



ECOLOGY SOLUTIONS

Part of the ES Group

LANDFORM BERTSED LIMITED

CHALCROFT NURSERY
CHALCRAFT LANE,
WEST BERTSED

Ecological Assessment

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1. INTRODUCTION

1.1. Background & Proposals

- 1.1.1. Ecology Solutions was commissioned by Landform Bersted Ltd in April 2020 to undertake an Ecological Assessment of Chalcroft Nursery, Chalcroft Lane, West Bersted (see Plan ECO1), hereafter referred to as the application site.
- 1.1.2. The proposals are for mixed development, comprising Outline application for 20 residential dwellings, 2,240 sqm of commercial space (Use Class A1, B1(b) B1(c) and B8), landscaping, access, parking and associated infrastructure.
- 1.1.3. The application site forms part of the West of Bersted Strategic Housing Site SD3, which was allocated in the Arun District Council Local Plan in 2018. For clarity, applications for SD3 will be coming forward separately and will be compatible with the application site proposals.

1.2. Application Site Characteristics

- 1.2.1. The application site is located just off Chalcroft Lane, West Bersted. The majority of the application site currently supports a nursery compound which largely comprises buildings (some of which are temporary in nature) and hardstanding. Other habitats include species-poor grassland, ditches and boundary treelines.
- 1.2.2. The application site is bordered by arable land to the north and west, with existing residential development situated to the immediate east. A cemetery is also present to the south, beyond which lies more residential development.

1.3. Ecological Assessment

- 1.3.1. This document assesses the ecological interest of the application 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 application site, setting these in the correct planning policy and legal framework and assessing any potential impacts which may occur from the proposed development. Appropriate mitigation where necessary is identified such that it will offset any negative impacts and where possible provide for the ecological enhancement of the application site, in accordance with relevant planning policy.

¹ CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

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 application site and its immediate surroundings, Ecology Solutions contacted the Sussex Biological Records Centre (SxBRC) in 2020. The records received are collated data from a number of sources and provide information on an array of notable species and habitats (covering a 3km² search radius from the application site). Information regarding designated sites is shown where appropriate on Plan ECO1.

2.2.2. 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. A habitat survey was initially undertaken in November 2016 to ascertain the general ecological value of the land contained within the boundaries of the application site and to identify the main habitats and associated plant species, with notes on fauna utilising the application site.

2.3.2. An updated habitat survey was then undertaken in April 2020 to allow better seasonal coverage and ascertain if the application site had undergone any material changes since previous surveys.

2.3.3. The application site was surveyed based around extended Phase 1 survey methodology³, as recommended by Natural England, 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.

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

2.3.5. 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.

² <http://magic.defra.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.

However, given the habitats present, and that the survey was undertaken at an optimal time of year, it is considered that an accurate and robust assessment has been made.

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 Priority Species. In addition, specific surveys were undertaken for bats, Badgers *Meles meles*, Great Crested Newts *Triturus cristatus* and reptiles.
- 2.4.2. **Bats.** Initial bat surveys were undertaken across the application site and wider area in April 2020 to assess the potential for roosting bats within trees. The work was undertaken by an experienced bat worker and aimed to establish the likelihood of presence / absence of bats.
- 2.4.3. Field surveys were undertaken with regard to best practice guidelines issued by Natural England (2004⁴), the Joint Nature Conservation Committee (2004⁵) and the Bat Conservation Trust (2016⁶).
- 2.4.4. Assessments of the buildings / structures were also undertaken in April 2020 in order to search for signs of any use by bats and to identify any potential access points for bats. Binoculars were used to inspect any inaccessible areas more closely.
- 2.4.5. The main requirements for a winter / hibernation roost site is that it maintains a stable (cool) temperature and humidity. Sites commonly utilised by bats as winter roosts include cavities / holes in trees, underground sites and parts of buildings. Whilst different species may show a preference for one of these types of roost site, none are solely dependent on a single type.
- 2.4.6. The probability of a building being used by bats as a summer roost site increases if it:
- is largely undisturbed;
 - dates from pre 20th Century;
 - has a large roof void with unobstructed flying spaces;
 - has access points for bats (though not too draughty);
 - has wooden cladding or hanging tiles; and
 - is in a rural setting and close to woodland or water.
- 2.4.7. Conversely, the probability decreases if a building is of a modern or pre-fabricated design / construction, is in an urban setting, has

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 Collins, J. (Eds.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd Edition). Bat Conservation Trust, London.

small or cluttered roof voids, has few gaps at the eaves or is a heavily disturbed premises.

2.4.8. In addition, all trees at the application site were assessed for their potential to support roosting bats in April 2020. 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.

2.4.9. Moreover, evening activity surveys are currently scheduled across 2020 to ascertain whether the application site supports any features of potential importance for foraging and commuting bats. To date, two surveys have been completed, covering the months of April and May. It is envisaged that these surveys will continue on a monthly basis, with results submitted via addendum.

2.4.10. The evening activity bat surveys were conducted from 15 minutes before sunset to approximately 2 hours after sunset. Surveyors utilised EchoMeter2 (EMT2) bat detectors to aid identification of bats and record data. Surveyors walked transects in order to encompass all features of potential value to foraging and commuting bats, including hedgerows, treelines and scrub. All bat data recorded was subsequently analysed using Kaleidoscope bat sound analysis software.

2.4.11. EchoMeter4 (EM4) static detectors were also deployed on a monthly basis (i.e. following each activity survey). Detectors were deployed for a minimum period of five consecutive nights in strategic locations to ascertain longer term data regarding the use of the site by foraging and commuting bats.

2.4.12. **Badgers.** Surveys were undertaken to search for evidence of Badgers in November 2016 and April 2020 and 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.
- 2.4.13. Secondly, evidence of Badger activity, such as well-worn paths and run-throughs, snagged hair, footprints, latrines and foraging signs, was also searched for in order to build up a picture of the use of the application site by Badgers.
- 2.4.14. **Great Crested Newts.** The application site supports four boundary ditches, all of which were noted as being dry during survey work in 2016.
- 2.4.15. An updated assessment of the application site in 2020 found that two of these ditches were holding a significant amount of water and were considered to offer potential opportunities for breeding amphibian species (including Great Crested Newts *Triturus cristatus*). Moreover, these ditches are part of a wider ditch network which extends to the north and west of the application site. An assessment of these ditches in 2020 found only two to be potentially suitable to support Great Crested Newts.
- 2.4.16. In order to ascertain the presence or absence of Great Crested Newts, an environmental DNA (eDNA) sample survey was undertaken of two ditches within the application site, D1 and D2, and two non-flowing ditches in the wider area in April 2020, based on methodology set out by the Freshwater Habitats Trust, which is endorsed by Natural England.
- 2.4.17. The eDNA survey involved collecting 20 samples of 40ml of water at equally spaced locations around the perimeter of the waterbody (where access was available). These 20 samples were then mixed in a plastic sample bag to form a single amalgamated sample of the water in the pond. The amalgamated sample was mixed thoroughly to ensure any DNA present does not collect at the base of the sample bag.
- 2.4.18. 15ml of water was taken from the amalgamated sample and added to 35ml of ethanol within a sample tube, to preserve any DNA present. The sample tubes were then shaken vigorously to mix the water sample and ethanol thoroughly and prevent degradation of any DNA. This technique was repeated six times, using water from the amalgamated sample, such that six sample tubes are filled.
- 2.4.19. The six sample tubes were then sent to Sure Screen Scientifics to be analysed using Polymerase Chain Reaction (PCR) amplification techniques. The analysis involves producing DNA sequences that verify the taxonomic assignment of amplified DNA signals.
- 2.4.20. Each sample is run in 12 replicates. The results are reported as the proportion of these 12 replicate samples that are successfully

amplified, indicating whether Great Crested Newt DNA is present (e.g. 1/12, 8/12).

- 2.4.21. **Reptiles.** The site supports some (albeit limited) areas of suitable reptile habitat. As such, specific surveys to identify the presence or absence of reptiles within the application site were undertaken between April and June 2020.
- 2.4.22. A total of 21 'tins' (0.5 x 0.5 metre squares of heavy roofing felt which are often used as refuges by reptiles) were distributed throughout all suitable reptile habitat within the application site.
- 2.4.23. These tins were left in place for 19 days to 'bed in' and subsequently surveyed for reptiles beneath or upon the tins during suitable weather conditions. The tins provide shelter and heat up quicker than the surroundings in the morning and can remain warmer than the surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles use them to bask and raise their body temperature which allows them to forage earlier and later in the day.
- 2.4.24. Suitable weather conditions to carry out surveys are when the air temperature is between 9 and 18°C. Heavy rain and windy conditions were avoided. A total of seven surveys were undertaken during suitable weather conditions. All surveyors were mindful to record all reptiles present on top of and under the tins, in addition to any observed when walking through the suitable habitats between the tins. All reptiles observed were recorded by the surveyor.

3. ECOLOGICAL FEATURES

3.1. The application site was subject to an ecological survey in 2016, and a further updated survey 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:

- Buildings and Hardstanding;
- Improved Grassland;
- Semi-improved Grassland;
- Hedgerows;
- Ditches; and
- Bare ground.

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. Buildings and Hardstanding

3.5.1. A large proportion of the application site comprises a nursery building and associated temporary structures.

3.5.2. The main building (labelled **B1** on Plan ECO2) is the primary nursery building, comprised of a poly-tunnel hub, flanked by two small corrugated metal shed structures (one of which is utilised as a separate property).

3.5.3. A number of small structures are also present within the site, comprising wooden sheds, other polytunnels (and polytunnel frames) and temporary cabins.

3.5.4. Much of the application site supports a gravel and/or concrete substrate which is well maintained and free of recolonising vegetation.

3.6. Improved Grassland

3.6.1. A small improved grassland field (**F1**) is present in the southern part of the site. In 2016, this field was recorded to support a short sward as a result of grazing pressure. Similarly, surveys in 2020 found the field to be in a very poor condition as a result of heavy grazing and poaching. Species recorded in F1 in 2020 were limited to Greater Plantain *Plantago major*, Daisy *Bellis perennis*, Smooth Meadow-grass *Poa pratensis*, Meadow Buttercup *Ranunculus acris*, White Clover *Trifolium repens* and Broad-leaved Dock *Rumex obtusifolius*.

3.6.2. Surveys in 2020 also recorded a relatively new area of improved grassland within the south-western part of the site. This area once supported young scrubby woodland and ruderal vegetation

previously considered to be of little ecological significance in its own right. However, since 2016 this woodland, scrub and ruderal habitat has been cleared and replaced with a regularly mown improved grassland sward (**G1**) which in turn, also supports a very limited number of species. Species recorded within **G1** include Perennial Rye-grass *Lolium perenne*, Yorkshire Fog *Holcus lanatus*, Red Fescue *Festuca rubra*, Dove's-foot Crane's-bill *Geranium molle*, Creeping Buttercup *Ranunculus repens*, Lesser Celandine *Ficaria verna*, Common Vetch *Vicia sativa*, Smooth Tare *Vicia tetrasperma*, White Clover, Hogweed *Heracleum sphondylium* and Dandelion *Taraxacum sp.*

3.7. Semi-improved Grassland

- 3.7.1. Areas of semi-improved grassland are limited, and typically associated with northern boundary treeline and an area supporting the skeletal structure of a former polytunnel (as shown on Plan ECO2). While these semi-improved grassland habitats within the application site are also considered species-poor, they do support a comparatively greater herb content relative to other grassland habitats present (see above). This habitat is also subject to an intense mowing regime.
- 3.7.2. Species recorded within semi-improved grassland include Bristly Ox-tongue *Helminthotheca echioides*, Dandelion, Daisy, Lesser Water Parsnip *Berula erecta*, White Clover, Common Vetch, Hogweed, Teasel *Dipsacus fullonum*, Yarrow *Achillea millefolium*, Common Sorrel *Rumex acetosa*, Thale Cress *Arabidopsis thaliana*, Common Field-speedwell *Veronica persica*, Dove's-foot Crane's-bill, Tansy *Tanacetum vulgare*, Canadian Fleabane *Erigeron canadensis*, Ribwort Plantain *Plantago lanceolata*, Creeping Thistle *Cirsium arvense*, Common Mouse-ear *Cerastium fontanum*, Spear Thistle *Cirsium vulgare*, and Soft-rush *Juncus effusus*

3.8. Treelines / Trees

- 3.8.1. A number of hedgerows and treelines are present around the site boundaries and support a moderate range of native species, some of which may, although considered unlikely, qualify as "important" under The Hedgerow Regulations 1997.
- 3.8.2. **T1** is another tall treeline running the length of the application sites northern boundary (and beyond) which is associated with a wet ditch. Species recorded include Honeysuckle *Lonicera periclymenum*, Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Dog-rose *Rosa canina*, Oak *Quercus robur*, Bramble *Rubus fruticosus* Field Maple, Hazel *Corylus avellana*, Elder *Sambucus nigra*, and Ash *Fraxinus excelsior*.
- 3.8.3. **T2** is a tall treeline which runs adjacent to the western boundary of the site, and is associated with a dry ditch. This feature supports a number of species, including Crack Willow *Salix fragilis*, Ash, Aspen *Populus tremula*, Dogwood *Cornus sanguinea*, Alder *Alnus glutinosa*, Field Maple *Acer campestre*, Wayfaring Tree *Viburnum lantana*, Oak, Elder, Blackthorn, and Hawthorn.

- 3.8.4. **T3** is a tall treeline situated just off-site adjacent to the south-western boundary. This feature is also associated with D1 (see below). Species recorded include mature and semi-mature Ash trees, Alder, Field Maple, Crack Willow, Elder, Hazel, Hawthorn and Bramble. The feature supports a notable sparse shrub layer.
- 3.8.5. **T4** is a sparse tree line which sits adjacent the eastern boundary of F1. The feature mostly supports Field Maple, with Blackthorn, Ash and Hawthorn also present. This feature is also associated with a drainage ditch which was recorded as dry during surveys in 2020.
- 3.8.6. The ground flora associated with the treelines was recorded to be very limited, although Lords and Ladies *Arum maculatum*, Greater Stitchwort *Stellaria holostea*, Cow Parsley *Anthriscus sylvestris*, Greater Burdock *Arctium lappa*, Nettle *Urtica dioica* and Ivy *Hedera helix* were all recorded on occasion.
- 3.8.7. A small number of large standalone trees are also present with G1, adjacent to the boundary ditch. However, these species are limited to the non-native Lawsons Cypress *Chamaecyparis lawsonianam* and New Zealand Broadleaf *Griselinia littoralis*.

3.9. Ditches

- 3.9.1. The site supports four boundary ditches, and two newly created drainage ditches situated within **G1**, all of which are considered to only hold significant amounts following periods of heavy rain.
- 3.9.2. Of these ditches, only two were recorded to be holding water at the time of survey in April 2020 (labelled as **D1** and **D2** and Plan ECO2).
- 3.9.3. The ditches supported a very limited range of marginal species, including Broadleaved Willowherb *Epilobium montanum*, Hemlock Water-dropwort *Oenanthe crocata*, Common Figwort *Scrophularia nodosa*. No aquatic species were recorded within any of the ditches.

3.10. Bare Ground

- 3.10.1. Surveys in 2016 also recorded an area of young scrubby woodland within the westernmost part of the application site. However surveys in 2020 record this area to have been recently cleared, with only bare earth present.

3.11. Background Information

- 3.11.1. The desk study undertaken with SxBRC returned a number plant records returned from the local area. The closest record of a notable plant species was of Annual Beard-grass *Polypogon monspeliensis*, returned from a location immediately adjacent to the northern boundary of the application site within application site from 2004.

- 3.11.2. No other notable plant species were recorded during the Phase 1 survey, and given the habitats present it is considered that the application site does not support any other protected or notable plant species.

4. WILDLIFE USE OF THE APPLICATION SITE

- 4.1. During the surveys that have been undertaken within the application site, general observations have been made of any faunal use, with specific attention paid to the potential presence of protected or notable species. Specific surveys were undertaken for bats, Badgers, Great Crested Newts and reptiles.

4.2. Bats

Building Inspections

- 4.2.1. As above, here are several structures present within the application site. However, none of these structures were recorded to have any potential to support roosting bats on account of their construction, age and often temporary nature.

Tree Inspections

- 4.2.2. The application site contains two mature trees which support features of potential interest to roosting bats, on account of the dead wood and woodpecker holes they support. These trees are marked on Plan ECO2.
- 4.2.3. None of the other trees present within the application site are considered to have potential value for roosting bats.

Activity Surveys

- 4.2.4. The application site and wider area offers potential foraging and commuting opportunities in the form of treelines along the site boundaries. As such, bat activity surveys currently being undertaken in 2020 to ascertain the level of use of the application site by this group and identify any features of importance.
- 4.2.5. To date, surveys have been undertaken in April and May 2020, with transects covering the application site but also land to the immediate north and west of the application site (as shown on Plan ECO3). It should be outlined that Transect 1 (as shown on Plan ECO3) covers the entirety of the application site, in addition to land to the immediate north. Transect 2 covers land to the immediate west of the application site. For completeness however, the data obtained from both transects has been included below to give a clearer picture of overall bat activity.
- 4.2.6. Table 1 below outlines the weather conditions during each survey visit.

Date	Weather Conditions
23.04.2020	15% cloud cover, 15°C, still, dry
22.05.2020	60% cloud cover, 15°C, strong wind, dry

Table 1: Weather conditions during 2020 bat activity surveys

- 4.2.7. The following tables below show species assemblages and registrations recorded for each night during the activity surveys.

23/04/20		
Species	Transect 1	Transect 2
Common Pipistrelle	26	34
Soprano Pipistrelle	5	27
<i>Nyctalus</i> sp.	0	2
Noctule	3	1
<i>Myotis</i> sp.	0	1

Table 2: Bat registrations during April activity survey

22/05/20		
Species	Transect 1	Transect 2
Common Pipistrelle	45	23
Soprano Pipistrelle	29	23
Nathusius's Pipistrelle	0	1
<i>Nyctalus</i> sp.	1	0

Table 3: Bat registrations during May activity survey

- 4.2.8. Overall, the activity surveys to date show that the application site is predominately used by a low number of common and widespread species, with the highest amount of registrations attributed to Common Pipistrelle (peak count of 68 registrations) and Soprano Pipistrelle (peak count of 56 registrations).

Static Monitoring Surveys

- 4.2.9. Following the transect activity surveys, static acoustic detectors were deployed at various locations within the application site for a minimum of 5 consecutive nights in order to ascertain bat activity over extended periods of time. The dates of the surveys undertaken so far are set out in Table 4. The results of the surveys are detailed individually below. The locations of detector deployments are shown on Plan ECO3.

Survey	Dates
April 2020	23/04/2020 – 27/04/2020
May 2020	22/05/2020 – 26/05/2020

Table 4: Dates of static monitoring periods

April 2020

- 4.2.10. Overall bat activity (totals of bat registrations) was consistent over this five-night monitoring period, however activity was higher in some locations compared to others. Common Pipistrelle were the most frequently recorded species.
- 4.2.11. The detector deployed at Location A (as shown on Plan ECO3) recorded the lowest level of bat activity within the application site. Over the monitoring period, the detector recorded a total of 62 registrations of Common Pipistrelle, 33 registrations of Soprano Pipistrelle, 11 registrations of *Myotis* sp. bat, 3 registrations of

Nathusius's Pipistrelle, 3 registrations of Barbastelle, 1 registration of a *Nyctalus* sp. bat and 1 registration of Serotine.

- 4.2.12. The detector deployed at location B was located at the north-western corner of the application site and recorded a moderate amount of activity over the monitoring period. The detector recorded a total of 251 registrations of Soprano Pipistrelle, 240 registrations of Common Pipistrelle, 40 registrations of Barbastelle, 38 registrations of *Myotis* sp. bat, 13 registrations of Brown Long-eared, 8 registrations of Serotine, 7 registrations of *Nyctalus* sp. bat and 6 registrations of Nathusius's Pipistrelle.

May 2020

- 4.2.13. The detector deployed at location C was situated along the north-eastern boundary of the application site and recorded the lowest amount of bat activity over the monitoring period. The detector recorded 388 registrations of Common Pipistrelle, 173 registrations of Soprano Pipistrelle, 22 registrations of Barbastelle, 9 registrations of Nathusius's Pipistrelle, 4 registrations of *Myotis* sp. bat and 1 registration of Leisler's.
- 4.2.14. As indicated during the activity surveys, static detector surveys show that the application site is mostly used by low numbers of common and widespread species, with very few registrations of more notable species such as Barbastelle being recorded over the static monitoring periods.
- 4.2.15. **Background information.** The desk study undertaken with SxBRC returned several records of bats from the local area. The closest record was of a grounded male Brown Long-eared bat *Plecotus auratus*, returned from a location circa. 0.15km to the north of the application site from 2010. In addition, a historical record recorded of an unspecified roost of 50 bats was returned from a location circa. 0.15km north of the application site, from 1988.
- 4.2.16. Other bats species recorded within the locality (albeit further afield) include Western Barbastelle *Barbastella barbastellus*, Serotine *Eptesicus serotinus*, Daubenton's Bat *Myotis daubentonii*, Whiskered Bat *Myotis mystacinus*, Noctule *Nyctalus noctula*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Nathusius's Pipistrelle *Pipistrellus nathusii*.

4.3. Badgers

- 4.3.1. Survey work undertaken in survey work undertaken in both 2016 and 2020 recorded no Badger setts within the application site. Furthermore, no other evidence indicating the presence of Badgers (such as latrines, footprints, hairs or foraging signs) was recorded within the application site.

- 4.3.2. Given the above, it is not considered that the application site supports this species and Badgers have therefore been given no further consideration within this Ecological Assessment.

- 4.3.3. **Background Information.** The desk study undertaken with SBRC returned no records of Badger *Meles meles* from within the search area.

4.4. Dormice

- 4.4.1. The treelines around the field boundaries of the application site are considered to support limited opportunities for Dormouse due to their structure.

- 4.4.2. Moreover, these features are significantly isolated from more suitable habitats in the wider area due to expansive areas of surrounding arable land and existing development, with a notable lack of woodland in the region.

- 4.4.3. **Background information.** The desk study undertaken with BRERC returned no records of Dormouse from the local area. It is considered highly unlikely that Dormice are present within the application site, and as such, no further consideration has been afforded to this group within this Ecological Assessment.

4.5. Water Voles and Otters

- 4.5.1. None of the ditches within the application site are considered suitable to support Water Vole *Arvicola amphibious* or Otter *Lutra lutra*, given their ephemeral nature, notable lack of suitable bankside vegetation, and poor connectivity to more suitable water resources in the local area. Moreover, no evidence of these species was recorded within any of the wet ditches during other survey work undertaken.

- 4.5.2. **Background Information.** The desk study undertaken with SxBRC returned no recorded of Water Vole *Arvicola amphibius* within or immediately adjacent to the application site. Several records of Water Vole were returned from the local area to the north of the application site, with the closest being from a location circa. 0.75km north, from 2005.

- 4.5.3. The desk study returned no records of Otter *Lutra lutra* within the search area.

4.6. Great Crested Newts

- 4.6.1. The site supports a number of ditches, all of which were noted as being dry during survey work in 2016. During updated work in 2020, one ditch within the application site was recorded to be holding a significant amount of water. Additionally, another ditch sitting immediately adjacent the northern boundary of the site was also recorded to support deep water. As such, there is potential for these features to provide opportunities for breeding amphibians,

including Great Crested Newts, if they support water during the breeding season.

- 4.6.2. eDNA sampling surveys were undertaken in April 2020 and included all suitable waterbodies within and adjacent the application site. These are labelled as D1 and D2 on Plan ECO2.
- 4.6.3. Moreover, two off-site ditches located west of the application site boundary were also recorded to support some (albeit limited) opportunities for this species. As such, these waterbodies were also subject to eDNA testing in April 2020.
- 4.6.4. The results of all eDNA assessments were negative. It is therefore considered that none of the waterbodies are used by Great Crested Newts.
- 4.6.5. All other ditches in the local ditch network were recorded to be dry, or to support flowing water.
- 4.6.6. Whilst the application site supports some very limited terrestrial opportunities for this species, given the lack of suitable breeding opportunities, it is considered that this species is absent from the application site and has not been considered further within this ecological assessment.
- 4.6.7. **Background Information.** The desk study undertaken with SxBRC did not return any records of Great Crested Newts *Triturus cristatus* from within the application site boundary. Two records of Great Crested Newt were returned from the local area, with the nearest record situated approximately 1.5km east of the application site at its closest point from 2004.
- 4.6.8. Other amphibian species recorded within the locality of the application site include Common Toad *Bufo bufo*, Palmate Newt *Lissotriton helveticus*, Smooth Newt *Lissotriton vulgaris* and Common Frog *Rana temporaria*.

4.7. Reptiles

- 4.7.1. Areas of grassland within the application site provide potential opportunities for reptile species. In order to ascertain whether the application site supports this group, refugia surveys undertaken across May and June 2020, in line with the methodology outlined in Section 2 above.
- 4.7.2. The results of the surveys undertaken so far are summarised in Table 4 below.

Date	Survey Number	Weather Conditions	Reptiles Recorded
5/5/20	1	90% cloud cover, 12C	1 Male Slow Worm
7/5/20	2	40% cloud cover, 12C	None
13/5/20	3	70% cloud cover, 13°C	None
22/5/20	4	25% cloud cover, 14°C	1 Female Slow Worm

Date	Survey Number	Weather Conditions	Reptiles Recorded
5/6/20	5	95% cloud cover, 13°C	2 Male Slow Worm 2 Juvenile Slow Worm
10/6/20	6	50% cloud cover, 14°C	None
19/6/20	7	50% cloud cover, 13°C	1 Juv Slow Worm 1 unsexed Grass Snake

Table 4: 2020 Reptile Survey Results (Summary)

- 4.7.3. The reptile surveys identified small populations of Slow-Worm *Anguis fragilis* and Grass Snake *Natrix helvetica* within slightly rougher grassland habitats in the northern part of the application site.
- 4.7.4. In line with HGBI guidance, the site supports a small population of both these reptile species; populations of less than 5 adults / ha. As such a suitable mitigation scheme will be required to facilitate development.
- 4.7.5. **Background Information.** The desk study undertaken with SxBRC returned a small number of reptile records from the local area. The closest of these records was that of a Common Lizard *Zootoca vivipara*, returned from a location approximately 90m to the east of the application site at its closest point from 2011.
- 4.7.6. Other reptile species recorded within the locality of the application site include Slow Worm *Anguis fragilis*, Grass Snake *Natrix helvetica* and Adder *Vipera berus*.

4.8. Birds

- 4.8.1. The application site offers some opportunities for nesting birds in terms of the treelines which border the site, although similar opportunities are available within the wider area, and there is nothing to indicate that the application site is likely to be particularly important for nesting birds.
- 4.8.2. Bird species recorded within and passing over the application site during surveys include Blue Tit *Cyanistes caeruleus*, Great Tit *Parus major*, Blackbird *Turdus merula*, Buzzard *Buteo buteo*, Greenfinch *Carduelis chloris*, Goldfinch *Carduelis carduelis*, Carrion Crow *Corvus corone*, Robin *Erithacus rubecula*, Wren *Troglodytes troglodytes*, Wood Pigeon *Columba palumbus*, Starling *Sturnus vulgaris*, House Sparrow *Passer domesticus*, Long-tailed Tit *Aegithalos caudatus*, Coal Tit *Periparus ater*, Jay *Garrulus glandarius*, Chiffchaff *Phylloscopus collybita* and Magpie *Pica pica*.
- 4.8.3. **Background Information.** The desk study undertaken with SxBRC returned a number of bird records from the local area. The closest record was of House Martin *Delichon urbicum* returned from a location immediately adjacent to the eastern boundary of the application site, from 2015.

- 4.8.4. Additionally, three records of single Barn Owls *Tyto alba* were returned from a location circa. 0.8km west of the application site, from between 2009 and 2012.

4.9. Invertebrates

- 4.9.1. The application site is expected to support a limited range of common invertebrate species, but there is no evidence to suggest that any protected or notable species are likely due to the habitats present.
- 4.9.2. **Background Information.** The desk study undertaken with SxBRC returned a number of invertebrate records from the local area. The closest was that of a Stag Beetle *Lucanus cervus*, returned from a location circa. 0.5km north of the application site at its closest point, from 2015.

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 Ratcliffe⁷. 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 (BAP). The Sussex BAP also highlights a number of habitats and species. These are referred to below where relevant.
- 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 located within or immediately adjacent to the application site.
- 5.2.2. The closest statutory designated sites in the surrounding area are Bersted Brooks Local Nature Reserve (LNR), which is located approximately 1.4km north-east of the application site at its closest point. This site is designated on account of its wetland habitats and wildlife that they support, including reedbed, meadow and floodplain woodland.
- 5.2.3. Another national statutory designated site present within the locality of the application site is the Bognor Reef Site of Special Scientific Interest (SSSI), situated approximately 1.9km south of the application site. This site is designated on account of extensive areas of vegetated shingle, a rare habitat in Britain, and the area of old sand dunes at the western end which supports a range of invertebrates and flora, including childing pink *Petrorhagia nanteulii*, a Schedule 8 protected species of the Wildlife and Countryside Act 1981.
- 5.2.4. Both of these nationally designated sites are separated from the application sites by significant areas of existing residential development and open space. It is not considered that the emerging development proposals will have any detrimental impacts on these designated sites.
- 5.2.5. The nearest internationally designated statutory site is Pagham Harbour Special Protection Area (SPA), Ramsar and SSSI located approximately 3.6km to the south-west of the application site at its closest point. The SPA is designated on the account of the sites international importance of the wetland for supporting wintering populations of Dark-Bellied Brent Geese *Branta bernicla*, as well as supporting nationally important populations of breeding populations of Little Tern *Sterna albifrons* and Common Tern *Sterna hirundo*. The Ramsar is designated on account of the site's international importance for the assemblage wildfowl, waders, wintering and breeding birds and nationally importance communities of plants and invertebrates.
- 5.2.6. Other internationally designated statutory sites present within 10km of the application sites is the Chichester and Langstone Harbours SPA, Ramsar and SSSI and the Solent Maritime Special Area of Conservation (SAC), located approximately 8.4km west of the application site at its closest point. Chichester and Langstone Harbours is designated on account of the sites international importance for supporting large numbers of wintering wildfowl, waders and migratory bird species. The Solent Maritime SAC is designated on account of its major estuarine systems comprising a range of habitats that support a range of rare plant and invertebrate species.

- 5.2.7. Given the proximity of the application site to these European designated sites, there is potential for proposals to impact upon these European designated sites. As such, the potential for impacts to these designated sites will be assessed in detail within an accompanying Shadow Habitats Regulations Assessment (SHRA) document.
- 5.2.8. **Non-statutory sites.** There are no non-statutory designated sites of biological conservation importance located within or immediately adjacent to the application site boundary.

Habitats within the application site

- 5.2.9. The habitats within the application site are considered to hold very limited ecological value, with the majority of the application site comprising buildings/hardstanding, species-poor grassland, treelines, trees, ditches and bare ground.
- 5.2.10. Under the development proposals for the application, much of the existing grassland and hardstanding will be lost to facilitate construction. The grassland within the application site are dominated by common and widespread species, considered to have very limited botanical diversity. No notable species were recorded during the survey and it is considered that losses to these habitats would be of no ecological significance.
- 5.2.11. Notwithstanding the above, areas of new species-rich wildflower grassland will be delivered within the application site as part of the landscaping scheme. This grassland will typically be provided at the application site boundaries and adjacent to retained treelines and new hedgerow planting.
- 5.2.12. Additionally, to provide new opportunities for biodiversity, an appropriately designed SuDS feature will be delivered as part of the development proposals, providing new seasonal waterbodies along the southern boundary of the site. Whilst the design and function of these features will necessarily be focused on its primary function (for drainage), there will be ample scope to design and manage it for the benefit of faunal groups, such as invertebrates, foraging bats and birds. The SuDS feature will be delivered within an area which will be retained and managed as an ecology zone, delivering new areas of species rich wet grassland (such as Emorsgate EM8 or similar) - a habitat not previously recorded within the application site.
- 5.2.13. Through the use of a native wildflower seed mixture, and the implementation of an appropriate management regime, it is considered that significant biodiversity benefits may be achieved compared to the existing situation.
- 5.2.14. Of comparatively greater ecological value are the treelines which form the boundaries of the application site. Under the proposals, these treelines will be fully retained, with only very minor losses to facilitate access. Moreover, boundary trees will be brought under a

new management regime, designed to enhance the ecological opportunities already present within the site.

- 5.2.15. In order to prevent encroachment of machinery and personnel during the construction period, temporary protective fencing (Heras or similar) shall be installed in line with current British Standards at canopy width from retained trees. This fencing shall remain in place throughout the construction period. No materials such as fuels or oils shall be stored in close proximity to the ditches.
- 5.2.16. The proposals will also include a significant amount of new species-rich hedgerow planting in areas where hedgerows have previously been absent. These hedgerows will contain a variety of berry and nut bearing species, a number of which will be new to the application site, offering new foraging opportunities for a range of faunal species. New hedgerows will also serve to separate different areas of development providing a degree of screening and shelter but also improving overall green infrastructure and connectivity.
- 5.2.17. The boundary ditches will also be retained and enhanced as part of the development proposals, ensuring new commuting, foraging and dispersal opportunities for a large range of associated fauna and flora. In order to avoid potential for adverse effects of local watercourses, standard engineering protocols and best practice shall be employed throughout the construction period, with all materials stored away from this part of the site and appropriate measures employed where necessary, such as the use of interceptor fencing. Fencing will be installed prior to construction with a 5m offset from either bank of the ditch. No personnel or machinery will be authorised to access the protected ditch network during construction or post-development.
- 5.2.18. It is considered that the provision of an appropriate landscape planting scheme for the application site, based around utilising native species of local provenance wherever possible, any losses to other habitats within the application site will be more than mitigated. The provision of new ecologically beneficial habitats and improvement of retained habitats and will result in a biodiversity enhancement and be of benefit for a range of faunal species.

5.3. Faunal Evaluation

Bats

- 5.3.1. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"), as amended. These include provisions making it an offence:

- Deliberately to kill, injure or take (capture) bats;
- Deliberately to 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;
 - To 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.
- 5.3.2. While the legislation is deemed to apply even when bats are not in residence, Natural England guidance suggests that 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.
- 5.3.3. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 5.3.4. 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.
- 5.3.5. European Protected Species licences are available from Natural England in certain circumstances, and permit activities that would otherwise be considered an offence.
- 5.3.6. Licences can usually only be granted if the development is in receipt of full planning permission and it is considered that:
- (i) The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 - (ii) There is no satisfactory alternative; and
 - (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.
- 5.3.7. **Application Site Evaluation.** A total two mature trees have been recorded to support features of potential value to roosting bat species (the locations of which are shown on Plan ECO3).
- 5.3.8. To date, two activity surveys have been complete on a monthly basis in April and May, and reveal the site mostly supports small numbers of common and widespread species. Similarly, data recorded as part of the static monitoring surveys recorded limited bat activity.
- 5.3.9. Bat surveys will continue into the season, with the methodology, results and conclusions submitted as an addendum report. At this stage however, given the notable lack of activity recorded, its

considered unlikely that a full suite of monthly bat activity surveys would be necessary to undertake a robust assessment of the application site in terms of foraging and commuting bats.

- 5.3.10. **Mitigation and Enhancements.** As part of the proposals, all trees with roosting bat potential will be retained. However, should any of these trees require any form of arboricultural works (removal or otherwise), they will be the subject of updated assessments (as appropriate). Should any evidence of roosting bats be found, a licence will be sought from Natural England prior to removal.
- 5.3.11. On the basis of current data, is considered that the application site is of relatively limited value for foraging and commuting bat species. Notwithstanding this, the development proposals will fully retain the vast majority the treelines, with only minor losses to facilitate access. This will ensure continued opportunities for commuting and foraging bats post development.
- 5.3.12. Moreover, a significant amount of new species-rich hedgerow planting will be provided across throughout the application site, including in areas where hedgerow have been historically absent. The provision of these hedgerows will not only will result in improved commuting opportunities for bat species but are also likely to improve the density of invertebrate prey species.
- 5.3.13. Similarly, new areas of wildflower grassland and SuDS features will also provide significantly improved foraging opportunities for this group.
- 5.3.14. To ensure existing dark corridors are retained for commuting and foraging bat species, a sensitive lighting regime will be implemented. The lighting scheme for the proposed development will ensure that existing and new areas of green space will be retained as dark corridors where possible. Ambient lighting will be 1lux or less, with accessories (such as baffles, hoods or louvres) utilised where appropriate to further minimise light spillage and direct light below the horizontal plane to where it is required (limiting light to an angle of 70 degrees or below wherever possible).
- 5.3.15. As an enhancement, a number of Schweglar bat boxes will be installed within on suitably mature trees at the boundaries of the application site. Its recommended that a model which can readily accommodate the bat species recorded within the application site is used, such as the 1FF and 3FF models (shown at Appendix 2).

Reptiles

- 5.3.16. **Legislation.** Rare, endangered or declining species receive 'full protection' under the Wildlife and Countryside Act 1981 as well as protection under The Conservation of Habitats and Species Regulations 2017 (as amended), which transposed into UK law the European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, more commonly known as the Habitats Directive. Species that are fully protected include

Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis*.
These receive the following 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; and
- selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).

5.3.17. Given the geographical location of the application site and the habitats present, it is considered that neither of these species would be present.

5.3.18. Due to their abundance in Britain, Common Lizard, 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.

5.3.19. **Application Site Evaluation.** The grassland within the northern part of the application site has been recorded to support a low population of Common Lizard and Grass Snake, with a total of one Grass Snake and six Slow Worms recorded during specific surveys undertaken between May and June 2020. All reptiles were recorded at the northern boundary of the application site where opportunities for reptiles are more apparent.

5.3.20. **Mitigation / Enhancements.** The proposals will result in direct impacts upon reptile habitat during site clearance and construction operations. However, given the size of the application site, and that reptiles were recorded within very low numbers, it is considered any losses to these habitats would be of negligible significance to the local reptile population.

5.3.21. An area of suitable reptile habitat in the northern part of the application site will be retained as an area of open space under the development proposals. As such all reptiles will be retained within the application site boundary.

5.3.22. In order to avoid the injury or death of reptiles, it is recommended that a suitably designed translocation scheme is implemented prior to the construction phase. It is considered likely that this will involve the use of herpetofauna fencing to ensure reptiles do not recolonise the application site. As above, it is envisaged that an onsite holding area would be more than adequate, given the very small amount of reptiles recorded.

- 5.3.23. The proposals will deliver significant enhancements for reptiles over the existing situation, with new species-rich grassland and wetland habitats, in addition to new eco-tone habitats created at the site boundaries.
- 5.3.24. The management regimes of these new species-rich habitats will be also be designed with reptiles in mind, with areas of longer grassland encouraged in specific areas, thus offering a variety of foraging and basking opportunities.
- 5.3.25. Moreover, the proposals will include new hibernation and basking opportunities for reptiles in the form of log piles within areas of open space.
- 5.3.26. Subject to the above measures being implemented, its considered that the proposals will deliver a significant enhancement for reptiles, with new opportunities likely to encourage further colonisation of the application site.

Birds

- 5.3.27. **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
- 5.3.28. **Application Site Evaluation.** There are some opportunities for nesting birds in the treelines and shrubs within the application site, although the site is not considered to be of any particular significance for nesting bird species.
- 5.3.29. **Mitigation and Enhancements.** As all species of birds receive general protection whilst nesting, to avoid a possible offence it is recommended that any minor clearance of hedgerows or scrub is undertaken outside the breeding season (between March and the end of July), or alternatively that checks be made for nesting birds by an ecologist immediately prior to any vegetation removal.
- 5.3.30. Through the retention of existing vegetation, it is considered that the emerging development proposals for the site provide an opportunity to maintain the value of the application site for nesting and foraging birds. Moreover, new planting will comprise a range of berry bearing species, providing new foraging opportunities for this group.
- 5.3.31. In order to provide new breeding opportunities, its recommended that a small number of bird boxes (Schweglar or similar) are provided post development. All nest boxes should be situated out of direct sunlight and out of the reach of predators, particularly cats.

6. PLANNING POLICY CONTEXT

- 6.1. The planning policy framework that relates to nature conservation in West Bersted is issued at two main administrative levels: nationally through the National Planning Policy Framework (NPPF); and locally through the Arun Local Plan 2011-2031. The proposed development will be judged in relation to the policies contained within these documents.

6.2. National Policy

National Planning Policy Framework (February 2019)

- 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 that this presumption “does not apply where the plan or project is likely to have a significant effect on a habitats site (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 that 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

Arun Local Plan 2011 - 2031 (Adopted 2018)

- 6.3.1. The Arun Local Plan was adopted in 2018 and sets out the Council's plans for the development of Arun up to 2031. It contains strategic and development management planning policies which should be used in the consideration of planning applications.
- 6.3.2. Policy ENV SP1 - Natural Environment states that Arun District Council will promote the preservation, restoration and enhancement of biodiversity and the natural environment particularly through policies for the protection of statutory sites, including European sites of importance. The creation of new areas of habitats where possible will also be promoted.
- 6.3.3. Policy ENV DM1 - Designated sites of biodiversity or geological importance refers to proposed developments likely to have an adverse effect on any such designated sites. The policy states these proposals will not normally be permitted, except in cases where there developer can demonstrate that there is no alternative solution, there are reasons of public health or public safety, there are benefits of primary importance to the environment or there are imperative reasons of overriding public interest. In determining planning applications affecting sites of biodiversity importance the Council must ensure that the intrinsic value of the sites are safeguarded or enhanced having regard to the following; the European, National or Local status and designation of the site; the nature and quality of the site's features, including rarity value; the extent of any adverse impacts on the notified features of interest; the need for compensatory measures in order to re-create remaining features of habitats on or off site. The policy states that where appropriate the Council will ensure the effective management of designated sites through the imposition of planning conditions or Section 106 agreements as appropriate.
- 6.3.4. Policy ENV DM2 – Pagham Harbour deals direction with development proposals which may have adverse effects of the Pagham Harbour SPA/Ramsar site. The policy states major development proposals for anywhere over 5km from the designated site shall be examined to determine any potential

effects on Pagham Harbour and the need for any avoidance or mitigation measures.

- 6.3.5. Policy ENV DM3 - Biodiversity Opportunity Areas (BOAs) states that development shall retain and sympathetically incorporate locally valued and important habitats including wildlife corridors and stepping stones. Development shall also be designed in order to minimise disturbance to habitats. Where development proposals are likely to have an impact on a BOA, planning applications must include surveys conducted to identify the presence of such species and habitats, any impacts identified and mitigation measures put in place with accordance with the Planning Authority.
- 6.3.6. Policy ENV DM4 - Protection of trees seeks to protect trees protected by a Tree Preservation Order(s), Ancient Woodland or those in a Conservation Area or contributing to local amenity. The damage or destruction of such trees shall not be permitted unless exceptional circumstances can be demonstrated.
- 6.3.7. Policy ENV DM5 - Development and biodiversity states that development should seek to achieve a net gain in biodiversity and protect existing habitats. The policy states that development should incorporate features that would benefit biodiversity such as green walls, green roofs, bat and bird boxes and landscape features. Links should also be provided with surrounding habitats where possible to facilitate species movement across the landscape as a whole. Where evidence of protected species within a development site is identified, surveys must be undertaken and if impacts identified, mitigation provided.

6.4. Discussion

- 6.4.1. Recommendations have been put forward in this report that would fully safeguard the existing ecological interest of the application site. Furthermore, the proposals include scope to enhance opportunities for protected species where appropriate. Based on surveys undertaken and assessment, the presence and potential presence of protected species has been given due regard and measures to enhance the application site for such species have been put forward.
- 6.4.2. In conclusion, implementation of the measures set out in this report enable the proposals to fully accord with planning policy for ecology and nature conservation at all administrative levels.

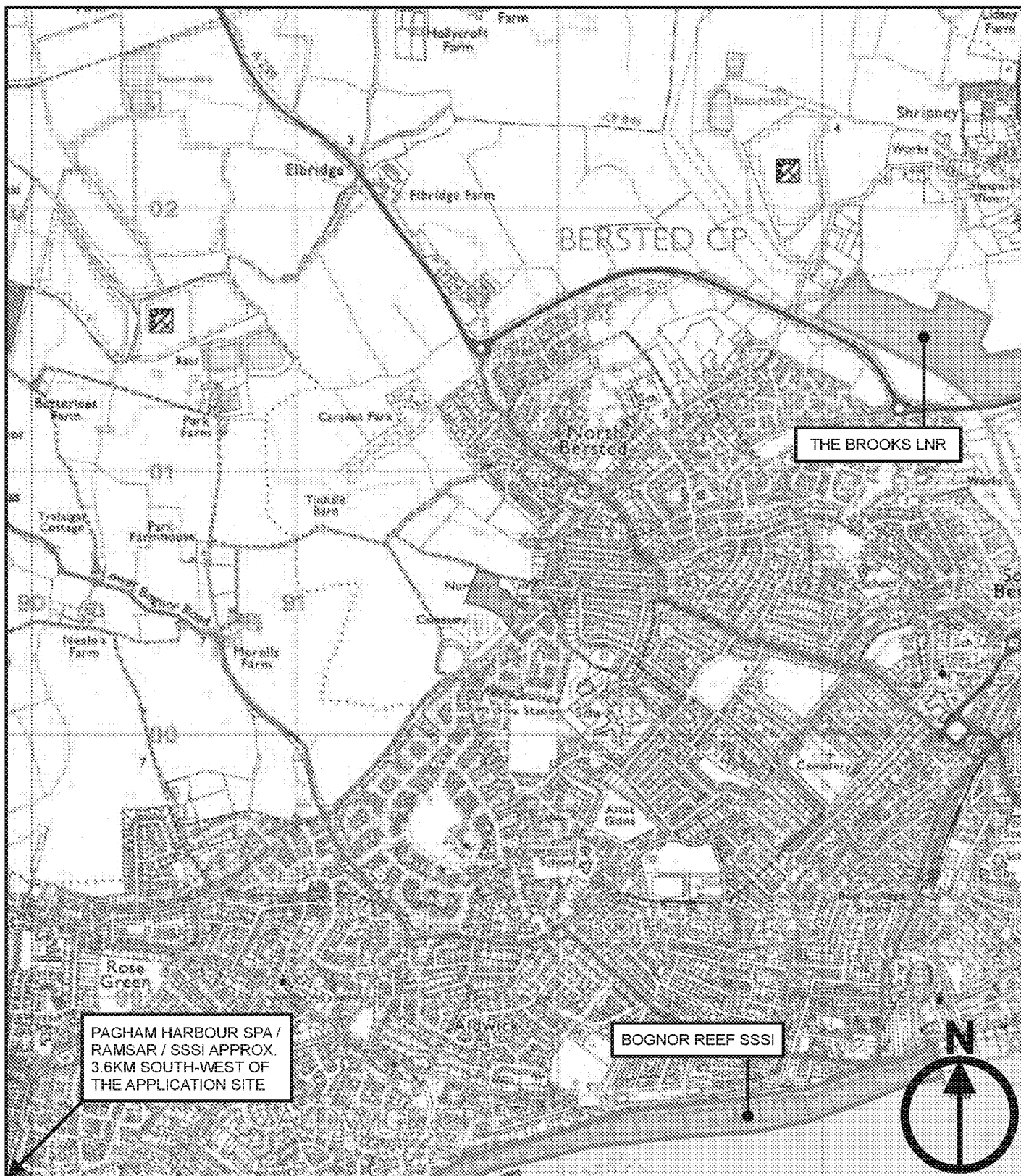
7. SUMMARY AND CONCLUSIONS

- 7.1. Ecology Solutions was commissioned by Landform Bersted Ltd in April 2020 to undertake an Ecological Assessment of Chalcroft Lane, West Bersted, West Sussex.
- 7.2. The proposals are for 20 residential dwellings, 2,240 sqm of commercial space (Use Class A1, B1(b) B1(c) and B8), landscaping, access, parking and associated infrastructure.
- 7.3. There are no statutory or non-statutory sites designated sites of nature conservation interest situated within or immediately adjacent to the application site. Given the areas of open countryside and existing development separating the application site from nearby statutory designated sites, the provision of new public open space within the application site and the implementation of standard engineering protocols and best practice throughout the construction period, it is considered that the proposed development is unlikely to have any significant impacts on any of these nearby designated sites, during either the construction or operational phase.
- 7.4. The application site lies approximately 3.6km north-east from the European and nationally designated site Pagham Harbour (SPA, Ramsar, and SSSI). The potential for impacts to these designated sites in addition to their supporting habitats and qualifying species, will be assessed in detail within an accompanying Shadow Habitats Regulations Assessment (sHRA) document.
- 7.5. The majority of the habitats within the application site generally hold very limited ecological value, with the application site primarily comprising hardstanding, buildings and bare earth. The proposals will retain habitats of relatively greater ecological significance (i.e. the boundary ditches), with sufficient scope to offset losses to these habitats where appropriate. Losses to the grassland habitats are considered to be of low ecological significance.
- 7.6. A suite of protected species surveys and assessments have been undertaken, with bat surveys ongoing. The trees offer nesting and foraging opportunities for birds in addition to suitable foraging and navigational resources for bats. The application site is also utilised by low populations of Common Lizard and Grass Snake.
- 7.7. Appropriate mitigation measures have been proposed, including measures to safeguard bats, reptiles and bats. Subject to the implementation of mitigation measures as outlined above in respect of these species, opportunities for key faunal groups may be retained and moreover enhanced post-development.
- 7.8. In conclusion, on the evidence of the ecological surveys undertaken, the application site is not considered to be of particularly high intrinsic value from an ecology and nature conservation perspective. The design of the proposed development and the implementation of mitigation measures as recommended in this report (and accompanying sHRA) will ensure that there are no adverse effects on any designated sites or protected species as a result of development at the application site.

PLANS

PLAN ECO1

Application Site Location and Ecological
Designations



KEY:

-  APPLICATION SITE LOCATION
-  SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
-  LOCAL NATURE RESERVE (LNR)



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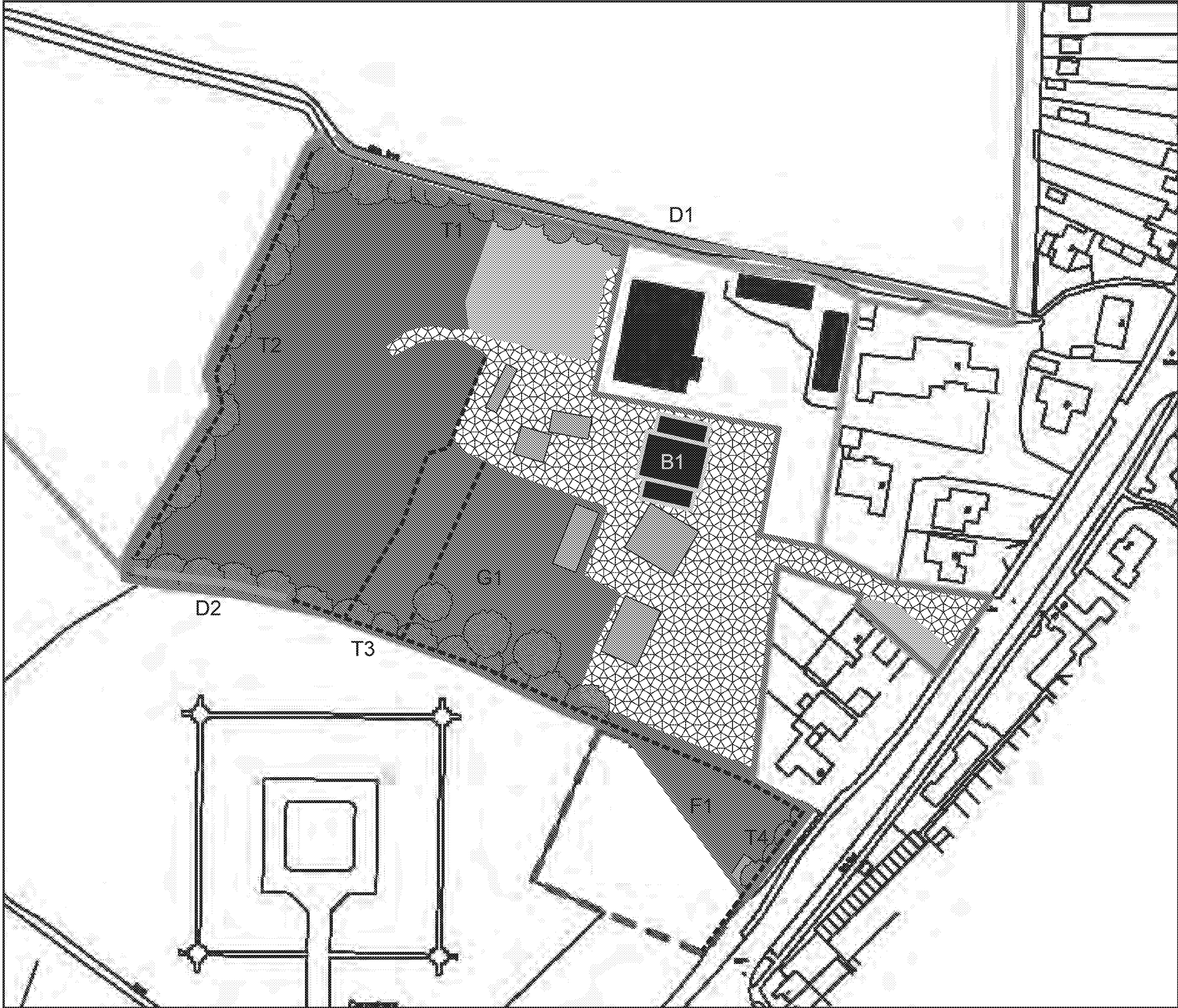
**7216: CHALCRAFT NURSERY,
CHALCRAFT LANE, WEST BERSTED**

**PLAN ECO1: SITE LOCATION AND
ECOLOGICAL DESIGNATIONS**

**July
2020**

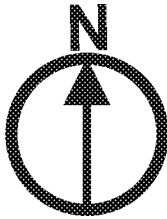
PLAN ECO2
Ecological Features

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KEY:

- APPLICATION SITE BOUNDARY
- IMPROVED GRASSLAND
- SEMI-IMPROVED GRASSLAND
- BARE EARTH
- BUILDING
- TEMPORARY STRUCTURE
- TREELINE
- HEDGE
- HARDSTANDING
- WET DITCH
- DRY DITCH



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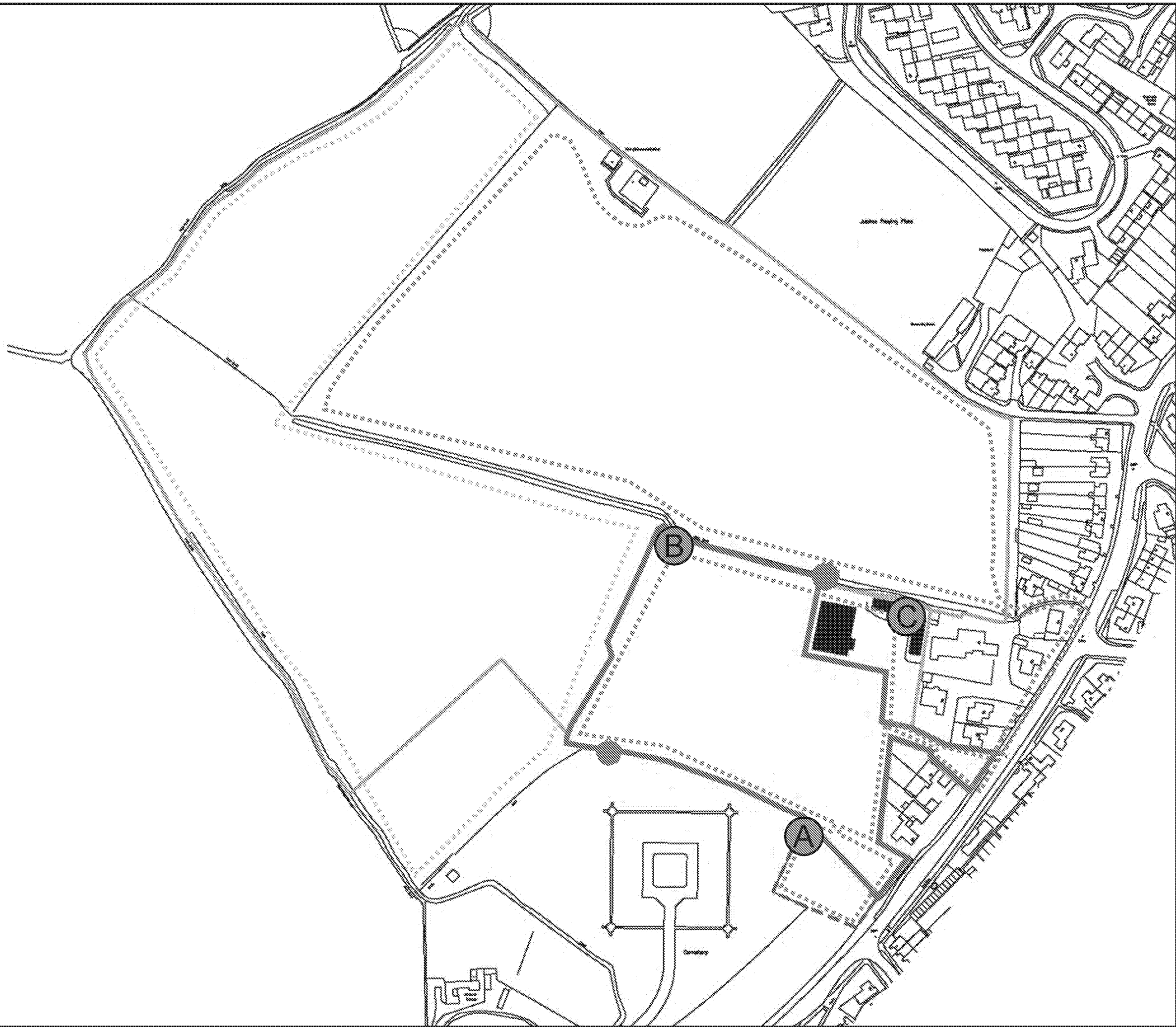
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7216: CHALCRAFT NURSERY,
CHALCRAFT LANE, WEST BERSTED

ECO2:
ECOLOGICAL FEATURES

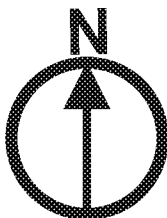
July
2020

PLAN ECO3
Protected Species



KEY:

- APPLICATION SITE BOUNDARY
- BAT ACTIVITY TRANSECT 1
- BAT ACTIVITY TRANSECT 2
- STATIC DETECTOR LOCATION
- TREE WITH LOW BAT POTENTIAL



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7216: CHALCRAFT NURSERY,
CHALCRAFT LANE, WEST BERSTED

ECO3:
PROTECTED SPECIES

July
2020

APPENDICES

APPENDIX 1

Information obtained from MAGIC



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)

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ymax = 103000

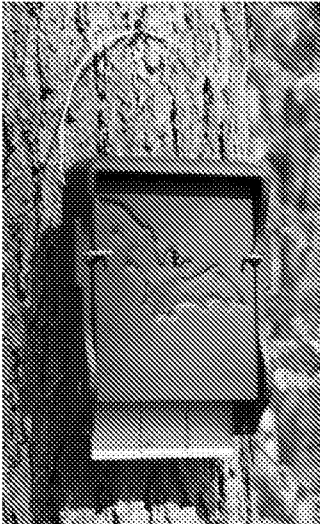
Map produced by MAGIC on 22 July, 2020.
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APPENDIX 2

Examples of Suitable Bat Boxes

Examples of Suitable Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box. The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting. Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.



1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete construction

Width: 27cm

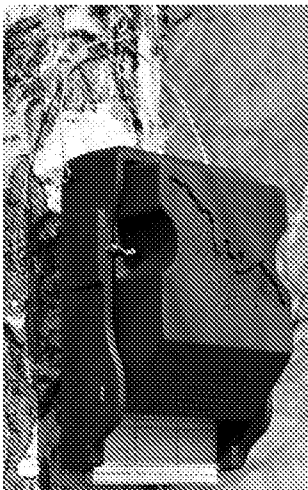
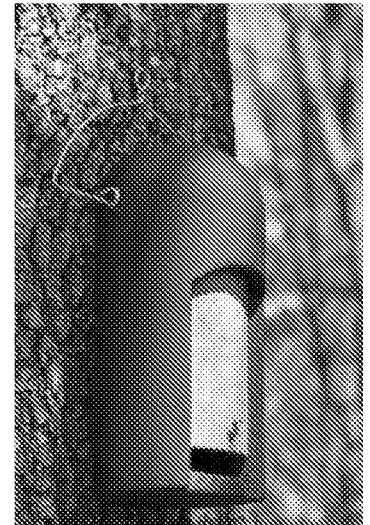
Height: 43cm

Weight: 8.3kg

2FN Bat Box

A large bat box featuring a wide access slit at the base as well as an access hole on the underside. Particularly successful in attracting Noctule and Bechstein's bats.

Woodcrete construction, 16cm diameter, height 36cm.



3FF Colony Bat Box

A standard bat box, attractive to the smaller British bat species. Simple design with a narrow entrance slit on the front.

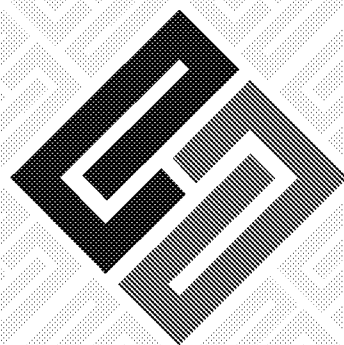
Woodcrete construction

Width: 27cm

Height: 43cm

Weight: 9.5kg





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