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LAND AT CHURCH LANE, CLIMPING, WEST SUSSEX

PRELIMINARY ECOLOGICAL APPRAISAL REPORT

MAY 2016

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NON-TECHNICAL SUMMARY

A Preliminary Ecological Appraisal was carried out at land at Church Lane in Climping, West Sussex, on the 03rd August 2015, in order to determine whether any ecological constraints could affect the proposed works for the site. An additional site visit was undertaken on 10th May 2016 to assess habitats on the frontage of the A259.

It is understood that current proposals are for a residential development for up to 300 dwellings with the provision of green space. A new junction will also be required between the A259 and Church Lane. It is understood the woodland within the southern and western site extents will be retained with the exception of a discrete area within the eastern site extent to make way for the new junction. Ponds will also be created as part of the proposed landscaping design.

The main findings of the survey are as follows:

- The survey area was dominated by an arable field together with woodland, areas of scrub, grassland, scattered trees, ruderal vegetation and a hedgerow.

- The site is not subject to any statutory or non-statutory designations. The closest statutory designated site is Littlehampton Golf Course Site of Nature Conservation Interest (SNCI) located approximately 1km to the south.

- Habitats within the site were assessed as being of value to wildlife with the local vicinity with potential to support populations of badgers, breeding birds, reptiles, bats and great crested newts.

- Following the initial habitat assessment, further protected surveys are recommended in respect to bats, great crested newts and badgers in order to determine if and how these species are using the site and in order to devise appropriate mitigation.

- Further surveys for breeding birds and reptiles are not considered necessary. Instead a precautionary approach to works is recommended to safeguard these species groups.

- Details regarding the protected species surveys together with a series of mitigation measures in respect to other protected species groups together with enhancement options for the site are provided in the recommendations section of the report.

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1. INTRODUCTION

Background

1.1 Phlorum Limited was commissioned by Parker Dann to undertake a Preliminary Ecological Appraisal, to inform the potential ecological constraints of proposed future development of land at Church Lane, Climping, West Sussex (hereafter referred to as "the site").

1.2 The purpose of the Preliminary Ecological Appraisal was:

- to identify the major habitats present;
- to identify the potential for any legally protected species to be present; and
- to recommend any additional ecological surveys, if required.

1.3 As part of the Preliminary Ecological Appraisal, a desktop review, consultations and a site visit were carried out. The results of which were used to assess the nature conservation importance of the site and the potential of the site to support protected species.

1.4 Recommendations for further ecological surveys are made at the end of the report.

1.5 This report has been compiled in accordance with current guidelines (British Standard, 2013 and CIEEM, 2006 & 2013).

1.6 It is understood that current proposals are for a residential development to include the provision of green space. A new junction will also be required between the A259 and Church Lane. It is understood the woodland within the southern and western site extents will be retained with the exception of a discrete area within the eastern site extent to make way for the new junction. Ponds will also be created as part of the proposed landscaping design.

Site Description

1.7 The site at Church Lane is within a relatively rural location within the centre of Climping in West Sussex. The site is bounded to the north by residential housing and Horsemere Green Lane and to the east by Church Lane. Yapton Road bounds the site to the west and Crookthorn Lane is directly south.

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1.8 In the wider surrounds, agricultural land dominates the landscape south, east and west with residential properties and commercial buildings to the north. Littlehampton is located approximately 1.5km to the east and the coastline is approximately 1.3km to the south.

1.9 The National Grid Reference for the centre of the site is TQ000 020 and the site measured approximately 21 hectares (ha).

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2. METHODOLOGY

Desk Study & Consultations

2.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within a 2km radius of the site. The data search was based on available information provided by the following sources:

- Sussex Biodiversity Records Centre;
- Multi-Agency Geographical Information for the Countryside (MAGIC, 2015);
- Ordnance Survey mapping; and
- Aerial photography.

Field Survey and Assessment

2.2 Phlorum Limited carried out an ecological survey of the site on 03rd August 2015. The survey was carried out by a suitably qualified ecologist, Carly Teague who has over eight years professional experience of undertaking ecological surveys. The weather conditions during the survey were overcast with intermittent rain.

2.3 An additional site visit was undertaken on 10th May 2016 to assess habitats on the frontage of the A259. Conditions were dry and bright.

2.4 The field survey comprised a walkover inspection of the land and habitats present. The survey followed standard Phase 1 survey methodology (JNCC, 2010) and covered all accessible parts of the site, including boundary features. Habitats were described and mapped (Appendix B). A list of plant species was compiled, together with an estimate of abundance made according to the DAFOR scale (Appendix D).

2.5 This assessment provides information on the habitats in the survey area and identifies actual or potential presence of legally protected or otherwise notable species/habitats in or immediately adjacent to the site.

2.6 Target notes highlighting a particular feature of ecological interest are provided in Appendix A, with associated photographs.

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2.7 Scientific names are given after the first mention of a species, thereafter, common names only are used. Nomenclature follows Stace (2010) for vascular plant species.

Protected Species Assessment

2.8 The potential for the site to provide habitat for protected species was assessed from field observations in conjunction with results of the desk study. The site was inspected for indications of the presence of protected species including:

- Habitat considered suitable to support widespread reptile species including areas with a scrub/grassland mosaic and potential hibernation sites;
- On-site water bodies offering potential breeding opportunities for great crested newt (*Triturus cristatus)* and the presence of suitable terrestrial habitat including hedgerows and rough grassland;
- Habitats considered suitable to support badger (*Meles meles)* setts, and evidence in the form of hair, pathways and latrines;
- Presence of woodland and or hedgerows providing suitable habitat to support hazel dormouse (*Muscardinus avellanarius)*;
- The presence of features in, and on, trees, indicating potential for roosting bats *Chiroptera*, including knot and rot holes, loose bark. The presence of features on buildings and any secondary evidence of bats including staining, droppings and feeding remains were also looked for; and
- The presence of nesting habitat for breeding birds, including mature trees, dense scrub and hedgerows and direct evidence of bird nesting including bird song, old nests etc.

2.9 The potential presence for protected species is categorised as Negligible, Low, Moderate, High or Present, based on the findings of the field survey and on the evaluation of existing data.

2.10 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species or mitigation should be recommended.

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Caveat

Data Search Constraints

2.11 It is important to note that, an absence of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Survey Constraints

2.12 Ecological surveys are limited by factors that affect presence of plants and animals such as seasonality.

2.13 The appraisal does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species. This survey provides a preliminary view of the likelihood of protected species occurring on the site based on the suitability of the habitat, known distribution of the species in the local area and any direct evidence on the site. It is therefore used as a tool to recommend further protected species surveys (or other species of significant nature conservation interest) if is considered likely that protected species may be present.

2.14 It is considered that the survey was sufficiently rigorous to assess the ecological value of the site for the purposes of this assessment.

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3. BASELINE CONDITIONS

Aerial Photography and OS Maps

3.1 Aerial photography indicates there are a series of agricultural fields together with an associated network of hedgerows throughout the wider rural landscape.

3.2 There were no on-site water bodies. Aerial photography indicates that there are approximately five ponds located within 500m of the site boundary, the closest of which is approximately 110m to the north of the site. The River Arun is located approximately 650m north-east at its closest point.

3.3 There are no areas of Ancient Semi-Natural Woodland located within 2km of the site.

Statutory and Non-Statutory Designated Sites

Statutory Sites

3.4 The site is not subject to any statutory designations.

The closest statutory designated site is Climping Beach Site of Special Scientific Interest (SSSI) located 1.2km south of the survey area.

Non-statutory Sites

3.5 The site is not subject to any non-statutory designations.

3.6 The closest non-statutory designated site is Littlehampton Golf Course Site of Nature Conservation Interest (SNCI) located approximately 1km south of the site.

Habitats

Site Summary

3.7 The site comprised an arable field and associated boundary habitats. The main habitats recorded within the site are described below. Additional details are shown on the Habitat Survey Map in Appendix B, and the target notes are listed in Appendix A.

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Hardstanding

3.8 A tarmacadam public footpath extended between the woodland and the A259 road verge in the southern site extent.

Arable

3.9 The site was dominated by an 'L' shaped field used to grow wheat (*Triticum* sp.) and oats (*Avena* sp.). The crops had been recently cut at the time of the survey.

Semi-Improved Grassland

3.10 Discrete areas of grassland had developed within the northern site extent; along the northern field boundary and within a corner of the field adjacent to the off-site housing to the west.

3.11 Dominant species included cock's foot (*Dactylis glomerata*) Yorkshire fog (*Holcus lanatus*) and meadow grass (*Poa* sp.) with frequent false oat grass (*Arrhenatherum elatius*) and fescue (*Festuca* sp.). Forbs occurring occasionally in the sward included willowherb (*Epilobium* sp.) yarrow (*Achillea millefolium*) and scentless mayweed (*Tripleurospermum inodorum*).

Amenity Grassland

3.12 A discrete area of managed grassland extended along the A259 road verge and along the verge of Church Lane. Grassland species identifiable at the time of the survey included fescues and Yorkshire fog.

Scrub

3.13 Areas of dense and scattered scrub had developed around the field boundaries and an area of dense scrub had developed in the north-western site extent, restricting access at this location. Scattered scrub was also observed in the woodland block within the southern site extent. Scrub species included hawthorn (*Crataegus monogyna*) elder (*Sambucus nigra*) and bramble (*Rubus fruticosus* agg.).

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Tall Ruderal Vegetation

3.14 Patches of ruderal vegetation had developed around the field margins within the northern and eastern site extents and between the woodland and the public footpath adjacent to the A259. Dominant species included nettle (*Urtica dioica*), and broad-leaved dock (*Rumex obtusifolius*) with frequently occurring cow parsley (*Anthriscus sylvestris*) and occasional willowherb (*Epilobium* sp.), creeping thistle (*Cirsium arvense*) and hogweed (*Heracleum sphondylium*).

Scattered Trees

3.15 A row of scattered trees were present within the northern site extent and scattered trees had also developed along the eastern site boundary. Species included hawthorn, birch (*Betula pendula*) and sycamore (*Acer pseudoplatanus*).

Species-Poor Hedgerow

3.16 A discrete section of an outgrown hawthorn hedge was present within the north-eastern site extent, creating the boundary between the site and Church Road adjacent to the east. This hedgerow measured approximately 30m in length and 2m in width.

Semi-Natural Broadleaved Woodland

3.17 Wooded areas were present in the southern and western site extents of the survey site. The woodland strip within the southern section of the site supported a more diverse structure, comprising a mixture of young, semi mature and mature trees. Species included silver birch (*Betula pendula*), ash (*Fraxinus excelsior*) beech (*Fagus sylvatica*) and English oak (*Quercus robur*). Overall there was a limited understorey although bramble scrub had developed in some sections of the woodland at this location. Ground flora was also restricted to discrete patches where ivy (*Hedera helix*) and nettles had developed. Woodland extended along the entire southern site boundary.

3.18 The woodland block within the western site extent comprised a beech dominated planted woodland which extended along the majority of the western boundary. This area was dominated by semi-mature specimens and an understorey was absent. Ground flora was restricted to discrete patches and comprised ground ivy (*Glechoma hederacea*).

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Protected Species

Legislation

3.19 Legislation relating to the protected species referred to in this section is included in Appendix C.

3.20 The following paragraphs detail the suitability of the on-site habitats to support protected species and include information from the data search for protected, rare and otherwise notable species returned within a 2km radius.

Reptiles

3.21 The data search returned records for common lizard (*Zootoca viviparia*), slow worm (*Anguis fragilis*) and grass snake (*Natrix natrix*) within 2km of the site.

3.22 The closest slow worm record was from 2014 located approximately 560m to the south. The closest record for common lizard was 1.1km east of the site, recorded in 2010. The closest grass snake record was returned in 2010 approximately 1.95km north-west.

3.23 The majority of the site comprised a managed arable field, considered to be sub-optimal for use by reptiles. Overall the varied habitat structure favoured by reptiles for basking, foraging and hibernating was absent due to the nature of the site. However, discrete areas of tall ruderal and rough grassland habitat located along the western extent of the northern boundary and the north-eastern corner of the site were considered to provide some suitable foraging and basking potential for reptiles. These areas were however small and discrete in nature and connected to residential gardens to the north which in turn were considered to provide more extensive and more optimal conditions for reptiles in the wider surrounds of the site.

3.24 It is considered that overall the site provides **low** potential for reptiles.

Great Crested Newt (and other amphibians)

3.25 The data search returned records for great crested newt (*Triturus cristatus*) and common toad (*Bufo bufo*) within 2km of the site. The closest records for both species are from 2010 located approximately 260m to the south of the survey site.

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3.26 There were no on-site waterbodies, however aerial photography indicates that there are five ponds present within 500m of the site. The closest located approximately 110m north of the site.

3.27 Areas of on-site marginal woodland, hedgerow and scattered scrub provide suitable terrestrial habitat for great crested newts and other amphibians and the arable field itself may also be used by great crested newts passing between off-site ponds.

3.28 Although the site is bounded to the south, west and east by roads which may restrict the movement of some amphibians in these directions, these roads are not considered to pose a significant barrier to the movement of great crested newts to and from the site.

3.29 Overall the site was considered to provide **moderate** potential for great crested newts and other amphibians.

Bats

3.30 The data search returned records for four different species of bat within 2km of the site, including brown long-eared (*Plecotus auritus*), serotine (*Eptesicus serotinus*), noctule (*Nyctalus noctula*) and Natterer's (*Myotis nattereri).*

3.31 Confirmed roosts of brown long-eared, serotine and Natterer's were also recorded within 2km of the survey area.

3.32 Some features including woodpecker holes and split limbs were observed on mature and semi mature trees within the woodland around the southern and western site extents. These features have potential to support roosting bats (Refer to Target Note 1 on the habitat map in Appendix B).

3.33 The boundary trees and on-site woodland blocks provide suitable foraging and commuting habitat for bats and provide connectivity to off-site habitat to the east and west.

3.34 The site was considered to provide **high** potential for foraging bats and **moderate** potential for roosting bats.

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Birds

3.35 A total of five Red listed Birds of Conservation Concern[1] (BoCC) were returned by the data search which may utilise habitats within the site. Red listed species include Lapwing (*Vanellus vanellus*), song thrush (*Turdus philomelos*), grey partridge (*Perdix perdix*), skylark (*Alauda arvensis*), house sparrow (*Passer domesticus*) and tree sparrow (*Passer montanus*).

3.36 Areas of on-site scrub, woodland and hedgerow habitats provide suitable breeding habitat for a range of breeding bird species (Refer to Target Note 2 on the habitat map in Appendix B).

3.37 Areas of arable land that dominate the site were considered to provide suitable habitat for a range or farmland bird species including skylark however due to the intensively managed nature of the field for crops, the potential for nesting is reduced although individuals may utilise the field as a foraging resource.

3.38 Overall the site was considered to provide **high** potential for nesting birds in suitable habitat.

Badgers

3.39 Badger records were not returned by the data search due to the sensitive nature of this species. The woodland areas provide suitable sett building habitat and the arable field and boundary habitats provide suitable foraging habitat, with good connectivity to additional foraging opportunities in the adjacent residential gardens to the north.

[1] Birds of Conservation Concern status is prioritised into high concern (Red), medium concern (Amber) and low concern (Green) (Eaton et al, 2009). Red-list species are those that are globally threatened according to the IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and have not shown a substantial recent recovery. Amber-list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations. Green-list species are those that fulfil none of the criteria.

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3.40 During the survey no setts of secondary signs of badgers such as footprints or hairs were observed however a series of mammal pathways were observed leading from the arable field under boundary fence lines to the south and west. Due to the size of the site the entire site could not be systematically searched for signs of badgers during the initial appraisal and therefore signs of badgers could have been missed.

3.41 The site was considered to provide **moderate** potential for badger, offering both sett building and foraging opportunities for this species.

Hazel Dormouse

3.1 The data search did not return any records for dormouse (*Muscardinus avellanarius*) within 2km of the site.

3.2 The areas of woodland were not considered suitable for dormice due to the limited species diversity within these areas. Dormice favour woodlands with a range of plant species which provide a food source throughout the year. Favoured species include an abundance of hazel and honeysuckle together with frequently occurring oak and bramble amongst other species.

3.3 In addition, the limited extent of woodland together with the isolation from other suitable habitat and absence of other woodland blocks in the landscape, significantly reduces the likelihood that the habitat can support a viable population of dormice.

3.4 Overall the site was considered to have **negligible** potential to support hazel dormouse.

Water Vole

3.5 The data search returned records for water vole (*Arvicola amphibius*) within 2km of the site. The closest record was from 2014 approximately 700m south east of the site.

3.6 The site did not support any suitable habitat for this species. Water voles require riparian habitats and suitable ditches or rivers need to support gently sloping banks suitable for burrow construction together with the presence of aquatic vegetation and areas of open water, providing foraging and cover opportunities for this species.

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3.7 Overall the site was considered to provide **negligible** potential to support water voles.

Other Species

3.8 Fox scats were observed in the arable field area (see Appendix A, Photograph 4 and Appendix B Target Note 3) indicating foxes pass through the area. No fox dens were observed during the surveys.

Invasive Non-Native Species (INNS)

3.9 The data report returned records of three INNS that are listed on Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended) that could utilise onsite habitats.

3.10 Species included yellow Archangel (*Lamium galeobdolon ssp. argentatum*), Himalayan balsam (*Imaptiens glandulifera*), giant hogweed (*Heracleum mantegazzianum*) and Japanese knotweed (*Fallopia japonica*).

3.11 No invasive species were recorded at the time of the survey.

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4. EVALUATION

4.1 On the basis of the information available from the habitat survey and desk study, the site has been evaluated in terms of its potential for biodiversity, support of protected species and habitats, and the contribution the area makes as part of the wider landscape. The nature conservation value of the site has been assessed following standard criteria developed by CIEEM (2006) and in accordance with BS 42040:2013. This is provided below.

4.2 The biodiversity value of protected species within the site is a preliminary evaluation based upon the desk study records, habitat suitability and the conservation status of the species in question. It should be noted that where European Protected Species (EPS) or species of Principal Importance for the Conservation of Biodiversity are present on-site they may be valued at a lower level/scale where it is considered likely that populations would not be of sufficient importance to justify designation at a higher level. However, regardless of their biodiversity value, such species are still subject to national and/or European legislation.

4.3 Key aspects of relevant planning policy regarding conservation, including an explanation of species referred to as being of 'Principal Importance for Conservation of Biodiversity' and European Protected Species and habitats, are provided in the Legislation section in Appendix C.

Geographic Evaluation

Features of International Importance

4.4 Features of International Importance are principally sites covered by international legislation or conventions. The Conservation of Habitats and Species Regulations 2010 (as amended) implements the Natural Habitats and Wild Fauna and Flora (92/43/EC) (Habitats Directive) in England and Wales. The Regulations mainly deal with the protection of sites with certain habitats and populations of species that are important for nature conservation in a European context, i.e. Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's).

4.5 The site is not subject to any international statutory nature conservation designations.

4.6 The closest site of International Importance is Pagham Harbour Special Protection Area (SPA), located 13km to west at its closest point. This site is designated for its range of wetland habitats and wintering wildfowl populations.

4.7 The survey area did not provide any supporting habitat for this designated site.

Features of National Importance

4.8 Features of national importance include SSSIs which are designated under the Wildlife and Countryside Act 1981 (as amended).

4.9 The site is not subject to any national statutory nature conservation designations.

4.10 The closest site of national importance is the Climping Beach SSSI approximately 1.2km south of the site. The site is designated due to its large population of sanderling (*Calidris alba*).

4.11 The survey area does not support any supporting features for this site and the development is not considered to impact on this designation.

Features of Regional Importance

4.12 The closest site of reginal importance is Littlehampton Golf Course SNCI located approximately 1km south of the survey area.

4.13 The site does not include any features of value at this level neither is it likely to be selected as a SNCI based on the results of the current survey.

Features of District Importance

4.14 The site is relatively small and does not support any features that were considered to be of ecological value at this level.

Features of Local Importance

4.15 The site has potential to support protected species including reptiles, great crested newt, roosting and foraging bats, badgers and breeding birds.

4.16 The site supports features that were considered to be of value at this level.

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Features of Value Immediate Vicinity (c. 250m) of the project

4.17 The on-site habitats and boundary features are of value within the immediate vicinity. The site supports habitats used by badgers and may also potentially support other protected species including reptiles, great crested newts, bats and breeding birds.

Summary

4.18 Overall on the basis of the survey results and the above criteria, habitats within the site are considered largely to be of ecological value within the local area only. The site provides suitable habitat to potentially support small numbers of protected species and groups including badgers, bats, great crested newts, breeding birds and reptiles in the local area. However, populations of these are unlikely to be significant at a district level.

Local Plan Evaluation

4.19 It is considered that the '2003 saved policies' from the statutory Arun District Local Plan and the Arun Local Plan (2011-2031) contain the following nature conservation policies relevant to the site.

4.20 A summary of these policies is provided below. The full text of the relevant policies is contained in the Legislation section in Appendix C and this should also be referred to.

4.21 A Climping Neighbourhood Plan is also in the process of being produced although no policies were available at the time of compiling this report some policies may be applicable to the site in the future.

Arun District Local Plan (2003)

- POLICY GEN3 Protection of the Countryside: Outside the Built-Up Area, as defined on the Proposals Map, the countryside will be safeguarded for its own sake. Development will not be permitted unless it is for quiet, informal recreation; the diversification of the rural economy; for essential road schemes; or it is in accordance with a policy in Sections 2 and 3 of the plan referring to a specific use or type of development.

- POLICY AREA12 Agricultural Land Quality: The use of best and most versatile agricultural land (Grades 1, 2 and 3a) for any form of development not associated with agriculture or forestry will not be permitted unless need for the development outweighs the need to protect such land in the long term. Where development is permitted on the best and most versatile land it should, as far as possible, use the lowest grade of land suitable for that development.

Arun Local Plan 2011 – 2031

- POLICY SD SP2 Built-up Area Boundary: Development will be permitted within the area defined as the Built-Up Area Boundary on the Policies Maps, subject to all other policies in this Local Plan. Outside the Built-up Area Boundaries, apart from the Strategic, Site Specific and Broad Allocations, development or redevelopment will not be permitted unless it is consistent with other Local Plan policies.

- POLICY C SP1 Countryside: Outside the defined Built-Up Area Boundary (as identified on the Policies Maps) as well as outside both the strategic, site specific and broad allocations, the countryside will be safeguarded for its own sake.

- POLICY GI SP1 Green Infrastructure and development: The existing Green Infrastructure Network must be considered at an early stage of the design process for all major development proposals. All major development must be designed to protect and enhance existing Green Infrastructure assets, and the connections between them, in order to ensure a joined up Green Infrastructure Network. Gaps between settlements should also be considered as important Green Infrastructure assets and should be protected from inappropriate development, and enhanced to ensure that they provide high quality environment and multi-functional benefits for the District.

- POLICY LAN DM1 Protection of landscape character: Development will be permitted where landscape character, including its natural features, are conserved or enhanced; the historic character and development pattern of settlements is respected, taking into account their distinct identity and setting; or it does not negatively impact upon the setting of, or upon views into and out of South Downs National Park. Developments shall only be permitted where they will not have a demonstrable visual impact on either the landscape character of Arun or the setting of and views into and out of the South Downs National Park.

- POLICY ENV SP1 Natural Environment: Arun District Council will encourage and promote the conservation and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species.

- POLICY ENV DM4 Protection of trees: Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity,

- POLICY ENV DM5 Development and biodiversity: Development schemes shall seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. All developments shall have regard to Natural England's standing advice for protected species.

5. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

5.1 The land at Church Lane is located within a predominantly rural area within Climping in West Sussex. The site measured approximately 21ha and comprised extensive areas of arable land, woodland blocks, scattered trees, scrub, ruderal vegetation and a hedgerow. Design proposals include the re-development of the site for residential and amenity use.

5.2 The site is not subject to any statutory or non-statutory designations. The closest statutory designated site is Littlehampton Golf Course SNCI located approximately 1km south. Development at the site is not anticipated to have any ecological impact on this designated site.

5.3 Habitats within the site were assessed as being of value to wildlife with the local vicinity with potential to support breeding birds, reptiles, bats badgers and great crested newt.

5.4 Following the initial habitat assessment, further surveys are being carried out in respect to bats, great crested newt and badger in order to determine if and how these species are using the site and in order to devise appropriate mitigation. These will be reported on in separate documents.

5.5 Further surveys for breeding birds and reptiles are not considered necessary, due to the suboptimal habitat created by the majority of the site for reptiles and the limited works effecting the wooded habitats with the highest potential for breeding birds. Instead a precautionary approach to works is recommended to safeguard these species groups.

5.6 Details regarding the protected species surveys together with a series of mitigation measures and post development enhancement options are provided in the recommendations section.

Recommendations

Bats

5.7 A ground based tree assessment to identify the potential use of the trees by roosting bats is recommended. This should be undertaken in accordance with currently accepted guidelines. A series of bat activity surveys are also recommended in order to provide information on if and how bats are using the site. Activity surveys can only be undertaken during the active period for bats taken to run between May and September.

5.8 The results of the bat survey(s) can then be used to inform specific mitigation and enhancement measures for this species group. These surveys are being undertaken and will be reported on in a separate document.

5.9 If a bat roost is identified then it may be necessary to undertake a subsequent climbed tree inspection of the tree(s) to examine any features and where a roost is likely to be impacted by the works, it may be necessary to obtain a European Protected Species Mitigation (EPSM) Licence before the works can proceed and to complete any necessary mitigation.

Badgers

5.10 Due to the presence of suitable foraging and sett building habitat within the site, a targeted badger survey is recommended to ascertain use of the site by this species. Badgers receive protection under The Protection of Badgers Act 1992. Badger surveys can be undertaken at any time of the year. The survey will be undertaken in accordance with current guidelines (Cresswell *et al*. 1990) to determine the use of the site by badgers, and will include a systematic search for badger field signs including setts, pathways and latrines within the site and where permitting within 30m of the site boundary. Badger surveys can be undertaken at any time of the year. Badgers receive protection under The Protection of Badgers Act 1992.

5.11 The results of the survey will then be used to devise suitable mitigation for this species.

5.12 This survey is being undertaken and will be reported on in a separate document.

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Great Crested Newt

5.13 Great crested newts receive protection under The Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). Due to the potential for great crested newts to use on-site terrestrial habitats, a great crested newt survey should be carried out to determine presence/ likely absence in the surrounding network of ponds and if present, the survey will enable a population assessment to be made and ascertain the likelihood of this species utilising on-site habitats.

5.14 All water bodies within 500m of the site should be included in the survey. The survey protocol should follow that set out in the Great Crested Newt Mitigation Guidelines (English Nature, 2001). An initial four surveys are required to demonstrate presence or absence and these must be carried out between mid-March and mid-June with two of those visits taking place within the peak survey time between mid-April and mid-May.

5.15 If great crested newts are found to be present, an additional two survey visits will then be required to allow a population size class assessment to be made, with at least one of these visits being undertaken within the peak survey time between mid-April and mid-May.

5.16 The results of the survey should then be used to inform mitigation proposals for this species. This survey is being undertaken and will be reported on in a separate document.

5.17 If great crested newts are found to be present in the locality following the survey, a European Protected Species Mitigation Licence from Natural England may be required to remove terrestrial habitat in order to facilitate the works. Once submitted, a licence application can take up to 30 days to be processed. Natural England will only grant a licence once planning permission has been received. As part of the licence application a Method Statement will need to be submitted to guide all works to the pond.

Breeding Birds

5.18 The on-site scattered trees, hedgerow, woodland and scrub provide suitable nesting habitat for a range of bird species. The arable field also provides suitable breeding potential for farmland bird species.

5.19 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).

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5.20 In order to avoid any potential impact on breeding birds, if the clearance of any trees or scrub is required, this should be undertaken outside the main bird nesting season which runs from March to August inclusive[2], with clearance works possible between September and February.

5.21 In addition, to avoid impacting any farmland bird species works to clear the arable field should also be undertaken outside the main bird nesting season from March to August inclusive.

5.22 Where this is not possible, an ecologist would need to check the vegetation for active nests and signs of breeding bird activity.

5.23 In the event that a nest is found, an exclusion zone around the nest would be established. Works would have to cease within this buffer area until the young birds have fledged.

Reptiles

5.24 All reptiles are protected under the Wildlife and Countryside Act 1981 (as amended). Potentially suitable reptile habitat is restricted to small and discrete areas of grassland along the northern site boundary. As these areas are restricted in extent and connected to more optimal off-site reptile habitat in the form of residential gardens to the north, phased habitat management is considered sufficient to safeguard this species group.

5.25 Prior to any ground works commencing, grassland along the site boundaries should be cut in two phases in order to deter reptiles from these areas. The first phase should serve to reduce the grassland to 200mm above ground level. This should be undertaken using hand held tools such as strimmers. Vegetation should be cut from south to north in order to encourage any individuals into adjacent off-site habitats to the north. The second phase, undertaken on a subsequent day should reduce the sward to ground level adopting the same methodology as detailed above. This two-phased approach should be undertaken in the active period for reptiles; between March and October.

[2] It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

Habitat Retention

5.26 It is understood that the woodland areas will be retained as part of the design proposals. In addition, trees along the eastern boundary should be retained. Boundary features will serve to provide a wildlife corridor between the development and the adjacent landscape and enable more mobile species to pass through the landscape.

5.27 All retained trees should be protected in accordance with British Standards (BS 2012) 5837:2012 Trees in Relation to Design, Demolition and Construction. More information is detailed in the separate tree report compiled for the site.

Habitat Enhancement and Management

5.28 New development offers the opportunity for habitat enhancement in accordance with local and national planning policy and some recommendations are included below.

Woodland Enhancement

5.29 Current design proposals include the retention of the wooded area within the western site extent post development together with the majority of the southern woodland block- with the exception of a discrete area that will require removal to facilitate creation of a new junction.

5.30 Woodland areas could be enhanced as part of the development, planting additional trees within the less diverse woodland in the west and planting shrub species within the woodland to create a more diverse understorey.

5.31 As part of the proposed new junction works discussions have been held between the project arboroculturalist and the Tree Officer for Arun District Council and compensatory tree planting to facilitate the loss of trees within the south-east corner of the site has been suggested to screen the new road layout. This comprises three discrete areas of new planting within the south-east of the site to the east and west of the new section of road (Church Lane).

Compensatory Planting

5.32 A combination of grassland, tree and shrub planting could be incorporated into the landscape proposals for boundary habitats and any newly created amenity areas in order to increase species diversity post works.

5.33 Planting should include a high proportion of native species. These should be carefully selected to ensure they contain species suitable for the area. Some species of known wildlife value are listed in Appendix E.

5.34 Areas of newly created grassland should be seeded with an appropriate seed mix suitable to the area. Specific advice should be sought from a landscape architect but there are a range of seed mixes available. A seed mix containing wildflowers that benefits from regular mowing could be used in amenity grassland areas while a wildflower seed mix that thrives from a relaxed mowing regime could be used in edge habitats where annual meadow management to include cutting once or twice annually, before or after the growing season (in early spring and/or Autumn to enable species to flower. This would also provide a more varied sward favoured by reptiles. Woodland edge habitat could also be created within the southern and western extent of the site adjacent to the retained woodland. A grassland mix comprising species more tolerant to shaded environments could thrive here and increase species diversity post works.

Bird and Bat Boxes and Bricks

5.35 Additional bird nesting and bat roosting provision could be incorporated into new design proposals. Some recommendations are made below as a guide.

5.36 Bird boxes could include integral bird brick houses incorporated into the new buildings. Examples of this design can be found at http://birdbrickhouses.co.uk. Alternatively external bird boxes, attached to trees or external walls could be included post works which could include the following Schwegler designs: 1MR for a range of common garden birds.

5.37 Bat roosting opportunities could be provided through the incorporation of bat bricks into the new buildings or on mature trees around the site. Detailed recommendations should be provided following the bat surveys once more information is known about the bat activity at the site. There are a range of bat boxes available and these can be selected to suit the development.

5.38 Bird and bat boxes should be installed at appropriate locations ideally with a south-east or south-west facing aspect at least 3m from ground level, ideally directly below the eaves if located on a building and a suitable distance away from windows to avoid disturbance.

New Pond Creation

5.39 It is understood that a series of at least three ponds will be created as part of the landscaping for the site. These should be created as wildlife ponds.

5.40 Construction of a new pond would provide an opportunity to increase value to wildlife and it should be designed to, amongst other things, provide conditions suitable for it to be a viable breeding pond for newts and other amphibians.

5.41 The main considerations are timing of works, water quality, pond profile and planting scheme.

5.42 The new ponds should be deeper at one end, asymmetrical in shape and lined to prevent leakage e.g. using butyl sheeting.

5.43 The water within the new ponds will need to be 'clean' and not degraded by pollutants such as nutrients, heavy metals or other man-made chemicals. It is advised not to place topsoil around the edges of the pond as the run-off will cloud the water, silt up the base of the pond and add high levels of nutrients to the pond. Run-off from hard standing should also be considered as these could dramatically affect water levels and pollutants. It should be borne in mind that water levels can fluctuate dramatically throughout the year and so pollutants can become intensified during the summer months. The pond should be allowed to fill naturally with rain water and not filled from the mains supply (Pond Conservation, 2009).

5.44 The ponds should be designed to enable wildlife to easily enter and leave the ponds, and careful profiling is also vital for invertebrate and plant diversity. A gently sloping profile around the circumference of the pond will create habitat for invertebrates and larvae development, which require warmer water conditions created by the shallow water. A deep shelf should be avoided; this may create an island of water during the summer drying season and leave animals stranded out of water. A slope of less than 1:5 (12°) and preferably less than 1:20 (3°) is most suitable (Pond Conservation, 2011). The slope angle available will depend on the overall size and depth of the new pond to be created. A depth of more than 30cm is required in order to prevent drying out and to prevent deeper water from freezing during the winter months.

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5.45 The plants within a pond play an important role in water quality, egg-laying opportunities and also provide shelter and food for wildlife. The ponds should be planted with native marginal vegetation. A wildlife pond will naturally be colonised by both flora and fauna within a short period of time, however initial basic planting should be carried out when the pond is created.

5.46 Tall emergent vegetation should be avoided as this will shade out other vegetation and reduce plant diversity (Pond Conservation, 2011a). When planting new plants, care should be taken to avoid plants listed as invasive on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). A list of appropriate native aquatic plants is provided in Appendix E. The pond should not be stocked with fish as these will prey on amphibian eggs.

Dead Wood Habitat

5.47 Log piles could be created around the site boundaries to create suitable hibernaculum sites for reptiles and amphibians and these will also provide suitable habitat for invertebrates. These could be created from locally sourced cord wood and neatly stacked against a tree or attached to a fence with wire. The longest side should be orientated south to maximise daily exposure to the sun.

Other

5.48 It is recommended that an update habitat survey is undertaken if more than 12 months have elapsed between the survey and the point at which any development decisions have been made at the site.

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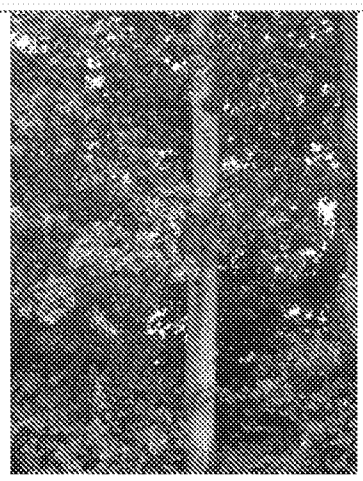
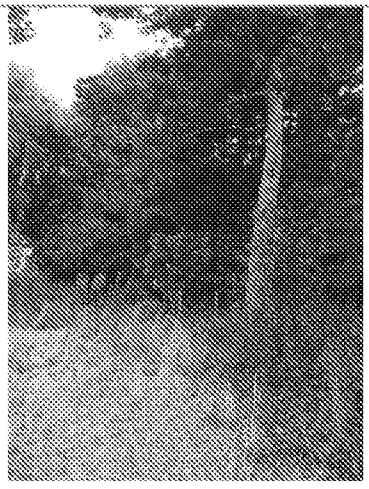
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7. GLOSSARY OF TERMS

ASSI	Area of Special Scientific Interest
BAP	Biodiversity Action Plan
BoCC	Birds of Conservation Concern
BRC	Biological Records Centre
BTO	British Trust for Ornithology
CCW	Countryside Council for Wales
CEH	Centre for Ecology and Hydrology
CIEEM	Chartered Institute of Ecology and Environmental Management
CRoW Act 2000	Countryside and Rights of Way Act 2000
CWS	County Wildlife Site
DAFOR	Plant abundance scale used to score plants recorded within a surveyed area. Values are: Dominant, abundant, frequent, occasional, rare.
Defra	Department for Environment, Food and Rural Affairs
DfCLG	Department for Communities and Local Government
DoE	Department of the Environment (now Defra)
EC	European Commission; also European Community with reference to the Habitats Directive
EN	English Nature (now Natural England)
EPS	European Protected Species
EPSM	European Protected Species Mitigation
EU	European Union
FCS	Favourable Conservation Status
GB	Great Britain (England, Scotland and Wales, excluding Northern Ireland)
HMSO	Her Majesty's Stationery Office
IDD	International Designations Database
IUCN	The World Conservation Union (International Union for the Conservation of Nature)
JNCC	Joint Nature Conservation Committee
Lekking	Where males assemble during the mating season to engage in competitive displays to attract females.
LNCS	Local Nature Conservation Sites
LNR	Local Nature Reserve
LWS	Local Wildlife Site

MAGIC	Multi-Agency Geographical Information for the Countryside
NCC	Nature Conservancy Council
NERC Act 2006	The Natural Environment and Rural Communities Act 2006
NGO	Non-governmental organisation
NI	Northern Ireland
NNR	National Nature Reserve
Nomenclature	The system of devising of names for plants
NPPF	National Planning Policy Framework
NVC	National Vegetation Classification
ODPM	Office of the Deputy Prime Minister
OS	Ordnance Survey
PCAIWCG	Property Care Association Invasive Weeds Control Group
PEA	Preliminary Ecological Appraisal- formerly referred to as a Phase 1 Habitat Survey
SAC	Special Area of Conservation
SINC	Sites of Importance for Nature Conservation
SNCI	Site of Nature Conservation Importance
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
UK	United Kingdom (England, Scotland, Wales and Northern Ireland)

Appendix A
Target Notes and Photographs

Target Note (TN)	Feature	Photograph of Feature
N/A	**Photograph 1:** A view south from the northern site boundary.	
TN1	**Photograph 2:** A view of a woodpecker hole on an oak tree within woodland in the southern site extent providing bat roosting potential.	
TN2	**Photograph 3:** Looking north-east within the eastern corner of the site towards an area of suitable breeding bird habitat.	

Target Note (TN)	Feature	Photograph of Feature
TN3	**Photograph 4:** A fox scat within the southern extent of the arable field.	
TN2	**Photograph 5:** A view towards the north-west site boundary looking towards breeding bird habitat along the northern and western site boundaries.	

Appendix B
Habitat Survey Map

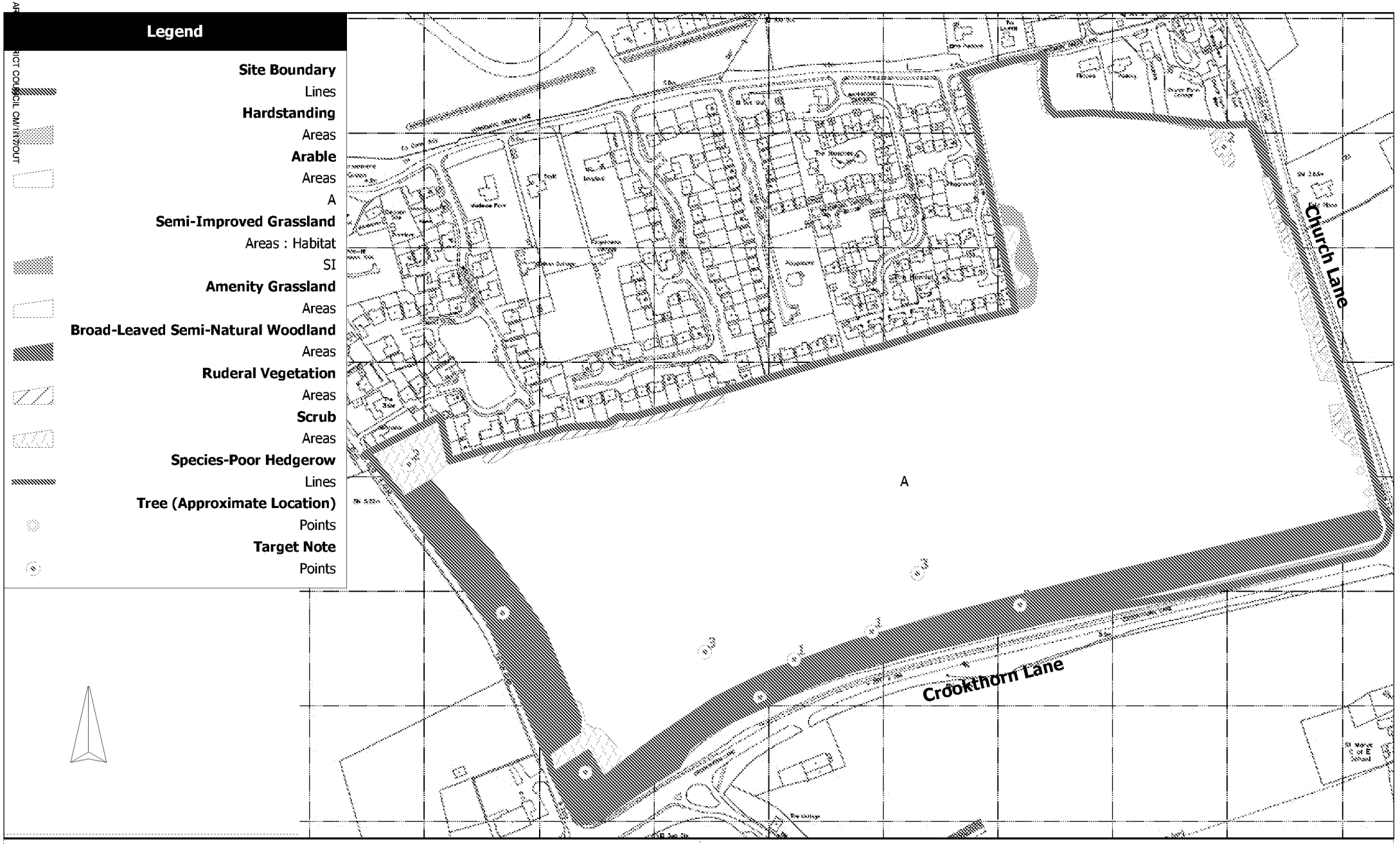


Figure 1: Land at Church Lane Habitat Survey Map

Drawn by: JWK
On the: 26/05/2016
Not to Scale
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Appendix C
Legislation

LEGISLATIVE FRAMEWORK

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of the EC Habitats Directive[3] is to conserve plants and animals which are considered to be rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include

- Countryside and Rights of Way (CRoW) Act 2000
- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

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[3] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

Badger

Badgers and their setts are protected under the Protection of Badgers Act (1992), which consolidated and added to the previous Badger Acts of 1973 and 1991. Under this legislation it is an offence to:

- cruelly ill-treat a badger, including use of tongs and digging;
- intentionally or recklessly cause a dog to enter a badger sett;
- intentionally or recklessly damage, destroy or obstruct access to a badger sett[4] or any part thereof;
- intentionally or recklessly disturb[5] a badger when it is occupying a badger sett;
- possess or control a dead badger or any part of a badger;
- sell or offers for sale, possesses or has under his control, a live badger; and
- wilfully kill, injure, take, or attempt to kill, injure or take a badger.

A Development Licence will be required from Natural England for any development works affecting an active badger sett, or to disturb badgers while individuals are occupying the sett. Depending on the nature of the works and the specifics of the sett, badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett itself. Natural England has issued guidelines on what constitutes a licensable activity. There is no provision in law for the capture of badgers for development purposes and therefore it is not possible to obtain a licence to translocate badgers from one area to another.

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[4] A badger sett is defined in the legislation as *"any structure or place which displays signs indicating current use by a badger"*. This includes seasonally used setts. Natural England (2009) have issued guidance on what is likely to constitute current use of a badger sett: www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf

[5] For guidance on what constitutes disturbance and other licensing queries, see Natural England (2007) Badgers & Development: A Guide to Best Practice and Licensing. www.naturalengland.org.uk/images/badgers-dev-guidance_tcm6-4057.pdf, Natural England (2009) Interpretation of 'Disturbance' in relation to badgers occupying a sett www.naturalengland.org.uk/images/WMLG16_tcm6-11814.pdf, Scottish Natural Heritage (2002) Badgers & Development. www.snh.org.uk/publications/online/wildlife/badgersanddevelopment/default.asp and Countryside Council for Wales (undated) Badgers: A Guide for Developers. www.ccw.gov.uk.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and
- selling, offering or exposing for sale, possession or transporting for purpose of sale

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of Schedule 2 species (all bats);
- deliberate disturbance of bat species as to impair their ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.
- deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Breeding Birds

Under the Wildlife & Countryside Act, 1981 (as amended), a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds, however, are not included in this definition (except for limited parts of the Act). They are covered by the Games Acts, which fully protect them during the closed season.

Under the Wildlife & Countryside Act, 1981 (as amended), all birds, their nests and eggs are protected under Sections 1-8 of the Act and it is an offence, with certain exceptions, to:

- intentionally (or recklessly in Scotland) kill, injure or take any wild bird;
- intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- intentionally take or destroy the egg of any wild bird;
- have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act;
- have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act;
- use traps or similar items to kill, injure or take wild birds;
- have in one's possession or control any bird (dead or alive) unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations; and
- in Scotland only, intentionally or recklessly obstruct or prevent any wild bird from using its nest.

Certain rare species receive additional special protection under Schedule 1 of the Act and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC). This affords them protection against:

- intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young;
- intentional or reckless disturbance of dependent young of such a bird;
- in Scotland only, intentional or reckless disturbance whilst lekking; and
- in Scotland only, intentional or reckless harassment.

The British Trust for Ornithology (BTO) has a list of birds that are Species of Conservation Concern. These birds are not legally protected but where they are found on site they should be given planning consideration. The criteria for birds listed as amber (medium conservation concern) include:

- historical population decline during 1800-1995, but recovering: population has more than doubled over last 25 years;
- moderate (25-49%) decline in UK breeding population over last 25 years;

- moderate (25-49%) contraction of UK breeding range over last 25 years;
- moderate (25-49%) decline in UK non-breeding population over last 25 years;
- species with unfavourable conservation status in Europe (Species of conservation Concern);
- five year mean of breeding pairs in the UK;
- ≥50% of UK breeding population in 10 or fewer sites.
- ≥50% of UK non-breeding population in 10 or fewer sites;
- ≥20% of European breeding population in UK; and
- ≥20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non breeding populations in UK.

Hazel Dormouse

The hazel dormouse (*Muscardinus avellanarius*) is fully protected under The Conservation of Habitats and Species Regulations 2010 through its inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing;
- deliberate disturbance as to impair its ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.
- deliberate disturbance as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

The hazel dormouse is also currently protected under the Wildlife and Countryside Act 1981 (as amended) through its inclusion on Schedule 5. Under this Act, this species is additionally protected from:

- intentional or reckless disturbance;
- intentional or reckless obstruction of access to any place of shelter or protection; and

- selling, offering or exposing for sale, possession or transporting for purpose of sale.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect dormouse breeding or resting places (N.B. this is usually taken to mean dormouse 'habitat') or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence will allow derogation from the relevant legislation but will also to enable appropriate mitigation measures to be put in place and monitored.

Herpetofauna (Reptiles and Amphibians)

The following species receive full protection under the The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2.

- sand lizard (*Lacerta agilis*);
- smooth snake (*Coronella austriaca);*
- natterjack toad (*Epidalea calamita);*
- great crested newt (*Triturus cristatus);* and
- pool frog (*Pelophylax lessonae).*

Under this legislation, Regulation 41 prohibits:

- deliberate killing, injuring or capturing of species listed on Schedule 2;
- deliberate disturbance of any Schedule 2 species as to impair their ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.
- deliberate disturbance of any Schedule 2 species as to affect significantly the local distribution or abundance of the species;
- deliberate taking or destroying of the eggs of a Schedule 2 species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of a species.

With the exception of the pool frog, these species are also currently listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this Act, they are additionally protected from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and
- selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). These species include:

- adder (*Vipera berus*);
- grass snake (*Natrix natrix*);
- common lizard (*Zootoca vivipara*); and
- slow-worm (*Anguis fragilis*).

Under this legislation, for these species it is prohibited under Section 9(1) & (5) to:

- intentionally (or recklessly in Scotland) kill or injure these species
- sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

The following species are listed in respect to Section 9(5) of Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) which only affords them protection against sale, offering or exposing for sale, possession or transport for the purpose of sale:

- common frog (*Rana temporaria);*
- common toad (*Bufo bufo);*
- smooth newt (*Lissotriton vulgaris);* and
- palmate newt (*L. helveticus*).

Water Vole

The water vole (*Arvicola amphibius)* (=terrestris) is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- intentionally kill, injure or take (capture) this species;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
- intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection; and
- sell, offer or expose for sale, or have in his possession or transport for the purpose of sale, any live or dead water vole or part of this species.

Where development works are liable to affect habitats known to support water voles, Natural England must be consulted. All alternative design options must have been explored and communicated to Natural England in order to demonstrate that works have tried to avoid contravening the legislation e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable etc. Conservation licences for the capture and translocation of water voles may be issued by Natural England for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population.

Otter

Otters (*Lutra lutra)* are fully protected under The Conservation of Habitats and Species Regulations 2010 through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of otters
- deliberate disturbance as to impair their ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.
- deliberate disturbance as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

Otters also receive protection under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and
- selling, offering or exposing for sale, possession or transporting for purpose of sale.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect breeding or resting places or for activities likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Red Squirrel

The red squirrel (*Sciurus vulgaris*) is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- intentionally (or recklessly in Scotland) kill, injure or take (capture) red squirrels;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
- intentionally or recklessly disturb this species while they are occupying a structure or place used for shelter; and
- sell, offer or expose for sale, or have in his possession or transport for the purpose of sale, any live or dead red squirrel or part of this species.

White Clawed Crayfish

The white clawed crayfish (*Austropotamobius pallipes*) receives partial protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This species is protected under Sections 9(1) and 9(5), making it an offence to:

- intentionally take/capture white-clawed crayfish; and

- sell, offer or expose for sale, have in possession or transport for the purpose of sale, any live or dead white clawed crayfish or part of this species.

A conservation licence for the capture and translocation of crayfish may be issued for the purpose of development activities if it can be demonstrated that the activity has been carefully planned and this species considered. The activity must also demonstrate that it contributes to the conservation of the population.

Wild Mammals

All wild mammals are protected against intentional acts of cruelty under the Wild Mammals (Protection) Act 1996. Under this legislation it is an offence to:

- mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention of this legislation, due care and attention should be taken when carrying out works that have the potential to impact any wild mammal as described above.

Plants

Wild plants are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Some rare plant species also receive full protection under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits:

- intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only); and
- selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or parts.

In addition to the legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. Regulation 45 makes it an offence to:

- deliberately pick, collect or destroy a wild Schedule 5 species; and
- be in possession of, or control, transport, sell or exchange any wild live or dead Schedule 5 species or anything derived from it.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect species of plant listed under The Conservation of Habitat and Species Regulations 2010.

Invasive Plant Species

Certain plants are listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2). Species include:

- Japanese knotweed (*Fallopia japonica):*
- giant hogweed (*Heracleum mantegazzianum);*
- Himalayan balsam (*Impatiens glandulifera);*
- certain species of rhododendron (*Rhododendron* sp.); and
- certain species of cotoneaster (*Cotoneaster* sp.).

Species listed are non-natives whose establishment or spread in the wild may be detrimental to native wildlife. Inclusion on Part II of Schedule 9 therefore makes it an offence to:

- plant or otherwise cause these species to grow in the wild.

This legislation makes it is an offence to cause species listed to grow in the wild. Therefore, if they are present on site and development activities have the potential to cause the further spread of these species to new areas, it will be necessary to ensure appropriate measures are in place to prevent this.

HABITATS

International Statutory Designations

- Special Protection Areas (SPAs): Terrestrial SPA's are afforded protection by The Conservation (Natural Habitats, &c. Regulations 1994 (as amended) an offshore

SPA's are afforded protection under The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). SPAs are designated under the EC Birds Directive (Council Directive 2009/147/EC on the Conservation of Wild Birds). SPAs are areas recognised as important habitat for rare and migratory birds within the European Union (rare birds as listed on Annex I of the Directive).

- Special Areas of Conservation (SACs): These areas are designated under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora), designated for the habitats and (non-bird) species listed on Annexes I and II to the Directive under the same regulations as detailed for SPA's.
- Ramsar sites: These areas are wetlands designated under the Convention on Wetlands of International Importance (1971). Wetlands can include areas of marsh, fen, water or peatland and may be natural or artificial, permanent or temporary. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSIs) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000.

National Statutory Designations

- Sites of Special Scientific Interest (SSSIs): These sites are designated by the countryside agencies (for example Natural England) under the Wildlife & Countryside Act 1981 (as amended). Prior to 1981 these were designated under the National Parks and Access to the Countryside Act 1949. Improved mechanisms for the protection of SSSIs have also been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).
- National Nature Reserves: These sites are also designated by the countryside agencies under the Wildlife & Countryside Act 1981 (as amended).

Local Statutory Designations

- 1949 Local Nature Reserves (LNRs): These sites are designated by local authorities under the National Parks and Access to the Countryside Act 1949.

These are sites recognised for their wildlife or geological interest at a local level and are managed for nature conservation.

Non-Statutory Designations

- Local Wildlife Sites: Areas of local conservation interest may be designated by local authorities. The terminology for these sites varies depending on the county. They can be called Sites of Nature Conservation Importance (SNCI's), Sites of Importance for Nature Conservation (SINCs), County Wildlife Sites (CWS), Listed Wildlife Sites (LWS), Local Nature Conservation Sites (LNCS), Sites of Biological Importance (SBIs). The designation criteria may vary between counties. Local Wildlife Sites are of material consideration when planning applications are being determined.
- The Hedgerow Regulations 1997: These have been compiled to protect 'important' countryside hedgerows from damage or removal. A hedgerow is considered important if (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. Under the Regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. Hedgerows covered by these regulations include those on or adjacent to common land, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys.

National Planning Policy

- The National Planning Policy Framework (2012) replaces the former PPS9 document and emphasises the need for sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species. An emphasis is also made for the need for ecological networks through preservation, restoration and re-creation. The protection and recovery of priority species is also included as a requirement of planning policy. In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; appropriate mitigation or compensation measures are in place where significant harm cannot be avoided; opportunities to incorporate

biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

Regional and Local Planning Policy

The Arun District Local Plan (2003) 'saved policies' and the Arun Local Plan 2011 – 2031 include the following Nature Conservation Policies that are relevant to the site.

Arun District Local Plan (2003)

POLICY GEN3 Protection of the Countryside

- 'Outside the Built-Up Area, as defined on the Proposals Map, the countryside will be safeguarded for its own sake. Development will not be permitted unless:

  (i) it meets the operational needs of agriculture, forestry, the extraction of minerals or the deposit of waste; or

  (ii) for quiet, informal recreation; or

  (iii) for the diversification of the rural economy; or

  (iv) for essential road schemes; or

  (v) it is in accordance with a policy in Sections 2 and 3 of the plan referring to a specific use or type of development.

- Permission will not be given for the extension of isolated groups of buildings or the consolidation of linear or sporadic development unless the proposal accords with criteria (i) to (iii) or (v).

- Reason: The countryside is an important resource and needs to be protected for its own sake.

- Explanation:

1) The District Council intends to continue protecting the natural environment by strictly controlling development in the countryside. Development outside the defined built-up area will only be allowed in exceptional circumstances or where there is strong justification for a countryside location.

2) Rural diversification aims to help replace income lost from existing sources so that farmers can remain actively farming and continue to be stewards of the countryside. The submission of "Whole Farm Plans" to accompany farm diversification proposals will be encouraged.

3) Subject to the requirements of Policy DEV8 in Section 3, the Council recognises that some commercial development outside the defined built-up area will be necessary to meet the needs of the local economy.'

POLICY AREA12 Agricultural Land Quality

- 'The use of best and most versatile agricultural land (Grades 1, 2 and 3a) for any form of development not associated with agriculture or forestry will not be permitted unless need for the development outweighs the need to protect such land in the long term. Where development is permitted on the best and most versatile land it should, as far as possible, use the lowest grade of land suitable for that development.

- Reason: To protect the natural resource of high grade agricultural land.

- Explanation: Government policy aims to protect the "best and most versatile" agricultural land as an important national natural resource for the future. The term covers land classified as Grade 1, 2 and 3a under the Agricultural Land Classification scheme administered by the Department for Environment, Food and Rural Affairs (DEFRA). However, where development of agricultural land is unavoidable, Local Planning Authorities should seek to use areas of poorer quality land in preference to that of higher quality, except where other sustainability considerations suggest otherwise. These might include biodiversity value, landscape quality and character, amenity value, accessibility to infrastructure, workforce and markets, or protection of natural resources.'

Arun Local Plan 2011 – 2031

POLICY SD SP2: Built-up Area Boundary

- 'Development will be permitted within the area defined as the Built-Up Area Boundary on the Policies Maps, subject to all other policies in this Local Plan. Outside the Built-up Area Boundaries, apart from the Strategic, Site Specific and Broad Allocations, development or redevelopment will not be permitted unless it is consistent with other Local Plan policies.'

POLICY C SP1:Countryside

- 'Outside the defined Built-Up Area Boundary (as identified on the Policies Maps) as well as outside both the strategic, site specific and broad allocations, the countryside will be safeguarded for its own sake. Development will not be permitted there unless it is:

  a. for the operational needs of agriculture, horticulture, forestry, the extraction of minerals or the management of waste as part of a waste site allocation within the West Sussex Waste Local Plan; or

  b. for quiet, informal recreation; or

  c. for green infrastructure; or

  d. for the diversification of the rural economy; or

  e. for road and/or cycle schemes; or

  f. in accordance with other policies in the Plan which refer to a specific use or type of development.

- Permission will not be given for the extension of isolated groups of buildings or the consolidation of linear or sporadic development unless the proposal accords with criteria (a) to (c) or (f).

- The Council will take into account cumulative impact of development in the consideration of planning applications.

- To ensure better management of the rural-urban fringe in those areas where significant new development is proposed, early consideration will need to be given to landscape and biodiversity enhancement, woodland management, recreation provision and access routes.'

POLICY GI SP1: Green Infrastructure and development

- 'The existing Green Infrastructure Network, as shown on the Green Network Maps (provided in the Technical Appendix) for each parish and town, must be considered at an early stage of the design process for all major development proposals.

- All major development must be designed to protect and enhance existing Green Infrastructure assets, and the connections between them, in order to ensure a joined up Green Infrastructure Network.

- Where compatible with nature conservation objectives, development proposals must identify opportunities to connect existing Green Infrastructure assets with the coast, the South Downs National Park or to the District's inland villages. Opportunities to enhance the network should take account of the multiple functions of Green Infrastructure assets and should be based upon those opportunities set out in the supporting text.

- Gaps between settlements should also be considered as important Green Infrastructure assets and should be protected from inappropriate development, and enhanced to ensure that they provide high quality environment and multi-functional benefits for the District.'

POLICY LAN DM1: Protection of landscape character

- 'Development will be permitted where:

  a. Landscape character, including its natural features, are conserved or enhanced;

  b. The historic character and development pattern of settlements is respected, taking into account their distinct identity and setting; and

  c. It does not negatively impact upon the setting of, or upon views into and out of South Downs National Park

- All proposed development either adjoining or in close proximity to the South Downs National Park planning authority boundary (see Proposals Map) shall have particular regard to the setting of and views in to and out of the South Downs National Park.

- Developments shall only be permitted where they will not have a demonstrable visual impact on either the landscape character of Arun or the setting of and views into and out of the South Downs National Park.'

POLICY ENV SP1: Natural Environment

- 'Arun District Council will encourage and promote the conservation and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects sites listed in Tables 17.1-17.6 in the policy document that are recognised for the species and habitats contained within them.'

POLICY ENV DM4: Protection of trees

- 'Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless:

  a. Would result in the removal of one or more trees in the interests of good arboricultural practice. This shall be demonstrated by the developer following the advice of a suitably qualified person which shall be guided by BS 5837 (2012). Details of any advice received having regard to BS 5837 (2012) shall be submitted, in writing, as part of a planning application; or

  b. Would enhance the survival and growth prospects of other protected trees;

  c. The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland.

- Where planning permission is granted in any of the above instances, conditions shall be used to ensure that, for any trees which are removed as part of a development, at least an equivalent number of a similar species and age (where practical) are planted on the proposed development site. Sufficient space for replacement trees to mature without causing future nuisance or damage shall be provided. The planting of new trees shall form an integral part of the design of any development scheme. Proper provision must be made for the protection and management of trees or areas of woodland on-site when undertaking development. A management plan shall be provided as part of a planning application in accordance with BS 5837 (2012) in order to ensure that trees are adequately protected during development and appropriately maintained in the future. Conditions for the continued protection of trees on sites shall be included in any planning consent given.

- Where there are existing trees on or adjacent to a development site, developers shall be required to provide:

  d. Land and tree surveys

  e. A tree constraints plan

  f. An arboricultural impact assessment to include a tree protection plan and arboricultural method statement These will ensure that development is planned to take a comprehensive view of tree issues at an early stage in the design process and that development works do not have a negative impact on existing trees.'

POLICY ENV DM5: Development and biodiversity

- 'Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement.

- Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.'

Appendix D
Plant Species List

Scientific nomenclature follows Stace (2010) for vascular plant species and British Bryological Society (BBS) Special Volume No. 5 *English Names for British Bryophytes* for bryophyte species. Vascular plant common names follow the Botanical Society of the British Isles 2003 list, published on its web site, www.bsbi.org.uk. The plant species list was generated as part of a Phase 1 Habitat survey and does not constitute a full botanical survey.

Abundance was estimated using the DAFOR scale as follows:

D = dominant, A = abundant, F = frequent, O = occasional, R = rare, L = locally

Key to qualifiers: c=clumped, e=edge only, g=garden origin, p=planted, y = young, s=seedling or sucker, t=tree, h=hedge, w=water,? = identification uncertain.

SCIENTIFIC NAME	COMMON NAME	ABUNDANCE	QUALIFIER
Acer campestre	Field maple	R	t
Acer pseudoplatanus	Sycamore	F	t
Achillea millefolium	Yarrow	O	
Aesculus hippocastanum	Horse chestnut	R	t
Allium Sp	Allium sp	R	
Anthriscus sylvestris	Cow parsley	F	
Arrhenatherum elatius	False oat-grass	O	
Avena sativa	Oat	A	
Betula pendula	Silver birch	O	t
Betula pubescens	Downy birch	R	t
Betula sp.	Birch	O	t
Brachypodium sylvaticum	False brome	O	
Bromus sp.	Brome	O	
Buddleja davidii	Buddleia	O	

Calystegia sepium	Hedge bindweed	O	
Carex pendula	Pendulous sedge	R	
Chamerion angustifolium	Rosebay willowherb	R	
Cirsium arvense	Creeping thistle	O	
Cirsium vulgare	Spear thistle	R	
Clematis vitalba	Traveller's-joy	R	
Convolvulus arvensis	Field bindweed	O	
Conium maculatum	Hemlock	R	
Crataegus monogyna	Hawthorn	F	h
Cynara scolymus	Globe artichoke	R	p
Dactylis glomerata	Cock's-foot	A	
Dipsacus fullonum	Wild teasel	R	
Epilobium sp.	Willowherbs	O	
Equisetum arvense	Field horsetail	O	c
Fagus sylvatica	Beech	O	t
Fagus sylvatica var. purpurea	Copper beech	R	
Festuca spp.	Fescues	A	
Fraxinus excelsior	Ash	O	t
Galium mollugo	Hedge bedstraw	R	
Geranium sp.	Crane's-bill	R	
Glechoma hederacea	Ground-ivy	O	
Hedera helix	Ivy	F	
Heracleum sphondylium	Hogweed	O	

Holcus lanatus	Yorkshire-fog	D	
Iris sp.	Iris	R	p
Ligustrum ovalifolium	Garden privet	R	
Lolium perenne	Perennial rye-grass	A	
Lonicera spp.	Honeysuckles	R	
Malus spp.	Apples	R	
Malva sp.	Mallow	R	
Matricaria recutita	Scented mayweed	R	
Papaver sp.	Poppy	R	
Passiflora sp.	Passionflower	R	p
Poa sp.	Meadow-grass	O	
Quercus sp.	Oak	F	t
Quercus robur	Pedunculate oak	F	t
Rosa sp.	Rose	R	
Rosa canina	Dog-rose	R	
Rubus fruticosus agg.	Bramble	A	
Rumex sp.	Dock	O	
Salix sp.	Willow	O	t
Sambucus nigra	Elder	O	
Senecio sp.	Ragwort	O	
Tripleurospermum inodorum	Scentless mayweed	R	
Triticum sp.	Wheat	D	
Urtica dioica	Common nettle	A	

Vicia sp.	Vetch	O	
Coniferae	Conifers	O	t

Appendix E
Suggested Compensatory Planting

SPECIES OF WILDLIFE VALUE

This section provides a list of plants which are of proven value to wildlife. The list is not exhaustive and merely provides a guide for suggested planting for wildlife value. Planting should be tailored on a site by site basis. The list includes some native and ornamental species however the emphasis should always be on the use of predominantly native species.

N = Native, NN = Non-native.

This list includes species that may be harmful if handled or ingested. Schedule 9 (Part 2) of the Wildlife and Countryside Act, 1981 (as amended) includes a list of invasive plants, including aquatic species, that should always be avoided in planting schemes.

Large Shrubs

Hedge veronica/Hebe (*Veronica* spp.) NN

Hawthorn (*Crataegus monogyna)* N

Blackthorn (*Prunus spinosa)* N

Rose: dog rose (*Rosa canina),* field rose (*R. arvensis*), burnet rose (*R. pimpinellifolia*) N

California lilac (*Ceanothus* spp.), (*C. arborea)* NN

Wild privet (*Ligustrum vulgare)* N

Common holly (*Ilex aquifolium)* N

Barberry (*Berberis* spp.) (B. *darwinii), (B. thunbergii), (B.* x *stenophylla)* NN

Daisy Bush (*Olearia spp.*), (*O. x hastii), (O. macrodonta)* and (*O. traversii)* NN

Firethorn (*Pyracantha coccinea)* NN

Hazel (*Corylus avellana)* N (*C. maxima)* NN

Viburnum *Viburnum* spp., wayfaring tree (*V. lantana*) N, guelder rose (*V. opulus*) N, laurustinus (*V. tinus*) E Note: V. lantana can become invasive in more open habitats.

Butterfly bush (*Buddleja* spp.), (*B. alternifolia), (B. globosa)* NN

Dogwood (*Cornus sanguinea*) N

Broom (*Cytisus scoparius)* N

Escallonia (*Escallonia macrantha)* NN

Hardy fuchsia (*Fuchsia magellanica)* NN

Buckthorn (*Rhamnus cathartica)* N

Spindle (*Euonymus europaeus)* N

Tutsan (*Hypericum androsaemum)* N

Yew (*Taxus baccata)* N

Trees

Cherry (*Prunus* spp.), wild cherry (*P. avium*), bird cherry (*P. padus*), domestic plum (*P. domestica*) N or cherry plum (*P. cerasifera*) NN

Ash (*Fraxinus excelsior)* N

Apple (*Malus* spp.), edible apple (*M. domestica*), crab apple (*M.* sylvestris) N

Pear *Pyrus* spp., edible pear (*P. communis*) NN

Small-leaved lime (*Tilia cordata)* N

Silver birch (*Betula pendula)* N

Yew (*Taxus baccata)* N

Foxglove tree (*Paulownia tomentosa)* NN

Beech (*Fagus sylvatica)* N

Climbers

Jasmine (*Jasminum* spp.), summer jasmine (*J. officinale*), winter jasmine (*J. nodiflorum*) NN

Ivy (*Hedera helix)* N

Climbing hydrangea (*Hydrangea anomala* ssp. *petiolaris)* NN

Honeysuckle (*Lonicera* spp.) (*L. periclymenum)* N

Clematis (*Clematis* spp.) NN

Hop (*Humulus lupulus)* N

Firethorn (*Pyracantha atalantioides)* NN

Nasturtium (*Tropaeolum majus)* NN

Submerged Aquatics (acting as oxygenators)

Water crowfoot (*Ranunculus aquatilis)* N

Spiked water milfoil (*Myriophyllum spicatum)* N

Water starwort (*Callitriche stagnalis)* N

Rigid hornwort (*Ceratophyllum demersum)* N

Curly pondweed (*Potamogeton crispus)* N

Floating Aquatics

Yellow water lily (*Nuphar lutea)* (can require control) N

White water lily (*Nymphaea alba)* (can require control) N

Bog-bean (*Menyanthes trifoliata)* N

Amphibious bistort (*Polygonum amphibia)* N

Marginal

Yellow iris (*Iris pseudacorus)* N

Water mint (*Mentha aquatica)* N

Water plantain (*Alisma plantago-aquatica)* N

Arrowhead (*Sagittaria sagittifolia)* N

Water forget-me-not (*Myosotis scorpioides)* N

Lesser reedmace (*Typha angustifolia)* N

Flowering rush (*Butomus umbellatus)* N

Branched bur-reed (*Sparganium erectum)* N

Purple loosestrife (*Lythrum salicaria)* N

Floating sweet-grass (*Glyceria fluitans)* N

Reed sweet-grass (*Glyceria maxima)* N