*

4.3.24 The site is not within an area that has been identified as a BOA.

4.4 Protected and Notable Species Assessment and Recommendations

4.4.1 Each section contains a summary, in italics, of the legal protection afforded to each species. Please note that this is for information only and is not intended to be a complete synopsis of the legislation.

Reptiles

4.4.2 *All native British reptiles are protected under the Wildlife and Countryside Act (1981) from killing and injury. Sand Lizards and Smooth Snakes also receive additional protection under the Conservation (Natural Habitats &c) Regulations 2010 from intentional killing and injury and from intentional damage, destruction or obstruction of access to a place of shelter. All native UK reptiles are UK BAP Priority species and SPI.*

4.4.3 The data search identified records of Slow-worm, Common Lizard, and Grass Snake, within the search area. Sussex Amphibian and Reptile Group (SxARG) may hold additional data.

4.4.4 No reptiles were recorded within the survey area during the site assessment.

4.4.5 There is limited habitat suitable for reptiles within the survey area, these being the areas of semi-improved grassland, hedge line edges, and the south facing earth bank on the northern edge of the survey area.

4.4.7 As there is limited potential for reptiles to be present within the survey area, it is recommended that a precautionary approach to site clearance be conducted during the season when reptiles are active (typically April to September). The vegetation should be cut down to around 10cm a day or so before site works, then the area should be carefully cleared with a closer cut before site works.

Amphibians

4.4.8 *Great Crested Newts are protected under schedule 5 of the Wildlife and Countryside Act 1981 and of the Conservation (Natural Habitats &c) Regulations 2010 from intentional killing and injury and from intentional damage, destruction or obstruction of access to a place of shelter. In addition Great Crested Newts and Common Toads are UK BAP Priority species and SPI.*

4.4.10 The data search found records of Smooth Newts, Common Frog and Common Toad within the 1km search area.

4.4.11 No amphibian records were identified within the search area.

4.4.12 The survey area did not contain any ponds.

4.4.13 MAGIC Maps shows there to be one pond within 500m of the survey area. This is located approximately 80 metres to the north west of the survey area at TQ07165 03372. Other small garden ponds may be present but not marked on the OS map.

4.4.14 Although no records of Great Crested Newts (GCN) were received from Sussex Biodiversity Record Centre, there is an attenuation pond located within a recreational ground approximately 80m from the north boundary of the site. At the time of the site visit (06/07/2017) there was very low water levels and dense marginal vegetation within the pond, where conditions to undertake a Great Crested Newt Habitat Suitability Index Assessment (HSI) were not suitable. Natural England recommend that any ponds within 500m of a proposed development may offer some suitability for Great Crested Newts.

4.4.15 As there is a possibility that this pond may be suitable for breeding Great Crested Newts it is recommended that providing access can be given from the landowner that a Great Crested Newt Habitat Suitability Index Assessment (HSI) is undertaken to assess whether further Great Crested Newts presence/likely absence surveys are required.

Bats

4.4.16 *Bats are fully protected under the Wildlife and Countryside Act 1981, as amended, and also receive additional protection via The Conservation of Species and Habitats Regulations (2010) from intentional killing and injury and from intentional damage, destruction or obstruction of access to a place of shelter. It is an offence to kill or injure a bat or interfere with any roosting or resting site. A bat roost is interpreted as "any structure or place used for shelter or protection" whether or not bats are present at the time or not. Barbastelle Bats, Bechstein's Bat, Noctule, Soprano Pipistrelle, Brown Long-eared Bat, Greater Horseshoe Bat and Lesser Horseshoe Bat are also UK BAP Priority species and SPI.*

- 4.4.17 The data search identified records of Brown Long-eared Bat, Common Pipistrelle, Noctule, Serotine, Soprano Pipistrelle, within the search area.
- 4.4.18 Some of the trees within the adjoining hedgerows harbour trees with dense ivy cladding. The wider area is suitable for bats and there may be roosts within nearby trees / houses.
- 4.4.19 If development proposals affect the field hedgerow or trees along these linear features, a further survey by a bat ecologist would be required and the findings should be followed.
- 4.4.20 As bats may be roosting nearby it is recommended that any lighting is kept to a minimum.

Breeding Birds

- 4.4.21 *All wild birds are protected under Wildlife and Countryside Act 1981, as amended, from damage or destruction of their nest whilst in use or construction, some birds listed on Schedule 1 receive additional protection from disturbance during nesting.*
- 4.4.22 The data search identified an assemblage of widespread bird species within the 1km search area. In addition the following Schedule 1 birds were identified Common Scoter, Bittern, Slavonian Grebe, Red Kite, Honey-buzzard, Marsh Harrier, Hen Harrier, Osprey, Merlin, Hobby, Peregrine, Stone-Curlew, Green Sandpiper, Little Gull, Mediterranean Gull, Barn Owl, Kingfisher, Hoopoe, Black Redstart, Fieldfare, Redwing, Firecrest, Brambling, Common Crossbill, Snow Bunting.
- 4.4.23 Breeding birds may be present within the field hedgerows on the edge of the survey area.
- 4.4.24 If any clearance of trees and shrub is planned, this should be undertaken outside the bird nesting season (which is typically 1st March to 31st August).
- 4.4.25 If any clearance occurs within the breeding bird season the area should be checked, ideally by an ecologist, and if any nesting birds are found the vegetation should be retained and protected until after the young have fledged.

Badgers

- 4.4.26 *Badgers are protected under the Protection of Badgers Act 1992, which makes it illegal to kill, injure or take a badger or to interfere with their setts; such as by the use of heavy machinery nearby.*
- 4.4.27 The data search did not identify any Badger setts within 1km of the survey area, however the Badger Trust Sussex (www.badgertrust-sussex.org.uk) may hold additional records.

- 4.4.28 No definitive evidence of Badgers (holes, dung pits or push throughs under fences) were found within the survey area, but a detailed search of the wider area was not conducted.
- 4.4.29 The view beyond the immediate survey area was limited, no obvious Badger signs or setts were found.
- 4.4.30 A precautionary check for mammal holes within 30m of the site should be conducted prior to works commencing.

Dormice

- 4.4.31 *Dormice are fully protected under the Wildlife and Countryside Act 1981 as amended and habitats receive additional protection under the Conservation (Natural Habitats etc.) Regulations 2010 from damage, destruction or obstruction of access to a place of shelter.*
- 4.4.32 The data search identified no records of Dormice within the search area.
- 4.4.33 The adjoining hedgerow habitat is considered to be suitable for Dormice, however due to lack of connectivity to other suitable areas of Dormouse habitat it is considered unlikely that Dormice will be affected by the proposed development and are therefore not considered further.
- 4.4.34 The adjoining hedgerows are located on the outside edge of the survey area. Therefore, it is considered unlikely that Dormice habitat will be affected by the proposed works and, as such, no further action with respect to this species is required.

Otters & Water Voles

- 4.4.35 *Otters and Water Voles are fully protected under the Wildlife and Countryside Act 1981 as amended. Otters and their habitats receive additional protection under the Conservation (Natural Habitats etc.) Regulations 2010 from damage, destruction or obstruction of access to a place of shelter. Both species are also UK BAP Priority species and SPI.*
- 4.4.36 No records of Water Vole or Otter were identified within the search area.
- 4.4.37 There are no features, such as ditches, rivers, canals or areas of scrub vegetation that are suitable for these species within the survey area.
- 4.4.38 It is considered unlikely that Otters and Water Vole are present within the survey area and, as such, no further action with regards to these species is required.

Other Mammals

4.4.39 *All mammals receive some protection under the Wild Mammals (Protection) Act 1996, which makes it an offence to crush or asphyxiate an animal (e.g. within its burrow). Brown Hare, Hedgehogs and Harvest Mice are also UK BAP Priority species and SPI.*

4.4.40 Records of West European Hedgehog, were identified within the search area.

4.4.41 Fox droppings and Rabbits were identified within the survey area.

4.4.42 Site clearance work should be undertaken carefully (by hand if necessary).

Species of Principal Importance

4.4.43 *UK Biodiversity Action Plan (UK BAP) Priority Species are also Species / of Principle Importance (SPI) listed under The Natural Environment and Rural Communities Act 2006 Section 41 (NERC S41. The S41 list is intended to provide guidance to decision-makers, e.g. those representing public bodies and local/regional authorities, in implementing their duty under Section 40 of the NERC Act to ‘...have regard to the conservation of biodiversity in England when carrying out their normal functions’.*

4.4.44 UK BAP Priority species / SPI plants or animals were not recorded during the site survey.

4.4.45 There is potential for the following UK BAP Priority species / SPI plants or animals to be present within the survey area:

- Brown Long-eared Bat
- Soprano Pipistrelle Bat
- Noctule Bat
- Slow-Worm
- Common Lizard
- Grass Snake

Rare / Notable Plants

4.4.46 A total of 61 vascular plants were recorded, this is a fairly low number given the habitats present and the time of year.

4.4.47 A survey during a period when the Semi-improved Neutral Grassland (SI) was left long would likely identify a higher number of species.

Non Native Plant Species

4.4.48 *It is an offence to plant or otherwise cause to grow in the wild invasive non-native species listed under Schedule 9 of the Wildlife and Countryside Act (1981 as amended).*

4.4.49 Plants listed on Schedule 9 and recorded within the survey area are as follows:

- Virginia Creeper

4.4.50 In addition Butterfly-bush, a non-native invasive plants (but not listed on Schedule 9) was recorded within the survey area.

4.4.51 Care should be taken to prevent the further spread of Virginia Creeper. Ideally efforts should be made to remove this species from the site.

Species Desk Study

Notable Species

- Protected species and species of conservation concern were found within the 1km search area, full lists of species are given in the data search Appendix 1. Species of particular note because of their legal protection and / or because they have site relevance, as preferred habitats occur on site, are as given in Table 1:

Table 1: Data Search Results

		The Conservation of Habitats and Species Regulation, 2010	Wildlife and Countryside Act 1981								Specially Protected	SPI (S.41, NERC Act)	UK Rare/RDB	UK Scarce	Relevant Priority Habitat(s)	
			Schedule 5					Schedule 8		Schedule 1						Schedule 6
			Section 9 parts 4 (b) and (c) and 5 only	section 9, parts 1, 5(a) and (b)	Section 9 parts 1, 2 and 5	Section 9 all parts	Section 9 parts 5(a) and (b)	Schedule 8 (all parts)	Section 13 Part 2							
PLANTS																
Tubular Water-dropwort	<i>Oenanthe fistulosa</i>											x				
BUTTERFLIES																
Adonis Blue	<i>Polyommatus bellargus</i>						x				S5(s)			Nb	Calcareous grassland	
White-letter Hairstreak	<i>Satyrrium w-album</i>						x				S5(s)	•		Nb	Mixed deciduous woodland, Hedgerows	
MACRO-MOTHS																
Blood-vein	<i>Timandra comae</i>											•				
Buff Ermine	<i>Spilosoma luteum</i>											•				
Cinnabar	<i>Tyria jacobaeae</i>											•			Various	
Knot Grass	<i>Acronicta rumicis</i>											•			Urban	
Mottled Rustic	<i>Caradrina morpheus</i>											•				
Rustic	<i>Hoplodrina blanda</i>											•				
Shoulder-striped Wainscot	<i>Mythimna comma</i>											•				
Small Emerald	<i>Hemistola chrysoprasaria</i>											•			Calcareous grassland, Mixed deciduous woodland	
Small Square-spot	<i>Diarsia rubi</i>											•				
Spinach	<i>Eulithis mellinata</i>											•				
White Ermine	<i>Spilosoma lubricipeda</i>											•				
COLEOPTERA (Beetles)																

		The Conservation of Habitats and Species Regulation, 2010	Wildlife and Countryside Act 1981								Specially Protected	SPI (S.41, NERC Act)	UK Rare/RDB	UK Scarce	Relevant Priority Habitat(s)	
			Schedule 5					Schedule 8								
			Section 9 parts 4 (b) and (c) and 5 only	section 9, parts 1, 5(a) and (b)	Section 9 parts 1, 2 and 5	Section 9 all parts	Section 9 parts 5(a) and (b)	Schedule 8 (all parts)	Section 13 Part 2							
Stag Beetle	<i>Lucanus cervus</i>	A2					x					S5(s)/A2	●		No	Mixed deciduous woodland, Hedgerows, Wood-pasture & parkland
BPS																
Barn Owl	<i>Tyto alba</i>									x		S1				Various
Bittern	<i>Botaurus stellata</i>									x		S1	●		●	Reedbed
Black Redstart	<i>Phoenicurus ochrurus</i>									x		S1		●		Urban
Bullfinch	<i>Pyrrhula pyrrhula</i>												●		●	Mixed deciduous woodland, Hedgerows
Common Crossbill	<i>Loxia curvirostra</i>									x		S1				Heathland
Common Tern	<i>Sterna hirundo</i>											S1			●	Standing water, Rivers
Cuckoo	<i>Cuculus canorus</i>												●	●		Various
Curlew	<i>Numenius arquatus</i>												●	●		Heathland, Floodplain grazing marsh
Duncock	<i>Prunella modularis</i>												●		●	Various
Firecrest	<i>Regulus ignicapillus</i>									x		S1				Mixed deciduous woodland
Fieldfare	<i>Turdus pilaris</i>											S1		●		Various
Grasshopper Warbler	<i>Locustella naevia</i>												●	●		Wet woodland, Floodplain grazing marsh
Grey Partridge	<i>Perdix perdix</i>												●	●		Arable field margins, Hedgerows
Hen Harrier	<i>Circus cyaneus</i>									x		S1	●	●		Heathland
Herring Gull	<i>Larus argentatus</i>												●	●		Standing water, Urban
Hobby	<i>Falco subbuteo</i>									x		S1				Mixed deciduous woodland, Wood-pasture & parkland
Honey-buzzard	<i>Pernis apivorus</i>									x		S1		●		Mixed deciduous woodland

		The Conservation of Habitats and Species Regulation, 2010	Wildlife and Countryside Act 1981										Specially Protected	SPI (S.41, NERC Act)	UK Rare/RDB	UK Scarce	Relevant Priority Habitat(s)	
			Schedule 5							Schedule 8		Schedule 1						Schedule 6
			Section 9 parts 4 (b) and (c) and 5 only	section 9, parts 1, 5(a) and (b)	Section 9 parts 1, 2 and 5	Section 9 all parts	Section 9 parts 5(a) and (b)	Schedule 8 (all parts)	Section 13 Part 2									
Hoopoe	<i>Upupa epos</i>										x		S1				Various	
House Sparrow	<i>Passer domesticus</i>													●			Urban	
Kingfisher	<i>Alcedo atthis</i>										x		S1				Rivers, Standing water	
Lapwing	<i>Vanellus vanellus</i>													●			Floodplain grazing marsh, Standing water	
Lesser Redpoll	<i>Carduelis flammea</i>													●			Heathland	
Linnet	<i>Carduelis cannabina</i>													●			Heathland, Acid grassland, Hedgerows	
Marsh Tit	<i>Parus palustris</i>													●			Mixed deciduous/Wet woodland	
Peregrine	<i>Falco peregrinus</i>										x		S1				Urban	
Red Kite	<i>Milvus milvus</i>										x		S1				Mixed deciduous woodland	
Reed Bunting	<i>Emberiza schoeniclus</i>													●	●		Reedbeds, Standing water, Hedgerows	
Skylark	<i>Alauda arvensis</i>													●	●		Neutral grassland, Acid grassland, Calcareous grassland	
Song Thrush	<i>Turdus philomelos</i>													●	●		Various	
Spotted Flycatcher	<i>Muscicapa striata</i>													●	●		Wood-pasture & parkland, Mixed deciduous woodland	
Starling	<i>Sturnus vulgaris</i>													●	●		Various	
Turtle Dove	<i>Streptopelia turtur</i>													●	●		Wood-pasture & parkland, Hedgerows	
Yellow Wagtail	<i>Motacilla flava</i>													●	●		Floodplain grazing marsh	
Yellowhammer	<i>Emberiza citrinella</i>													●	●		Heathland, Hedgerows, Arable field margins	
REPTILES																		
Common Lizard	<i>Zootoca vivipara</i>			x									S5	●			Various	
Grass Snake	<i>Natrix natrix</i>			x									S5	●			Vvarious	

		The Conservation of Habitats and Species Regulation, 2010	Wildlife and Countryside Act 1981										Specially Protected	SPI (S.41, NERC Act)	UK Rare/RDB	UK Scarce	Relevant Priority Habitat(s)	
			Schedule 5							Schedule 8		Schedule 1						Schedule 6
			Section 9 parts 4 (b) and (c) and 5 only	section 9, parts 1, 5(a) and (b)	Section 9 parts 1, 2 and 5	Section 9 all parts	Section 9 parts 5(a) and (b)	Schedule 8 (all parts)	Section 13 Part 2									
Slow-worm	<i>Anguis fragilis</i>			x									S5	●			Various	
AMPHIBIANS																		
Common Toad	<i>Bufo bufo</i>						x						S5(s)	●			Various	
Common Frog	<i>Rana temporaria</i>						x											
Smooth newt	<i>Triturus vulgaris</i>						x											
MAMALS																		
Brown Long-eared Bat	<i>Plecotus auritus</i>	A4	x										S5/A 4	●			Mixed deciduous woodland, Wood-pasture & parkland, Urban	
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	A4	x										S5/A 4				Various	
Hedgehog	<i>Erinaceus europaeus</i>										x		S6	●			Various	
Noctule	<i>Nyctalus noctula</i>	A4	x										S5/A 4	●			Mixed deciduous woodland, Wood-pasture & parkland, Standing water, Urban	
Serotine	<i>Eptesicus serotinus</i>	A4	x										S5/A 4				Mixed deciduous woodland, Wood-pasture & parkland, Standing water, Urban	
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	A4	x										S5/A 4	●			Various	

4.6 **Other Recommendations**

- In the unlikely event that any other protected species are found during the course of the site works, works should cease and Natural England and / or an ecologist be consulted.
- As far as possible all the mature trees should be retained and protected during construction in line with guidance provided by British Standard BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.
- Non-native invasive species, such as the Virginia Creeper on the eastern boundary, should be removed from the site.
- The local authority should be contacted to check if any trees within the survey area have Tree Preservation Orders.
- Further surveys recommended for protected species and habitats should be conducted prior to submission of planning application and any mitigation recommended be built into the design of the development.
- Hedgerows on the edge of the survey area have the potential to support bats and further surveys should be carried out if these features are affected in any way by the proposals.
- Breeding birds may be present within the hedgerows and any proposal which affect these features should be undertaken outside the bird nesting season (which is typically 1st March to 31st August).
- A precautionary and appropriately timed approach to site clearance as well as good building practice is recommended as to minimize any impact on other fauna such as mammals, reptiles, and amphibians. This approach should be undertaken when working close to the earth bank (TN1) on the northern edge of the survey area.
- A range of environmental enhancement measures have been identified and these should be carried out and included wherever possible.

4.7 Ecological Enhancements

- *The National Planning Policy Framework (NPPF, 2012) maintains the emphasis of not only minimising impacts on biodiversity but also for local planning authorities to provide 'net gains' in biodiversity thereby 'contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures' (Para 109). Planning authorities should aim to 'conserve and enhance biodiversity' within and around development schemes.*
- *The Natural Environment White Paper issued in June 2011 highlights the need to value nature not only as an economical asset but also just for itself, with this theme developed within the New England Biodiversity Strategy 2020: A strategy for England's Wildlife and Ecosystem services (Defra). Therefore, any mitigation required for the scheme on site must consider these documents in its regard to data collection of the species on site, and maintaining biodiversity within the scheme.*
- If the proposals are subject to the Code for Sustainable Homes accreditation, consideration should be given to the Ecology Land Use and Ecology section (Category 9) as the plans suggest that points can be achieved under this category.
- There are opportunities for ecological enhancement within the survey area that could be built into the plans for the development, the following are suggested:
 - Planting for the proposed landscaping scheme would ideally comprise native species or species with a known benefit to wildlife;
 - Non-native species in the survey area should be controlled;
 - Additional habitats could be provided for birds and bats by installing boxes on trees;
 - A herb garden or wildflower grassland area could be included within the proposals to include habitat for species such as butterflies, bees and other pollinators
 - Increase the dead wood habitat by stacking any wood from site works to create log piles in discrete corners of the site;
 - Consideration should be given to using a surface for driveways / parking areas that allows for vegetation growth (such as grass crete or similar) rather than solid tarmac or hardcore;
 - Consider creating a pond within a communal area;
 - External lighting should be kept to a minimum.

5 Species List

The following species were recorded during the Phase 1 survey.

Scientific name	Common name	Abundance
<i>Achillea millefolium</i>	Yarrow	F
<i>Agrostis stolonifera</i>	Creeping Bent	A
<i>Anagallis arvensis</i>	Scarlet Pimpernel	O
<i>Anisantha sterilis</i>	Barren Brome	O
<i>Arctium lappa</i>	Greater Burdock	O
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Artemisia vulgaris</i>	Mugwort	O
<i>Buddleja davidii</i>	Butterfly-bush	O
<i>Calystegia silvatica</i>	Large Bindweed	LA
<i>Centranthus ruber</i>	Red Valerian	O
<i>Cerastium fontanum</i>	Common Mouse-ear	O
<i>Cirsium arvense</i>	Creeping Thistle	A
<i>Cirsium vulgare</i>	Spear Thistle	F
<i>Convolvulus arvensis</i>	Field Bindweed	O
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Dactylis glomerata</i>	Cock's-foot	F
<i>Dipsacus fullonum</i>	Wild Teasel	O
<i>Elytrigia repens</i>	Common Couch	O
<i>Festuca rubra</i>	Red Fescue	F
<i>Galium aparine</i>	Cleavers	LF
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	O
<i>Geranium molle</i>	Dove's-foot Crane's-bill	O
<i>Geranium pyrenaicum</i>	Hedgerow Crane's-bill	O
<i>Hedera helix</i>	Ivy	F
<i>Helminthotheca echioides</i>	Bristly Oxtongue	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Hordeum murinum</i>	Wall Barley	LF
<i>Iris foetidissima</i>	Stinking Iris	R
<i>Iris sp. cultivar</i>	A Garden Iris	R
<i>Lactuca serriola</i>	Prickly Lettuce	O
<i>Leucanthemum vulgare</i>	Oxeye Daisy	LF
<i>Lolium perenne</i>	Perennial Rye-grass	F
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	F
<i>Malus sylvestris sens.str.</i>	Crab Apple	O
<i>Malva sylvestris</i>	Common Mallow	O
<i>Matricaria discoidea</i>	Pineapple Weed	O
<i>Medicago lupulina</i>	Black Medick	O
<i>Parthenocissus quinquefolia</i>	Virginia-creeper	R
<i>Pentaglottis sempervirens</i>	Green Alkanet	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Poa annua</i>	Annual Meadow-grass	F
<i>Polygonum aviculare</i>	Knotgrass	O
<i>Populus alba x tremula</i>	Grey Poplar	R
<i>Potentilla reptans</i>	Creeping Cinquefoil	O

<i>Prunella vulgaris</i>	Selfheal	O
<i>Prunus sp.</i>	A Planted Cherry	R
<i>Prunus spinosa</i>	Blackthorn	O
<i>Pulicaria dysenterica</i>	Common Fleabane	O
<i>Rubus fruticosus agg.</i>	Bramble	F
<i>Rumex obtusifolius</i>	Broad-leaved Dock	F
<i>Sambucus nigra</i>	Elder	O
<i>Senecio erucifolius</i>	Hoary Ragwort	O
<i>Senecio jacobaea</i>	Common Ragwort	O
<i>Sisymbrium officinale</i>	Hedge Mustard	O
<i>Stachys sylvatica</i>	Hedge Woundwort	O
<i>Symphytum x uplandicum</i>	Russian Comfrey	O
<i>Taraxacum sp.</i>	Dandelion agg.	F
<i>Trifolium repens</i>	White Clover	F
<i>Urtica dioica</i>	Common Nettle	A
<i>Vicia sativa</i>	Common Vetch	O

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Appendix 1: Data Search Results