Dacorar Southern Ltd &
Wortleford Trading Company Ltd

ECOLOGYSOLUTIONS

Part of the ES Group

PROJECT NEWTON,
BURGESS HILL,
WEST SUSSEX

Ecological Report

July 2020
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ecology solutions for
planners and developers

PROTECTED SPECIES

This report contains sensitive information
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The information contained herein
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1. INTRODUCTION

1.1. Background & Proposals

1.1.1. Ecology Solutions was commissioned in April 2020 on behalf of Dacorar Southern Limited and Wortleford Trading Company Limited to undertake a Phase 1 habitat survey of land to the north of A2300 Burgess Hill (see Plan ECO1); hereafter referred to as the Site.

1.1.2. The emerging proposals for the Site are for mixed use development including a science and technology park and the provision of strategic green infrastructure.

1.2. Site Characteristics

1.2.1. The Site is located to the north west of Burgess Hill and comprises several separate land parcels which cumulatively measure approximately 49ha in size. The vast majority of the Site is located to the north of the A2300, with a small area of land located to the south of this road. The land parcels to the north are further dissected by Bishopstone Lane and Cuckfield Road, both of which run north south.

1.2.2. The River Adur forms the northern boundary of the Site. To its east the Site is bordered by Goddards Green Wastewater Treatment Works, with an industrial estate and hotel forming the majority of the western boundary. The remainder of the Site is bordered by agricultural land, with this also being the predominant land use in the wider area.

1.2.3. The Site itself comprises two main land parcels of predominantly agricultural land, with arable fields and species-poor pasture present. The agricultural fields are bordered by hedgerows and tree belts, with small woodland pockets and occasional ponds also present. An area of existing commercial development (Westbourne Motors), comprising a modern building and a hardstanding carpark is also present.

1.3. Ecological Assessment

1.3.1. This document assesses the ecological interest of the Site as a whole. The importance of the habitats present is evaluated with regard to current guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)[1].

1.3.2. The report also sets out the existing baseline conditions for the Site, setting these in the correct planning policy and legal framework and assessing the need for any further survey work. It also highlights any potential impacts from development at the Site. Appropriate mitigation, where necessary, is identified such that it will offset any negative impacts and where possible provide for an ecological enhancement of the Site, in accordance with planning policy.

[1] Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal (Third Edition).

2. SURVEY METHODOLOGY

2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

2.2. Desk Study

2.2.1. In order to compile background information on the Site and its immediate surroundings Ecology Solutions contacted Sussex Biodiversity Records Centre (SBRC).

2.2.2. Information has been provided by SBRC and is referenced where necessary within this report. This information is also illustrated where appropriate on Plan ECO1.

2.2.3. Further information on designated sites from a wider search area was also obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)[2] database. This information is reproduced at Appendix 1 and where appropriate on Plan ECO1.

2.3. Habitat Survey Methodology

2.3.1. Ecology Solutions undertook a Phase 1 habitat survey in late April 2020 to ascertain the general ecological value of the land contained within the boundaries of the Site as well as immediately adjacent where appropriate and to identify the main habitats and associated plant species, with notes on fauna utilising the Site.

2.3.2. On each occasion, the Site was surveyed based around extended Phase 1 survey methodology[3], as recommended by Natural England (NE), whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail.

2.3.3. Using the above method, the Site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.

2.3.4. All of the species that occur in each habitat would not necessarily be detected during survey work carried out at any given time of the year, since different species are apparent at different seasons. However, the survey work was completed during the optimal period for Phase 1 surveys. As such, and noting the predominantly agricultural nature of the Site, it is considered that an accurate and robust assessment has been made.

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[2] http://www.magic.gov.uk/

[3] Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

2.4. **Faunal Survey**

2.4.1. General faunal activity observed during the course of the survey was recorded, whether visually or by call. Specific attention was paid to the potential presence of any protected, rare, notable or Biodiversity Action Plan (BAP) species. In addition, specific surveys were undertaken in 2019 for Badgers *Meles meles* and bats (initial roost assessment), including within small portions of immediately adjacent land within the east and southern most proportions of the site.

2.4.2. **Badgers.** Surveys were undertaken to search for evidence of Badgers in April 2020. The surveys comprised two main elements. The first of these was a thorough search for evidence of Badger setts. For any setts encountered each sett entrance would be recorded and plotted, even if the entrance appeared disused. The following information was recorded if appropriate:

i) The number and location of well used or very active entrances; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.

ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance.

iii) The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.4.3. Secondly, Badger activity such as well-worn paths and run-throughs, snagged hair, footprints, latrines and foraging signs were also searched for in order to build up a picture of the use of the Site by Badgers.

2.4.4. **Bats**. Specific bat surveys were undertaken in April 2020 to assess the potential for roosting bats within the building and trees on Site. The work was undertaken by an experienced bat worker and aimed to establish the likelihood of presence/absence of bats.

2.4.5. Field surveys were undertaken with regard to best practice guidelines issued by NE (2004[4]), the Joint Nature Conservation Committee (JNCC) (2004[5]) and the Bat Conservation Trust (2016[6]).

[4] Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.
[5] Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2004). *Bat Workers' Manual*. 3rd edition. Joint Nature Conservation Committee, Peterborough.
[6] Bat Conservation Trust (2007). *Bat Surveys – Good Practice Guidelines*. Bat Conservation Trust, London.

2.4.6. All trees at the Site were assessed for their potential to support roosting bats. For a tree to be classed as having some potential for roosting bats it must usually have one or more of the following characteristics:

- obvious holes, e.g. rot holes and old woodpecker holes;
- dark staining on the tree below a hole;
- tiny scratch marks around a hole from bats' claws;
- cavities, splits and/or loose bark from broken or fallen branches, lightning strikes etc.; and
- very dense covering of mature Ivy *Hedera helix* over trunk.

3. ECOLOGICAL FEATURES

3.1. The Site was subject to an updated ecological survey in late April 2020. The vegetation present enabled the habitat types to be satisfactorily identified and an accurate assessment of the ecological interest of the habitats to be undertaken.

3.2. The following main habitat/vegetation types were identified:

- Arable fields
- Species-poor semi-improved grassland;
- Hedgerows and tree lines;
- Woodland;
- Scrub;
- Ponds;
- Ditches;
- Road verge;
- River bank; and
- Building and hardstanding.

3.3. The location of these habitats is shown on Plan ECO2.

3.4. Each habitat present is described below with an account of their representative plant species.

3.5. Arable Fields

3.5.1. Three fields (**F3, F5** and **F7**) within the Site were under active cultivation at the time of survey and supported either bare ground or a planted crop monoculture (including Broad Bean *Vicia faba* and Potato *Solanum tuberosum*).

3.5.2. Whilst the margins of these fields supported a limited range of grasses and herbs, the fields themselves were generally absent of any non-crop vegetation. These habitats are therefore not deemed to be of any significant ecological interest.

3.5.3. The species composition of the field margins were noted as comparable to that recorded within the grassland fields on Site (see species-poor grassland below).

3.6. Semi-improved Grassland

3.6.1. The majority of the Site comprises a series of large fields which appear to be utilised as pasture. Sheep grazing was noted in field **F2** at the time of survey.

3.6.2. Whilst botanical composition varied between fields, the grassland on Site overall was identified to be relatively species-poor, being dominated by a modest range of common grasses and herbs typical of more enriched soil conditions. None of the grassland fields were deemed to be of any heightened ecological interest in the context of the surrounding area. A summary of the fields is provided below.

3.6.3. Fields **F1** and **F2** were recorded to support a very limited range of species. Both fields were dominated by Perennial Rye-grass *Lolium perenne*, Yorkshire Fog *Holcus lanatus* and Meadow Foxtail *Alopecurus pratensis*, with a very limited herb component, including White Clover *Trifolium repens*, Creeping Buttercup *Ranunculus repens*, Common Sorrel *Rumex acetosa*, Common Mouse-ear *Cerastium fontanum* and Creeping Thistle *Cirsium arvense*.

3.6.4. Field **F4,** whilst still considered species-poor, was recorded to support a relatively more diverse range of species including Yorkshire Fog, Tall Fescue *Festuca arundinacea*, Red Fescue *Festuca rubra*, Sweet Vernal Grass *Anthoxanthum odoratum*, Groundsel, Ragwort *Senecio jacobaeae*, Soft rush, Meadow Vetchling *Lathyrus pratensis*, Common Fleabane *Pulicaria dysenterica*,, Curled Dock *Rumex crispus* and Broad-leaved Dock *Rumex obustifolius.*

3.6.5. Field **F6** is an area of rougher semi-improved grassland in the south western corner of the Site which supports a similar species composition to Field F4. However, it was noted that a large part of the grassland had been chemically sprayed at the time of survey, with most vegetation dead or dying off. A wet depression is also present and heavily inundated with Soft Rush *Juncus effusus*.

3.6.6. Fields **F8** to **F11** are notably more improved in nature, supporting a dominant sward of Perennial Rye-grass *Lolium perenne*, with regular Broad-leaved Dock *Rumex obtusifolius* and Curled Dock *Rumex crispus* throughout. Other species recorded include Red Clover *Trifolium pratense*, Meadow Foxtail, Yorkshire Fog, Sweet Vernal Grass *Anthoxanthum odoratum*, Common Mouse-ear, Creeping Buttercup, Bulbous Buttercup *Ranunculus bulbosus*, Cuckoo Flower *Cardamine pratensis* (in areas of impeded drainage), and Lesser Stitchwort *Stellaria graminea*.

3.6.7. The field margins across the Site also supported a modest range of species, comprising those listed above in addition to Rough Meadow-grass *Poa trivialis*, Annual Meadow-grass *Poa annua*, Cock's-foot *Dactylus glomerate,* Red Fescue, Meadow-sweet, Greater Stitchwort *Stellaria holostea*, Germander Speedwell *Veronica chamaedrys*, Spear Thistle *Cirsium vulgare*, Bugle *Ajuga reptans*, Common Nettle *Urtica dioica*., Common Sowthistle *Sonchus oleraceus*, Hogweed *Hercleum*, and Cow Parsley *Anthriscus sylvestris*.

3.7. **Hedgerows and Tree Lines**

3.7.1. The fields within the Site are invariably bordered by hedgerows and tree belts. Collectively, this network of wooded features supports a good range of tree and shrub species, with some individual features (**H1, H6, H8, H11 to H15, H18, H20, H23** and **H24**) likely to qualify as 'important' under the Hedgerow Regulations 1997. An individual description of each feature is provided below.

3.7.2. Hedge **H1** and comprises an unmanaged line of shrubs along part of its extent, however adopts a more conventional hedge structure

further south and is box cut to a height of approximately 1.2m. Occasional semi-mature trees are present and a seasonal ditch (dry at the time of survey) runs along the eastern side of the ditch (along Bishopstone Lane). Ash *Fraxinus*, Oak *Quercus* (including standard trees), Blackthorn *Prunus spinosa*, Hawthorn *Crataegus*, Field Maple *Acer campestre*, Hazel *Corylus* and Bramble *Rubus* were frequently recorded within the hedge, with Dogwood *Cornus* also present. Elder *Sambucus* and Holly *Ilex* were rarely recorded, as was Honeysuckle *Lonicera*. The ground flora included for Native Bluebell *Hyacinthoides non-scripta*, Hybrid Bluebell sp*. H. hispanica*, Common Nettle, Cleavers *Galium aparine*, Dog's Mercury *Mercurialis perennis*, Red Campion *Silene dioica* and Primrose *Primula vulgaris*. This hedge is likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.3. **H1A** is continuous with **H1** and comprises a short stretch of hedge which is box cut to approximately 1.2m in height. This short stretch of hedge is notably less species diverse.

3.7.4. **TB1** comprises a belt of mature trees in which Pedunculate Oak *Quercus robur* is dominant. The mature trees form two rows, with a shallow dry ditch inbetween which is likely to be wet on occasion. A shrub layer (managed as a hedge) is associated with this belt and includes for Blackthorn (abundant) and Hawthorn (frequent), alongside Elder, Hazel, Field Maple and Dog-rose. Bramble and Elm *Ulmus sp*., were rarely recorded. The ground flora includes for Native Bluebell, Greater Stitchwort, Hops *Humulus lupulus*, Cleavers, Garlic Mustard *Alliaria petiolata*, Dog's Mercury, Common Nettle and Cow Parsley.

3.7.5. **H2** is structurally poor and part defunct. It comprises a gappy shrub belt at its eastern end, with the western edge flail managed. Along the most part, it comprises a series of old Hazel coppice stools, with scattered Hawthorn, Field Maple (including standards), Blackthorn and Elder also present. Ivy and Common Nettle are present in the ground flora.

3.7.6. **H3** comprises a short remnant hedgerow which now comprises 7 shrubs, all showing grazing damage. Field Maple, Hazel and Grey Willow *Salix cinereal* are present.

3.7.7. **H4** runs adjacent to the River Adur. It is dominated by Blackthorn which, in some sections, is unmanaged and in others is box cut to a height of approximately 1.2m.

3.7.8. **H5** is a short stretch of hedge which comprises a double line of Blackthorn with a seasonal ditch (continuous with that associated with H2) inbetween. It is in poor condition, being box cut to approximately 1m.

3.7.9. **H6** is a well established and unmanaged hedgerow which supports frequent mature standard trees. The hedge is associated with a tall bank/slope and there is a significant change in gradient between fields F2 and F3. Blackthorn dominates along much of its length, with Elder, Hazel (including coppice stools), Hawthorn, Rose *Rosa* sp.

and Dogwood also present. Holly and Spindle *Euonymus* were rare. Ivy was recorded, whilst Native Bluebell was locally dominant and Common Nettle also present. This hedge is likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.10. **H7** comprises a gappy belt of mature shrubs including Hawthorn, Ash, Grey Willow, Blackthorn and Field Maple. A collapsed and dead Oak tree was also present.

3.7.11. **H8** forms part of the Site's western edge and merges into an area of wet woodland at its southern extent. The hedge is unmanaged and is more akin to a line of mature shrubs and trees. A central, dry ditch runs through the 'hedge', delineating two lines of trees/shrubs. The hedge supports Field Maple (including old coppice stools), Hazel, Hawthorn, Blackthorn, Rose *Rosa* sp., Elder and Spindle as well as mature standards of Oak, Ash and Field Maple. The ground flora includes for Ramsons *Allium ursinum*, Common Nettle, Garlic Mustard, Cleavers, Hybrid and Native Bluebell, Greater Stitchwort and Bugle. This hedge is likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.12. **TB2** comprises a line of mature Oak trees with occasional Elder below and Native Bluebell in the ground flora.

3.7.13. **H9** comprises an unmanaged and gappy line of Blackthorn, Bramble, Ash and Elder.

3.7.14. **H10** is an unmanaged hedge on the far (off Site) side of a seasonally wet ditch. The hedge supports Ash (including standards), Elder, Elm, Hawthorn, Blackthorn and Grey Willow. Pendulous Sedge *Carex pendula* was recorded in the ground layer.

3.7.15. **H11** is off Site and forms the Sites south western boundary, it is unmanaged and shows signs of disturbance (debris/litter/invasive species) associated with the adjacent industrial uses of the Site. A ditch is present on the eastern aspect of the hedge and held a shallow depth of water at the time of survey. Only occasional scattered Blackthorn and Bramble scrub within the Site. The hedge supports Blackthorn, Bramble, Guelder Rose *Viburnum opulus*, Hawthorn, Elder, Field Maple, Crack Willow *Salix fragilis* and Crab Apple *Malus*. Pendulous Sedge, Foxglove and Common Water Dropwort *Oenanthe* were associated with the hedge/ditch. This hedge is likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.16. A single stand of Japanese Knotweed *Reynoutria japonica* was also recorded in this hedge, with the location marked on Plan ECO2.

3.7.17. **H12** comprises box-cut hedge which forms part of Site's southern boundary. It has a good structure and a height of 2m along most of its length, albeit some sections have a reduced height and were of a poorer structure. The hedge supports occasional standard trees and has a shallow, dry ditch on its southern aspect. Hawthorn dominates, with Blackthorn abundant and Oak (including 3 standard trees) and Field Maple frequent. Also recorded was Hazel, Spindle,

Bramble and Holly. Honeysuckle was present trailing through. The ground flora included for Hogweed , Horsetail, Red Campion, Lesser Celandine *Ficaria verna*, Hybrid Bluebell, Greater Stitchwort, Bracken, Dog's Mercury, Cow Parsley, Cleavers and Common Nettle. This hedge is likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.18. **H13** comprises a short section of hedge on a shallow bank. It is dominated by Hawthorn and Blackthorn. Occasional Spindle and Dogwood were recorded, with Oak and Rose *Rosa* sp., rare. The ground flora included for greater Stitchwort, Dog's Mercury, Lords and Ladies *Arum maculatum*, Hybrid Bluebell, Cleavers, Garlic Mustard and Honeysuckle. This hedge is likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.19. **H14a** is dominated by Hawthorn and Blackthorn and with a dry ditch to its southern aspect. It appears to have been historically subject to a hedge lay. Field Maple, Oak and Rose *Rosa* sp. were also recorded. **H14b** is similar to H14a in size and structure, although suffers from notable gaps and supports a mature Oak tree. This hedge is also largely comprised of Hawthorn, with other species including Dogwood, Blackthorn, Hazel, Holly, Field Maple, Elder, Grey Willow, and Crab Apple. The ground flora included for Greater Stitchwort, Common Nettle, Hard Rush, Teasel *Dipsacus*, Cuckoo Flower, Hybrid Bluebell and Sun Spurge *Euphorbia helioscopia*. Both H14a and H14b are likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.20. **H15** is broadly identical to H14, albeit with the addition of occasional Spindle, Dogwood, Grey Willow and *Prunus* sp. A ditch is present on the western aspect, whilst Bugle and Primrose were also recorded in the field layer. H15 is likely to qualify as 'important' under the Hedgerow Regulations 1997

3.7.21. **H16** is a line of scrub and semi-mature trees which lines the building compound on the north eastern boundary F8 and is associated with a shallow wet ditch. Species recorded include Ash, Hawthorn, Blackthorn, Bramble, Field Maple, Silver Birch *Betula pendula* and Grey Willow. Very limited ground flora was apparent at the time of survey

3.7.22. **H17** is a regularly managed amenity Hornbeam *Carpinus* hedgerow which lines the boundary of an off Site/adjacent residential property.

3.7.23. **H18** forms the southern boundary of F8 and is of similar structure/species composition to H13. The hedge is primarily formed of Hawthorn, Blackthorn, Field Maple, Dog-rose, Dogwood, with a small number of mature Oaks and Hybrid Black Poplar *Populus canadensis*. The ground flora included for Hogweed, Hybrid Bluebell, Greater Stitchwort, Bracken, Cow Parsley, Cleavers and Common Nettle. This hedge is may qualify as 'important' under the Hedgerow Regulations 1997.

3.7.24. **TB3** comprises a narrow band of woodland on the eastern boundary of F8. This woodland comprises two lines of mature Oak between

which lies a developing shrub/scrub layer, suggesting historical clearance. The shrub layer is comprised of Wych Elm *Ulmus glabra*, Hawthorn, Field Maple, Dogwood and Grey Willow. The ground layer supports a limited range species, included Hybrid Bluebell, Bluebell, Garlic Mustard, Ivy, Cow Parsley and Dogs Mercury.

3.7.25. **TB3** comprises a band of mature trees and shrubs which run adjacent to Bishopstone Lane. This band of vegetation varies in width across its length and is approximately 12m wide at its maximum. TB4 is dominated by Mature Oaks, with Ash and Field Maple standards also present. The shrub layer included for Oak, Field Maple, Privet *Ligustrum*, Hawthorn, Blackthorn, Dog Rose, Elder, Elm (diseased), Hazel, Grey Willow, Horse Chestnut *Aesculus hippocastanum* and Dogwood. The field layer includes for White Dead-nettle *Lamium album*, Garlic Mustard, Common Nettle, Lords and Ladies, Common Forget-me-not *Myosotis*, Dog's Mercury, Wood Avens *Geum urbanum*, Cleavers, Hybrid and Native Bluebell, Wood False Brome *Brachypodium sylvaticum*, Green Alkanet *Pentaglottis sempervirens*, Ground Elder, Primrose, Greater Stitchwort, Ramsons and, rarely, Yellow Archangel *Lamium galeobdolon*.

3.7.26. The northern aspect of **H19** (**H19a**) comprises a short stretch of unmanaged shrub associated with a shallow dry ditch. It includes for Oak and Hazel coppice, Privet, Rose *Rosa* sp., Blackthorn and Field Maple. The central section of the hedge (**H19b**) runs north south along the western boundary of the central land parcel and is continuous with **H19a**. It comprises a line of mature Oak trees with occasional Ash. It supports a shrub understory dominated by Blackthorn and with occasional Field Maple, Bramble, Hawthorn and Elder. At its southern end (**H19c**) comprises a short stretch of planted, immature Hawthorn with Blackthorn and Grey Willow. Local examples of Dog's Mercury and Native Bluebell were recorded in the ground flora.

3.7.27. **H20** is a 'detached' hedgerow (owing to access tracks at either end of the feature) which transects the southern part of F9. The hedgerow is associated with a shallow dry ditch and is approximately 9m in height on average. This feature supports Blackthorn, Hawthorn, Dog-rose, Field Maple, semi-mature Oak trees, Hazel and Crab Apple, with Lords-and-Ladies and Dogs Mercury frequent in the ground layer. This hedge is may qualify as 'important' under the Hedgerow Regulations 1997.

3.7.28. **H21** comprises a young hedge of suckering Blackthorn that has regenerated following clearance for adjacent road works.

3.7.29. **H22** comprises an unmanaged shrub belt forming the south western edge of the central land parcel. It appears to have been planted, potentially as part of adjacent road works. Species present include Grey Willow, Blackthorn, Oak (including 1 x standard), Ash, Hawthorn, Dogwood and Bramble. It does not support any significant ground flora.

3.7.30. **H23** is an unmanaged hedge which runs adjacent to Cuckfield Road and has a seasonal dry ditch along its western edge. The hedge is dominated by Hawthorn, with Blackthorn abundant and Field Maple frequent. Other woody species recorded included Oak, Dog-rose, Grey Willow and Hazel. Spindle and Cherry *Prunus avium* were rarely recorded, with Dogwood, Ash (including diseased Ash and 1 x standard) present at the northern end of the hedge. Lord and Ladies, Greater Stitchwort, Honeysuckle, Cuckoo Flower, Native Bluebell and Wood False Brome were present in the ground layer. This hedge is likely to qualify as 'important' under the Hedgerow Regulations 1997.

3.7.31. **H24** is a tall, unmanaged hedgerow situated immediately north of H23 and fairly sparse in nature, comprising Cherry, Field Maple, Hawthorn, Dogwood, Hazel, Oak, Ash, Elm, Elder and Wych Elm. It is likely this hedge may also qualify as 'important' under the Hedgerow Regulations 1997

3.7.32. **H25** comprises a line of Hazel coppice stools on a high bank. Occasional Blackthorn and Hawthorn were also recorded, whilst Beech *Fagus* was rare. Native Bluebell, Wood Anemone *Anemone nemorosa*, Common Nettle and Ground Ivy were recorded in the field layer.

3.7.33. **H26** is a short length of hedge of Hawthorn and two standard Oak trees adjacent to W4.

3.7.34. **TB4** comprises a bank of mature trees which abuts W4. Mature Oak dominate, with occasional standard Ash. The shrub layer included for Hawthorn, Blackthorn, Spindle and Field Maple. Native and Hybrid Bluebell are present in the ground layer, as is occasional greater Stitchwort and Bracken.

3.7.35. **H27** is a box cut hedge with a height of 2.5m and an associated, shallow dry ditch. Whilst off-site, it forms the southern boundary to the eastern-most land parcel that forms part of the Site. Hawthorn, Field Maple, Blackthorn, Dogwood, Bramble and semi-mature Oak standards are present. Honeysuckle trailed through the hedge in some locations. The field layer included for Dog's Mercury, Greater Stitchwort, Ground Ivy, Hybrid and Native Bluebell, Lesser Celandine, Common Nettle and Cuckoo Flower.

3.7.36. **H28** comprises a relatively mature, planted hedge running adjacent to the A2300. At its western end the hedge tends towards a line of mature shrubs reaching approximately 7m in height. Along the remainder of its length, the hedge is box cut to approximately 2.5m with an adjacent ditch between the road and hedge. Field Maple, Dogwood, Hawthorn, Hornbeam, Grey Willow, Blackthorn and Ash were recorded. Bugle, Lords and Ladies and Hogweed are present in the field layer.

3.7.37. **H29** is continuous with H28 and with a comparable structural and botanical composition. In addition to those species recorded for H28, Rose *Rosa* sp. was recorded, with Garlic Mustard and Dog's Mercury in the field layer.

3.8. **Woodland**

3.8.1. Several woodland blocks are present within the Site. Most of these represent small copses supporting a modest range of tree species, albeit some larger wooded areas are present. These wooded habitats are described individually below and detailed on Plan ECO2.

3.8.2. **W1** is located within the westernmost land parcel and measures approximately 1.2ha. It comprises a scrubby, wet woodland, albeit with several mature trees, most notably towards the perimeters. The canopy layer, where present, includes for Oak, Ash and some taller specimens of Field Maple. The shrub layer includes for Blackthorn, Hawthorn, Bramble, Goat Willow, Grey Willow, Elder, diseased Elm, Dog Rose, and Hazel. These shrubby species dominated the central areas of the W1, with Willows abundant adjacent to the wetter areas (including P1 and P6). The field layer was varied and typically of a more ruderal nature with Common Nettle, Teasel and Cleavers frequent. Hybrid Bluebell, Lords and Ladies, Ground Ivy and Dog's Mercury were also recorded and were better represented to the north of W1.

3.8.3. **W2** is continuous with H8 and supports a similar range of species, towards its northern edge. The central part of W2 is dominated by Willow scrub with Hawthorn also frequent and Common Nettle dominating the field layer. Blackthorn and Hawthorn scrub are present at the margins of the woodland.

3.8.4. **W3** is small and dense area of mature and semi-mature trees associated with P4 (see below). Species include Grey Willow, Oak Hawthorn, Blackthorn, Dogwood, and Dog-rose. The ground layer dominated by Hybrid Bluebell, Dogs Mercury, Cleavers, with occasional Black Bryony *Dioscorea communis* and scattered Bramble.

3.8.5. **W4** comprises a relatively large band of young plantation woodland which forms the eastern boundary of the Site. It is fringed on its side by a belt of mature trees (H28 and H29). The woodland appears to have been subject to localised management, with some sections having been evidently thinned and supporting plantation dominated by semi-mature Ash, with occasional Willows, Hazel, Lime *Citrus* × *aurantiifolia*, Blackthorn and Hawthorn. Elsewhere the woodland appears to have forgone any thinning and comprises very dense, scrubby woodland which is virtually inaccessible. These areas supported a similar range of woody species.

3.8.6. The ground flora is unevenly distributed (noting the varied management) and includes for Hybrid and Native Bluebell, Primrose, Ground Ivy, Bugle, Common Dog-violet, Wood Avens, Lesser Celandine, Dog's Mercury and, rarely to the north, Common Spotted Orchid *Dactylorhiza fuchsii*.

3.9. **Scrub**

3.9.1. Several small pockets of scrub are present within the Site. These areas are invariably self-seeded and support limited botanical diversity, being typically dominated by one or two species, typically Bramble, Hawthorn, Blackthorn or Willows.

3.9.2. Other species recorded in areas of scrub included for Sycamore *Acer pseudoplatanus*, Spindle, Elm *Ulmus* sp., Rose *Rosa* sp. and Alder.

3.10. **Ponds**

3.10.1. A total of seven ponds were recorded within or adjacent to the Site. The majority of these comprised heavily over shaded and seasonal waterbodies, with some already dry (or near dry) at the time of survey in late April 2020. Others are deemed likely to hold water on a permanent basis. Some of the ponds are connected to the network of field ditches and/or the River Ardur and likely play a role in land drainage.

3.10.2. An individual description of each pond is provided below.

3.10.3. **P1** is a seasonally wet feature that was virtually dry at the time of survey in April 2020. It is heavily over-shaded (located within W1) and lacks any aquatic vegetation. It is considered likely to remain dry for the majority of each year.

3.10.4. **P2** is a linear feature that effectively comprises a slightly widened, flooded ditch. It measures approximately 1.5m by 10m in surface area, with a depth of approximately 20 to 30cm. It is likely to dry in the late Spring/early Summer months. The pond is almost entirely over-shaded and supports little in the way of aquatic flora.

3.10.5. **P3** again comprises a woodland pond which is largely over-shaded. At the time of survey in April 2020, the water level had evidently reduced significantly, albeit a large area of standing water remained. The pond had high turbidity, was considered to remain relatively shallow (<1m max depth) and is likely to dry annually. A small range of marginal species were recorded including Bulrush *Typha latifolia*, Water Plantain *Alisma*, Water Dropwort *Oenanthe* sp., and Brooklime *Veronica beccabunga*.

3.10.6. **P4** is a small, largely isolated waterbody situated between F5 and F7. The pond is overshadowed by shrubby sallow growth amongst other woody vegetation, and as such is the subject to heavy leaf litter. At the time of survey the pond supported shallow water, with no marginal or aquatic plants recorded.

3.10.7. **P5** comprises a large (approximately 40m by 20m), tree fringed permanent waterbody with a shaded perimeter. The water was turbid, with no aquatic vegetation recorded.

3.10.8. **P6** comprises a small (approximately 12m radius) and over-shaded woodland pond. It is likely to remain wet for much, if not all, of the year. No aquatic vegetation was recorded within this waterbody.

3.11. Ditches

3.11.1. Boundary ditches are present across much of the Site and are associated with the hedge network. These ditches are typically deemed to retain water following periods of rain, albeit some small stretches are likely to hold water for extended durations in the wetter months.

3.11.2. The ditches on Site typically lacked a distinct floral assemblage, with the species present generally those recorded to be associated within the adjacent hedge network, albeit including for some species tolerant of wetter conditions such as Pendulous Sedge and Cuckoo Flower.

3.12. Road Verge

3.12.1. Managed road verges along the eastern and southern boundaries of the Site included a modest range of herbs, including some suited to damp conditions. Species recorded include Curled Dock, Yorkshire Fog, Cut-leaved Crane's-bill *Geranium dissectum*, Creeping Cinquefoil *Potentilla reptans*, Common Field Forget-me-not, Ground Ivy, Cleavers, Ribwort Plantain *Plantago lanceolata*, Comfrey *Symphytum*, Dove's-foot Crane's-bill, White Clover, Thale Cress *Arabidopsis thaliana*, Pendulous Sedge, Red Campion, Perforate St John's-wort *Hypericum perforatum*, Creeping Bent *Agrostis stolonifera*, Bristly Oxtongue *Helminthotheca echioides*, Greater Plantain and Garlic Mustard. Scattered Blackthorn and Bramble scrub was also recorded.

3.12.2. A small area of predominantly ruderal vegetation is present to the east of H1, abutting Bishopstone Lane.

3.13. River Bank

3.13.1. The River Adur runs along the northern boundary of the Site. The river has a moderate flow and is approximately 6m wide. The southern bank abuts the Site and has an average height of approximately 3m. The bank is relatively steep and near vertical along much of its length within the Site and was primarily bare. Much of the southern bank supports bands of scrub, including frequent Blackthorn, Grey Willow and Bramble. Less frequently recorded were Alder, Rose *Rosa* sp. and diseased Ash.

3.13.2. Marginal vegetation was recorded to include Hemlock Water Dropwort *Oenanthe crocata*, Reed Mace *Typha*, Himalayan Balsam *Impatiens glandulifera* and Cuckoo Flower.

3.13.3. No significant aquatic flora was recorded.

3.14. **Buildings and Hardstanding**

3.14.1. A single building, **B1**, is present within the Site and comprises a two storey, flat roofed office building in active use as an office. The main building (**B1a**) is of modern design, with brick and metal walls and a metal panel roof with a very shallow pitch. A two storey brick extension (**B1b**) extends to the south and has a slightly lower height relative to the main compartment. It again supports a flat roof, albeit this having a shed felt lining. A large number of windows are present at all aspects of both **B1a** and **B1b**. A further extension is present beyond B1b, this comprising a single storey metal sheet structure with a shallow pitched roof and skylights.

3.14.2. The building is in good condition and, with the exception of some very minor gaps in the shed felt roof of **B1b**, offers no potential ingresses or opportunities for faunal species.

3.14.3. **B1** is surrounded by an area of tarmac which is in good condition and is used as an area of carparking and operational space.

3.14.4. **Background information.** The data search undertaken with the SxBRC returned one record of Devil's-bit Scabious *Succisa pratensis*, recorded during 2010 from a 100m grid reference which includes field **F5**.

3.14.5. No other records of protected or notable plant species were returned from within the site, as part of the data search undertaken.

4. WILDLIFE USE OF THE SITE

4.1. During the survey general observations were made of any faunal use of the Site with specific attention paid to the potential presence of protected or notable species. Specific surveys were also undertaken with regard to Badgers and bats (initial tree roost assessments).

4.2. Consideration has also been given to survey work undertaken in support of development proposals in the wider area including that for the proposed 'Northern Arc Allocation' to the east of the Site.

4.3. Badgers

4.3.1. The habitats on Site provide suitable foraging and sett building habitat for Badgers, albeit it is noted that such opportunities are widespread in the local area.

4.3.2. The survey in April 2020 found very limited evidence of potential Badger presence within the Site. Two locations (**S1** and **S2**) within the Site supported mammal burrows which appeared superficially suitable to support Badger, albeit no evidence of Badger use was recorded for each feature.

4.3.3. **S1** is located in the north of the Site, to the west of H6. It comprises two abandoned burrows that likely represent an abandoned sett.

4.3.4. **S2** comprises an actively used rabbit *Oryctolagus cuniculus* warren, extending along much of H5. A single entrance within this warren was deemed sufficiently large to be utilised by Badger. Nonetheless, no evidence of Badger use was noted, and it is deemed to be used solely by rabbits.

4.3.5. No other evidence of Badger presence, such as latrines, snuffle holes or tracks were recorded within or adjacent to the Site. As such there is nothing to indicate the Site would be of any particular importance to Badger populations in the local area.

4.3.6. **Background information**. No badger records were returned as part of the data search undertaken with the SxBRC. Notwithstanding this, due consideration will be afforded to any records held by local Badger groups upon the submission of any forthcoming applications.

4.4. Bats

4.4.1. The single building within the Site is of modern design and appears to lack internal voids. Moreover, with the exception of some very localised crevices where the flat roof of **B1b** adjoins the brick wall, no features of potential roosting value were noted. This building is therefore deemed of low to negligible bat roosting potential.

4.4.2. Several of the mature trees within the Site support features of potential value to roosting bats such as woodpecker *Picidae* holes, rot holes or dead/damaged wood in the canopy. The approximate

locations of those trees noted to have potential to support roosting bats are shown on Plan ECO3. A ground based inspection of these features found no evidence to indicate use by bats.

4.4.3. In terms of potential foraging and navigational features for bats within the Site, these are considered to be limited to the river corridor, tree lines, hedgerows, woodland pockets and ponds within the Site. The grazed species poor pasture and arable fields are unlikely to be of any significant importance for bats. Moreover, it is noted that similar and improved opportunities for bats are present in the local area, not least the presence of large areas of woodland (including ancient woodland).

4.4.4. At this stage it is envisaged the vast majority of higher value bat habitats will be retained as part of an appropriately designed landscape strategy, to include for the retention and bolstering of the vast majority of the hedgerow and tree belt, areas of woodland, ponds and the river corridor.

4.4.5. In due course the completion of a suite of bat activity surveys would be sufficient to reaffirm the value of the Site, as well as inform mitigation and enhancement opportunities for the Site. In the event that any trees with bat potential were to be adversely impacted, further survey effort in the form of tree climbing surveys or emergence/re-entry work would be sufficient to robustly assess the current use of these features for roosting bats. Likewise, a single precautionary emergence survey of B1 would likely be sufficient to reaffirm the absence of roosts within this structure.

4.4.6. **Background information**. The desk study undertaken with the SxBRC returned one record of bats from within (or suspected immediately adjacent to) the site; consisting of an unconfirmed Myotis *Myotis sp*. species, recorded as grounded within a grid reference located adjacent to the Cuckfield Road during 2011.

4.4.7. The closest returned roosting record was for a number of unidentified bat species within the Little Lower Ease estate, located approximately 0.15km to the north of the site, recorded during 1998.

4.4.8. Other bat species recorded within the wider area include: Serotine *Eptesicus bechsteinii*, Bechstein't Bat *Myotis bechseinii*, Daubenton's Bat *Myotis daubentonii*, Whiskered Bat *Myotis mystacinus*, Natterer's Bat *Myotis nattereri*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Brown Long-eared Bat *Plecotus auritus*.

4.5. Birds

4.5.1. The mature treelines, hedgerows and woodland provides suitable opportunities for a range of bird species albeit such opportunities are again widespread in the locality, and there is nothing to indicate the Site would be of any significance for local bird populations.

4.5.2. The species poor grassland and arable habitat is not considered to provide any significant nesting opportunities, albeit may provide

some limited opportunities for ground nesting birds such as Skylark *Alauda arvensis*.

4.5.3. The river corridor provides suitable opportunities for riparian birds, with the banks being considered potentially suitable for Kingfisher *Alcedo atthis*, albeit no evidence of burrows was noted within/adjacent to the Site.

4.5.4. Bird species recorded in the Site during the suite of habitat surveys undertaken included for Nuthatch *Sitta*, Great Tit *Parus major*, Blackbird *Turdus Merdula*, Song Thrush *Turdus Philomelus*, Robin *Erithacus rubecula*, Wood Pigeon *Columba palumbus*, Carrion Crow *Corvus corone*, Chiffchaff *Phylloscopus collybita*, Wren *Troglodytidae*, Blue Tit *Cyanistes caeruleus*, Buzzard *Buteo buteo*, Dunnock *Prunella modularis*, Rook *Corvus frugilegus*, Jackdaw *Corvus monedula*, Long-tailed Tit *Aegithalos caudatus*, Yellowhammer *Aegithalos caudatus*, Chaffinch *Fringilla coelebs*, Greenfinch *Chloris chloris*, Blackcap *Sylvia atricapilla*, Jay *Garrulus glandarius*, Goldfinch *Carduelis carduelis,* Skylark *Alauda arvensis* and Treecreeper *Certhiidae*.

4.5.5. **Background information**. The data search undertaken with the SxBRC returned records of both Barn Owl *Tyto alba*, recorded during 2007, and Red Kite *Milvus milvus*, recorded during 2016, from within the site.

4.5.6. Other notable species recorded either within the local area, or from within a 2km grid reference which includes the site, include: Bittern *Botaurus stellaris*, Kestrel *Falco tinnunculus*, Hobby *Falco subbuteo*, Stock Dove *Columba oenas*, Cuckoo *Cuculus canorus*, Kingfisher *Alcedo atthis*, Swift *Apus apus*, Willow Warbler *Phylloscopus trochilus,* Skylark *Alauda arvensis*, Dunnock *Prunella modularis*, Nightingale *Luscinia megarhynchos*, Song Thrush *Turdus philomelos*, Mistle Thrush *Turdus viscivorus*, Whitethroat *Sylvia communis,* Bullfinch Pyrrhula pyrrhula, Yellowhammer *Emberiza citrinella* and Reed Bunting *Emberiza schoeniclus*.

4.6. **Reptiles**

4.6.1. The grassland fields within the Site offer suitable opportunities for common reptiles, albeit the management regime (sheep grazing) has prevented the establishment of any significant rougher elements or tussocks. Some of the margins associated with the arable fields also offer a degree of suitable habitat, however they are generally limited in extent.

4.6.2. Noting the lack of any significant areas of unmanaged grassland, the Site is considered, at best, to be of modest potential value for reptiles. The riparian corridor supports the habitats of greatest value within the Site.

4.6.3. No evidence of reptiles was recorded during opportunistic checks of natural refugia or debris during the course of the Phase 1 walkover survey (undertaken during conditions suitable for reptiles to be active).

4.6.4. In due course, the completion of a suite of presence/absence surveys for reptiles would be sufficient to confirm the presence or absence of common reptiles within the Site and to inform any mitigation and enhancement measures which would be appropriate.

4.6.5. **Background information.** The data search undertaken with the SxBRC returned no records of any reptiles from within the site.

4.6.6. The closest returned record was of Grass Snake *Natrix helvetica*, recorded approximately 0.2km to the north-east of the site during 2008. Other species recorded within the wider area include; Slow-worm *Anguis fragilis*, Common Lizard *Zootoca vivipara* and small numbers of Adder *Vipera berus*.

4.7. Invertebrates

4.7.1. The habitats at the Site are likely to support a range of common invertebrate species, but there is no reason to suggest that any protected or notable species may be present.

4.7.2. **Background information.** The data search undertaken with the SxBRC returned one record of Sallow *Cirrhia icteritia* from the eastern most field of the site during 2007.

4.7.3. Other invertebrate species recorded within a 1km grid reference which includes a small portion of the northern boundary of the site, include Variable Coenagrion *Coenagrion pulchellum*, Downy Emerald *Cordulia aenea* and Scarce Libellula *Libellula fulva*.

4.8. Amphibians (Great Crested Newts)

4.8.1. Great Crested Newts *Triturus cristatus* (GCN) are known to travel up to 500 metres – without barriers that inhibit dispersal – to a breeding pond. However, it is widely accepted that they most commonly utilise suitable terrestrial habitat within a much closer distance, and activity is usually concentrated within 100 metres of breeding ponds, with key habitat being located within 50 metres. Indeed, Research Report 576 produced by English Nature (now Natural England) concludes that “Captures on fences (and by other methods) at distances between 100m and 200 to 250m from breeding ponds tended to be so low as to raise serious doubts about the efficacy of this as an approach”.

4.8.2. There are seven ponds present within the Site or adjacent to the Site, four of which (P4, P5, P6 and P7) are likely to remain wet for the majority of the GCN breeding season and therefore are of potential value to breeding amphibians. It is noted that the suitability of these ponds is frequently tempered by significant over-shading and an absence of significant aquatic growth.

4.8.3. The remaining features, including the network of ditches, are unlikely to offer viable breeding opportunities on account of their more ephemeral nature.

4.8.4. In terms of terrestrial habitats, the woodland and boundary features (tree lines, ditches and hedgerows) offer suitable foraging and refuge opportunities. Areas of grassland (including arable field margins) are typically of reduced suitability for amphibians, albeit they will offer a degree of sub-optimal habitat. Arable habitats are of negligible value to amphibians and indeed are likely to inhibit dispersal within and across the Site.

4.8.5. No amphibians were recorded during opportunistic checks of natural refugia during the Phase 1 Walkover survey.

4.8.6. In due course, the completion of a suite of presence/absence surveys for GCN would be sufficient to confirm the presence or absence of this species within the Site and to inform any mitigation and enhancement measures which would be appropriate. It is noted that those habitats likely to be of heightened interest to GCN are sought to be retained in the emerging masterplan proposals.

4.8.7. **Background information.** The data search undertaken with the SxBRC returned no records of any GCN from within the site itself, however several records were returned from the immediate surrounding area; the closest of which being recorded between the eastern most portion and middle of the site (to the west of the Cuckfield Road), during 2007 in addition to another record immediately to the south-west of the site during 2011.

4.8.8. It is further noted that GCN have been recorded in the wider area, including an area land known as 'The Hub' which is currently under development and for which Ecology Solutions have provided ecological advice.

4.9. Dormouse

4.9.1. The hedgerows and treelines with the Site provide suitable opportunities for Dormice *Gliridae*, should they be present in the local area.

4.9.2. At this stage it is considered that the vast majority of suitable Dormice habitat would be retained and indeed enhanced as part of the proposals, ensuring continued and improved opportunities to a range of small mammal species, not least Dormice (should they be present).

4.9.3. In the event that small areas of boundary vegetation are to be lost, the completion of a suite of Dormouse surveys would be sufficient to inform the scheme and identify an appropriate package of measures to retain and enhance opportunities for Dormice in the Site and local area.

4.9.4. **Background information.** The data search undertaken with the SxBRC returned one record of Dormouse from a 100m grid reference which includes a very small portion of the southern boundary of the site. Recorded during 2005, the record was of a single adult male, recorded within a Dormouse box.

4.9.5. Two other records of Dormouse were recorded within the wider area, each over 0.8km to the east of the site during 2001 and 2012 respectively.

4.10. Otter & Water Vole

4.10.1. The river corridor (River Adur) and the immediately adjacent riparian habitats provide suitable opportunities to support both Otter *Lutrinae* and Water Vole *Arvicola amphibius*, offering opportunities for holts/burrows, as well as foraging opportunities. The River Adur also offers relatively optimal dispersal opportunities for both species.

4.10.2. An initial inspection of the watercourse, where this lies adjacent to the Site, found no clear evidence of either species. Whilst a single burrow was noted, this was attributed to rats.

4.10.3. The River Adur and its associated riparian habitats are envisaged to be fully retained as part of the emerging masterplan proposals.

4.10.4. **Background information.** The data search undertaken with the SxBRC returned no records of any Water Vole from within the site. The closest suspected record of Water Vole was recorded approximately 0.5km to the north-east of the site, during 2005.

4.10.5. No records of Otter were returned from either within the site, or wider area.

4.11. Other Species

4.11.1. The woodland and hedgerow habitats on Site are likely to provide opportunities for a range of small mammal species present in the local area. The extensive areas of agricultural land are not considered likely to provide any significant species for any protected or notable species.

4.11.2. **Background information.** The data search undertaken with the SxBRC returned no records of any other protected or notable species from within the site.

5. ECOLOGICAL EVALUATION

5.1. The Principles of Site Evaluation

5.1.1. The latest guidelines for ecological evaluation produced by CIEEM propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.

5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe[7]. These are broadly used across the United Kingdom to rank sites so priorities for nature conservation can be attained. For example, current Site of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.

5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological/geographical units are also incorporated into the ranking procedure.

5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.

5.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with comparatively poor species diversity, common in the south of England, may be of importance at its northern limits, say in the border country.

5.1.6. In addition, habitats of local importance are often highlighted within a local Biodiversity Action Plan. The Sussex Biodiversity Partnership have prepared the Sussex Biodiversity Action Plan. This identifies a number of habitat and species specific action plans. Furthermore, a series of 'Biodiversity Opportunity Areas' (BOA) have also been identified within Sussex. These BOA are identified on the basis that they offer the best opportunities for enhancing biodiversity at a strategic scale. The Site lies outside of any BOA, albeit is located near to the Burgess Hill Green Crescent (BOA).

5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the International level.

5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

[7] Ratcliffe, D A (1977). *A Nature Conservation Review: the Selection of Sites of Biological National Importance to Nature Conservation in Britain*. Two Volumes. Cambridge University Press, Cambridge.

5.2. Habitat Evaluation

Designated Sites

5.2.1. **Statutory Sites.** There are no statutory designated sites of nature conservation interest within or immediately adjacent to the Site. The nearest statutory designated site is Bedelands Farm Local Nature Reserve (LNR) which is located approximately 2.7km to the east of the Site and which is separated from the Site by extensive open countryside, agricultural land and roads. This LNR is designated on account of its meadow grassland, hedgerow, woodland and wetland habitats and is owned and managed by Mid-Sussex District Council.

5.2.2. The closest SSSI, Ditchling Common SSSI, is located approximately 4.6km to the south east of the Site at its closest point. Ditchling Common SSSI is designated on account of its varied grassland habitats, including areas of wet and acid grassland, as well as scrub, woodland and stream habitats. A rich Lepidoptera assemblage is also present, with the Site of local value to a range of breeding birds.

5.2.3. Given the significant separation of the Site from these (and indeed any other designated site) it is considered there would be no potential for significant effects (direct or in-direct) to arise during either the construction or operational phases of the emerging proposals.

5.2.4. Notwithstanding the above, any emerging proposals would come forward alongside the adoption of best practice construction and engineering practices which comply with adopted legislation and guidance. These measures would ensure potential impacts on off Site habitats are avoided.

5.2.5. In considering designated Sites, due regard has been given to NE's SSSI Impact Risk Zones (IRZ). The IRZ tool is used to identify those types of development upon which NE should be consulted as part of the planning process, based on their proximity to a SSSI (a proxy for assessing the likelihood for potential adverse impacts to arise). The Site is located outside of any IRZ for which the type of development proposed is considered to have 'likely' impacts on statutory sites.

5.2.6. There are no European Designated Sites located within a 15km radius of the Site. Given the significant separation of any European Sites, there are no identified pathways through which potential significant effects could arise as part of the emerging masterplan proposals (either when considered alone or in combination with other plans or projects).

5.2.7. It is noted that NE were content that potential impacts on European Designated Sites could be safely scoped out for the nearby 'Northern Arc Allocation', a substantially larger development proposal which is moreover located in closer proximity to European Sites (albeit still well distanced).

5.2.8. **Non-statutory Sites.** There are no non-statutory designated sites present within the Site, with the closest site being Pond Lye Local

Wildlife Site (LWS) which is located approximately 130m to the north of the Site at its closest point, and on the far side of the River Adur. Pond Lye LWS supports a pond with adjacent shrub habitat and neutral grasslands. It is identified to be of heightened importance to breeding birds.

5.2.9. The next closest LWS, Great Wood & Copyhold Hanger LWS, is located approximately 1.7km to the east of the Site at its closest point. This LWS is designated on account of its ancient gill woodland habitats, and abandoned 'water meadows', alongside a network of streams.

5.2.10. Given the separation of both these LWS, as well as all other LWS in the local area, there is no potential for adverse impacts to arise during the construction phase. Nonetheless, emerging proposals would come forward in line with all relevant best practice construction measures, such as is in relation to dust, noise, air, light and hydrological pollution. These measures, which would be secured by way of a Construction Environmental Management Plan (CEMP), or similar, would be sufficient to ensure adverse impacts are avoided.

5.2.11. Given the separation of non-statutory sites from the Site, it is again not considered that any significant impacts would have the potential to arise during the operational phase, not least given that the proposals are employment based (and therefore would not give rise to additional recreational pressure).

5.2.12. In any event, the retention and enhancement of existing on site green infrastructure, including the River Adur and associated riparian habitats, will deliver a multi-functional asset within the Site, providing diverse and species rich habitats within the Site, as well as new recreational opportunities and alternative, sustainable modes of transport. These measures will complement local ecological objectives and ensure the retention of complementary habitats which support the floral and faunal communities recorded in these LWS.

5.2.13. As such, and in summary, it is considered that through the adoption of an appropriately designed development scheme and the implementation of best practice during the construction phase, which accords with the measures set out above in respect of statutory designated sites, any potential direct or indirect adverse effects on these non-statutory sites may be fully mitigated or avoided.

5.2.14. **Biodiversity Opportunity Areas**. The Site is located outside of any BOAs, with the closest BOA being Burgess Hill Green Crescent BOA.

5.2.15. The emerging proposals seek to retain those habitats of greatest biodiversity value within the Site, including the network of woodland, tree-belts, hedgerows and the River Adur. The opportunities to deliver enhancement to these habitats, incorporating them within a wider green infrastructure network, will contribute to the aims and

objectives of this BOA. Such opportunities include the establishment of appropriate hedge and woodland management, as well as the creation of species rich meadow grassland within the Site.

5.2.16. **Ancient Woodland**. There are no areas of ancient woodland within the Site. A single ancient woodland, Wortleford Wood, is located adjacent to the north west boundary of the Site, on the far side of the River Ardur. No development is proposed within 15m of this off Site ancient woodland. In any event, given the separation of Wortleford Wood from the Site by the River Ardur, there is no potential for direct adverse impacts to arise.

5.2.17. As for higher value on Site habitats, careful consideration will be given to ensure adverse lighting impacts are avoided on this off Site woodland.

Habitats Within the Site

5.2.18. Much of the Site comprises intensively managed arable land and is resultantly considered to be of negligible ecological interest. Given the negligible value of these habitats, no specific ecological mitigation would be required for any losses.

5.2.19. Moreover, the grassland habitats on Site are also of reduced ecological interest, being subject to regular agricultural management and typically supporting a sward indicative of more agriculturally improved conditions. Resultantly, these more species poor habitats are also considered to be of limited ecological interest within the context of the Site.

5.2.20. It is considered that losses to areas of grassland could be sufficiently mitigated through the creation of new, species rich meadow as part of the green infrastructure network within the Site. In particular, opportunities exist to establish diverse wet meadow habitats to the north of the Site, allowing the establishment of a high quality riparian corridor extending east west across the Site. Wet meadow habitats are particularly scarce in Sussex and the creation and safeguarding of such habitats would be a significant benefit.

5.2.21. The composition of new areas of meadow grassland will be targeted to complement local biodiversity targets, for example delivering new areas of lowland meadow, a UK BAP habitat present in Sussex.

5.2.22. The implementation of a sensitive, biodiversity led management regime for new and retained grassland habitats would provide opportunities to realise significant qualitative enhancements post development. This management would provide a mechanism to restore grassland habitats which have been historically suppressed and damaged by intensive grazing and which have limited potential for recovery under current management.

5.2.23. The habitats of greater interest within the Site include the woodland pockets, tree belts, hedgerows and river corridor, as well as, to a

lesser extent, the ponds present within the Site (largely on account of the potential opportunities they provide to faunal species).

5.2.24. As stated above, the habitats of relatively higher interest are to be largely retained, protected and enhanced as part of the emerging proposals. Further consideration is given to these habitats below. As noted previously, the emerging masterplan has been carefully informed by the existing biodiversity assets of greatest interest within the Site, allowing for the retention and enhancement of the vast majority of these features as part of an extensive green infrastructure network.

Woodland, Mature Tree Belts and Hedgerow

5.2.25. The woodland, tree belt and hedgerows are considered to be of high ecological value within the context of the Site, albeit this habitat is well represented locally.

5.2.26. As stated above, the presence of mature woodland, mature tree lines and hedgerows within the Site have informed the emerging development proposals for the Site, with the vast majority of these habitats to be retained and enhanced as part of the emerging proposals. Indeed, these existing habitats are envisaged to be the 'arteries' for the proposed green infrastructure network, dictating the location and extent of the Site wide open space post development.

5.2.27. Whilst losses to small areas of mature boundary habitat may be required to facilitate elements of the proposals (such as access roads), such impacts would be more than mitigated for through the retention and enhancement of the vast majority of existing wooded habitats, as well as the creation of significant new areas of woodland, hedge and tree planting.

5.2.28. Habitat creation would include for new native woodland and shrub planting adjacent to existing areas of woodland, buffering these existing habitats and providing valuable new edge habitat. Likewise, new planting will strengthen the existing boundary features, offering opportunities to restore defunct hedgerows or otherwise establish more robust features with improved structural diversity.

5.2.29. The creation of new edge habitat, which would be bought under a suitable management regime in the long term, would provide a significant enhancement over the existing situation where mature trees and woodland cease abruptly where they abut managed agricultural land.

5.2.30. The retention of the vast majority of woody habitat, as well as new planting to deliver both quantitative and qualitative gains in woodland relative to the existing situation, would ensure significant enhancements for the Site and moreover improve habitat connectivity across the Site and local area.

5.2.31. The protection and enhancement of mature trees and woodland will moreover contribute towards the safeguarding of BAP habitats such

as *Lowland Mixed Deciduous Woodland, Wet Woodland* and *Hedgerows.*

Ponds and Ditches

5.2.32. The ditches within the Site were recorded to be largely dry at the time of survey, with the ground flora typically dominated by species of a ruderal nature. Notwithstanding the majority of these features are of low intrinsic value, the majority are associated with hedgerows and/or tree lines and thus will be retained as part of the emerging proposals.

5.2.33. Despite many comprising shallow, ephemeral or over-shaded features with limited aquatic flora, the network ponds within the Site are nonetheless considered to be of ecological value in the context of the Site, albeit primarily on account of the potential opportunities they afford faunal species.

5.2.34. At this stage it is envisaged that the existing ponds within the Site will be retained as part of the proposals and incorporated into the extensive green infrastructure network.

5.2.35. Opportunities exist as part of the emerging development proposals to enhance the value of existing ponds through the sensitive clearance/pruning of over-shading vegetation as well as the dredging of these features to increase depth and remove leaf litter.

5.2.36. Such measures would allow for growth of aquatic flora within the features and, as a result, ensure biodiversity gains over the existing situation.

5.2.37. Some of the ponds appear to likely to receive run-off from arable fields and these would benefit from a cessation in chemical application within adjacent habitats, allowing the water quality of the waterbodies to improve in the longer term.

5.2.38. Moreover, the emerging proposals have ample scope to deliver extensive new wetland habitats, both as part of SUDS networks, as well as through the creation of dedicated biodiversity ponds at intervals within the green infrastructure network.

5.2.39. The creation and enhancement of new wetland habitats within areas of proposed open space would contribute towards the protection of ‘blue infrastructure’ within the Site, providing valuable stepping stone habitats for floral and faunal species of local importance

River Adur

5.2.40. The River Adur forms the Site’s northern boundary and is considered to be of high ecological value in the context of the Site, not least on account of the potential opportunities this watercourse affords faunal species.

5.2.41. The emerging masterplan proposals seek to retain this watercourse in its entirety, incorporating it into the emerging green infrastructure

network which will buffer the watercourse along the entirety of its extent within Site. A buffer zone of at least 8m will be secured along the full length of the river, within which habitat creation and management will promote the establishment of diverse riparian habitats. The creation of areas of wet meadow (as detailed above) will also be sought.

5.2.42. In due course, opportunities exist to deliver simple yet significant enhancements to this watercourse, for example through undertaking sensitive, localised scrub clearance along some stretches of the river such that light can penetrate and aquatic flora may establish. The implementation of a management regime to eradicate the invasive Himalayan Balsam (see below) would be a further enhancement.

Invasive Species

5.2.43. As noted in Section 4, a single stand of the invasive Japanese Knotweed was recorded adjacent to the Site at its western boundary. It is recommended this stand be monitored as part of the emerging proposals. Any plants located within the Site should be the subject to the implementation of an eradication programme.

5.2.44. Himalayan Balsam was also recorded intermittently along the River Adur. It is envisaged that long term management of the Site would include for the removal of this species when recorded.

Summary

5.2.45. It is considered that the adoption of a suitable landscaping scheme for the Site, in line with the recommendations set out above, will ensure the biodiversity value of the habitats present within the Site are retained and indeed enhanced as part of any development.

5.2.46. In functional terms, the protection, restoration and/or enhancement of valuable biodiversity assets (such as the ancient woodland and mature tree lines) will enhance the value of the Site both in intrinsic terms and as an important functional resource for faunal groups (see below), creating a high quality resource linking habitats within the wider landscape.

5.2.47. The biodiversity value of these habitats would be further enhanced through the establishment of an appropriate management regime, as would form an integral component of the emerging development proposals for the Site.

5.2.48. In summary, it is considered that the proposals would be sufficient to achieve a significant biodiversity net gain within the Site post development, as is sought by existing and emerging policy and legislation. This net gain could be further demonstrated through the completion of an appropriate biodiversity metric tool (such as the Defra Metric 2.0) at a more detailed stage of planning.

5.3. **Faunal Evaluation**

Badgers

5.3.1. **Legislation.** The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain, with particularly high populations in the south.

5.3.2. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of a Badger sett an offence. A sett is defined as "any structure or place which displays signs indicating current use by a Badger". 'Current use' is defined by NE as any use within the preceding 12 months.

5.3.3. In addition, the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a Badger.

5.3.4. Previous guidelines were issued by NE on the types of activity it considers should be licensed within certain distances of sett entrances. They stated that works which may require a licence include using heavy machinery within 30m of any entrance to an active sett, using lighter machinery within 20m, and light work such as hand digging within 10m. However, interim guidance issued by NE in September 2007 specifically states:

"*It is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no Badger is disturbed and the sett is not damaged or obstructed."*

5.3.5. More recent guidance produced by NE in 2009 states that Badgers are relatively tolerant of moderate levels of disturbance and that low levels of disturbance at or near to Badger setts do not necessarily disturb the Badgers occupying those setts[8]. However, NE's guidance continues by stating that any activity that will, or is likely to cause one of the interferences defined in Section 3 (such as damaging a sett tunnel or chamber or obstructing access to a sett entrance) will continue to be licensed.

5.3.6. In addition, this latest guidance no longer makes reference to any 30m/20m/10m radius as a threshold for whether a licence would be required. Nonetheless, it is stated that tunnels may extend for 20m so care needs to be taken when implementing excavating operations within the vicinity of a sett, and to take appropriate precautions with vibrations and noise, etc. Fires/chemicals within 20m of a sett should specifically be avoided.

[8] Natural England. 2009. Protection of Badgers Act 1992 (as amended). Interpretation of Disturbance n relation to badgers occupying a sett.

5.3.7. This interim guidance allows greater professional judgement as to whether an offence is likely to be committed by a particular development activity, and therefore whether a licence is required or not. For example, if a sett clearly orientates southwards into an embankment it may be somewhat redundant to have a 30m exclusion zone to the north.

5.3.8. **Site Evaluation.** No evidence of confirmed Badger use was recorded on Site and as such there is nothing to indicate the Site is of any significant value to Badger populations present in the local area.

5.3.9. **Mitigation/Enhancement Opportunities.** In line with best practice, and noting that Badgers are a mobile species which can rapidly excavate new setts, an updated survey would be required at a more detailed stage of planning.

5.3.10. Notwithstanding the need for further survey work in due course, no specific mitigation is envisaged to be required at this stage. The proposals would offer opportunities to enhance the Site for Badgers post development, not least through new native shrub planting and the establishment of sensitive habitat management. It is considered there would be ample scope to provide any specific mitigation in the unlikely event that it is required.

Bats

5.3.11. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as Amended) and are included on Schedule 2 of the Conservation of Habitats and Species Regulations 2010 ("the Habitats Regulations"). These include provisions making it an offence to:

- Deliberately kill, injure or take (capture) bats;
- Deliberately disturb bats in such a way as to:-
  - (i) be likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate or migrate; or
  - (ii) affect significantly the local distribution or abundance of the species to which they belong;
- Damage or destroy any breeding or resting place used by bats;
- Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection.

5.3.12. While the legislation is deemed to apply even when bats are not in residence, NE guidance suggests certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence, provided these do not damage or destroy the roost.

5.3.13. The words 'deliberately' and 'intentionally' include actions where a court can infer the defendant knew the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.

5.3.14. The offence of damaging or destroying a breeding site or resting place (which can be interpreted as making it worse for the bat) is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

5.3.15. European Protected Species (EPS) licences are available from NE in certain circumstances, and permit activities that would otherwise be considered an offence.

5.3.16. Licences can usually only be granted if the development is in receipt of full planning permission and it is considered that:

(i) There is no satisfactory alternative; or
(ii) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

5.3.17. **Site Evaluation.** There are a number of trees present within the Site which have features of potential value for roosting bats. The vast majority of the trees are restricted to Site boundaries.

5.3.18. Moreover, the treelines and hedgerows provide suitable foraging and navigational resources for this group.

5.3.19. **Mitigation/Enhancement Opportunities.** At this stage it is envisaged the vast majority of those landscape features deemed to be of heightened potential interest to bats (trees belts/hedge) will be retained and enhanced as part of the emerging proposals, ensuring a contiguous wooded network across the Site which will provide continued commuting and foraging opportunities. Indeed, a key guiding principle of the masterplan proposals is to establish high quality green infrastructure corridors (identified as ‘green arteries’) throughout the Site, ensuring Site wide connectivity is retained and enhanced for the benefit of a range of species, not just bats.

5.3.20. The adoption of an appropriate lighting strategy alongside the proposed enhancements of these habitats, and the provision of a range of new high quality habitats as part of the emerging development proposals, would ensure opportunities for bats are retained and enhanced in the long term.

5.3.21. In the event that any trees identified to have potential for roosting bats are to be adversely affected by a proposed scheme, further survey work such as a tree climbing survey or emergence survey would need to be undertaken in order to ascertain whether they support a bat roost. Should any bat roosts be found during further survey work a NE EPS Licence would be required for works likely to disturb bats and their roosting sites, and would include details of any mitigation measures required.

5.3.22. Given the nature of any potential roosts (i.e. crevices and holes in trees); it is considered that any required mitigation measures could easily be accommodated within the emerging scheme. Indeed, the emerging development proposals would include for the provision of a suite of bat roosting features to be associated with retained trees,

allowing for a significant net gain in roosting opportunities as part of the proposals and more than mitigating for any minor potential losses.

5.3.23. In order to inform a future planning application and to reaffirm and 'fine tune' appropriate mitigation and enhancement measures for this faunal group, it is recommended that a suite of bat activity surveys are undertaken at the Site during appropriate times of year. The findings of the surveys would be sufficient to further inform the design of the proposed development and identify any specific measures which may be necessary to mitigate impacts on foraging and commuting opportunities for bats.

5.3.24. There is nothing to indicate that bats would be an overriding constraint to the delivery of an appropriately designed scheme.

Birds

5.3.25. **Legislation.** Section 1 of the Wildlife and Countryside Act is concerned with the protection of wild birds, whilst Schedule 1 lists species which are protected by special penalties.

5.3.26. **Site Evaluation.** There are some opportunities for nesting birds in the treelines and hedgerows within the Site. The agricultural nature of the land, being either short grazed grassland or intensively managed arable land, does not provide suitable nesting opportunities for birds.

5.3.27. It is noted that comparable and improved opportunities are present in the wider area.

5.3.28. **Recommendations.** As all species of birds receive general protection whilst nesting, to avoid a possible offence it is recommended that any clearance of suitable nesting vegetation (including any tree felling) should be undertaken outside of the main breeding season (March to August inclusive,) or that checks be made for nesting birds by an ecologist immediately prior to removal.

5.3.29. The vast majority of suitable nesting habitat is to be retained and enhanced as part of the emerging masterplan proposals. Where losses to features of potential value to breeding birds are required as part of any forthcoming planning application, it is considered that these could be more than compensated for through the proposed new planting as part of the scheme.

5.3.30. Given the nature of the existing Site and emerging proposals, it is considered that a suite of breeding bird surveys would not be required to inform any forthcoming applications. However, if the local planning authority are inclined to take a different stance, it is considered a single breeding bird survey, undertaken during an optimal time of year, would be more than sufficient to robustly inform a planning application.

5.3.31. In due course simple enhancements for this group of species could be provided by the provision of suitable bird boxes on retained trees or new buildings within the Site.

Reptiles

5.3.32. **Legislation.** All six British reptile species receive a degree of legislative protection that varies depending on their conservation importance.

5.3.33. Rare, endangered or declining species receive 'full protection' under the Wildlife and Countryside Act 1981 (as Amended) as well as protection under the Conservation of Habitats and Species Regulations 2010 (as Amended). Species that are fully protected include Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis*. These receive protection from:

- killing, injuring, taking;
- possession or control (of live or dead animals, their parts or derivatives);
- damage to, destruction of, obstruction of access to any structure or place used for shelter or protection;
- disturbance of any animal occupying such a structure or place;
- selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).

5.3.34. By contrast, due to their abundance and more cosmopolitan habitat requirements in Britain, Common Lizard *Zootoca vivipara*, Slow Worm *Anguis fragilis*, Grass Snake *Natrix natrix* and Adder *Vipera berus* are only 'partially protected' under the Wildlife and Countryside Act 1981 (as Amended) and as such only receive protection from:

- deliberate killing and injuring;
- being sold or other forms of trading.

5.3.35. **Site Evaluation.** The habitats present on Site are typically highly sub-optimal to support reptiles, comprising grazed grassland and intensively managed arable land. Nonetheless, some areas of potentially suitable reptile habitat are present, namely at field margins.

5.3.36. **Recommendations.** Given the existing agricultural nature, the Site and the absence of habitats likely to be of heightened value to common reptiles, there is nothing to indicate the Site is of particular value to reptiles. Nonetheless, in due course, the completion of a suite of presence/absence surveys for reptiles would be sufficient to confirm the presence or absence of common reptiles within the Site and to inform any mitigation and enhancement measures which would be appropriate.

5.3.37. In the event that reptiles are recorded, and given that the majority of the Site does not provide suitable opportunities for reptiles, there would be ample opportunities, as part of any emerging scheme, to retain and enhance opportunities for reptiles within the Site in the long term. Indeed, the emerging proposals seek to fully retain the hedgerows and tree belts, and with them the associated grassy margins.

Invertebrates

5.3.38. **Site Evaluation.** Cultivated arable land is deemed to be of negligible interest to invertebrates and indeed there is a growing evidence base which links the use of agricultural chemicals with a collapse in invertebrate communities.

5.3.39. The wooded habitats within the Site are likely to support a range of invertebrate species, but there is nothing to indicate these elements are of any heightened importance in the local area (where such habitats are widespread) nor that these habitats would be of any significant value to protected, rare or notable species.

5.3.40. **Recommendations/Mitigation/Enhancements**. The creation of an extensive and diverse network of green infrastructure, which will retain the existing habitats of heightened value to invertebrates (such as mature woodland) would ensure continued opportunities for existing assemblages, whilst the creation of extensive new areas of meadow grassland would be of benefit to a range of nectar feeding/pollinating species.

5.3.41. Further enhancements may be delivered through the incorporation of invertebrate friendly features elsewhere on Site. For example, through the provision of bee nesting bricks within new buildings, or the creation of 'invertebrate hotels'

Amphibians (Great Crested Newts)

5.3.42. **Legislation.** All British amphibian species receive a degree of protection under the 1981 Wildlife and Countryside Act (as amended). The level of protection varies from protection from sale or trade only, as is the case with species such as Smooth Newt *Triturus vulgaris* and Common Toad *Bufo bufo,* to the more rigorous protection afforded to species such as the Great Crested Newt.

5.3.43. Although Great Crested Newts are regularly encountered locally and throughout much of England, the UK holds a large percentage of the world population of the species. As such the UK has an international obligation to conserve the species and they receive full protection under domestic and European legislation.

5.3.44. More specifically, Great Crested Newts are also listed in Annex IV(a) of the European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, more commonly known as the Habitats Directive. The Habitats Directive is transposed into UK law by the Conservation of Habitats and Species

Regulations 2017 ("the Habitats Regulations"; as amended), which lists Great Crested Newts under Schedule 2.

5.3.45. Great Crested Newts are thus protected from deliberate killing, injury or capture with their habitat, including a breeding site, resting place or any structure or place used for 'shelter or protection' also protected against deliberate or reckless damage or destruction. It is also illegal to deliberately or recklessly disturb Great Crested Newts and their eggs are protected from taking or destroying.

5.3.46. **Site Evaluation.** Notwithstanding that a number of the individual features are likely to dry on a regular basis, the pond network on site offers potential breeding opportunities for a range of amphibians.

5.3.47. Moreover, the boundary features, ditches and to some extent the field margins and areas of less managed grassland provide suitable opportunities for amphibians in their terrestrial phase.

5.3.48. **Recommendations / Mitigation / Enhancement Opportunities.** The completion of a suite of Great Crested Newt survey work will be sufficient to ascertain the presence or absence of this species within the site boundary.

5.3.49. In any event, it should be noted that the majority of waterbodies within the site are to be retained as part of the emerging masterplan. Moreover, there scope within the proposals to create high quality breeding and terrestrial opportunities for a full range of amphibian species (not least GCN).

5.3.50. This can be easily achieved through the provision of permanently wet waterbodies and rough grassland habitats with the proposed Green Infrastructure. The creation of new biodiversity ponds, which would be designed such that their value for breeding amphibians is maximised would provide a significant enhancement relative to many of the existing features. The strategic locating of new ponds would further maximise opportunities for amphibians to disperse across the landscape, potentially improving dispersal in areas that have been historically fragmented by large scale conversion to an agricultural setting.

<u>Dormouse</u>

5.3.51. **Site Evaluation.** The tree lines and hedgerows within the Site would provide potential opportunities for Dormice, should they be present in the local area.

5.3.52. **Recommendations.** It is envisaged the vast majority of suitable Dormouse habitat will be retained and enhanced as part of a network of green infrastructure as part of the emerging proposals. As such, it is considered that the scheme would retain opportunities for Dormouse, should they be present. Indeed, emerging proposals offer significant opportunities for enhancements to linear features through new planting and the establishment of appropriate habitat management – enhancing the connectivity and structure of the wooded network within the Site.

5.3.53. Notwithstanding the above, and should habitat losses be required as part of the emerging proposals, the completion of a suite of Dormouse surveys will be required. These surveys will be sufficient to assess the presence (or not) of Dormouse on Site and identify any specific mitigation and enhancement opportunities which may be required.

5.3.54. Given the emerging proposals seek to retain the network of suitable Dormouse habitat on Site and offer significant opportunities for betterment post development, it is not considered that Dormouse would have the potential to be an overriding constraint to an appropriately designed scheme.

Otters and Water Voles

5.3.55. **Legislation.** Otters benefit from a level of legislative protection equivalent to bats. The species is listed under Section 41 of the NERC Act as being of principal importance for the conservation of biodiversity in England.

5.3.56. Water Voles received limited legal protection in April 1998 through inclusion in Schedule 5 of the Wildlife & Countryside Act 1981 (as Amended) for some offences. This protection was extended in April 2008 so the Water Vole is fully protected under Section 9.

5.3.57. Legal protection makes it an offence to:

- Intentionally kill, injure or take (capture) a Water Vole;
- Possess or control a live or dead Water Vole, or any part of a Water Vole;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which Water Voles use for shelter or protection or disturb Water Voles while they are using such a place; and
- Sell, offer for sale or advertise for live or dead Water Voles.

5.3.58. The law only applies to wild animals, so the possession of captive bred Water Voles is not an offence.

5.3.59. **Site Evaluation.** The initial habitat appraisal survey in April 2020 identified the River Adur offers suitable opportunities for both Otter and Water Vole, albeit no evidence of either species was recorded during the course of this work. The other habitats within the Site are not considered to provide potential opportunities for either species.

5.3.60. In any event, the watercourse within the Site will be fully retained and buffered as part of the emerging masterplan proposals.

5.3.61. **Recommendations/Enhancement Opportunities.** The emerging proposals seek to retain the River Adur and its adjacent riparian habitats in full, ensuring a significant landscaped buffer is retained between the watercourse and built form. The retention and enhancement of this corridor will ensure continued opportunities for

Water Vole and Otter, should either group be present in the local area or colonise the Site in future years.

5.3.62. Sensitive landscaping along the watercourse, perhaps to include localised vegetation clearance and the planting of species which offer a food resource or otherwise provide important bank cover, would provide suitable enhancements in this regard. Appropriate examples of aquatic/marginal planting are provided at Appendix 2.

European Hedgehog

5.3.63. **Legislation:** Section 6 of the Wildlife & Countryside Act 1981 (as Amended) makes it an offence to capture or kill Hedgehogs through certain means. Hedgehogs are also identified as a species of Principle Importance in England through the Natural England and Rural Communities (NERC) Act 2006.

5.3.64. **Site usage.** No evidence of Hedgehog was recorded during the surveys undertaken in 2020. Suitable habitat is nonetheless present, and Hedgehog are known to be present in the local area.

5.3.65. **Mitigation and Enhancements**. Post development, Hedgehogs, a UK BAP Priority Species, will benefit from the retention, restoration and enhancement of the existing green infrastructure within the Site. Appropriate management of these habitats in the long term will ensure continued opportunities for Hedgehog post development.

5.3.66. Given the nature of the emerging proposals, it is considered the development would not have the potential to restrict dispersing Hedgehog. In the event that any boundary fencing is required, opportunities for small mammal passage will be provided in the form of regular 13cm by 13cm gaps at the base of these boundary features.

6. PLANNING POLICY CONTEXT

6.1.1. The planning policy framework that relates to nature conservation in Mid Sussex District, West Sussex, is issued at two main administrative levels: nationally through the National Planning Policy Framework (NPPF); and locally through the Mid Sussex District Plan.

6.1.2. The proposed development will be judged in relation to the policies contained within these documents.

6.2. National Policy

National Planning Policy Framework

6.2.1. Guidance on national policy for biodiversity and geological conservation is provided by the NPPF, published in March 2012, revised on 24 July 2018 and updated on 19 February 2019. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA ODPM, 2005) accompanying the now defunct Planning Policy Statement 9 (PPS9).

6.2.2. The key element of the NPPF is that there should be "*a presumption in favour of sustainable development*" (paragraphs 10 to 11). It is important to note this presumption "*does not apply where the plan or project is likely to have a significant effect on a habitats sites (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site*" (paragraph 177). 'Habitats Site' has the same meaning as the term 'European Site' as used in the Habitats Regulations 2017.

6.2.3. Hence, the direction of Government policy is clear; that is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European Site, if it has been shown there will be no adverse effect on that designated site as a result of the development in prospect.

6.2.4. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 170).

6.2.5. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.

6.2.6. Paragraphs 174 to 176 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for;

applying the protection given to European Sites to potential SPAs, possible SACs, listed or proposed Ramsar Sites and sites identified (or required) as compensatory measures for adverse effects on European Sites; and the provision for the refusal for developments resulting in the loss or deterioration of 'irreplaceable' habitats – unless there are 'wholly exceptional reasons' (for instance, infrastructure projects where the public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

6.2.7. National policy therefore implicitly recognises the importance of biodiversity and that, with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

6.3. **Local Policy**

Mid Sussex District Plan (2018)

6.3.1. The Mid Sussex District Plan was adopted in March 2018. This document sets out the key policies which will guide development in the plan period (2014 to 2031). It includes two policies of relevance to biodiversity and nature conservation, each of which are set out below.

6.3.2. Policy DP16**:** 'Ashdown Forest Special Protection Area (SPA) and Special Area of Conservation (SAC)' seeks to prevent adverse effects on the above European statutory designated sites through development. Any development which is likely to have a significant effect on these sites will be required to demonstrate that adequate measures are put in place to avoid or mitigate and potential adverse effects. The policy also outlines the avoidance and mitigation measures that all development must have regard to, including provision of Suitable Alternative Natural Greenspace (SANG) and financial contribution to the Ashdown Forest Strategic Access Management and Monitoring (SAMM) Strategy (where applicable).

6.3.3. Policy DP37: 'Trees, Woodland and Hedgerows' puts emphasis on the protection and enhancement of such features and maintenance of green infrastructure, stating that new development should conserve the network, avoid fragmentation and, if necessary, ensure any impacts are appropriately mitigated.

6.3.4. Policy DP38: 'Biodiversity' identifies that development will need to conserve and, where possible, restore and enhance biodiversity assets. Specific consideration is given to the protection of designated sites, habitats, and species.

6.4. **Discussion**

6.4.1. It is considered that, following the recommendations in this report, any forthcoming development proposals would fully accord with

national and local policy and avoid any significant impacts on any designated sites for nature conservation.

6.4.2. The presence or potential presence of protected species is acknowledged with further survey effort recommended, where relevant, to ensure the presence/absence of these species can be robustly assessed and mitigated for. Those habitats of ecological importance have been identified and measures recommended to ensure their protection. As such there are no ecological reasons why this Site should not come forward for development.

7. SUMMARY AND CONCLUSIONS

7.1. Ecology Solutions was commissioned in April 2020 to undertake an updated Phase 1 habitat survey of land to the north of A2300, Burgess Hill.

7.2. The emerging proposals for the Site are for mixed use development including a science and technology park and the provision of strategic green infrastructure.

7.3. There are no statutory or non-statutory designated sites (designated for reasons of nature conservation) located within the Site. The nearest statutory designated site is Bedelands Farm Local Nature Reserve (LNR) which is located approximately 2.7km to the east of the Site and which is separated from the Site by extensive open countryside, agricultural land and roads. The closest non-statutory aite is the Pond Lye Local Wildlife Site (LWS) which is located approxiately 130m to the north of the Site at its closest point, and on the far side of the River Adur.

7.4. Subject to the adoption of the measures set out in this report, it is considered potential adverse impacts on these sites will be fully avoided, either when considered alone or in combination with other plans or projects.

7.5. Habitats of relatively improved ecological value within the Site include the boundary tree belts and hedgerows. The presence of these habitats has been given careful consideration as part of this assessment and appropriate measures are set out to guide emerging development proposals and ensure the biodiversity value of these habitats can be retained and enhanced as part of the emerging proposals.

7.6. In terms of protected species, further survey effort in due course has been recommended where required, and appropriate mitigation has been suggested, where relevant.

7.7. No fresh evidence of use of the Site by Badgers was recorded. No bat roosts were recorded during specific searches of the Site as a whole. However, the presence of trees containing features with potential to support roosting bats was recorded, but these do not preclude development coming forward.

7.8. In regards other protected or notable species, there is potential for bats to use these features for foraging and navigating purposes and for birds to utilise hedgerows and trees within the Site for nesting. The hedgerows would also offer suitable opportunities for Dormice, should they be present in the local area. Moreover, grassland habitats within the Site provide a limited degree of sub-optimal habitat for common reptiles. The potential for these species to be present is duly noted, and the emerging proposals would ensure such opportunities are retained and enhanced.

7.9. It is considered there is significant opportunity for new habitat creation and ecological enhancement of the Site through suitable landscape schemes which would more than mitigate for any loss of existing habitat on Site.

7.10. From Ecology Solutions' Site survey and the background information obtained, there is no evidence to suggest there are any overriding ecological constraints which would prevent an appropriate planning application coming forward for the Site. With the implementation of the recommendations in this report, it is considered that any forthcoming proposals may conform to relevant national and local policy with respect to nature conservation and biodiversity and further realise an enhancement over the current situation.

Conclusions

7.11. In conclusion, it is considered there is no evidence to suggest there would be any overriding ecological constraints which would prevent the delivery of an appropriately designed development at the Site.

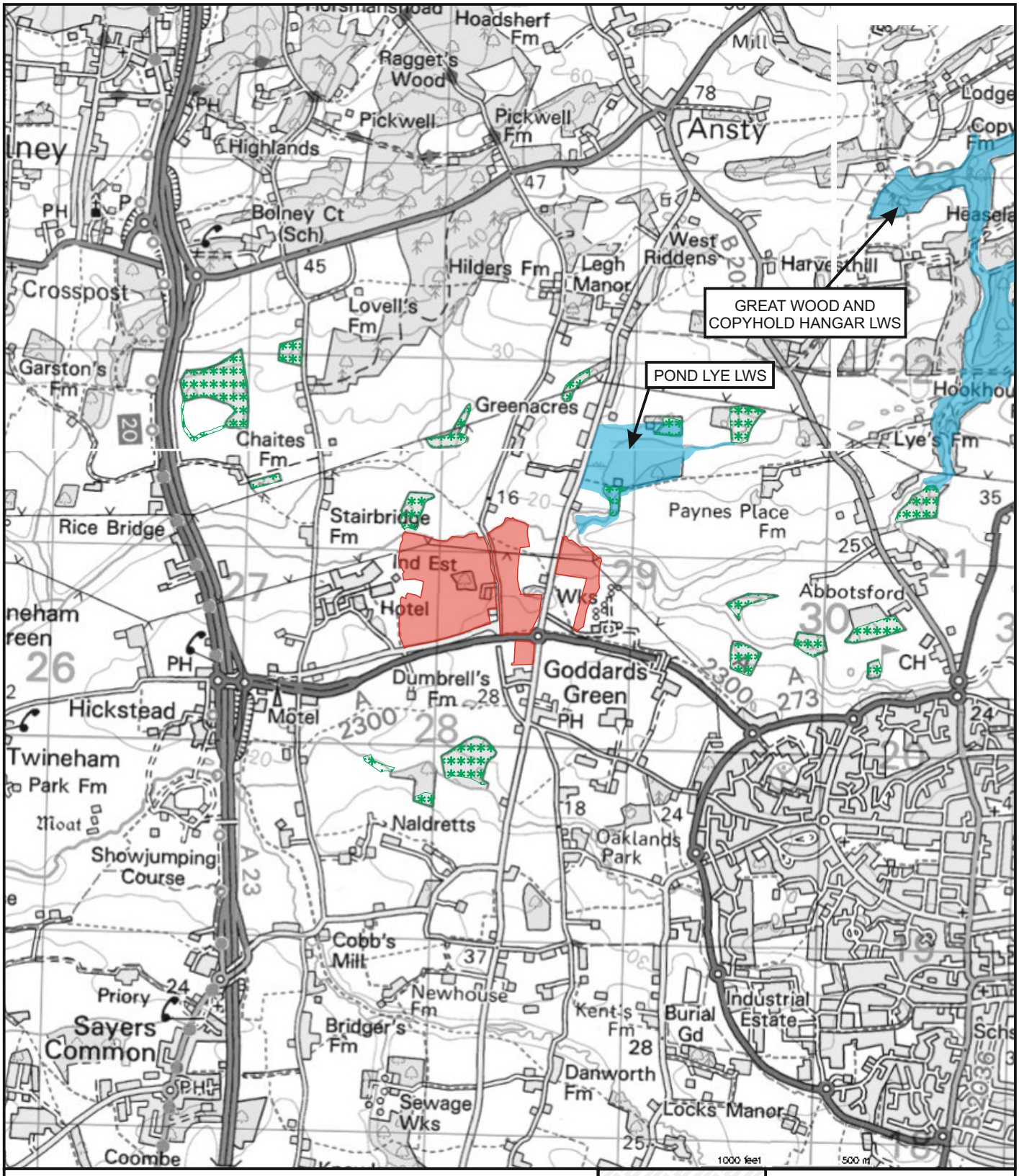
7.12. With the implementation of the recommendations in this report, it is considered that any forthcoming proposals may conform to relevant national and local policy with respect to nature conservation and biodiversity and further realise an enhancement over the current situation, contributing to local biodiversity targets for the area.

PLANS & APPENDICES

PLANS

PLAN ECO1

Site Location and Ecological Designations



KEY:

- SITE LOCATION
- LOCAL WILDLIFE SITE (LWS)
- ANCIENT WOODLAND

N

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8856: PROJECT NEWTON

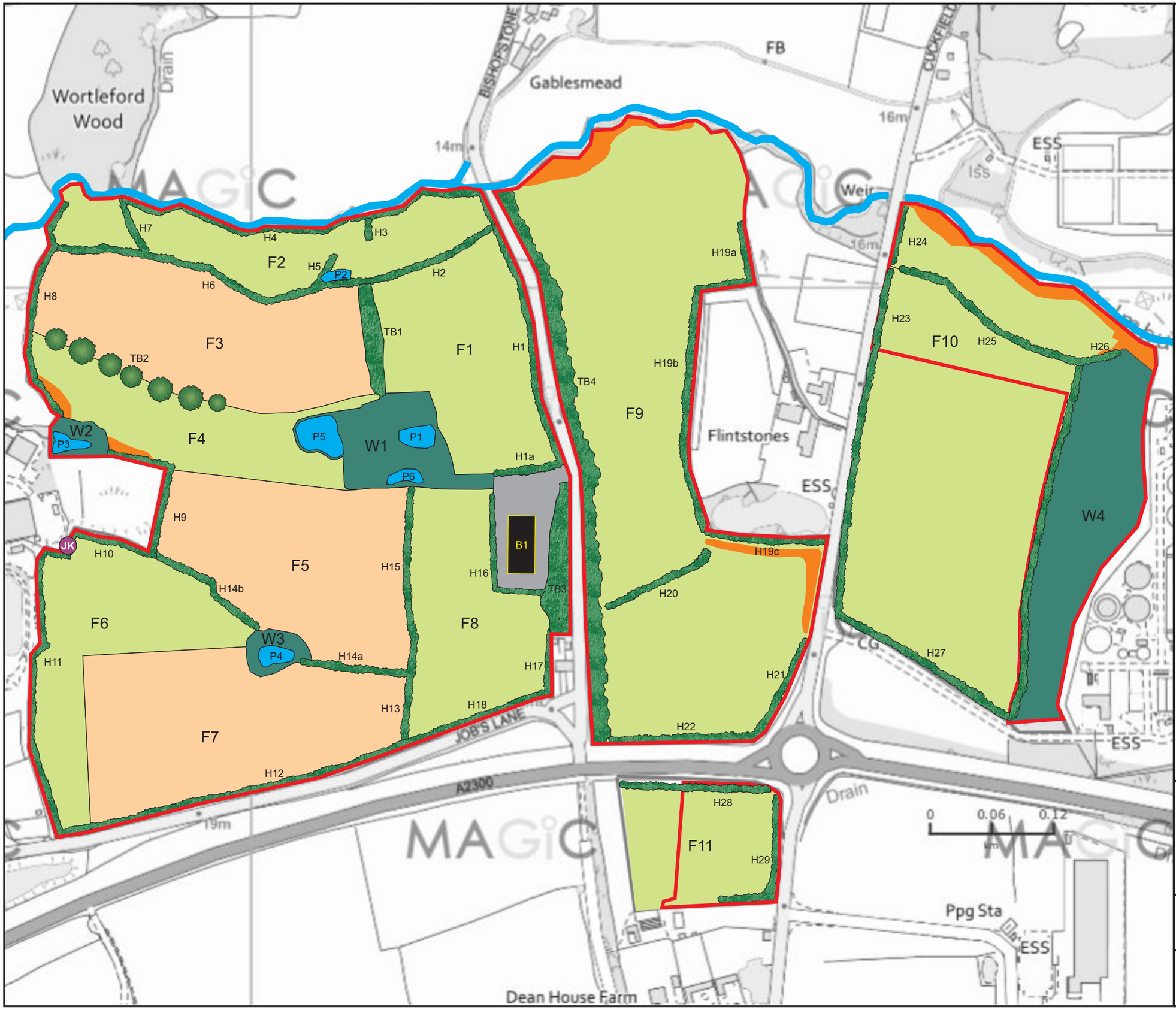
PLAN ECO1: SITE LOCATION AND ECOLOGICAL DESIGNATIONS

Rev: A

Jul 2020

PLAN ECO2

Ecological Features



KEY:

- SITE BOUNDARY
- SEMI-IMPROVED GRASSLAND
- ARABLE LAND
- WOODLAND
- HEDGEROWS / TREELINES
- TREE
- POND
- RIVER ADUR
- SCRUB
- HARDSTANDING
- BUILDING
- JAPANESE KNOTWEED

N

Graphic amended from Multi-Agency Geographic Information for the Countryside (MAGIC) database.

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ECO2: HABITAT FEATURES

July 2020

PLAN ECO3

Protected Species

KEY:

- SITE BOUNDARY
- TREE WITH BAT POTENTIAL
- BADGER SETT

N

Graphic amended from Multi-Agency Geographic Information for the Countryside (MAGIC) database.

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8856: PROJECT NEWTON

ECO3: PROTECTED SPECIES

July 2020

APPENDICES

APPENDIX 1

Information Obtained From

Multi-Agency Geographic Information for the Countryside

(MAGIC)

MAGiC

Magic Map

Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Projection = OSGB36
xmin = 518600
ymin = 118000
xmax = 538900
ymax = 126400

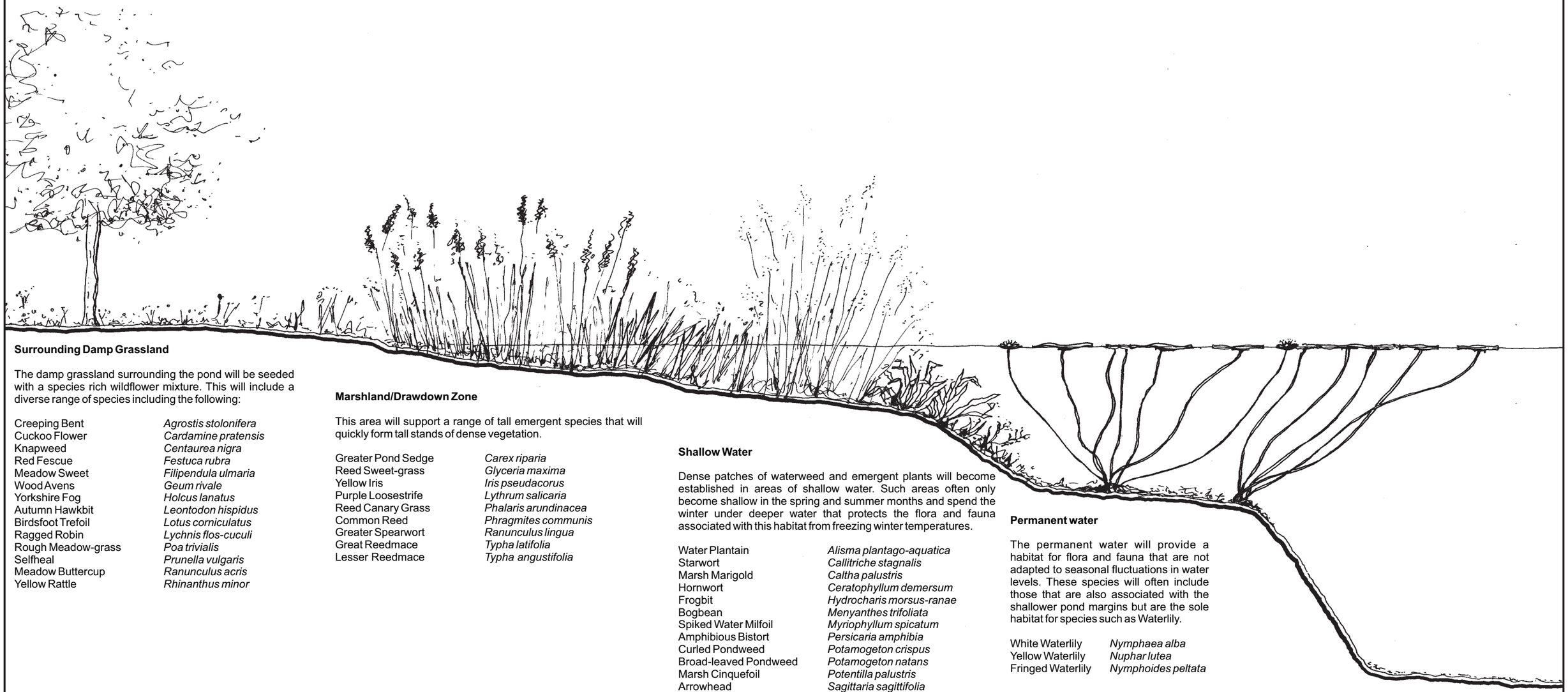
0 0.75 1.5
km

Map produced by MAGIC on 22 July, 2020.

APPENDIX 2

Example of Suitable

Marginal and Aquatic Planting



Surrounding Damp Grassland

The damp grassland surrounding the pond will be seeded with a species rich wildflower mixture. This will include a diverse range of species including the following:

Creeping Bent	*Agrostis stolonifera*
Cuckoo Flower	*Cardamine pratensis*
Knapweed	*Centaurea nigra*
Red Fescue	*Festuca rubra*
Meadow Sweet	*Filipendula ulmaria*
Wood Avens	*Geum rivale*
Yorkshire Fog	*Holcus lanatus*
Autumn Hawkbit	*Leontodon hispidus*
Birdsfoot Trefoil	*Lotus corniculatus*
Ragged Robin	*Lychnis flos-cuculi*
Rough Meadow-grass	*Poa trivialis*
Selfheal	*Prunella vulgaris*
Meadow Buttercup	*Ranunculus acris*
Yellow Rattle	*Rhinanthus minor*

Marshland/Drawdown Zone

This area will support a range of tall emergent species that will quickly form tall stands of dense vegetation.

Greater Pond Sedge	*Carex riparia*
Reed Sweet-grass	*Glyceria maxima*
Yellow Iris	*Iris pseudacorus*
Purple Loosestrife	*Lythrum salicaria*
Reed Canary Grass	*Phalaris arundinacea*
Common Reed	*Phragmites communis*
Greater Spearwort	*Ranunculus lingua*
Great Reedmace	*Typha latifolia*
Lesser Reedmace	*Typha angustifolia*

Shallow Water

Dense patches of waterweed and emergent plants will become established in areas of shallow water. Such areas often only become shallow in the spring and summer months and spend the winter under deeper water that protects the flora and fauna associated with this habitat from freezing winter temperatures.

Water Plantain	*Alisma plantago-aquatica*
Starwort	*Callitriche stagnalis*
Marsh Marigold	*Caltha palustris*
Hornwort	*Ceratophyllum demersum*
Frogbit	*Hydrocharis morsus-ranae*
Bogbean	*Menyanthes trifoliata*
Spiked Water Milfoil	*Myriophyllum spicatum*
Amphibious Bistort	*Persicaria amphibia*
Curled Pondweed	*Potamogeton crispus*
Broad-leaved Pondweed	*Potamogeton natans*
Marsh Cinquefoil	*Potentilla palustris*
Arrowhead	*Sagittaria sagittifolia*

Permanent water

The permanent water will provide a habitat for flora and fauna that are not adapted to seasonal fluctuations in water levels. These species will often include those that are also associated with the shallower pond margins but are the sole habitat for species such as Waterlily.

White Waterlily	*Nymphaea alba*
Yellow Waterliily	*Nuphar lutea*
Fringed Waterlily	*Nymphoides peltata*

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EXAMPLES OF SUITABLE
MARGINAL AND AQUATIC PLANTING

ECOLOGYSOLUTIONS

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