

# Hartley Gardens

## Preliminary Ecological Appraisal Report



**Client**  
Tendring District Council

**Date:**  
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## About us

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Place Services is a leading public sector provider of integrated environmental assessment, planning, design and management services. Our combination of specialist skills and experience means that we are uniquely qualified to help meet the requirements of the planning process.

Our Natural Environment Team has expertise of arboriculture, biodiversity, countryside management and ecology. This multidisciplinary approach brings together a wide range of experience, whether it is for large complex briefs or small discrete projects. We aim to help our clients protect and improve the natural environment through their planning, regulatory or land management activities. This approach ensures that not only our clients will fulfil their legal duties towards the natural environment, but they do so in a way that brings positive benefits to wildlife and people.

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This report has been compiled in accordance with BS 42020:2013 Biodiversity – Code of practice for planning and development, as has the survey work to which it relates.

The information, data, advice and opinions which have been prepared and provided are true, and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional *bona fide* opinions.

**Biological Data**

Ownership of biological data gained through the assessment directly associated with the titled project or named part thereof remains in the ownership of the client who commissioned this assessment. However, as part of membership to our professional body we are required to provide our biological results to applicable biological record centres. As such, it is our intention to supply biological data unless directly instructed in writing not to do so by the commissioning client.

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## 1. Summary

- 1.1. Tendring District Council instructed Place Services to produce a Preliminary Ecological Appraisal Report (PEAR) for Hartley Gardens, to inform the delivery strategy for the strategic site allocation. A field survey using UK Habitats Classification was carried out 18th & 23rd September 2020 to assess the proposed impacts to biodiversity. The subsequent report follows the Chartered Institute of Ecology and Environmental Management's (CIEEM's) guidance on preparing a Preliminary Ecological Appraisal Report and includes further recommendations on habitat creation and enhancement.
- 1.2. The proposed site boundary is situated within the site situated on the northern boundary of Clacton (to the north of St Johns Road). The A133 is present to the east of the site and forms the entirety of the eastern boundary. This land is predominantly open arable farmland, separated by hedged field boundaries.
- 1.3. The proposals contained within the illustrative masterplan will involve the removal of agricultural land present on site, as well as the associated field margins and neutral grassland. In addition, 12 hedgerows will require partial removal to provide access by provision of roads, road junctions, cycleways and footpaths. However, measurable biodiversity net gains will be achieved via the delivery of new habitat creation.
- 1.4. This Preliminary Ecological Appraisal Report recommends the following additional surveys and assessments to be completed at subsequent stages of the planning process:
  - Habitats Regulations Assessment, as the site is situated within the ZOI for 7 Habitats sites and may result in adverse effects to site integrity from the development alone or from impacts in combination with plans with projects;
  - Hedgerow Regulations assessment to determine importance, as a measure of hedgerow value;
  - An assessment of whether Long Grove Wood should be classified as Ancient Woodland, and therefore irreplaceable habitat, or not, including consideration of historic data;
  - Surveys to determine the presence and populations characteristics of the following legally protected and Priority Species:
    - Great Crested Newt, presence, distribution and populations levels;
    - Bats, roost presence in trees and buildings, and activity;
    - Dormouse, presence, distribution and population level;
    - Water Vole, presence, distribution and population level;
    - Reptiles, presence, distribution and population level
    - Badger activity;
    - Breeding and over-wintering birds;
    - White-Letter Hairstreak.

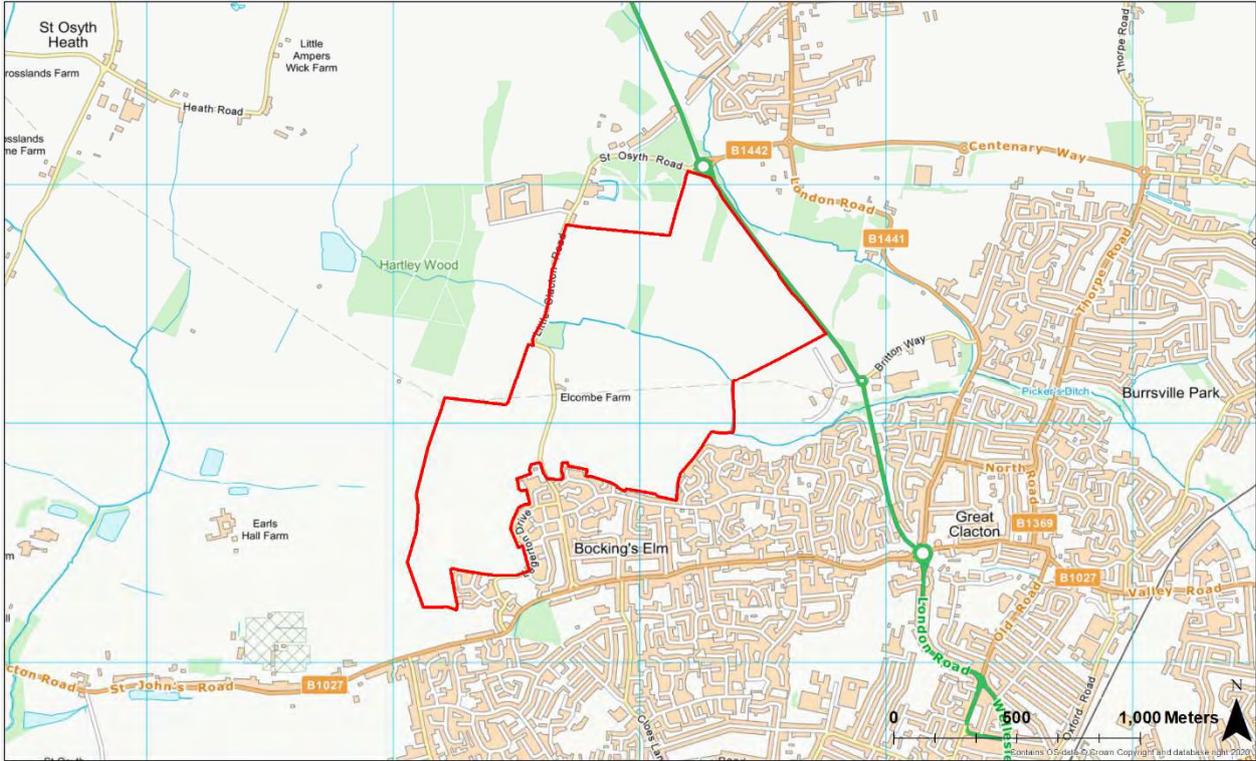
- 1.5. Bespoke legally protected and Priority Species ecological enhancement options have been recommended to secure measurable net gains for biodiversity for the species and habitats shown to be present.
- 1.6. The advice given in this report is only valid to inform the delivery strategy for the growth location and is not suitable to inform any planning application. It is recommended that further assessment, with an appropriate scope and specification, should be carried out at all subsequent stages in the planning process.

## 2. Introduction

### General Introduction

- 2.1. Tendring District Council instructed Place Services to produce a Preliminary Ecological Appraisal Report (PEAR) for Hartley Gardens. The study site is listed as a strategic site allocation within the Tendring District Local Plan 2013-2033 Publication Draft June 2017. The Council are now proposing the site is designated as a broad location for growth under Policy SAMU 2. As a result, this PEAR has been provided to ensure there is an ecological evidence base for the site, which will help inform the illustrative masterplan and delivery strategy for the site to support its examination and policy adoption in the local plan.
- 2.2. The report aims to provide clarity on the ecological value of the site and provide advice on how ecological constraints can be overcome and effectively mitigated. The assessment included all land indicated on the drawing provided in figure 1.1 and any publicly accessible land in close proximity. This area and its immediate surroundings are hereafter referred to as 'the site'.
- 2.3. The PEAR is also accompanied by a Biodiversity Net Gain Baseline Calculation using the Defra Metric 2019. A Wintering Bird Survey is also being carried out between November and January to assess for forging overwintering birds and identified whether the site is functionally linked to nearby Habitats Sites.
- 2.4. The site proposed for designation (i.e. not including Brook Park West) is c. 130 hectares. The site situated on the northern boundary of Clacton (to the north of St Johns Road). The A133 is present to the east of the site and forms the entirety of the eastern boundary. This land is predominantly open arable farmland, separated by hedged field boundaries. Hartley Woods (Ancient Woodland and Local Wildlife Site) is located directly to the north west of the site and Hartley Brook extends from these woods across the site to Pickers Ditch in the south east corner.
- 2.5. The site contains two areas of Lowland Mixed Deciduous Woodland (T Grove and Long Grove), which are located in the northern part of the site. However, an area of recently planted trees is located to the northern central section of the site, which is bordered by dense scrub habitat.
- 2.6. A location plan and aerial views are provided in figures 1.1 and 1.2, respectively.

Figure 2.1. OS map with location of the site



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Figure 2.2. Aerial view of the site



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2.7. The aims of this report are to:

- Establish baseline conditions;
- Establish any requirements for detailed/further surveys;
- Identify key project constraints and make recommendations for design options to minimise impacts; and,
- Identify mitigation measures (as far as possible) and enhancement opportunities where appropriate.

2.8. This report has only been prepared to inform the ecological evidence base for the site, based on a notional masterplan. Therefore, it is not sufficient to support any subsequent proposals at application stage.

## National Planning Policy

2.9. This report has been prepared with reference to national policy in relation to biodiversity within the planning system.

2.10. Paragraph 170 of the National Planning Policy Framework (NPPF) states: “Planning policies and decisions should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services;
- minimising impacts on, and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

2.11. Paragraph 175 of the NPPF states: “When determining planning applications, local planning authorities should apply the following principles:

a) If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons<sup>58</sup> and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

2.12. Ecological information submitted in support of a planning application should provide certainty of impacts on legally protected and Priority Species and Priority Habitats.

## Local Planning Policy

2.13. This report has also been prepared with reference to the environmental local policy contained within the Tendring District Local Plan 2007:

### Policy EN6 - Biodiversity

Development proposals will not be granted planning permission unless the existing local biodiversity and geodiversity is protected and enhanced. In exceptional circumstances, where the planning benefits are considered to outweigh the protection or enhancement of local biodiversity and geodiversity, appropriate compensating measures to outweigh the harm caused by the development must be provided. Where appropriate, conditions or planning obligations will be sought to protect the biodiversity interest of the site and to provide appropriate compensatory or mitigation measures and long-term site management, as necessary.

### Policy EN6a – Protected Species

Planning permission will not normally be granted for development which would have an adverse impact on badgers, seals or species protected by Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981, as amended.

### Policy EN6b – Habitat Creation

Consideration will be given to the potential for new wildlife habitats in new development. Where these are created, measures may be taken to ensure suitable permanent management, and public access. In these matters, the Council may be guided by the Essex Biodiversity Action Plan.

2.14. This report has also been prepared with reference to draft local policy in relation to the Hartley Gardens broad growth location which incorporates the Council's suggested amendments to Policy SAMU2:

### Policy SAMU2

### DEVELOPMENT AT HARTLEY GARDENS, CLACTON

Land north of Bockings Elm and west of A133 shown on the Map SAMU2, is designated as a broad location for growth for mixed use development for the phased and comprehensive delivery of the following:

- a) approximately 1,700 new homes of mixed sizes and types to meet evidenced local housing need within the Council's most up to date Strategic Housing Market Assessment and to include 30% affordable housing as set out in Policy LP5
- b) up to 7 hectares of land for employment;
- c) 2.1 hectares of land for a new two-form entry primary school with co-located 56 place early years and childcare facility (D1 use) and/or financial contributions towards primary school and secondary school provision as required by the Local Education Authority based on evidenced need through Section 106 Planning Obligations;
- d) New facilities and/or financial contributions to support new health provision based on evidenced need;
- e) Green infrastructure which should provide a multi-functional and connected network, including amenity green space, parks, allotments and natural and semi natural green space (meeting the standards set out in Policy HP5) and provides for attractive green walking and cycling routes;
- f) To deliver at least 10% biodiversity net gain;
- g) A sustainable movement network, including principal points of highway access, a hierarchy of streets, public transport and connected walking and cycling routes within the site and beyond; and
- h) The provision of sufficient utility infrastructure working with the relevant infrastructure providers to ensure that such provision is achieved in a timely manner.

No planning applications will be approved until a site-specific Hartley Gardens DPD has been prepared and adopted by the Council. The purpose of the DPD will be as follows:

- To provide further detail on the geographical extent and boundary of the allocation, ensuring a defensible and sensitive boundary to the open countryside beyond;
- To set out how Policy SAMU2 development objectives and masterplanning principles will be achieved through the site specific DPD which will provide the means to inform, assess and determine planning applications and secure comprehensive, co-ordinated and integrated sustainable development;
- To facilitate and support the co-ordination and timely delivery of the green, social and physical infrastructure necessary to facilitate growth in this location.

This is to ensure the comprehensive and co-ordinated development of the site, to ensure the master planning principles below are addressed and to provide a clear

delivery plan to ensure the right infrastructure is funded and delivered at the right place and at the right time.

The Council will not accept piecemeal development which does not address the policy requirements. Development within the broad location for growth in advance of the Hartley Gardens DPD may be permitted provided that:

- There would be no prejudice to the delivery of the wider Hartley Gardens development (including its infrastructure requirements) and would not undermine the integrated and co-ordinated approach to the wider development;
- The development demonstrably conforms to the policy requirements and principles of Policy SAMU 2 Hartley Gardens;
- A site wide highway infrastructure strategy has been agreed by the County Council and District Council, opportunities for sustainable modes of transport have been secured and will be delivered and that the residual impacts upon the transport network will not be severe.

#### Masterplanning Principles

The Hartley Gardens DPD will provide further guidance to meet the following principles and all development proposals should accord with these:

- a) To create a series of permeable and legible well-defined streets which are cycle and pedestrian friendly and link into the existing built up area and local facilities (e.g. retail and schools);
- b) To identify off site highway works required to support new development, their phasing and funding;
- c) To identify public transport measures to ensure sufficient access to the site by bus and rail and provide a series of walking and cycling routes within the site with strong and positive linkages to the existing network;
- d) To create a high quality built and natural environment that respects the built and landscape character and context of the local area and is in accordance with the National Design Guide and the Essex Design Guide;
- e) To incorporate in the design of new development measures to minimise the contribution to climate change and to ensure new development is resilient and adaptable to the effects of climate change;
- f) To create a connected multi-functional green infrastructure network which protects and enhances existing site features of landscape and ecological value such as the expansion of the Pickers Ditch Green corridor to the south of the site, the copses at T Grove and Long Grove (both registered on the Priority Habitat Inventory as Deciduous Woodland and the National Forest Inventory as Broadleaved Woodland, ancient woodland (including Hartley

- Woods to the north of the site), any veteran trees, hedgerows and other important landscape features and important habitats;
- g) To ensure no net loss of biodiversity and to deliver positive benefits to biodiversity through the restoration, enhancement and creation of appropriate semi-natural habitats within and through the site to maintain, restore and create functional ecological networks;
  - h) To establish a sustainable drainage system across the site that integrates with the green infrastructure network and utilises where practicable existing watercourses (e.g. Hartley Brook and Pickers Ditch), ponds, ditches and any greenways associated with retained hedgerows and maximise habitat value;
  - i) To create a landscape structure that retains and utilises existing landscape features (such as hedgerows, trees, Hartley Brook and Pickers Ditch) and uses new planting and landscaping to sensitively integrate new built development and provide an attractive green setting;
  - j) To use structural planting and the location, orientation and design of new buildings to maintain the landscape setting and separate identity of Little Clacton and to carefully screen and sensitively integrate new infrastructure and buildings from the open countryside to the west to minimise any visual impact;
  - k) To identify opportunities to preserve and enhance the setting and significance of heritage assets at Bovills Hall, Earls Hall and Dutchess Farmhouse and Bluehouse Farm in accordance with the recommendations for avoiding harm, mitigating impacts and maximising enhancements in the Heritage Impact Assessment;
  - l) Where an archaeological evaluation (trial trenching where necessary) identifies surviving archaeological deposits, an appropriate mitigation strategy for preservation in situ or by excavation should be submitted;
  - m) To demonstrate that no internationally designated site would be adversely affected by the development either alone or in combination with other proposals as per the requirements of Policy PPL 4 and future proposals will need to demonstrate no adverse impact on water quality as per the requirements of Policy PPL5; and
  - n) To demonstrate how a phased approach to development can deliver the required infrastructure when it is required and create an integrated and sustainable community.

## Methods

### Desk Study

2.15. Place Services' Biodiversity Alert Map was used to examine the context of the site in relation to major landmarks and habitats. The Map was also used to determine any statutory and non-statutory designations (JNCC 2014) within a kilometre radius of the

site, backed up with reference to Magic Map (<http://www.magic.gov.uk/>) and the Essex Wildlife Trust Biological Records Centre (<http://www.essexwtrecords.org.uk/>).

2.16. The Essex Field Club (EFC) and Essex Wildlife Trust Biological Records Centre was commissioned on 08 September 2020 to undertake a data search of existing biological records within a one-kilometre radius of the site to inform the assessment. For practical reasons associated with its size, the data search report provided by the Essex Field Club is not attached in full as a separate Annex to this report, as required by their terms and conditions, but it is available on request.

## Field Survey

2.17. Site visits were carried out on the 18th & 23rd September 2020 by:

- Sue Hooton CEnv MCIEEM BSc (Hons) – Principal Ecological Consultant
- Hamish Jackson ACIEEM BSc (Hons) - Ecological Consultant
- Emma Simmonds MCIEEM BSc (Hons) - Ecological Consultant
- Vanessa Gouldsmith Pg Dip, BSc (Hons) – Junior Ecological Consultant
- Melissa Wilson BSc (Hons) - Junior Ecological Consultant

2.18. Habitats on the site were mapped using UKHab-Professional, with a minimum mapping unit of 25m<sup>2</sup>. The site was assessed for the likely presence or absence of legally protected or otherwise noteworthy species and habitats, such as those of Principal Importance in England (Priority Species and Habitats included on the “Section 41 list” as required by the Natural Environment and Rural Communities Act 2006) and Red Data Lists. Incidental signs and sightings of priority or protected species were also noted. Specific features of note are identified on the (Appendix 1) by means of Target Notes (TN), which are then referred to in the text.

2.19. The weather on the 18th September 2020 was warm and sunny, with a max temperature of 23 degrees. However, winds were particularly strong during the survey. The weather on the 23rd September 2020 was overcast, with intermittent rain during the day and a max temperature of 18 degrees.

2.20. The entire site was surveyed, with the exception of Elcombe Farm where access was limited. In addition, where access was possible, the search extended beyond the boundary of the site, as populations of some species (e.g. Badgers) living beyond the immediate boundary of the property could still be affected by activities upon it. However, it is highlighted that the field survey did not include a further assessment for Great Crested Newts, which would require a survey of all breeding habitat within a 500 radius of the site.

This was not undertaken due to further access limitations and therefore will need to be addressed at application stage.

2.21. The following were considered during the field survey (detailed survey methods are given in subsequent chapters):

- Habitats, including hedgerows (using Hedgerow Regulations 1997 criteria);
- Flora;
- Great Crested Newts;
- Bats;
- Dormice;
- Otters;
- Water Voles;
- Reptiles;
- Birds;
- Badgers;
- Invertebrates;
- Mammal Priority Species.

2.22. The site was clearly unsuitable for the following species, which are therefore not referred to again in this report:

- White-clawed Crayfish, as the ditches on ponds did not contain running water suitable for this protected species.

2.23. Although fungi were considered during the survey, limitations of expertise and season mean that it is unlikely that individual species of conservation significance would have been recognised. A search was made for waxcaps and other more distinctive grassland fungi.

2.24. Botanical nomenclature follows Stace (2010). Scientific names are included in Appendix 1.

## **Impact Assessment**

2.25. Where it was possible to do so, potential impacts were identified, although at this early stage in the development of proposals, this process should be considered outline at best. Suggestions for the likely options for the avoidance or mitigation of impacts, as well as for enhancement measures, are provided where sufficient information is available to do so with any confidence.

## Competence

- 2.26. This Preliminary Ecological Appraisal Report was prepared by Hamish Jackson ACIEEM BSc (Hons) - Ecological Consultant.
- 2.27. Hamish has over three years' experience as a professional ecologist. He is experienced surveyor and holds Natural England Class Licences to survey Hazel Dormouse and Great Crested Newts. However, he is also an experienced bat surveyor and is an accredited agent to undertake specialist field assessments for these protected species. He is an associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM), as well as, a member of the Royal Society of Biology and the (ALGE).
- 2.28. The field survey was also carried out by Sue Hooton CEnv MCIEEM BSc (Hons), Emma Simmonds MCIEEM BSc (Hons) - Ecological Consultant, Vanessa Gouldsmith Pg Dip, BSc (Hon) – Junior Ecological Consultant and Melissa Wilson BSc (Hon) - Junior Ecological Consultant.
- 2.29. Sue is Principal Ecological Consultant at Place Services and has over 30 years' experience as a professional ecologist across a variety of sectors. Her expertise in ecology is complemented by considerable experience of embedding and applying this specialism particularly to the planning system at all levels. She has been a key ecology specialist for local authorities providing advice and support on a range of planning matters. A Chartered Environmentalist, Sue is a founder member of CIEEM, a long-standing and active member of the ALGE national executive committee and an affiliate member of the Landscape Institute. She has over 15 years' protected species experience, with Natural England Class Licences to survey Great crested newt, bats and Roman snail.
- 2.30. Emma has a wide-ranging experience of delivering ecological and countryside management projects. She has worked as a professional ecologist across a variety of sectors and has considerable experience of embedding and applying ecology, particularly to the planning system at all levels. She is a full member of CIEEM, as well as a long-standing member of the ALGE.
- 2.31. Melissa Wilson has over 18 months of professional consultancy experience, whereas Vanessa Gouldsmith has 7 months of professional consultancy experience. During this period, they have both provided specialist advice to a number of Local Planning Authorities in relation to Designated Sites, Protected Species and Priority Species/Habitats. They are both Qualifying members of CIEEM and the ALGE.

## Limitations

- 2.32. This survey is intended to provide a preliminary assessment of the site's ecology with reference to legal obligations and conservation significance in a local and national context. Presence or likely absence has been established where possible, except where to be confident in these conclusions there is a need for specific survey methodologies or levels of survey effort, in which case further surveys are recommended.
- 2.33. The wildlife and habitats present on any site are subject to change over time and as a result of seasonal variations. Single-visit surveys can only record the situation as it is at the time, rather than providing a comprehensive analysis of the site's ecology. As such, significant delays to the implementation of the scheme may require a re-evaluation of ecological issues prior to commencement.
- 2.34. The survey only addressed ecological issues and so did not consider archaeology, landscape, arboriculture, or other specialisms.

### 3. Results

#### Habitats

#### Desk Study

##### Statutory Designated Sites:

3.1. There are no statutory designated sites present within a kilometre of the site. However, the site falls within the 9.7km Zone of Influence (ZOI) for the Colne Estuary Special Protection Area (SPA) and Ramsar site, situated 3.7km to the west of the site; the 8km ZOI for Hamford Water SPA and Ramsar, situated 7.5km to the east of the site; and the 22km ZOI Blackwater Estuary SPA and Ramsar site, situated within 13.6km to the south-west of the site. In addition, the site also falls under the ZOI for the Essex Estuaries Special Area of Conservation (SAC). The site therefore also falls under the Impact Risk Zones (IRZ) from the underpinning Sites of Special Scientific Interest for these Habitats Sites. This has been summarised in Table 3.1 below and illustrated in Figure 3.1:

Table 3.1. Summary of Statutory Designated Sites

Statutory Designated Sites	Distance & Direction	Reason for designation
Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar, SSSI	3.7km, W	The estuary is of European / international importance for wintering Brent Geese and Black-tailed Godwit and of national importance for breeding Little Terns and five other species of wintering waders and wildfowl. The variety of habitats which include mudflat, saltmarsh, grazing marsh, sand and shingle spits, disused gravel pits and reedbeds, support outstanding assemblages of invertebrates and plants.
Hamford Water SPA and Ramsar, SSSI	7.5km, E	Hamford Water is a large, shallow estuarine basin comprising tidal creeks and islands, intertidal mud and sand flats, and saltmarsh supporting rare plants and internationally important species and populations of wintering and migrating waterfowl.
Essex Estuaries SAC	3.7km, W	The Essex Estuaries are of European importance due extensive complex of estuaries and intertidal sand and silt flats, including several islands, shingle and shell beaches and extensive areas of saltmarsh.

<p>Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar, SSSI</p>	<p>13.6km, SW</p>	<p>The Blackwater Estuary SPA covers an area of 4395.15 hectares, making it one of the largest and most important estuaries in East Anglia and Essex's largest estuary (Joint Nature Conservation Committee (JNCC), 2017). The Blackwater Estuary SPA is an integral component of the five phased Mid-Essex Coast SPAs which support a diverse range of species. These include internationally important populations of breeding birds, as well as internationally important assemblages of wintering waterfowl, present in both nationally and internationally important numbers (English Nature, 2000). The Mid-Essex Coast comprises an extensive complex of estuaries and intertidal sand and silt flats, including several islands, shingle and shell beaches and extensive areas of saltmarsh (English Nature, 1993).</p>
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- 3.2. Therefore, as the site falls within the site falls within the evidenced ZOI for recreational impacts on the identified Habitats Sites, Tendring District Council will be required to produce a Habitats Regulation Assessment (HRA) - Appropriate Assessment to assess potential impacts from the development (either alone or in combination with other plans and projects) and identify any necessary mitigation measures. In line with Natural England's advice to the LPA, this is "typically a combination of 'on-site' informal open space provision and promotion (i.e. in and around the development site) and 'off-site' visitor access management measures (i.e. at the Habitats Sites predicted to be affected)".
- 3.3. Therefore, it is highlighted that Suitable Accessible Natural Green Space (SANGS) will be required to be provided within the illustrative masterplan, following Natural England's Thames Basin Heaths **example guidance** (it should be noted that this document is specific to the SANGS creation for the Thames Basin Heaths, although the broad principles are more widely applicable). However, it is highlighted that Natural England's advice recommends that the following should be provided at minimum:
- High-quality, informal, semi-natural areas
  - Circular dog walking routes of 2.7 km within the site and/or with links to surrounding public rights of way (Provided via a map of the existing PRoW).
  - Dedicated 'dogs-off-lead' areas
- 3.4. The applicants should also agree in principle that they are willing to provide the following to be secured via the s.106 agreement:

- Signage/information leaflets to householders to promote these areas for recreation
- Dog waste bins
- A commitment to the long-term maintenance and management of these provisions
- A proportionate financial contribution towards visitor management measures to be secured from the developer in line with the Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS), secured by legal agreement for payment on commencement of each and any phase for delivery prior to occupation of any new residents.

3.5. In addition, Natural England have requested that a Wintering Bird Survey is also carried out to inform the provision of the Habitats Regulations Assessment, to assess whether the site is used by foraging overwintering birds and is therefore functionally linked to the identified Habitats Sites.

3.6. It is highlighted that no adverse impacts are predicted upon the underpinning SSSI's, from the proposed development. However, Natural England will need to be consulted, as the application falls within the SSSI IRZ and will contain 100 units or more.

Non-statutory Designated Sites:

3.7. There are five non-statutory designated sites within one kilometre of the site (see Figure 3.1). These include the four following Local Wildlife Sites (LoWS): Hartley Wood (Site Code: Te80), situated 100m north-west of the site; Weeley Bypass (Site Code: Te83) situated 90m north-east of the site; Burcart's Meadow (Site Code: Te92) situated 350m west of the site; and Coppin's Hall Wood (Site Code: Te82) situated 930m south-west of the site. It also includes Special Roadside Verge TEN11S, situated 350m west of the site. This has been summarised in Table 3.2 below:

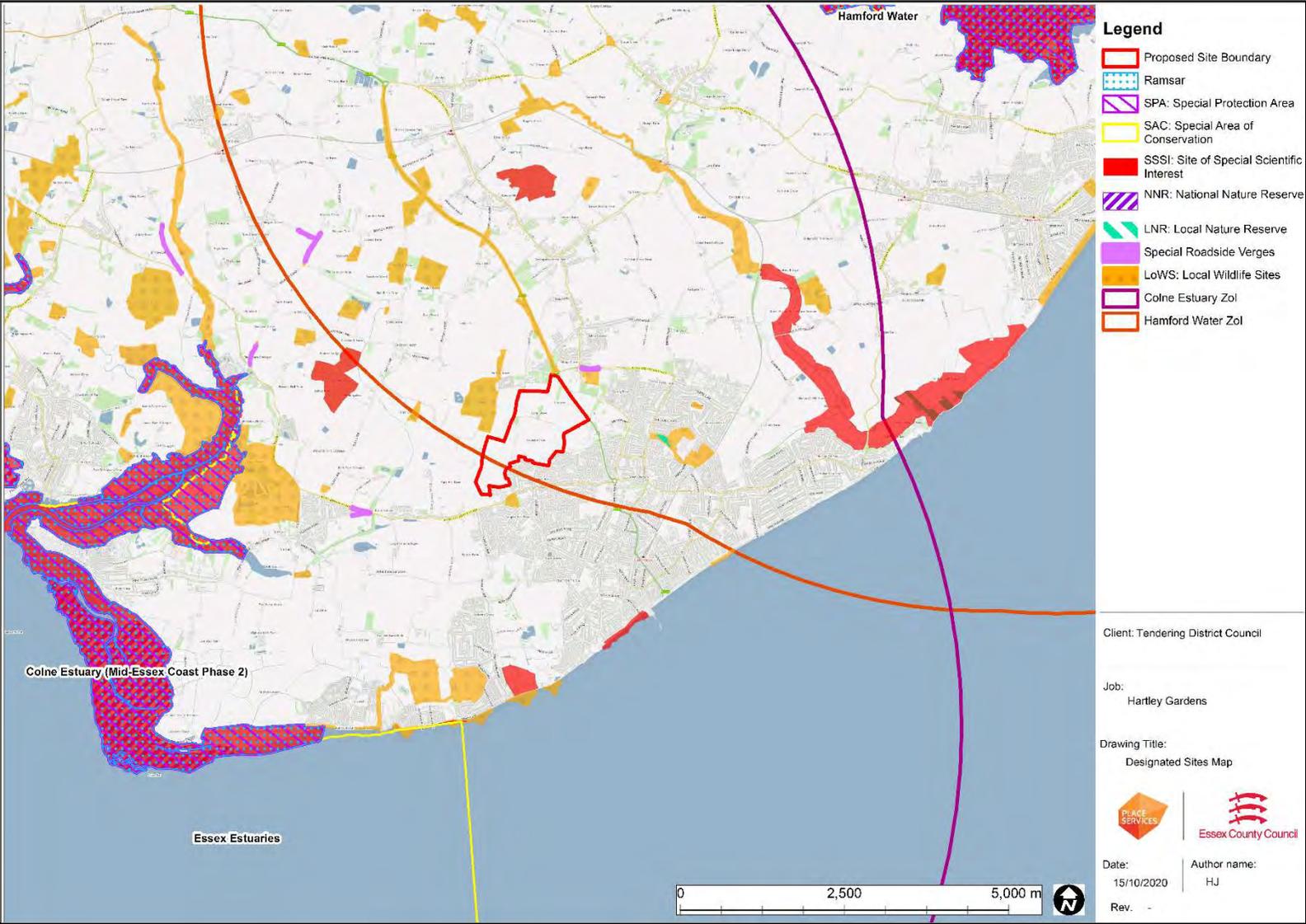
Table 3.2. Summary of Non-statutory Designated Sites

Non- Statutory Designated Sites	Distance & Direction	Reason for designation
Weeley Bypass LoWS	90m, N-E	This Site comprises the A133 road verges and a small woodland north of Dead Lane. The woodland canopy is dense and the verges support a diverse flora, which is important for invertebrates.
Hartley Wood LoWS	100m, N-W	Lowland Mixed Deciduous Woodland (UK); Ancient Woodland (Essex) with neglected coppicing.

Burcart's Meadow LoWS	350m, N-E	The large meadow is primarily of interest for its large population of Corky-fruited Water-dropwort ( <i>Oenanthe pimpinelloides</i> ), as well as notable populations of Adder's-tongue Fern ( <i>Ophioglossum vulgatum</i> ).
Coppin's Hall Wood LoWS	160m. S	Lowland Mixed Deciduous Woodland (UK); Ancient Woodland
TEN11S Special Roadside Verge (SRV)	350m, N-E	Designated due to presence of Corky-fruited Water-dropwort ( <i>Oenanthe pimpinelloides</i> )

3.8. Whilst the scheme is of Significant scale and scope, it is considered that the majority of the non-statutory designated sites are situated a sufficient distance away to ensure that no impacts are caused. However, it is recommended that further consideration should be made for Hartley Wood LoWS, to ensure that indirect or direct impacts will not be caused during the construction phase of the development. As Ancient Woodland, this habitat is considered to be irreplaceable

**Figure 3.1. Designated Sites**



## Priority Habitats:

- 3.9. The desk studies noted the presence of two Priority Habitats within the red line boundary. This included two well established woodlands, which meet the Priority Habitat criteria for Lowland Mixed Deciduous Woodland (T Grove and Long Grove). In addition, 29 of the 34 hedgerows surveyed meet the Priority Habitat criteria, which have been highlighted in Appendix 8.
- 3.10. It has been proposed that the Lowland Mixed Deciduous Woodland will be avoided as part of the illustrative masterplan. However, a number of hedgerows, or sections of hedgerows, will need to be removed to facilitate the development. Consequently, proportionate compensation will need to be delivered and demonstrated within the Biodiversity Net Gain Report.

## Habitat Assessment

- 3.11. All of the habitats within the survey area were assessed visually in line with the UK Habitats Classification. Ordnance Survey paper maps were used for recording habitat information. Where the appropriate classification was not immediately apparent, and to allow for consistency and verification of the classifications used across different survey areas, additional notes were made of the more prominent plant species found in certain habitat types.
- 3.12. Hedgerows onsite were also assessed against the Wildlife and Landscape criteria within Part 2 of The Hedgerow Regulations 1997. The number of woody species in 30 metre sections of hedgerow, selected according to the method specified in the Regulations, was counted and the presence of other significant features (banks or walls, the frequency of standards, the proportion of gaps, the number of woodland species of flora, ditches, parallel hedges and connections to woodland, ponds and other hedges) was noted. The combination of these factors, bearing in mind other specified conditions (the presence of particular tree species and public rights of way), was then used to determine “importance” within the terms of the regulations.

## Mapping

- 3.13. The observations made in the field have been combined with available aerial photography (primarily Google Maps, which has the most up to date images) in order to record the distribution of habitats as accurately as possible.
- 3.14. The GIS layer of habitats that accompanies this report is prepared using the Ordnance Survey as a base map. Polygons within the base map have been subdivided, as required to identify distinguishable habitats separately. The level of detail shown within the Mastermap data set varies, and this has influenced the way in which habitats have been

mapped and, to a certain extent, the accuracy of the mapping. The following points should be borne in mind:

- A Minimum Mapping Unit (MMU) has been used of 25m<sup>2</sup>.
- Some hedgerows are mapped as polygons within the base map, but others are not. For those that are not, hedgerow polygons have been created by cutting the polygons in which they are situated, in order to achieve consistency. In reality, the hedgerow may straddle the border between two polygons, and this will not be accurately recorded within the habitat layer, although effort has been made to represent the hedges dimensions within the mapping. The mapping of hedgerows is often presented in linear form, which can provide a convenient measure of abundance, *i.e.* length, but does not reflect the overall dimension of the habitat.

3.15. In reality, and for various reasons, it is likely that some inaccuracies have been introduced through both the field recording and the mapping processes. It is anticipated that these can be corrected relatively easily during subsequent habitat surveys, refining the dataset over time.

### **UK Habitat Classification**

3.16. The UK Habitat Classification has been developed to allow rapid recording and classification of habitats using current standards of habitat assessment and is designed to provide outputs that are suitable for ecological impact assessment and other uses, including the calculation of biodiversity metrics. The classification allows for the easy identification of Priority Habitats and provides a more ecologically useful system than the Phase 1 Habitat Classification system developed by JNCC in the 1970s.

3.17. The classification involves assigning each habitat unit a Primary Habitat code, which is hierarchical with five possible levels, each allowing a more accurate description of the habitat present. Level 1 describes the major ecosystem present – terrestrial, freshwater or marine – and is not used as a descriptor at polygon level.

3.18. Levels 2 to 4 are the most typically used to classify the habitats in this survey, giving a three-character code of the format 'letter-number-letter'. The use of a Level 5 code would result in an additional number at the end of the code.

- Level 2 splits into nine ecosystem types, including Grassland, Woodland and Forest, Heathland and Shrub, Wetland, Cropland, Urban, and Rivers and Lakes.
- Level 3 covers 20 broad habitat types, including Acid, Calcareous and Neutral Grassland, Coniferous Woodland, Hedgerows, Dense Scrub, and Fen, Marsh and Swamp.
- Level 4 includes 80 habitat types and allows the separation of 47 Priority Habitats from other habitats of lower nature conservation significance.

- Level 5 provides specific additional information on the vegetation community where more detailed species information is available and includes 69 habitats listed in Habitats Directive Annex 1.

3.19. A two-character code is only used for one habitat – G4 Modified grassland – with no further subdivision. Information on all of the Primary Codes used in this survey is included within Chapter 3.

3.20. In addition to the Primary Code, a large number of Secondary Codes are available to provide additional information. These include qualifiers to indicate habitat mosaics, the origin of habitats, their management and other environmental factors. In this survey up to three secondary codes have been used for each polygon, in order of significance and the first is included as a label for the polygon. Further explanation of the secondary codes used is included in the habitat assessment results.

### Distinctiveness

3.21. Habitat distinctiveness is recorded for each habitat area according to the criteria set out in the following table:

Table 3.3 Distinctiveness Criteria

Distinctiveness	Criteria	Habitat Type
Very High	Habitat that will require more than 50 years to recreate, and is generally in the local area/nationally	Ancient Woodland, Peat Bog, unimproved grassland
High	Natural Habitats	Woodlands, lakes, rivers
Moderate	Semi-Natural Habitats	Semi-natural habitats such as arable fields with margins, semi-improved grassland
Low	Improved Habitats	Improved grassland, arable fields with no margins
None	Artificial Habitats	Hard-standing

### Condition Assessment

3.22. Condition has been assessed according to the following criteria:

Table 3.4 Condition Criteria

Condition	Criteria
Good	Biodiversity management plan implemented to the highest quality. These Sites act as benchmarks and examples of best practice for biodiversity. For designated sites, they indicate areas assessed as having favourable condition. Low levels of disturbance.
Moderate	Habitats where there is still room for condition improvements, and measures that can be taken to improve their biodiversity value
Poor	Inappropriate management for biodiversity, over managed habitats, high level of disturbance.

## Habitat Assessment

3.23. The Primary Habitats covered in the following sections have been identified during the survey and are illustrated in Figure 3.2. A description of each Primary habitat has been outlined, including an explanation of what has been classified as the habitat, with a consideration of the distinctiveness and condition of the habitat. An indication of the approximate area of the habitat and its proportion within the site has also been outlined. Equivalence with the National Habitat Classification used within the Phase 1 Habitat Survey methodology is also considered to allow for direct comparison.

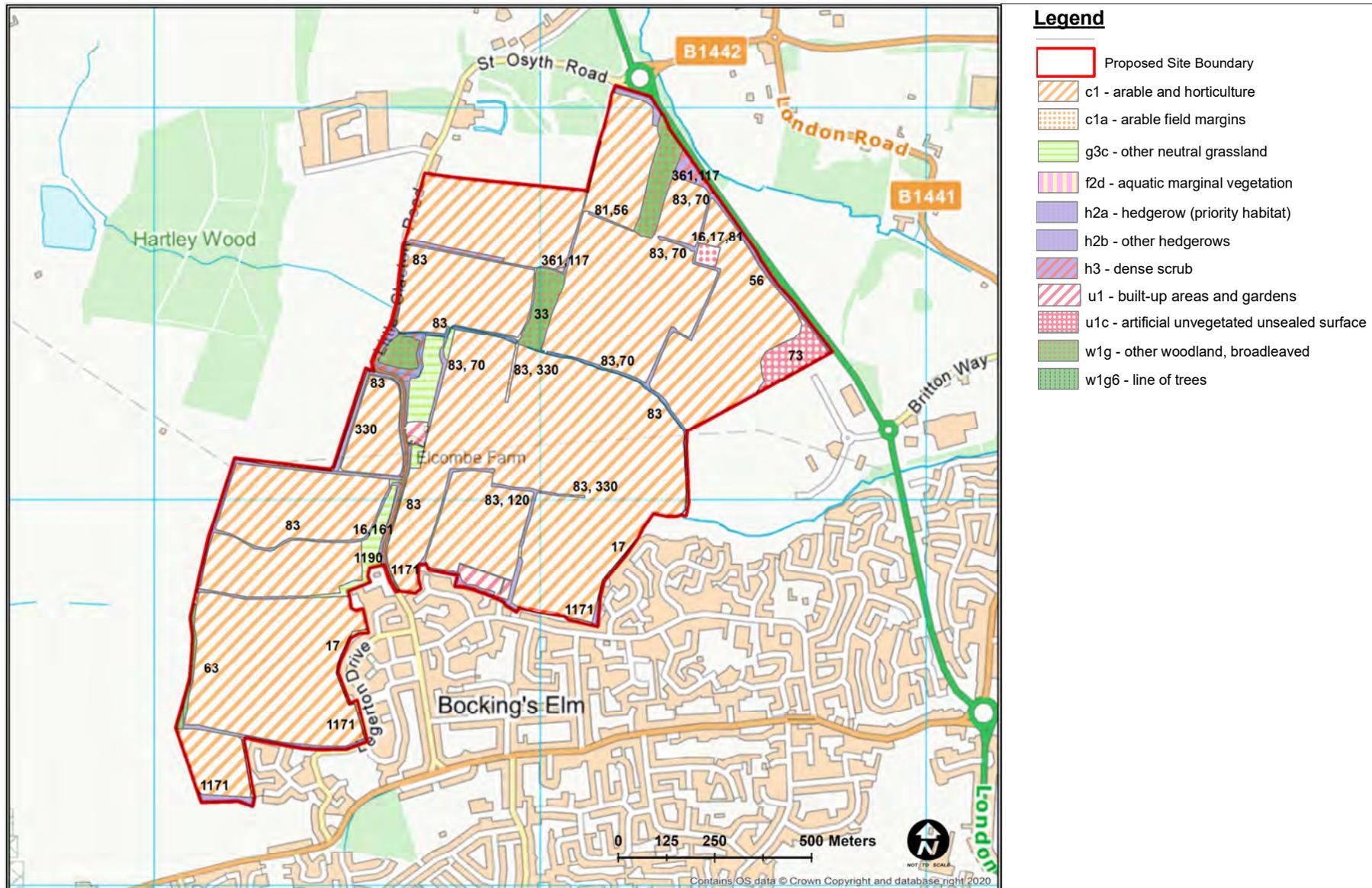
3.24. The following secondary codes have been used within the Figure 3.2., with an explanation of the way in which they have been applied in this survey in Table 3.5:

Table 3.5 Secondary Codes

Secondary Code	Description	Application
16	Tall Herb	Stands of tall perennial or biennial dicotyledons i.e. Common Nettle, Common Hogweed and White Goosefoot
17	Ruderal/ephemeral	Short patchy plant assemblages typical of unmanaged areas in arable landscape / derelict urban sites.
33	Ancient Woodland Site	Land that is currently wooded and has been continuously wooded since 1600AD

56	Young trees - planted	Areas where recent planting is clearly visible.
63	Burnt	Evidence of deliberate or accidental burning of vegetation
70	Hedgebank	Earthbank with a more or less continuous hedgerow along it's top.
73	Bareground	Any type of bare soil or other unvegetated substrate
81	Failed hedgerow	Hedgerow managed by mechanical flail in the last 3 years
83	Grip	Small drainage channels across the agricultural land
120	Wet	Water table within 40cm of the surface and soil containing free water for most of the year
161	Tall or tussocky sward	Tall swards, with or without occasional tussocks, providing nectar, pollen, foodplants, seeds, dead seed heads and prey items for invertebrates and certain bird species
330	Scrub	Vegetation dominated by more or less closed canopy shrubs up to 5 metres in height
361	Natural Lake or Pond	Enclosed natural standing water bodies containing non-saline water with semi-natural aquatic communities and natural banks
1171	Mature Tree	An individual, planted, mature tree
1190	Sustainable urban drainage feature	Elements designed to manage surface water to aid in reducing flooding and increasing water quality

**Figure 3.2. UK Habitats Classification Map**



## Habitat Descriptions

<b>1. Arable and Horticultural</b>		<b>Code: c1</b>
Secondary codes:	74 Ploughed 73 Bare Ground	
Phase 1 equivalence:	J1.1 - Cultivated/disturbed land	
Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
Low/Poor	83.92	88.5%

Notable plant species: None

### Description

Recently ploughed agricultural land which constitutes bare ground. No plant species recorded. Some areas contained stubbles of arable crops in the ground, but these will likely be ploughed. Therefore, these areas did not meet the habitat definition of 'winter stubble' (c1c5). The value of this habitat is of site level importance but could be important for breeding and overwintering birds at certain times of the year. The exact classification of agricultural land will vary from year to year according to the crops grown at the time.

Photo 1. Arable and Horticultural – view from the south-west of the site looking north-east



**2. Arable field margins** **Code: c1a**

Secondary codes:	83 Grip 330 Scrub	
Phase 1 equivalence:	B.2.2. – Semi Improved Grassland	
Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
Low/Moderate	0.66ha	0.66%
Notable plant species: None		

**Description**

Agricultural field margins and field boundaries. These predominantly consist of tussocky grasses such as False-Oat Grass, Cocksfoot and Timothy, due to low management pressure and therefore could be potentially categorised to c1a5 or g3c5 in some circumstances. The habitat is typical of unmanaged grassland in lowland UK but could be enhanced for its biodiversity.

Photo 2. Arable Field Margins – view of field margin to the north of hedgerow 34.



Species: list of species recorded from the stand given in Appendix 1

**3. Other Neutral Grassland**

**Code: g3c**

Secondary codes: 16 Tall Herb  
161 Tall or tussocky sward  
1190 Sustainable urban drainage feature

Phase 1 equivalence: B.2.2. – Semi Improved Grassland

Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
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Moderate/Moderate	3.61	2.56%
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Notable plant species: None

**Description**

Grassland consisting of rank and unmanaged swards on neutral soils. Grass species composed of Perennial Rye-grass, Common Bent, False Oat-grass and Common Couch. Herbs included common species, associated with little management *i.e.* Nettle, Hogweed, Yarrow, White Clover. In addition, a mixture of agricultural weeds was present within the grasslands, primarily Ragwort and Creeping Thistle. A Sustainable Urban Drainage was located within the most western other neutral grassland, which was small and dry during the time of the survey (OS Grid Reference TM 15586 16840). None of these areas conforms to the National Vegetation Classification (NVC) MG5 community that would qualify it to be Lowland Meadows Priority Habitat.

Photo 3. Other Neutral Grassland – grassland to the west of Little Clacton Road



Species: list of species recorded from the stand given in Appendix 1

<b>4. Other Woodland, Broadleaved</b>		<b>Code: w1g</b>
Secondary codes:	33 Ancient Woodland	
Phase 1 equivalence:	A1.1.1. Semi-natural broadleaved woodland	
Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
Very High/Moderate	1.27	1.19%
Notable plant species: TBC		
Description		

Long Wood Grove is a remnant Ancient Woodland and therefore has very high ecological distinctiveness, as the habitat cannot be recreated in a short timeframe. The site is dominated by Elm on the north eastern end and Oak on the south western end. The site is unmanaged, with dense areas of self-seeded Hawthorn scrub and patches of tall herb habitat i.e. Common Nettle. Therefore, further measures could be undertaken to improve the habitat quality. The lower classification of the site would be w1g7 'Other broad-leaved woodland type', as the woodland contains a mixture of broadleaved species.

Photo 4. Ancient Woodland – view of Long Wood Grove



Species: list of species recorded from the stand given in Appendix 1

<b>5. Other Woodland, Broadleaved</b>		<b>Code: w1g</b>
Secondary codes:	56 Young trees planted	
Phase 1 equivalence:	A1.1.1. Semi-natural broadleaved woodland	
Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
Moderate/Moderate	2.3	2.16%
Notable plant species: None		

**Description**

T Grove and the most western broadleaved woodland site contains young trees, which have been planted in this last 5-20 years. The ground flora was predominantly bare ground with only some typical woodland species present e.g. Tufted-hair Grass and scattered bramble. Rabbit Guards were still present on the western woodland and it is clear that the site had not been managed since the site has been planted. As the woodlands are only recently planted, the habitats are only moderately distinctive as the site can be recreated. There is clear need for management and enhancement of these sites to further increase their value for biodiversity.

Photo 5. Woodland and forest - Other woodland; Young Trees planted – View of western woodland.



Species: list of species recorded from the stand given in Appendix 1

## 6. Hedgerow (Priority Habitat)

Code: h2a

Secondary codes:

83 Grip  
70 Hedgebank  
330 Scrub

Phase 1 equivalence:

J2.1.1 Intact Species-Rich Hedgerow

Ecological Distinctiveness/  
Condition

Approximate area (ha)

Proportion of survey site:

Moderate/Moderate

N/A

N/A

Notable plant species: None

### Description

All field boundaries that conform to the Hedgerows Priority Habitat definition are classified as this habitat. This requires that 80% of their composition is of native woody species, excluding climbers such as Bramble, although these are an important part of the habitat. The majority of the Hedgerows on site are considered to be Priority Habitat and, whilst their distinctiveness and condition are only considered moderate, their importance within the landscape should not be undervalued. In particular, the hedgerows consisting predominantly of Elm will hold local value.

Photo 6. Hedgerow (Priority Habitat) – View of Hedgerow 25



Species: list of species recorded from the stand given in Appendix 1

**7. Hedgerow**

**Code: h2b**

Secondary codes:

Phase 1 equivalence: J2.1.1 Intact Species-rich Hedgerow

Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
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Moderate/Moderate	N/A	N/A
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Notable plant species: None

**Description**

Hedgerow 19 & 20 have been recently planted and currently hold limited ecological value. Therefore, they have not been qualified as Priority Habitat. In addition, Hedgerow 13 and 14 fall into this category as they are ornamental hedgerows which consist solely of leylandii. The hedgerows are situated around Elcombe Farm and contain poor ecological value.

Photo 7. Hedgerow (Non-Priority Habitat) view of hedgerow 19.



Species: list of species recorded from the stand given in Appendix 1

<b>9. Line of Trees</b>		<b>Code: w1g6</b>
Secondary codes:	63 Burnt	
Phase 1 equivalence:	J.2.2.2 Species-poor defunct Hedgerow	
Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
Moderate/Low	N/A	N/A
Notable plant species: None		
Description		

The habitat contains a line of trees derived from lapsed coppice stools, over 20 metres long and with open arable land either side. The habitat contains a high vertical gappiness with limited understory, this was likely caused as a result of fire, as clear evidence of fire damage is located at the base of mature trees.

Photo 9. Line of trees – view of hedgerow 3.



Species: list of species recorded from the stand given in Appendix 1

<b>10. Dense Scrub</b>		<b>Code: h3</b>
Secondary codes:		
Phase 1 equivalence:	Dense Scrub – A2.1	
Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
Moderate / Moderate	2.73	1.27%
Notable plant species: None		

**Description**

Mixed dense scrub which contain patches of shrubs less than 5 metres tall with continuous (>90%) cover. It is common habitat which is important food and nesting resources for many species, particularly birds. The scrub on site primarily consisted of dense Blackthorn and Bramble, that was between 1-4 metres in height.

Photo 10. Dense Scrub – located to the west of the site bordering the western woodland section.



Species: list of species recorded from the stand given in Appendix 1

**11. Built up areas and Gardens**

**Code: u1**

Secondary codes:

Phase 1 equivalence: J5 - Other Habitat

Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
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Low-None/Poor	1.99	1.87%
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Notable plant species: None

**Description**

This definition is used for urban and rural settlements, farm buildings, caravan parks and other man-made structures such as industrial estates, retail parks, waste and derelict ground, urban parkland and urban transport infrastructure. The site contained three locations which met this definition. This included one farm building located to the north-east of the site (u1b5) which had been constructed recently, two built linear features (u1e) which include Little Clacton Road and a recently constructed road to the identified farm building and a Public Open Space located to the south of the site, which had been recently constructed as part of the southern development. The public open space consisted primarily of short modified grassland which had been recently sown, as well as individual tree planting and additional public amenities. Overall, the built-up areas and gardens contained limited ecological value in the wider landscape context.

Photo 11. Built up areas and Gardens - Public Open Space located to the south of the site.



Species: list of species recorded from the stand given in Appendix 1

<b>12. Artificial Unvegetated Unsealed Surface</b>		<b>Code: u1c</b>
Secondary codes:	73 Bare ground	
Phase 1 equivalence:	J4 Bare ground	
Ecological Distinctiveness/ Condition	Approximate area (ha)	Proportion of survey site:
Low/Poor	1.66	1.56%
Notable plant species: None		

**Description**

This location included two large mounds of earth, which were spoil from previous development on adjacent site. The site included bare ground with some materials and machinery stored behind Heras fencing. Overall, Artificial Unvegetated Unsealed Surface contained limited ecological value in the wider landscape context.

Photo 12. Artificial Unvegetated Unsealed Surface – located to the south-west of the site.



Species: list of species recorded from the stand given in Appendix 1

**Aquatic Marginal Habitat**

**Code: F2d**

Secondary codes: 361 Natural Lake or Pond

Phase 1 equivalence: F.2.1 Marginal Vegetation

Ecological Value Approximate area (ha)

Proportion of survey site:

Moderate/Poor

0.01

0.009%

Notable plant species: None

**Description**

Manmade pond which is dry around edges but small area still holding water in the centre. The pond primarily contained marginal vegetation of Narrow-leaved Bulrush and Sea Club-rush. However, New Zealand Pigmyweed was noted as an emergent plant within the remaining water.

Photo 12. Aquatic Marginal Habitat – Pond to the north of Long Grove Wood.



Species: list of species recorded from the stand given in Appendix 1

## Hedgerow Assessment

- 3.25. The locations of the hedgerows on site have been summarised in Appendix 4 and photographs have been provided in Appendix 12. Full descriptions of the hedgerows have been provided below indicating their species composition, height, width, structure, gappiness and the present of ditches or hedge banks. Their ecological distinctiveness and condition have been highlighted, as well as whether they meet the Priority Habitat Criteria, in line with the UK Biodiversity Action Plan Priority Habitat Descriptions for Hedgerows. In addition, an indication of whether the hedgerow would be considered important in the terms of the Hedgerow Regulations 1997 has been provided, but this cannot be fully determined until further surveys are carried out in the optimal time of year and with reference to Archaeology and History criteria.
- 3.26. Hedgerow 1 is a native, species-rich hedgerow with trees of approximately 130m in length. The species primarily consisted of Pedunculate Oak, Hawthorn, Elder and Blackthorn. The hedgerow was leggy, with a high vertical gappiness. It contained a limited understory of scattered bramble and tall herbs. The hedgerow was 15-20 metres in height on average along length, with a width greater than five metres. The Hedgerow does meet Priority Habitat Criteria but is unlikely to be Important under the Hedgerow Regulations. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition and is considered an important ecological feature due to the presence of multiple mature oak trees.
- 3.27. Hedgerow 2 is a native, species-rich hedgerow with trees of approximately 470m in length. The Hedgerow predominantly consisted of Pedunculate Oak, Hawthorn and Blackthorn. The hedgerow contained a dense understory for the majority of the hedgerow, but the hedgerow does contain less structure adjacent to the public open space section. The hedgerow was 15-20 metres in height on average along length, with a width greater than five metres. The Hedgerow does meet Priority Habitat Criteria but is unlikely to be Important under the Hedgerow Regulations. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition and is considered an important ecological feature due to the presence of multiple mature oak trees.
- 3.28. Hedgerow 3 is an ecologically valuable line of trees of approximately 300m in length. The line of trees consisted mostly of mature Pedunculate Oaks which have been previously damaged by fire. The line of trees contains large canopies and were over 20 metres in height, with a width of over five metres wide. The line of trees does not meet the Priority Habitat Criteria and can't be categorised under the Hedgerow Regulations. The line of trees has 'moderate' distinctiveness and is in 'poor' condition and is considered an important ecological feature due to the presence of multiple mature oak trees. There are opportunities to enhance this feature by increasing the understory and reinstating the habitat as a hedgerow.

- 3.29. Hedgerow 4 is a native, species-rich hedgerow with trees of approximately 300m in length. The species consists of Field Maple, Blackthorn, Pedunculate Oak, Hawthorn and Dog Rose, with tall herbs and scattered bramble throughout the hedgerow. The hedgerow contained a dense understory and was on average over two metres tall and two metres wide. The northern section of the hedgerow contains higher habitat quality, as it is likely a remnant part of Hartley Woods, which lies immediately north of the Hedgerow. The Hedgerow does meet Priority Habitat Criteria and may be Important under the Hedgerow Regulations. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition and is considered an important ecological feature within the landscape.
- 3.30. Hedgerow 5 is a Native Species Rich Hedgerow with trees of approximately 280m in length. Three mature oak trees were present to the eastern section of the hedgerow and the rest of the hedgerow consisted of primarily Blackthorn, Hawthorn and Dog Rose. The hedgerow was dense at base, with one leggy 20m section to the west of the hedgerow. Tall herbs and arable flora were associated were present within the ground flora with no ecological significance. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also does meet Priority Habitat Criteria and is unlikely to be important under the Hedgerow Regulations. There are opportunities to enhance this feature by increasing the understory within the leggy section and also planting further tree standards.
- 3.31. Hedgerow 6 is a native, species-rich hedgerow with trees - Associated with bank or ditch approximately of approximately 580m in length. The hedgerow contained primarily Blackthorn, Common Hawthorn and Dog Rose, with a number of mature English Oak standards present on the eastern side of the ditch. The dry ditch was about 1.5 metre in depth and 1-2m wide and was continuous across the hedgerow and filled with Greater Willow-herb and Common Reed. The hedgerow contained a dense understory, but there were a few gaps within the middle section of the feature. The Hedgerow was approximately 3-20 metres in height and over three metre wide. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It does meet Priority Habitat Criteria and may be important under the Hedgerow Regulations. There opportunities to enhance this feature by buffering the locations that contain gaps.
- 3.32. Hedgerow 7 is a native, species-rich hedgerow with trees, associated with a r ditch, of approximately 270m in length. The hedgerow primarily contains dense blackthorn and elm and oak standards three metres tall, two metres wide, dense understory of primarily blackthorn, oak standards are present frequently. The hedgerow is bordered by dense one metre high bramble on the eastern side. The dry ditch is also situated on the eastern side covered by bramble and is about two metres deep and 1.5 metres wide, which drains to a recently created SuDs area to the south of the feature. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It does meet Priority Habitat Criteria and

may be important under the Hedgerow Regulations. There are opportunities to enhance this feature by managing the elm within this hedgerow.

- 3.33. Hedgerow 8 is a native hedgerow, associated with a ditch, of approximately 420m in length. The species present consist of Blackthorn, Pedunculate Oak, Hawthorn, elm and scattered Bramble patches. The ditch is present on the southern side of the hedgerow and is about one metre in height and width. The dry ditch is filled with Great Willowherb and other tall herbs. The hedgerow is approximately five metres tall and three metres wide with a dense understory. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria, but it is unlikely to be important under the Hedgerow Regulations.
- 3.34. Hedgerow 9 is a native, species-rich hedgerow with trees, associated with a ditch and approximately 260m in length. The species present include Pedunculate Oak, Ash, Hawthorn, Elm, Blackthorn, Crab Apple and dense Bramble throughout the hedgerow. The hedgerow is approximately 2-3 metres tall and approximately five metres wide, with 2.5 metres of bramble present either side. The ditch contains some Great Willowherb and other tall herb species and was dry during the time of the survey. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria, but it is unlikely to be important under the Hedgerow Regulations.
- 3.35. Hedgerow 10 is a native, species-rich hedgerow, associated with a ditch and approximately 330 metres in length. The species present include Pedunculate Oak, Ash, Hawthorn, Elm, Blackthorn, and occasional willow and Crab Apple. The hedgerow is approximately 2-6 metres tall, with some individual Pedunculate Oak Standards at 15 metres in height. The hedgerow was about 3-5 metres wide and mostly dense but with a 20 metres gap in the middle section of the hedgerow. The adjacent dry ditch was shallow one metre wide and 0.5 metre dry ditch by roadside. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria, but it is unlikely to be important under the Hedgerow Regulations.
- 3.36. Hedgerow 11 is a native, species-rich hedgerow with trees and associated with a ditch approximately 0.1 metres in length. It primarily of elm, Blackthorn and Hawthorn. The hedgerow is approximately 15 metres tall and 5 metres wide and the ditch present in shallow. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria, but it is unlikely to be important under the Hedgerow Regulations. The hedgerow could be enhanced by managing the elm present and increasing the structure of the understory of the hedgerow.
- 3.37. Hedgerow 12 is a native, species-rich hedgerow with trees, associated with a ditch and is approximately 290 metres in length. The species present include Pedunculate Oak, Field Maple, Hawthorn, willow sp., Ash and Crab Apple. The hedgerow contains a

- number of mature oak standards and was approximately 7-25 metres in height. The ditch present was deep and wide and feeds into a dry pond within the centre of the hedgerow at a dog leg. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria, but it is unlikely to be important under the Hedgerow Regulations.
- 3.38. Hedgerow 13 is an ornamental, non-native hedge and is approximately 70 metres in length. The species present is solely *Leylandii* sp. and is about 2-3 metres in height by 1.5 metres wide. The habitat contains limited ecological value, has 'low' distinctiveness and is in 'moderate' condition. The hedgerow is not a Priority Habitat or important under the Habitats Regulations.
- 3.39. Hedgerow 14 is a Hedge Ornamental Non-Native and approximately 0.06 metres in length. The species present is solely *leylandii* sp. and is about 2-3 metres in height by 1.5 metres wide. The habitat contains limited ecological value and contain low distinctiveness and moderate condition. The hedgerow is not a Priority Habitat or important under the Habitats Regulations.
- 3.40. Hedgerow 15 is a native, species-rich hedgerow - Associated with bank or ditch and is approximately 0.38 metres in length. The species present included Blackthorn, Hawthorn, Elm, Oak and Dog rose. The hedgerow is about 2 metres in height / wide and contains a 0.5m x 0.5m dry ditch present on the western side of the hedgerow, adjacent to Little Clacton Road. The hedgerow contains 'moderate' distinctiveness and 'moderate' condition. It also does meet Priority Habitat Criteria, but it is unlikely to be important under the Hedgerow Regulations.
- 3.41. Hedgerow 16 is a native, species-rich hedgerow with trees - Associated with bank or ditch and is approximately 0.36 metres in length. The species present included Blackthorn, Common Hawthorn, Holly, Dog Rose, Oak, with a high presence of dead Elm covered by Common Ivy. The hedgerow is about 5-15 metres in height and about three metres wide and contains a deep shaded dry ditch which is approximately 1.5 metres deep and one metre wide. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It does meet Priority Habitat Criteria, but it is unlikely to be important under the Hedgerow Regulations. There are opportunities to enhance this feature by managing the elm within this hedgerow and increasing the understory density of the hedgerow.
- 3.42. Hedgerow 17 is a Native, species-rich hedgerow with trees - Associated with bank or ditch and approximately 260 metres in length. The species present include Blackthorn, Hawthorn, Holly, Dog Rose, Oak, with a high presence of dead Elm covered by Common Ivy. The hedgerow is approximately 2-10 metres in height, 4-5 metres width. The ditch was wet and was approximately 1m width and 2m high on western side. The depth of the water was about two centimetres and was heavily silted and shaded with no aquatic plant

species present other than Great Willowherb. The ditch switches to the northern side of the northern section of the hedge and then stops halfway. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria, but it is unlikely to be important under the Hedgerow Regulations. There are opportunities to enhance this feature by managing the elm within this hedgerow and increasing the understory density of the hedgerow.

- 3.43. Hedgerow 18 is a Native Hedgerow - Associated with bank or ditch and is approximately 50m in length. As result, it is considered species-poor and defunct. The hedgerow contains scattered Elm and Blackthorn, with arable field margins consisting of primarily False-oat Grass at the base of the hedgerow. The hedgerow is approximately 2m high hedgerow, width 1.5m with dry ditch on south side. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition and is considered an important ecological feature within the landscape.
- 3.44. Hedgerow 19 Native, species-rich hedgerow and is approximately 160m in length. The hedgerow contained Field Maple, Hawthorn, Hazel, Pedunculate Oak, Beech, Rowan. The hedgerow is recently planted and is two metres high and one metre wide, with Rabbit guards. The hedgerow contains no dense understory and has been planted in double lines spaced 45cm apart. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition habitat, but currently provides limited ecological value and is not a Priority Habitat or important under the Habitats Regulations.
- 3.45. Hedgerow 20 native, species-rich hedgerow and is approximately 40m in length. The hedgerow contained Field Maple, Hawthorn, Hazel, Pedunculate Oak, Beech, and Rowan. The hedgerow is recently planted and is two metres high and one metre wide with rabbit guards. The hedgerow contains no dense understory and has been planted in double lines spaced 45cm apart. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition habitat, but currently provides limited ecological value and is not a Priority Habitat or important under the Hedgerow Regulations.
- 3.46. Hedgerow 21 native hedgerow with trees and is approximately 100 metres in length. The species present included Hawthorn, Blackthorn, Pedunculate Oak, Elder, Dog Rose and contained dense Bramble in places. The hedgerow is 15 to 25m tall, 3-4 metres wide. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition habitat. The Hedgerow meets Priority Habitat criteria, but it is unlikely to be important under the Hedgerow Regulations.
- 3.47. Hedgerow 22 native hedgerow with trees and is approximately 80m in length. The species present included Blackthorn, elm, Hawthorn, Elder, Yew, Pedunculate Oak, Hazel, *Leylandii* and Dog Rose, as well as a garden honeysuckle species. The hedgerow is 10 to 15m in height and 2-3 metres wide. The hedgerow was dense with some dead

- elm. No evidence of management was present and non-native and garden escape were noted within the hedgerow. Mature oak trees were present to the south of the hedgerow, which are an important ecological feature. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition habitat and meets the Priority Habitat criteria but is unlikely to be important under the Hedgerow Regulations.
- 3.48. Hedgerow 23 is a native, species-rich hedgerow with trees, associated with a bank and ditch that is approximately 440m in length. The hedgerow was dominated by n elm, which included some deadwood. However, Hawthorn, Field Maple, Pedunculate Oak, Dog Rose and Bramble were also present, with common flora at the base of the hedgerow. The hedgerow was formed around Picker's Ditch, which was wet during the time of survey and contained some emergent plants species, such as Great Willowherb. The ditch was approximately two metres high by 1-3m wide. The hedgerow also contained a small hedge bank either side of the ditch. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition habitat and meets the Priority Habitat Criteria and is likely to be important under the Hedgerow Regulations. There are opportunities to enhance this feature by managing the elm within this hedgerow.
- 3.49. Hedgerow 24 Native, species-rich hedgerow with trees - Associated with bank or ditch that is approximately 520m in length. Species include elm, Hawthorn, Field Maple, Pedunculate Oak, Dog Rose and Bramble, with common flora at the base of the hedgerow. The Hedgerow was approximately 5-10 metres in height and contained a small ditch and hedgerow bank. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition habitat and meets the Priority Habitat Criteria and is likely to be important under the Hedgerow Regulations. There are opportunities to enhance this feature by managing the elm within this hedgerow.
- 3.50. Hedgerow 25 Native, species-rich hedgerow with trees - Associated with bank or ditch that is approximately 120m in length. The hedgerow was dominated by Common elm, which included some deadwood. In addition, some Hawthorn, Field Maple, Pedunculate Oak, Dog Rose and Bramble were also present, with common flora at the base of the hedgerow. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition habitat and meets the Priority Habitat criteria and is likely to be important under the Hedgerow Regulations. There are opportunities to enhance this feature by managing the elm within this hedgerow.
- 3.51. Hedgerow 26 is a native, species-rich hedgerow with trees planted approximately 15 years ago on the A133 roadside embankment and is approximately 500m in length. The hedgerow is dense and managed at 3-4 metres tall and four metres wide with negligible vertical gapping. Seven woody species are associated with the hedgerow including Hawthorn, Blackthorn, Field Maple, Holly, Hazel, Spindle, Bramble and Dog Rose. Tall herbs, grasses and arable flora were also present in a narrow buffering strip. It is

connected to other hedgerows, woodland and a pond. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition. It meets Priority Habitat criteria but is unlikely to be Important under the Hedgerow Regulations due to it being a recent feature in the landscape.

- 3.52. Hedgerow 27 is a Native, species-rich hedgerow with trees - Associated with bank and ditch of approximately 0.09km in length. The Hedgerow is closely managed to approximate two metres high and three metres wide with a dense base and standard Pedunculate Oak trees present. A large mature Oak holding moderate Potential Roosting Features was present at the south east end where the hedge connected with Hedgerow 22 and a pond. Other woody species present included Blackthorn, Hawthorn, Elm, Goat Willow, Bramble, and Dog Rose. Some of the elm had died back. A field entrance separates the north western end from T Grove Wood. There was a minimal margin between the hedgerow and arable field. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition. The hedgerow meets Priority Habitat criteria and may be Important under the Hedgerow Regulations.
- 3.53. Hedgerow 28 is a planted Native Hedgerow with one standard Ash tree at the north western end and is 130m in length. It was considered species-poor and is intensively managed to two metres high and two metres wide with a 0.5m gap at the bottom. Other woody species include Field Maple, Hawthorn, Bramble and Dog Rose, with no buffer to the arable fields on both sides. The hedgerow has 'low' distinctiveness and is in 'moderate' condition. It also does not meet the Priority Habitat criteria.
- 3.54. Hedgerow 29 is a Native, species-rich hedgerow with trees of approximately 160m in length and is associated with a bank and ditch. species include Hawthorn, Field Maple, Dogwood, Dog Rose, Blackthorn, Bramble, and Guelder Rose, with associated tall herbs and grasses. The hedgerow is approximately two metres high and three metres wide, dense, and well maintained. The hedgerow has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat Criteria and but is unlikely to be Important under the Hedgerow Regulations.
- 3.55. Hedgerow 30 is a native, species-rich hedgerow with trees - Associated with bank or ditch and is approximately 170m in length. It forms a boundary with a woodland and created mosaic of habitats to the west. There are two Pedunculate Oak and one Ash standard trees in the northern section of the hedge, however, beyond the field entrance the hedgerow is less species rich and managed on both sides. The hedgerow is approximately two metres high and three metres wide, dense, and well maintained. Other woody species include Hawthorn, Field Maple, Dogwood, Dog Rose, Blackthorn, Bramble, and Guelder Rose, with associated tall herbs and grasses. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria and may be Important under the Hedgerow Regulations.

- 3.56. Hedgerow 31 is a native, species-rich hedgerow planted approximately 15 years ago on the A133 roadside embankment and is approximately 0.12km in length. The Hedgerow is dense and regularly managed and is approximately three metres high and five metres wide with a one metre gap at the bottom. Woody species associated with the hedgerow included Field Maple, Hawthorn, Hazel, Dogwood, Bramble, and Dog Rose. This hedgerow lies behind a linear planted woodland with a narrow, approximately three metre ride separation, it is also connected to other hedgerows and a woodland. The Hedgerow meets Priority Habitat Criteria and may be Important under the Hedgerow Regulations. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition and is considered an important linear feature within the landscape.
- 3.57. Hedgerow 32 is a native, species-rich hedgerow with trees, is associated with a ditch, and is approximately 0.16km in length. The hedgerow is dominated by elm, with sections of dead elm suckers. The hedgerow is managed to 4m high and 3m wide with no gap at the base. Other woody species include Hawthorn, Blackthorn, Dog Rose, Crab Apple, Bramble and oak seedlings. It is connected to a small grassland area, pond and woodland at the south western end. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition. It also meets Priority Habitat criteria and may be Important under the Hedgerow Regulations. There are opportunities to enhance this feature by managing the elm within this hedgerow.
- 3.58. Hedgerow 33 is a native, species-rich hedgerow with trees, is - associated with a ditch, and is of approximately 560m in length. It is approximately two metres tall and four metres wide, with no gap at the base. A line of White Poplars connected by Bramble and Blackthorn scrub runs along the northern side for 2/3 of its length. Other woody species include Field Maple, Blackthorn, Hawthorn and Dog Rose. The hedgerow is connected to Long Grove Wood on the eastern end and hedgerow 31 to the west. The Hedgerow meets Priority Habitat criteria and may be Important under the Hedgerow Regulations. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition and is considered an important ecological feature within the landscape.
- 3.59. Hedgerow 34 is a native, species-rich hedgerow, associated with a wet ditch and bank, and is of approximately 170m in length. It is approximately four metres high and 3-4 metres wide with Pedunculate Oak Standards on both sides of the ditch. Other woody species include Field Maple, Blackthorn, Spindle, Hawthorn, Bramble and Dog Rose. The hedgerow is connected the Long Grove Wood. The hedgerow also has 'moderate' distinctiveness and is in 'moderate' condition. It meets Priority Habitat criteria and may be Important under the Hedgerow Regulations.

## Legal Considerations

- 3.60. Sites with international designations (SPA, SAC and Ramsar sites) receive legal protection in the UK through the Conservation of Habitats and Species Regulations 2017, which is focused on site integrity as judged by the conservation status of the features of interest that support their designation. Any activity that could result in an impact, direct or indirect, must be subject to a Habitats Regulation Assessment.
- 3.61. Sites of Special Scientific Interest receive legal protection under the Wildlife and Countryside Act 1981, making it an offence to intentionally or recklessly damage, disturb or destroy SSSI land or disturb wildlife within one. Permission must be sought from Natural England before any activity is undertaken that has the potential to cause damage to a SSSI. Natural England have established Impact Risk Zones for all SSSIs within which they must be consulted, dependent on the type of development involved. Consideration of potential impacts is necessary for sites that fall within these zones.
- 3.62. Under Section 41 of the Natural Environment and Rural Communities Act 2006, lists of habitats of Principal Importance for the conservation of biodiversity in England have been drawn up; these 'Priority Habitats', were formerly known as UK Biodiversity Action Plan Habitats. Although there is no direct legal protection, local planning authorities and other public bodies have a duty under Section 40 of the NERC Act 2006 to have regard to conserving biodiversity in their decision making and Priority Habitat is therefore a material consideration to planning decisions.
- 3.63. Local Wildlife Sites do not receive any legal protection, but there is a presumption that they will be conserved within the planning system. The NPPF recognises sites with local designations as components of local ecological networks, the establishment and maintenance of which to maintain and enhance biodiversity is one of the core ways in which the planning system should contribute to and enhance the natural and local environment.

## Impact Assessment

- 3.64. The proposed illustrative masterplan will impact upon on all baseline habitats on site, with the exception of the Other Woodland, Broadleaved. The proposal to provide roads and footpaths across the site will also impact upon hedgerows which fall under the Priority Habitat criteria (Hedgerows 2, 5, 7, 15, 16, 17, 22, 23, 26, 32, 33, 34).

## Recommendations

- 3.65. A plan for habitat creation and enhancement across the site should be prepared in line with Tendring District Local Plan 2007 (Policy SAMU2 Development At Hartley Gardens, Clacton and Policy EN6b – Habitat Creation). A further summary of proposals for habitat enhancement and creation has been provided in section 4 of this PEA.

3.66. Proportionate compensation will need to be delivered for Priority Habitats (Hedgerows 2, 5, 7, 15, 16, 17, 22, 23, 26, 32, 33, 34). This should be demonstrated via Biodiversity Metric 2.0 Calculation Tool Beta Test - December 2019 Update.

## Flora

### Desk Study

3.67. The desk study did not identify any locally or nationally scarce plant species present within 1km of the site. The presence of Bluebell *Hyacinthoides non-scripta* was recorded, but this species is only protected to prohibit trading of wild bluebell bulbs and seeds. A number of schedule 9 invasive species were recorded within the 1km radius and have been listed within Appendix 3.

### Field survey methods

3.68. The plant species present on the site were recorded during the site walkover, with specimens retained for critical identification, where necessary.

### Species Assessment

3.69. The walkover survey did not identify any locally or nationally scarce plant species. However, the assessment was conducted in a sub-optimal time of year to conduct detailed botanical surveys. This is typically undertaken during spring- summer, with the optimal period varying between habitat and location. Therefore, the presence of locally or nationally scarce plant species may not have identified during this assessment.

However, the assessment did confirm the presence of New Zealand Pigmyweed *Crassula helmsii* within the pond north of 'T Grove'. Therefore, this invasive species will need to be considered if any enhancement works are undertaken at this pond.

### Legal Considerations

3.70. Schedule 8 of the Wildlife and Countryside Act 1981 lists those plants receiving special protection against picking, uprooting or destruction. Bluebell (*Hyacinthoides non-scripta*) is included within this Schedule to the extent of prohibiting its sale only.

3.71. The Wildlife and Countryside Act 1981 makes it an offence, amongst other things, to plant or otherwise cause to grow in the wild any plant that is included in Part II of Schedule 9. There is a defence available if it can be proven that all reasonable steps were taken to avoid the offence and due diligence was exercised. New Zealand Pigmyweed is listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England, Wales and Scotland. As such, it is an offence to plant or otherwise cause this species to grow in the wild.

3.72. Some plant species are Priority Species.

### Impact Assessment

3.73. New Zealand Pigmyweed grows within shallow standing water and around the damp margins of ponds and rapidly colonises and becomes the dominant plant in the community. It forms large mats which can rapidly shade out other emergent and submergent plant species, as well as marginal species on the banks of waterbodies. As a result, the species can significantly alter plant community compositions and lower biodiversity within waterbodies when present.

### **Recommendations**

3.74. It is therefore recommended that New Zealand Pigmyweed is removed from the indicated pond by manual and mechanical means via a management plan, following best practice measures. In the meantime, it is recommended that any activities around this pond should follow strict biosecurity measures, to avoid spread of this invasive species. Therefore, it is recommended that all items which come in contact with the water should be carefully checked, cleaned and dried, with all work following Guidance on Pollution Prevention (GPP) 5 – Works and Maintenance in or Near Water (2018).

## Great Crested Newts

### Desk Study

3.75. There are no records of Great Crested Newts within 1km of the site. However, an absence of records may indicate a lack of surveys in the area as much as a lack of populations. The nearest known record is identified at approximately 4.7km away at Thorpe le-Soken, to the north-east of the site ([www.magic.defra.gov.uk](http://www.magic.defra.gov.uk)). In addition, the desk study identified that there are four ponds present on site and a further ten ponds present within 500 metres. Therefore, as total of 13 ponds is present within 500 metres of the site.

### Field survey methods

3.76. The presence of ponds or other water bodies on or close to the site that could provide suitable breeding conditions was determined with reference to available maps and aerial photographs and by searching on site. Any accessible water bodies were assessed using the Great Crested Newt Habitat Suitability Index (HSI) (ARG UK, 2010). This index combines scores for ten factors considered to influence breeding pond selection in Great Crested Newts into a single index value between zero and one, zero indicating completely unsuitable habitat and one representing optimal habitat. Although this is not a substitute for a full presence or absence survey, it does allow for a consistent judgement of the likelihood of the presence of Great Crested Newts.

3.77. The terrestrial habitats present on site were assessed for their suitability to support Great Crested Newts outside of their aquatic lifestage, including foraging habitat, places of shelter, overwintering sites and dispersal routes.

### Species Assessment

3.78. The field survey identified that all four ponds present on site were predominantly dry during the time of the visit. As a result, it was not reasonable to deliver a Habitats Suitability Index assessment for any of these ponds. A few wet ditches were also present across the site, most notably Pickers Ditch. Therefore, these ditches also have the possibility to provide breeding habitat for Great Crested Newts, if present within the site. The indicated ponds have been highlighted within Appendix 5.

3.79. Pond 1 is situated to centre of the site, adjacent to the Elcombe Farm. The pond was a dry depression, situated along a dry ditch present within the hedgerow. No evidence of aquatic plant species was noted, and the feature was heavily shaded. It is considered likely that the pond only contains water during periods of high rainfall.

3.80. Pond 2 is located to the northern central section of the site, immediately to the north of T Grove. This pond is manmade, likely for agricultural drainage and was approximately

100m<sup>2</sup> in size. It was dry around the edges but still held a small amount of water within the centre. The pond is dominated by Narrow-leaved Bulrush, but also contained Sea Club-rush and the Schedule 9 non-native invasive species, New Zealand Pigmyweed. As a result, no evidence of suitable aquatic plants for egg laying was noted within the pond during the time of the survey. The pond was unshaded by the adjacent hedgerow and woodland.

- 3.81. Pond 3 is situated in the north-east corner of the site and may actually represent two ponds, as it was difficult to determine the extent of the feature due to it being surrounded by dense scrub. However, the pond was estimated to be approximately 200m<sup>2</sup> in size. It is considered likely that the pond will stay dry for the majority of the year, due to the significant amount of bramble scrub and no evidence of any aquatic plant species. The pond was also shaded by the surrounding vegetation.
- 3.82. Pond 4 is also situated to the north-west corner of the site, situated within and shaded by dense mixed scrub. The pond was approximately 100m<sup>2</sup> in size, adjacent to the A133. It was predominantly dry, but contained a small area still holding water in the centre, which was covered by a duckweed species. Common Reed was noted to be present on the boundary of this aquatic feature. As a result, no evidence of suitable aquatic plants for egg laying was noted within the pond during the time of the survey.
- 3.83. Ditch 1 is Pickers Ditch, which is historic feature located across the site from north-east to south-west. The ditch did contain wet sections during the time of the survey. The ditch was mostly shaded by the adjacent hedgerows and contained steep banks of up to 2 metres high. Great Willowherb and Fool's Watercress was noted to be present within sections of the ditch, primarily in the unshaded sections.
- 3.84. Ditch 2 is located to the south of the site and was manmade for agricultural usage. This feature was also heavily shaded and was densely covered by Great Willowherb and other tall ruderal habitat in places.
- 3.85. Ponds 5 – 13 are located within 500 metres of the site and have not been assessed as part of the field survey. Ponds 5 & 6 are located within 100 metres to the north of the site. However, Pond 6 is separated by being situated to the north of St Osyths Road. Pond 7 is located within 250 metres of the site and appears to be an historical moat situated on the north side of Bovill's Hall. The site is surrounded by suitable woodland species, which would be ideal for Great Crested Newts during the terrestrial phase. Pond 8 is located to the north of the site within 500 metres and is also slightly separated by being situated to the north of St Osyths Road. Ponds 9 to 11 are situated to the east of the site and are all located within 250 metres of the site, with the exception of pond 10 which is located within 100 metres. These ponds are all located in Brook County Park and should be scoped out from any further assessment as the A133 will provide a barrier to dispersal. In addition,

Pond 12 is also located to the east of the site within 500 metres of the site and can also be scoped out due to barrier caused by the A133. Pond 13 is situated to west of the site is likely to be an agricultural drainage pond, which is overgrown by dense scrub.

3.86. The site also contained significant habitat across the site which would be suitable for Great Crested Newts during their terrestrial phase, most notably the scrub and woodlands. In addition, the site is connected by hedgerows and field margins. Therefore, it is considered that there are no limitations to Great Crested Newts commuting routes for this European Protected Species.

### **Legal Considerations**

3.87. Great Crested Newts are protected under both European and national law by the Conservation of Habitats and Species Regulations 2017 (as amended) and under the Wildlife and Countryside Act 1981 (as amended), respectively. It is a criminal offence to kill, harm, capture, possess or sell them (alive or dead), disturb them, take or destroy their eggs, or destroy any of their breeding or resting places.

3.88. A mitigation licence can be obtained from Natural England to permit any activity that would otherwise result in one of these criminal offences. Otherwise, damage to or destruction of breeding sites and resting places is an absolute offence and so there is no defence available within the law. Courts will have regard to whether or not the impact could have been reasonably avoided in deciding upon a sentence.

3.89. Great Crested Newt is also a Priority Species.

### **Impact Assessment**

3.90. It is considered that the ponds and ditches on site were sub-optimal breeding habitat for Great Crested Newts. However, a further assessment should be carried to determine whether the ponds hold water during different periods of the year. As this may change the suitability of the ponds for the European Protected Species.

3.91. In addition, Ponds 5, 6, 7, 8 and 13 will also need further assessment for Great Crested Newts. This is because there is a possibility that Great Crested Newts could be present within these locations and using the terrestrial habitat of the study area. It is considered reasonable to scope out ponds 9 to 12 due to the dispersal barrier caused by the A133.

3.92. Therefore, there is a possibility that any works carried out on the site may cause the following impacts to this European Protected Species without further assessment:

- Capture, killing or injury
- Population disturbance
- Disturbing in a place of shelter

- Obstructing access to or destroying places of shelter
- Destruction of terrestrial habitat
- Destruction of breeding pond

## Recommendations

- 3.93. Further Habitats Suitability Index Surveys should be carried out by suitably qualified ecologists, following best practice methodologies, for all the waterbodies identified within a 500-metre radius of the site. This should identify the need for presence or likely absence surveys. It is suggested that appropriately timed surveys for eDNA in each pond would be the most effective means of determining presence or likely absence, with more detailed survey methods only required in the event of an application for a European Protected Species licence to permit otherwise unlawful actions of habitat destruction or disturbance.
- 3.94. It would be possible for the development to be carried out under Natural England's District Level Licensing (DLL) for Great Crested Newts, as an alternative to licensing and mitigation. This is a strategic approach to authorising developments affecting Great Crested Newts whereby developers can offset impacts by funding the creation of new ponds for the species, before applying for Planning Permission. Entering into this scheme might prevent the need for detailed survey work, although presence or likely absence may be needed for impact assessment purposes.
- 3.95. Enhancements would include increasing pond suitability for Great Crested Newts, creating new ponds and making SUDS features suitable for the species, the creation of new grassland or woodland habitat, and the provision of hibernacula across the site.

## Bats

### Desk Study

3.96. The desk study confirmed the presence of the following bat species present within a one-kilometre radius of the site: Brown Long-eared Bat, Common Pipistrelle, Leisler's, *Myotis* sp., Nathusius's Pipistrelle, Noctule and Soprano Pipistrelle. All of these could be present on the site, using it for roosting, foraging and commuting purposes.

### Field survey methods

3.97. All trees within linear features on site were assessed for their potential to support roosting bats, by looking for features typically used, including, but not exclusive to cavities, old woodpecker holes, loose bark, and splits. All buildings or other man-made structures within the survey area were assessed for their potential to support roosting bats, considering their materials and construction methods. Potential access points and roost locations were noted, and any evidence of bat activity was recorded, including droppings, staining and scratch-marks.

3.98. Trees were categorised for their potential to support roosting bats in accordance with Collins (2016):

- **Negligible:** negligible habitat features on site likely to be used by roosting bats
- **Low:** structures with some potential for use by single bats, although not necessarily on a regular basis or a tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential
- **Moderate:** a structure or tree with one or more potential roost sites due to their size shelter, protection, conditions and surrounding habitat, but unlikely to support a roost of high conservation status
- **High:** a structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time, including maternity roosts.

3.99. The site was also assessed for the presence of suitable foraging habitat and with regard to linear features that could be used as commuting routes.

### Species Assessment

3.100. The site survey determined the presence of 25 trees on site which contained low roost potential, 29 trees with moderate roost potential and 9 trees with high roosting potential for bats. Therefore, a total of 63 trees have been identified to contain potential roosting features for bats within the linear site. It is highlighted that the woodlands, T Grove and Long Grove also contained trees with potential roosting features for bats but were scoped

out as these woodlands will not be directly impacted by the proposals. The locations of these trees have been highlighted in Appendix 5.

- 3.101. The site survey identified one agricultural building present on the site, located to the north east of the site, which was considered likely to contain negligible roosting potential for bats. This was because the building was a steel framed barn, which has been recently constructed. However, should this building be demolished to facilitate the development, a further interior assessment of the barn should be undertaken. In addition, Elcombe Farm is also present within the survey area, and contains four structures within the property. As a result, these structures will require further assessment for roosting bats should works be required at this location.
- 3.102. The existing hedgerows and trees around the application site provide suitable commuting and foraging habitat for bats and will provide strong links to the wider landscape including the woodlands to the north-west. As a result, it is considered that the site has moderate suitability for foraging and commuting bats.

### **Legal Considerations**

- 3.103. All bat species are protected under both European and national law by the Conservation of Habitats and Species Regulations 2017 (as amended) and by the Wildlife and Countryside Act 1981, respectively. It is a criminal offence to kill, harm, capture, possess or sell them (alive or dead), disturb them, or destroy any of their breeding or resting places.
- 3.104. A mitigation licence can be obtained from Natural England to permit actions that would otherwise result in an offence. Otherwise, damage to or destruction of breeding sites and resting places is an absolute offence and so there is no defence available within the law. Courts will have regard to whether or not the impact could have been reasonably avoided in deciding upon a sentence. In all cases the risk of an offence occurring can be minimised by taking all reasonable precautions, as set out in available guidance.
- 3.105. Many bat species are also Priority Species.

### **Impact Assessment**

- 3.106. The impacts to bats from the removal of the buildings and trees on site are currently unknown, as further assessment has not been undertaken and the details of the scheme have not been finalised. Therefore, there is a 'probable' adverse impact to bats if trees and buildings with roosting suitability for bats are either not avoided or mitigated for within the proposed scheme design. In addition, adverse impacts to foraging and commuting bats across the site may be caused by the development should the development remove key linear features (hedgerows).

3.107. Adverse impacts to roosting, commuting and foraging bats could also be caused from high lighting levels within the scheme. These impacts are principally caused to light sensitive bat such as Barbastelle (*Barbastella barbastellus*), Brown Long-eared (*Plecotus auritus*) and species of *Myotis*, as these species will actively avoid lit areas due to an increased risk of predation. In addition, emergence times can be significantly delayed due to illumination of roost access/egress points. This can result in light sensitive bats missing optimal foraging period for insects at early dusk, which could reduce their fitness prior to hibernation. In addition, as insects are attracted to lights this can result in a reduction in prey availability for species that will not forage in lit areas. Therefore, the inappropriate use of lighting, during or post-construction, can adversely affect these species through reduced foraging success which can in turn affect reproductive success. However, some species are lighting tolerant and will actively forage around lighting by making use of the increased food availability, albeit with an increased risk of predation.

## Recommendations

3.108. It is recommended that a Bat Activity Survey should be carried out following the BCT Bat Survey for Professional Ecologists – Good practice Guidelines for moderate suitability habitat for bats. This should include a combination of transect surveys and automated/static surveys being conducted in appropriate weather conditions from April – October. These surveys should be undertaken at an appropriate time to inform layout, design and lighting strategies, as it may be necessary to avoid or mitigate for impacts to important foraging and commuting routes.

3.109. Within the lighting strategy and design for the development, reference should be made to 'Bats and artificial lighting in the UK – Guidance Note 08/18' (Institute of Lighting Professionals, 2018).

3.110. It is recommended that an updated Preliminary Roost Assessment is conducted for all the buildings and trees proposed to be affected on the site, to fully determine the extent of the impact upon roosting bats. This is necessary to determine whether bats are present and will be affected, as well as the extent of the impacts caused by the proposed works. If a bat roost is identified, and its loss cannot be avoided, a European Protected Species Mitigation Licence will be required prior to any works commencing and outline information to support the mitigation licence will be required to support the planning decision.

3.111. A comprehensive mitigation strategy will be required within a Construction Environment Management Plan, to set out the survey requirements and measures needed to ensure that impacts to bats are avoided or reduced during construction in compliance with the law and best practice guidance. This should also include enhancement measures focussed on establishing suitable dark routes for the movement of bats through the

developed landscape and extensive roost opportunities built into the fabric of the new buildings.

## Dormouse

### Desk Study

- 3.112. There is recent record of Hazel Dormouse located within one kilometre of the site. This was identified within the adjacent application to the west of site (Reference: 16/02039/OUT). Whilst this record is separated by the A133, it is known that Dormice will cross busy roads although clearly there is a risk in doing so (Chanin and Gubert 2012). Furthermore, it is considered highly likely that the application site and Hartley Woods have not been assessed for the presence or likely absence of this European Protected Species.
- 3.113. The desk study identified that the landscape contains well connected suitable habitat for Dormice. This includes a complex of woodlands, scrub and hedgerows which may support foraging and commuting behaviour, as well as stable populations of dormice on site. Hartley Woods, located immediately north-west of the site, is considered to be a potentially important feature within this landscape for Dormice. It is noted that Little Clacton Road does separate the site from the wood, but this is only likely to be a minor dispersal barrier for this European Protected Species.
- 3.114. These features have remained reasonably unchanged in the wider landscape since the late 1800's (as indicated on old.maps.co.uk), with the only major change being the construction of the A133 in the last 40 years.

### Field survey methods

- 3.115. The habitats present on site were assessed for their suitability to support Dormouse with reference to the vegetation type, structure and species composition, and to the site's position within the surrounding landscape.
- 3.116. Nest searching was also carried during the field assessment, as this can be a relatively quick, way of detecting dormice during the autumn. However, it is highlighted that a failure to find nests should not be taken on its own as proof of absence.

### Species Assessment

- 3.117. Dormice naturally live at very low population densities with typically between two and five dormice per hectare cited for high quality habitat. They have a very varied and high-quality diet, consisting of nectar and pollen from flowers in the spring, insects throughout the year but particularly in summer and fruit, nuts and seeds in the autumn. Because of this complex diet, they need a good diversity of woody plant species within a small area to support a population throughout their active season. They are also arboreal and spend most of the active part of their lives in woodland, scrub or hedgerows. Therefore, they

prefer dense vegetation structure and rarely come down to the ground during their active season. As such, good connectivity is also essential across the range of the population.

3.118. Many of the hedgerows within Hartley Gardens contained high suitability for dormice, particularly to the north of the site where there is an extensive the hedgerow network connected within the landscape by scrub and woodland. Most of the hedgerows were at minimum 2-3 metres wide. In addition, outgrowths of Bramble or rose or Blackthorn suckers were present throughout, which will provide additional nesting and feeding habitat for the European Protected Species. The heights of the hedgerow were also predominantly over two metres. However, there was evidence of under or over management in hedgerows some case, which has reduced the structural density and the suitability as nesting habitat. Nevertheless, the majority of the hedgerows contained species which could support a sustainable population of dormice throughout the year. Hedgerows contained few gaps and ditches often contain dense bramble, which will aid feeding and nesting for the species. In addition, most hedgerows were bordered by tussocky grass field margins, which were over one metre wide, which will provide supplementary nesting and feeding habitat for the species.

3.119. The mixed scrub on site is highly connected via the hedgerow network on the site. The structure is typically dense and unshaded, with plenty of edge habitat with various species will encourage food productivity throughout the season.

3.120. The woodlands present on site also contained predominantly mid-successional growth, which is typically optimal for dormice. However, the majority of woodlands lacked mature standards and a diverse tree age range, which will create varied vertical structure. In addition, the young woodland to the west of the site lacked a dense understory with only scattered bramble scrub present. T grove also lacked a dense understory, with the exception of some low-level scattered bramble-scrub. However, it did contain mature trees with a high canopy, which could allow dormice during to foraging, particularly during the summer months for insects. All woodlands contained good connectivity to other woody habitats across the landscape.

## Legal Considerations

3.121. Hazel Dormouse is protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). Dormouse and their breeding sites and resting places are fully protected. Without a licence it is a criminal offence for anyone to deliberately disturb, capture, injure or kill them. It is also an offence to damage or destroy their breeding or resting places, to disturb or obstruct access to any place used by them for shelter.

3.122. A licence can be obtained from Natural England to permit any activity that would otherwise result in one of these criminal offences. Damage to or destruction of breeding

sites and resting places is an absolute offence and so there is no defence available within the law. Courts will have regard to whether or not the impact could have been reasonably avoided in deciding upon a sentence. In all cases the risk of an offence occurring can be minimised by following an impact avoidance method statement taking full account of available information and guidance.

3.123. Hazel Dormouse is also a Priority Species.

### **Impact Assessment**

3.124. All woodlands, scrub and hedgerows present on site contained suitable nesting, foraging and commuting habitat for Hazel Dormice. Therefore, as the habitat has remained relatively unchanged in the landscape and that there is nearby record of the species, it is considered probable that the species is present within the site.

3.125. Therefore, there is a possibility that any works carried out on the site may cause the following impacts to this European Protected Species without further assessment:

- Killing or injuring individuals
- Damage or destroy a breeding or resting place, or obstruct access to one
- Disturb animals in a breeding or resting place

### **Recommendations**

3.126. To determine the presence or likely absence of dormice on or adjacent to the development site, it is recommended that a nest tube survey should be conducted by a suitably qualified ecologist, with a Level 1 Class Licence to Survey Hazel Dormouse. The survey will follow Natural England survey guidelines: at least fifty nest tubes will be positioned in suitable habitat around the site between April and November and then checked on a monthly basis throughout the survey period. The survey area will include all suitable habitat within the site as well as adjacent and connected habitat, where possible.

3.127. If dormice are shown to be present, it may be necessary for some or all of the work to be carried out under a mitigation licence from Natural England. To obtain a mitigation licence it would be necessary to submit an application centred on a method statement that demonstrated how the dormice will be protected during construction and into the future.

3.128. Habitat enhancement would include the provision of new species diverse woodlands, scrub and hedgerows, to be delivered at strategic locations across the site to increase connectivity throughout the landscape; Buffering of existing features to increase habitat structure; and management of existing features to increase suitability for Hazel Dormouse.

## Otter

### Desk Study

3.129. The data search revealed that there are records of Otters approximately 2.8 kilometres from the site in Holland Brook to the north east and to the south west in the Jaywick area.

### Field survey methods

3.130. The habitat within and around the survey area was assessed for its suitability to support Otters, with reference to connectivity and the possible presence of holts, resting places and prey availability. During the walkover survey any evidence of Otters in the form of footprints, latrines and feeding remains along Hartley Brook and Pickers Ditch was assessed.

### Species Assessment

3.131. No evidence of Otter presence was identified from this survey. The habitat provided negligible suitability to support Otters and is at sufficient distance from Holland Brook to preclude use as a route of movement.

3.132. It is considered that this species and its habitat will not be impacted by the development and so are not a consideration for the proposed development.

## Water Vole

### Desk Study

3.133. The desk study revealed an absence of records for Water Vole within two kilometres of the site. The closest records are approximately 3.8 kilometres to the east of the site in Holland Brook. An absence of records may indicate a lack of surveys in the area as much as a lack of populations.

### Field survey methods

3.134. The banks of all Hartley Brook and Pickers Ditch were sampled for evidence of Water Vole activity, in the form of feeding remains, latrines, footprints and burrows, with reference to the Water Vole Conservation Handbook (Strachan, *et al.*, 2011). The suitability of aquatic habitats present was assessed with reference to water levels, emergent vegetation, bank structure and connectivity.

### Species Assessment

3.135. No evidence of Water Vole presence was identified from the walkover survey. The habitat was largely shaded by dense hedgerow on both banks, with only small open area containing emergent vegetation. The banks were steep, the channel was narrow (<1m) where it was visible and water levels were low at the time of the survey. The only key species present was Narrow-leaved Bulrush, although Bramble is used as a food source for Water Vole. The habitat is connected to First Brook upstream of the site and Holland Brook downstream of the site.

3.136. Although no signs of Water Vole were identified during the walkover survey it is important to have certainty of impacts and a targeted Water Vole survey is recommended. The absence of Water Voles can only be determined on the basis of a lack of evidence from field surveys, undertaken at the correct time of year.

### Legal Considerations

3.137. Water Voles are legally protected under the Wildlife and Countryside Act 1981 (as amended) meaning that it is an offence, amongst other things: to intentionally kill, injure or take Water Voles; to intentionally or recklessly damage, destroy or obstruct access to places used by Water Voles for shelter or protection (i.e. their burrows); or to intentionally or recklessly disturb Water Voles while occupying a place of shelter or protection.

3.138. There is no licensing system in place to permit offences involving Water Voles as a result of development activity, but there is a defence in the Act that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not reasonably be avoided. To use this defence, it would be necessary to demonstrate that all reasonable

measures had been taken in an effort to avoid the impact. This would mean considering alternative development plans, undertaking precautionary measures and carrying out appropriate mitigation work.

3.139. Water Vole is also a Priority Species.

### **Impact Assessment**

3.140. It is considered 'unlikely' that Water Voles will be present and affected by the proposals, as the habitat on site is sub-optimal. However, if the species is present, works carried out on the site may cause the adverse impacts to this Protected Species without further assessment. Likely impacts would include:

- Killing or injuring individuals
- Damage to burrows or their obstruction
- Disturbance in their burrows

### **Recommendations**

3.141. A Water Vole field survey should be undertaken during the breeding season, in parallel with a search for field signs focusing on the presence of latrines, along with burrows, footprints and feeding remains. As the suitability of a given habitat can change over the breeding season two survey visits are recommended. One in the first half of the season (mid-April to end of June) and one in the second half (July to September inclusive), and these visits should be undertaken at least two months apart. However, should a full survey rule out the presence of suitable habitat on site one survey may be sufficient, if a precautionary approach is followed during the development phase.

## Reptiles

### Desk Study

3.142. The desk study revealed records for three reptile species within one kilometre of the site including Grass Snake, Common Lizard, and Slow worm. Adder records have been found within three kilometres of the site and are known to be present within the Weeley Bypass LoWS. Three Common Lizard records exist for the edge of the small woodland on site to the south of Pickers Ditch where it bounds Little Clacton Road. In addition, it is known that Brook County Park has had reptile translocation scheme undertaken in the last two years, which is situated to the south east of the site. However, it is considered that the A133 will provide an effective barrier to any dispersing reptiles.

### Field survey methods

3.143. The habitats present were assessed for their suitability to support reptile species, with reference to vegetation type and structure, site aspect and exposure to sun, drainage, availability of refuges and over-wintering sites, and connectivity.

3.144. Specific habitat requirements vary between the four commoner reptile species. Common lizard favour rough grassland, however, they can be found in a variety of habitats ranging from woodland glades to walls and pastures. Slow worms use similar habitats to common lizards and are often found in gardens and derelict land. Grass snake have similar habitat requirements to common lizards but have a greater reliance on ponds and wetlands where they hunt amphibians. Adders occupy areas of rough, open countryside and are often associated with woodland edge habitats.

### Species Assessment

3.145. There were no observations of the four common reptile species during the survey. However, surveys carried out missed the optimal period to identify basking reptiles and the level of survey effort was below that required to demonstrate absence. Therefore, that lack of evidence is not sufficient reason to conclude absence from the site.

3.146. The majority of the site was considered unsuitable habitat for reptiles, being predominantly agricultural land, utilised for arable cropping and associated periodic soil disturbance. However, the rough grassland areas (two areas in the northern section and one in the southern section), scrub, woodland boundaries, ponds and hedgerow boundary vegetation (see Figure 3.2) are considered to provide opportunities for sheltering, foraging and commuting, with the abundance of dead wood within woodlands and in boundary features having the potential to provide refugia for reptiles.

3.147. Given that the level of connectivity between suitable habitat areas on site, and with the wider landscape, the habitats on site were provisionally considered to be of up to local value for reptiles; confidence in this assessment is high, pending further surveys.

## Legal Considerations

3.148. All of the species of reptile native in Essex are partially protected by the Wildlife and Countryside Act 1981 such that it is an offence to intentionally kill or injure them.

3.149. There is no licensing system for reptiles, but there is a defence in the Act that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not reasonably be avoided. For this defence to be used in a court of law it would be necessary to document and carry out a series of precautions and mitigation measures that seek to avoid the offence from being committed.

3.150. All reptile species are also Priority Species.

## Impact Assessment

3.151. Based upon the evidence above, it is considered 'probable' that reptile species are present on site, given the presence of suitable habitat. Therefore, the risk of potential impact of any proposal upon the conservation status of reptiles is considered high likely from the proposed works. Likely impacts would include:

- Killing or injuring individual reptiles
- Loss of terrestrial habitat (not an offence)

## Recommendations

3.152. It is recommended that a reptile survey for each area of potential reptile habitat is carried out to establish the presence and distribution of reptile species within and adjacent to the site, with some estimate of population levels. The survey methodology would include placing artificial refuges (e.g. squares of roofing felt) around the site and then checking them under suitable weather conditions; i.e. calm, warm days without rain. Ten survey visits between April-September would be sufficient.

3.153. If presence is confirmed, mitigation approaches are likely to be dependent on the extent of suitable habitat requiring clearance, but could include retention and protection of habitats, or translocation. The masterplan indicates a substantial area of habitat that could be suitable for reptiles and so early establishment of some of that could provide on-site habitat to which any displaced individuals could be moved. For smaller areas of habitat, sensitive timings and methods for vegetation clearance may suffice.

3.154. Habitat enhancement may include buffering and enhancement to existing pond, woodland, scrub and boundary features, establishing log piles and hibernacula, and the creation of connected, tussocky grasslands within the green infrastructure framework.

## Birds

### Desk Study

- 3.155. The data search identified that the following birds listed under Schedule 1 Wildlife and Countryside Act 1981 (as amended) were present within 1km of the site: Barn Owl, Black Redstart, Cetti's Warbler, Osprey, Peregrine, and Red Kite. However, it is considered that the habitat on site is also suitable for foraging and breeding Barn Owl.
- 3.156. In addition, the data search identified that the following Priority Species birds have been recorded within 1km of the site: Cuckoo, Curlew, Dunnock, Fieldfare, Grey Partridge, Hobby, House Sparrow, Redwing, Reed Bunting, Skylark, Turtle Dove, Waxwing, Yellowhammer.
- 3.157. Furthermore, the site is situated within the Zone of Influence of the Colne Estuary Special Protection Area (SPA) and Ramsar site, and the 8km ZOI for Hamford Water SPA and Ramsar and the Blackwater Estuary SPA and Ramsar site. Therefore, there is a possibility that the site could be used as foraging habitat by overwintering birds, for which these Habitats Sites have been designated. All birds which are qualifying features of the indicated Habitats Sites are protected under the Conservation of Habitats and Species regulations 2017 (as amended) and the Birds Directive (which is enacted by the designation of SPAs and through Wildlife and Countryside Act 1981).

### Field survey methods

- 3.158. Species seen during the survey visit were recorded, along with more detailed information about activity, where possible, focussing on the presence of nests or evidence of breeding activity.

### Species Assessment

- 3.159. The survey was conducted in September, which is an unsuitable period to assess the presence of breeding birds. Only common bird species were heard and seen during the assessment.
- 3.160. Although there is suitable nesting habitat throughout the survey area, it is considered unlikely that any bird assemblages of more than local value are present on site, due to the habitat present being predominantly agricultural. There is some potential for more significant farmland bird species such as Skylark, Grey Partridge, Turtle Dove, Linnet and Yellowhammer.
- 3.161. The site was considered to include some suitable habitat for foraging Barn Owl, but the predominantly ploughed agricultural land, with limited tussocky grasslands habitats, is

not optimal. In addition, no evidence of suitable roosting cavities were noted with mature trees.

## Legal Considerations

3.162. The Wildlife and Countryside Act 1981 makes it an offence, amongst other things, to intentionally kill or injure any wild bird, intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built or intentionally take or destroy the egg of any wild bird,

3.163. Schedule 1 of the Wildlife and Countryside Act 1981 includes certain rare or threatened species and for those species it is also an offence to intentionally take damage or destroy a nest (whether or not it is active), intentionally or recklessly disturb any individual while it is building a nest, or is in, on or near any nest containing eggs or young, and to intentionally or recklessly disturb their dependent young,

3.164. Licences to permit these offences can only be granted by Natural England for reasons of preserving public health or public safety.

3.165. In addition, many species of bird are Priority Species.

## Impact Assessment

3.166. It is considered 'certain' that the proposed development will likely result in adverse impacts to breeding birds, likely impacts of the development is considered to be the following:

- Killing or injuring individual animals
- Damage or destruction of active nests and / or eggs
- Loss of habitat for an important breeding / wintering / migratory assemblage

## Recommendations

3.167. If possible, any vegetation management or clearance in areas with opportunities for nesting birds should be planned to take place between September and the following February, inclusive, which will reduce the possibility of damage / destruction of active birds' nests. It is still possible some species will nest during this period and a suitably qualified ecologist should be consulted if there is any uncertainty.

3.168. Due to the size of the site, the composition of habitats present and its location in relation to sites designated for over-wintering birds, it is recommended that wintering and breeding bird surveys are undertaken on site. The aim of these surveys is to assess which bird species use the site during the breeding and wintering seasons and their status, distribution and density on the site. This baseline information can then be used to assess

the potential direct and indirect impacts the development may have on the breeding and wintering bird assemblages, and on any key species.

3.169. It is considered that an appropriately designed landscaping scheme could enhance the development site for nesting and foraging birds, although a change in assemblage type is likely with a shift away from open agricultural land use. Enhancement should focus on delivering habitats and opportunities for species of recognised nature conservation priority, including measures to encourage urban species such as Swift, House Martin, House Sparrow and Starling in the development parcels. Where appropriate, in-fabric nest boxes should be incorporated as widely as possible in new buildings.

## Badgers

### Desk Study

3.170. The desk study revealed a number of Badger records within a one kilometre radius of the site, with the closest noted at 0.6km.

### Field survey methods

3.171. As part of the walkover survey of the proposed development area all field signs of Badger activity were noted and recorded – these included:

- Faeces: Badgers characteristically deposit faeces in small pits, individually known as dung pits, and collectively a latrine which are often located at the boundaries of territories; and next to active setts. Use of territorial dung pits and latrines increases in areas of high Badger density and can be non-existent in areas of low density when badgers tend to lead a less territorial and more nomadic existence.
- Setts: these can be single isolated outlier earths or a series of earths which can number over a hundred.
- Paths and tracks with Badger footprints.
- Sightings, road fatalities and hair on fences.

3.172. The habitats present on site were assessed for their suitability to support Badgers, with reference to ground conditions, foraging habitat and connectivity.

### Species Assessment

3.173. Evidence of Badger activity was noted within both the Priority Habitat woodlands, T Grove and Long Grove, (as indicated in Appendix 6).

3.174. In the south east corner of T Grove in the wood side of the bank with Pond 2, were two inactive outlier setts, one partially obstructed by leaf matter. However, a dense area of scrub connected to the end of the woodland could not be fully accessed during the walkover survey. Therefore, it is possible that further setts could be present within this location and further assessment will be required.

3.175. Long Grove was inaccessible in a number of areas due to dense scrub growth, particularly on the western side. However, a number of sett entrances were found on the eastern boundary in the bank between the woodland and the arable field in However, only one possible outlier sett showed evidence of relatively recent renewed excavation, with earth deposits around the entrance constructed in the tangle of roots of a Field Maple. However, dead leaf material and cobwebs were also noted within the hole.

3.176. Field signs in the form of Badger footprints were found in Pitchers Ditch where it runs along the boundary with Long Grove Wood. In addition, a freshly dug wasp's nest was

noted in the central section of T Grove, which was a clear evidence of Badger foraging within the site. Furthermore, mammal tracks were also evident within the woodlands and particular evidence of this was noted by the scrub around Pond 4. However, no latrines were found across the site, which would have indicated that clear territorial boundaries present were located within the site.

3.177. The evidence of Badger activity and the presence of suitable habitat both on site and in the wider landscape show that the site, and in particular the northern section, is likely suitable foraging and commuting value to badgers and may hold at least one active outlier Badger sett within Long Grove Wood. Consequently, any population present would be of 'local' value.

### **Legal Considerations**

3.178. Badgers are protected under the Protection of Badgers Act 1992, which makes it an offence, amongst other things, to wilfully kill or injure a Badger, or attempt to do so, to intentionally or recklessly damage, destroy or obstruct access to a sett, to intentionally or recklessly disturb a Badger when occupying a sett.

3.179. There is a defence within the act that means that an offence is not committed if the action was the incidental result of a lawful operation and could not reasonably have been avoided. Evidence of the measures taken to avoid an offence would be critical if relying on this defence.

### **Impact Assessment**

3.180. The design for the development has not been confirmed so a full assessment of the impacts on Badgers is not possible at this time. However, it is considered 'certain' that no direct impacts will be caused to the outlier sett within Long Grove Wood, as this habitat is proposed to be retained within the proposed illustrative masterplan.

3.181. Other woodland, hedgerows, and areas of scrub within the survey area all offer valuable habitat for Badgers to live and forage. Therefore, should any further setts be located or become established, adverse impacts are possible, including:

- Killing or injury of individual animals;
- Damage, destroying or obstruction of access to setts;
- Disturbance of badgers in a sett.

3.182. In any case, it is considered 'probable' that the development will have the following indirect adverse impacts to Badgers:

- Loss/disturbance to foraging and dispersal habitat;
- Increased risk of road traffic accidents;
- Disturbance of activity by artificial lighting.

## Recommendations

- 3.183. To inform mitigation strategies and any licencing requirements it is recommended that a Badger activity survey is undertaken to fully confirm the badger usage on the site. Mid-winter is considered the ideal season for such a survey, when vegetation is at its least dense and the ground is more suitable for the formation of footprints. Badger activity can change significantly over a short period of time, so further surveys may also be required at key stages in the run-up to construction. A Natural England mitigation licence may be required depending on the predicted impacts.
- 3.184. It is recommended that Long Grove Wood and T Grove are kept well connected within the landscape by hedgerow retention and buffering, as this will maintain foraging routes for badgers across the site. These maintained foraging routes should be retained as dark corridors where possible. Specific exclusion buffers may be required around any active setts during construction.

## Other Legal Considerations

### Desk Study

3.185. The desk study confirmed that no other relevant protected species are likely to be present within the site. It did confirm the presence of Grey Squirrel *Sciurus carolinensis* and Muntjac *Muntiacus reevesi*, which are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, these species have become common and widespread and therefore won't be considered further in this report.

### Field survey methods

3.186. The habitats present were assessed for their potential to support any other legally protected or designated species.

### Species Assessment

3.187. The site was not thought to provide conditions suitable for the presence of any other legally protected species or for any of the invasive, non-native species covered by UK legislation.

## Invertebrates

### Desk Study

3.188. The desk study confirmed that three Priority invertebrate species were noted within a one-kilometre radius of the site: Stag Beetle, White-letter Hairstreak and White Admiral butterflies.

### Field survey methods

3.189. The habitats present were assessed for their potential to support any Priority Species, with particular consideration to the Priority Species identified in the data search.

### Species Assessment

3.190. Stag Beetle spend the majority of their life underground in a larvae stage, feeding upon deadwood and only emerge as adult Stag Beetles to reproduce. Therefore, the site was assessed for the presence of suitable habitat for the stag beetle larvae stage. This confirmed that suitable habitat was present throughout the site for Stag Beetle, particularly on the woodland edges and hedgerows, where deadwood was noted to be frequently present. Therefore, the species could be present in locally significant populations within the site.

3.191. White-letter Hairstreak caterpillars favour Wych Elm *Ulmus glabra* and its hybrid taxa, but can occur on all species of elm in Britain. Adults are unobtrusive, feeding on honeydew in the canopy of elms and neighbouring trees, and very occasionally descending to nectar from flowers, such as thistles. Therefore, all elm hedgerows present on site could be an important food source for the Priority Species and the species could be present in locally significant populations.

3.192. White Admiral caterpillars favour Honeysuckle in a woodland setting, whereas adults are often found nectaring on Bramble flowers in rides and clearings. They are also fairly shade-tolerant butterfly, flying in dappled sunlight to lay eggs on Honeysuckle. Woodlands were assessed for the presence of Honeysuckle and the suitability for this Priority Species. The survey confirmed that Honeysuckle is rarely present within any of the woodlands on site and therefore the species is unlikely to be present.

3.193. The combination of habitats within the survey area was not considered to include features that would suggest that a significant assemblage of invertebrate species is present. The predominantly arable landscape without any stable open mosaic habitats, significant wetland features or diverse vegetation communities is typical of the countryside in this part of the country. The potential for invertebrates within the survey area is largely limited to the established hedgerows and woodland. Although species of raised significance

may be present, the likelihood of any more than local value in the overall assemblage is considered to be very low.

## Legal Considerations

3.194. Priority Species are those included in the list produced in line with Section 41 of the Act, which are considered to be Species of Principal Importance for conservation in England. The Natural Environment and Rural Communities (NERC) Act 2006 places an obligation on local authorities to have regard to the conservation of or Priority Species and so their presence can be a material consideration to a planning decision.

## Impact Assessment

3.195. The loss of any obvious deadwood and the elm hedgerows could result in a 'probable' adverse impact to Stag Beetles and White-letter Hairstreak. Therefore, the impacts from the development would be:

- Loss of important assemblage
- Loss of habitat
- Habitat fragmentation

## Recommendations

3.196. Stag Beetles should be presumed to be present and affected across the site and so mitigation for the loss of any Stag Beetle habitat should be set out in detail within a Construction Ecological Management Plan. Measures should include the retention and protection of mature trees and tree stumps, or the supervision of the removal of any that cannot be retained. Any substantial timber resulting from site clearance should be moved to new habitat areas to create dead wood habitat and installed in a variety of situations to create diversity of opportunity.

3.197. It is recommended that further surveys are conducted for White-letter Hairstreak during their peak flight season (late June into early July), to identify the presence/likely absence of the Priority Species. In addition, Elm hedgerows should preferably be retained and enhanced within the site.

3.198. New habitats for invertebrates should be created where the conditions are suitable, to include: wetland features; open mosaic habitats on nutrient poor, mineral soils; flowery, diverse vegetation communities; and banks of exposed substrates with a southerly aspect. Consideration of species of conservation priority that are present in the surrounding landscape could provide a focus for enhancement plans. The retention and enhancement of established habitats such as woodland and hedgerows will also favour local invertebrate populations.

## Priority Mammal and Other Species

### Desk Study

3.199. There are a large number of records of Hedgehogs within two kilometres of the site and the NBN Atlas shows six records for the Hartley Garden site itself. There are no records of Brown Hares within two kilometres, but there are six records within three kilometres.

### Field survey methods

3.200. The site was assessed in terms of its suitability as habitat for Hedgehogs and Brown Hares along with other Priority species.

### Species Assessment

3.201. One Brown Hare was observed during the walkover survey, but no Hedgehogs were noted, however, as Hedgehogs are largely nocturnal this was not unexpected. The hedgerows, scrub areas and woodland edges were considered to provide foraging, hibernating and breeding opportunities for hedgehogs on site. The mosaic of arable fields, grasses, woodland edges and hedgerows would provide favoured habitat for Brown Hares. The site also contains suitable habitat for Common Toad and one was noted within western woodland, which was recently planted. It was also considered that Polecat could be present within the site, as this species is typically associated in rural farmland landscapes.

3.202. The site was considered 'unlikely' to be suitable for Harvest Mice, as there was limited suitable habitat across the site for the Priority Species.

3.203. Populations of Hedgehog and Brown Hares are likely to be of value at a 'local' level.

### Legal Considerations

3.204. Priority Species are those included in the list produced in line with Section 41 of the Act, which are considered to be Species of Principal Importance for conservation in England. The Natural Environment and Rural Communities (NERC) Act 2006 places an obligation on local authorities to have regard to the conservation of or Priority Species and so their presence can be a material consideration to a planning decision.

### Impact Assessment

3.205. It is considered 'certain' that the loss of suitable habitat for these Priority species associated with the development is considered adverse without suitable mitigation. As a result, any development of the site that affects habitat suitable for Hedgehogs, Toads and Brown Hares is likely to result in the following impacts:

- Killing or harming individuals
- Loss of habitat (nest sites, places of shelter, foraging habitat, commuting routes)
- Habitat fragmentation
- Disturbance.

## Recommendations

3.206. Suitable habitat for Hedgehogs and Toads is due to be retained within the development, along with some habitat for Brown Hares (woodland edges and grassland areas). Enhancements and habitat creation proposals may also mitigate losses providing some offset to the habitat lost through development of the site. Recommendations would include maintaining connectivity between retained areas and the wider landscape, particularly for Common Toad and Polecat.

3.207. Hedgehog friendly fencing (13x13cm holes at the base of fencing) should also be incorporated throughout the development parcels to encourage the free movement of animals through the new landscape.

## 4. Ecological Mitigation and Enhancement Recommendations

### Impact Assessment Summary

- 4.1. The desk study identified that the site is situated within the ZOI of the Colne Estuary Special Protection Area (SPA) and Ramsar site, Hamford Water SPA and Ramsar, Blackwater Estuary SPA and Ramsar site and Essex Estuaries SAC. Therefore, a Habitats Regulations Assessment, supported by over wintering bird surveys, will be required to determine whether there will be an adverse effect to site integrity on these Habitats Sites (from the development alone or in combination of other plans and projects).
- 4.2. The field survey concluded that there will be potential impacts to Priority Habitat via severance of the Hedgerows on the site to facilitate the proposed roads and PRoW (Hedgerows 2, 5, 7, 15, 16, 17, 22, 23, 26, 32, 33, 34). Therefore, proportionate compensation will be required to offset the impacts to these Priority Habitats. In addition, a Hedgerows Regulations assessment should be completed and an assessment of the Ancient Woodland status of Long Grove Wood should be undertaken, to include historical records.
- 4.3. The field survey also concluded that there is a possibility that there will be a likely impact to protected species and priority species. Therefore, further surveys following best practice guidelines must be carried out and necessary mitigation measures outlined prior to determination. As a result, the following further surveys have been recommended to inform the likely impacts of the site:
- Great Crested Newt presence / likely absence survey
  - Bat Preliminary Roost Assessment
  - Emergence/re-entry surveys on all trees and structures with bat roost suitability
  - Bat Activity Survey
  - Dormouse presence / likely absence survey
  - Water Vole presence / likely absence survey
  - Reptile presence / likely absence survey
  - Badger Activity Survey
  - Breeding Bird Survey
  - Overwintering Bird Survey
  - White-Letter Hairstreak presence / likely absence survey
- 4.4. This is necessary for Tendring District Council to have certainty of likely impacts and demonstrate that they met have met their statutory and non-statutory duties, including compliance within local and national planning policy.

4.5. Therefore, it is recommended that an approach should be undertaken for the illustrative masterplan, which follows the mitigation hierarchy, in line with paragraph 175a of the National Planning Policy Framework. This should consider impacts to designated sites, protected species and Priority Species & Habitats. Therefore, significant harm to biodiversity resulting from a development should aim to be avoided at this stage and if this is not possible then ecological features should be adequately mitigated, or, as a last resort, compensated.

### **Site Value Summary**

4.6. The sites value lies within the linear habitats and broadleaved woodland, which are considered to meet the Priority Habitat criteria (Appendix 8) and will likely provide suitable breeding, resting, foraging and commuting opportunities for a number of legally protected and Priority Species (i.e. Great Crested Newts, Hazel Dormouse, bats, Badger, birds and priority invertebrates). In particular, the hedgerows with ditches and trees are distinctive ecological features within the landscape, as indicated in Appendix 4. Therefore, the proposals have been designed to minimise impacts to these Priority Habitats and distinctive ecological features.

4.7. The arable land on site could also be important for breeding birds during the summer and could also be important for foraging for migratory birds during the winter. The arable field margins and grassland may contain reptile populations and could also support the presence of species such as Great Crested Newts, Common Toad and Hedgehog.

### **Habitat Retention and Removal**

4.8. The Illustrative Green Infrastructure Plan (Appendix 10) indicates the retention of the existing woodland blocks, scrub and several small sections of grassland. However, the cropland and most of the remainder represent other neutral grassland and arable field margins will be removed. These features include approximately 92% of the habitat on site and contains low ecological value, even if it may include some importance for birds and reptiles.

4.9. No hedgerows will be completely removed, to ensure that impacts are minimised to the Priority Habitats. However, 12 hedgerows will require partial removal to provide access by provision of roads, road junctions, cycleways and footpaths. This will be a total of 0.43 kilometres of existing hedge. Locations of intersection points have the Hedgerows have been indicated the Ecological Constraints and Opportunities Plan (Appendix 10).

### **Habitat Creation and Enhancement:**

4.10. It has been proposed that the Illustrative Green Infrastructure Plan is driven by the intention to create a robust green network around which the development can be designed, bearing in mind ecological and landscape constraints. Habitat creation and

enhancement is required to offset any habitat losses and increase landscape connectivity.

- 4.11. The proposals include the creation of new vegetated gardens of an estimated 15ha, 13 hectares of lowland mixed deciduous woodland, 19 hectares of neutral grassland, sustainable urban drainage features and ponds covering 5.5 hectares, as well as 660m, of additional hedgerow planting. This has been summarised within the Ecological Constraints and Opportunities Plan (Appendix 9).
- 4.12. Biodiversity Net Gain (BNG) of 10% must be achieved for this development to be consistent with Tendring's local planning policy - Policy SAMU2. BNG is an approach to development that leaves biodiversity in a better state than before, by demonstrating a net positive increase in habitat and hedgerow units, a quantitative measure of biodiversity value based upon habitat distinctiveness and condition.
- 4.13. The Defra Biodiversity Metric 2.0 – December 2019 has been used to demonstrate how BNG will be achieved for the illustrative masterplan in an accompanying report. Overall, the Metric calculation indicates a net gain, of 5.7% in Habitat units and 2.91% in Hedgerow units using the Illustrative Green Network Plan. This demonstrates that BNG can be achieved and that Priority Habitats can be sufficiently compensated on site, but both elements fall short of the desired 10% gain. However, it is considered that there are options which will be available to ensure that 10% biodiversity net gain. In summary, the four main options would be:
- Adding area to the growth location for additional habitat creation;
  - Reducing the amount of development land in the existing growth location area;
  - Utilising land within the development parcels for habitat creation;
  - Off-site habitat creation or enhancement.
- 4.14. The retained and created habitats will need to be appropriately enhanced and managed to ensure that options reflect the changes specified within the Biodiversity Net Gain Baseline Calculations. This includes the enhancement of all retained habitats and hedgerows that are not already in 'good' condition and habitat creation to achieve a stated specification and standards.
- 4.15. The following options could be undertaken to increase habitat condition in line with the Biodiversity Net Gain Baseline Calculations. The measures will need to be implemented in accordance with a finalised masterplan and secured via a Landscape and Ecological Management Plan:

#### Neutral Grassland

- Grasslands should be sown with a range of typical neutral grasses, with at least 30% locally appropriate native wildflowers present within the sward;

- Rye-grass cover should not exceed 25% within the grassland to deliver species diversity (including amenity grasslands);
- Undesirable species and physical damage should be avoided (no greater than 5% cover of the grassland), *i.e.* thistle spp., dock spp., Common Nettle, White Clover;
- Bare ground should be avoided (no greater than 10% of the grassland);
- Cover of bracken, bramble & scrub should be avoided (no greater than 5% cover of the grassland).

### Woodlands

- Woodland creation by natural regeneration is preferable, but any native species planting required should be in line with the Essex Tree Palette, suitable for neutral - slightly acidic soils and consistent with the composition of local woodlands;
- Existing and proposed woodland habitats should be managed in a way which ensures a full woodland structure and a diverse age structure. This could be achieved by coppicing programmes, thinning or the creation of woodland glades;
- Less than 20% of the vegetation within the browse line should be affected by damage from mammals, to promote understory and ground flora growth within woodlands;
- Standing and fallen deadwood should be maintained to enhance the habitat for invertebrates;
- Woodlands should be buffered from any agricultural practices, to avoid high nutrient enrichment to the ground flora;
- Inappropriate management should be avoided (*i.e.* ground compaction or deep ruts caused by vehicles);
- Removal of any non-native trees and shrubs.

### Scrub

- Mixed scrub should be maintained so that there are least three woody species, with no one species consisting of over 75% cover;
- Pernicious weeds and invasive species should be avoided within the ground cover (no greater than 5% of ground cover);
- Management should ensure that scrub has a well development edge, with locally appropriate tall herbs (Common Knapweed etc.) present;
- Creation of clearings and glades, if suitable for the site.

### Hedgerows

- Buffering existing hedgerows to increase the size, structure and diversity. This would include locally native species in line with the Essex Tree Palette, suitable for neutral to slightly acidic soils;

- Ensure that all retained and created hedgerows are over 1.5 metres in height and width;
- Ensure that no gaps are present within the base of retained and created hedgerows, or re-plant where necessary;
- Management to include coppicing or appropriate trimming regimes (*i.e.* trimming only every two or three years), to promote berry/fruit production and improve the structure of established hedges in the long term;
- Ensure hedgerow continuity, by ensuring no breaks are present within retained and created hedgerows. This would include new hedgerow planting, using native species suitable for the site;
- Ensure that favourable perennial vegetation present at the base of hedgerows remains undisturbed and encourage the removal of undesirable perennial vegetation, such as Nettles and Creeping Thistle and ensuring that nutrient rich species doesn't dominate 20% of the ground flora. This would involve an effective mowing regime and grassland buffers from agricultural land;
- Removal of any invasive or neophyte species noted within hedgerows;
- Ensure that all retained and created hedgerows are free from damaging human activities *e.g.* pollution, manure piles, rubble, garden waste or excessive or lack of management;
- Planting of climbers, *e.g.* Honeysuckle to increase three-dimensional structure and increasing food and nesting options;
- Specific management of dead elm present within the hedgerows via a coppicing regime (Hedges 7,10,11,16,17,23,24,25 & 32).

#### Ponds

- De-silting to increase pond capacities where necessary and allowing for natural water fluctuations throughout the year;
- Removal of 50% of woody vegetation surrounding ponds to promote light, which will avoid ponds being covered by duckweed or filamentous algae;
- Planting of marginal plants to increase species diversity;
- Avoid stocking any ponds with any fish;
- Removal of any fast growing, non-native, or invasive species (*e.g.* Bulrush or New Zealand Pigmyweed).

#### Ditches

- Ditches should be maintained with good water quality by appropriate buffering or pollution management features;
- Water should be present within the ditches with minimal variation throughout the year to encourage a range of aquatic species to be present;
- Maintain a diversity of locally appropriate, native marginal, emergent and aquatic plant species;

- Heavy shading of ditches should be avoided where possible, to ensure a minimal covering by duckweed or filamentous algae throughout the year;
- Removal of any fast growing, non-native, or invasive species.

#### Sustainable Urban Drainage

- Any SUDs should be designed to have significant opportunities for biodiversity, in the form of shelter, food and foraging, and breeding opportunities for a variety of wildlife species;
- SUDs should be designed to include areas of permanent water, seasonal wetlands, ephemeral pools, wet grassland and riparian vegetation;
- Reference should be made to locally appropriate species mixes including for grassland, swamp and lowland fen communities.

4.16. A summary of the proposed recommendations for proposed site have been outlined in table 3.1 below:

**Table 3.1 Summary of Recommendations**

Feature	Impacts	Measures	Enhancements
Designated Sites	The site is situation within the ZOI for 7 Habitats sites and may cause adverse effects to site integrity from the development alone or from impacts in combination with plans with projects	Habitats Regulations Assessment – Appropriate Assessment to be delivered prior to determination of application stage.	N/A
Habitats	12 Hedgerows will be impacted from the proposed road and PRow routes, which are Priority Habitat.	Proportionate compensation has been outlined for hedgerows. Further survey to determine importance under the Hedgerow Regulations 1997 and to clarify whether Long Grove Wood should be classified as Ancient Woodland, to include historical assessment.	Habitat creation and enhancement of existing habitats, implemented of measures via a landscape and ecological management plan.
Great Crested Newt	Works to pond (i.e. increasing capacity) may impact breeding habitat. Loss or obstruction of terrestrial habitat (trees and deadwood piles).	Presence / likely absence survey. Mitigation measures will need to be secured via CEMP following the results of the survey. May require EPS licence, population survey and identification of	Habitat creation of ponds and SuDs areas to provide breeding habitat for Great Crested Newts. Enhancement of existing ponds on site. Habitat Creation of terrestrial habitat on site

		a suitable receptor site if present.	and delivery of hibernacula and log piles to create shelter and overwintering habitat.
Bats	<p>Potential impact to trees with potential roost features, which may contain roosting bats.</p> <p>Potential impact to foraging and commuting bats via the construction and operation phase.</p>	<p>A detailed Preliminary Roost Assessment will be required at Design Phase on all structures and trees to be affected by the development.</p> <p>Emergence/re-entry surveys on all trees and structures with bat roost suitability to be impacted by the development, following BCT Guidelines and inform mitigation and compensation strategies.</p> <p>Bat Activity Survey should be conducted to identify impacts to foraging and commuting bats, following BCT Guidelines. To inform detailed designs and Lighting strategies.</p>	<p>Habitat creation for foraging and commuting bat species.</p> <p>Strengthening of key foraging routes</p> <p>Provision of a number of integrated roosting opportunities within buildings.</p>
Dormouse	Potential impact to nesting, foraging and commuting habitats by removal of hedgerows	Presence / likely absence survey. May require EPS licence and habitat compensation. Any mitigation measures to be secured via CEMP	<p>Habitat creation for the nesting, foraging and commuting.</p> <p>Strengthening of landscaping connectivity by buffering hedgerows via additional planting.</p> <p>Management of existing woodlands to increase vertical structure.</p>
Water Vole	Potential impact to Breeding habitat from impact to ditches with water present.	Presence / likely absence survey. May require mitigation licence and habitat compensation. Any mitigation measures to be secured via CEMP	Creation or enhancement of water bodies with suitable features.
Reptiles	Killing and injury if habitat is allowed to become suitable prior to work commencing.	Presence / likely absence survey. May require on/off-site receptor site Any mitigation measures to be secured via CEMP.	<p>Provision of connected, tussocky grassland to deliver and maintain foraging habitat.</p> <p>Provision of hibernacula and log piles to create basking and overwintering habitat.</p>

Badgers	Potential impacts to badgers, their setts and their foraging habitat.	Presence / likely absence survey. Any mitigation measures to be secured via CEMP. A 30-metre buffer zone around the identified badger setts.	Maintenance and creation of foraging routes by the creation of dark corridors within public open space. Additional habitat planting to provide sheltered foraging and further opportunities for sett building.
Birds	Potential disturbance to nesting birds. Loss of nesting habitat. Loss of habitat for over-wintering birds functionally linked to designated sites	Further breeding and overwintering bird surveys to inform mitigation measures and Habitats Regulations Assessment Site clearance undertaken outside the bird nesting season (March to end of August) or immediately after an ecologist has confirmed the absence of nesting birds.	Creation of new habitat via new planting and the provision of integrated nest boxes in new buildings.
Invertebrates	Loss of elm hedgerows for White-letter Hairstreak and dead wood for Stag Beetles	Further survey to establish presence and distribution of White-letter Hairstreak. Retention of elm hedges. Retention of dead wood and mature trees. Creation of dead wood habitat from cleared woody vegetation	Enhancement of hedgerows and woodland. Creation of habitats and features to encourage diversification of invertebrate assemblages.
Priority Species	Killing and injury of Hedgehogs and Brown Hare during vegetation clearance and / or disturbance of hibernating hedgehog.	Any brash piles and vegetation removed early March or early November by hand unless checked by a competent ecologist	Planting of native species post-construction, particularly buffering of agricultural land. Hedgehog-friendly fencing
Invasive and Non-native Species	Potential contamination of other waterbodies from New Zealand Pigmyweed	Mitigation measures to contain, control and eradicate the invasive species to be secured via CEMP.	N/A

## Survey Limitations

4.17. It is considered that there were no limitations of the survey and assessment for this Preliminary Ecological Assessment Report.

## Report Validity

4.18. This report has been prepared to inform ecological evidence base for the allocation site. Therefore, it is not suitable for submission with a planning application, as further survey

work is required and full details of the proposals are not available, so a complete assessment of the impacts has not been possible.

- 4.19. If there is any clear change in the condition of the site, or the proposals are significantly amended, there may be a need to carry out further survey work or amend the assessment of impacts and associated recommendations in order to maintain the validity of the report prior to its submission with a planning application.

## 5. References

ARG UK (2010). Advice Note 5 – Great Crested Newt Habitat Suitability Index. ARG UK

CIEEM (2013). *Guidelines for Preliminary Ecological Appraisal*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2015). *Guidelines for Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2016). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition)*. The Bat Conservation Trust, London.

Cresswell, W.J., Birks, J.D.S., Dean, M., Pacheco, M., Trehella, W.J., Wells, D. and Wray, S. (eds) (2012). *UK BAP Mammals – Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society, Southampton

Chanin, P. & Gubert, L. (2012). Common dormouse (*Muscardinus avellanarius*) movements in a landscape fragmented by roads. *Lutra* 55 (1), 3-15

Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

DEFRA (2012a). Biodiversity Offsetting Pilots Guidance for developers.

DEFRA (2012b). Biodiversity Offsetting Pilots Information note for Local Authorities.

Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D. and Gregory, R.D. (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man **IN** *British Birds* 108, pp. 708-746.

Edgar, P., Foster, J. and Baker, J. (2010). *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth.

English Nature (2001). *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough

Bright P., Morris, P. & Mitchell-Jones, T. (2006). *The Dormouse Conservation Handbook, 2nd edition*. English Nature.

Froglife (2001). *Great Crested Newt Conservation Handbook*. Suffolk: Froglife.

Hill, D., Fasham, M., Tucker, G., Shewry, M. and Shaw, P. (eds) (2005). *Handbook of Biodiversity Methods*. Cambridge University Press.

HGBI (1998). Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards. Froglife, unpublished.

JNCC (2004a). Common Standards Monitoring Guidance for Mammals. JNCC.

JNCC (2004b). Common Standards Monitoring Guidance for Reptiles and Amphibians. JNCC.

JNCC (2010). Handbook for Phase 1 habitat survey: A technique for environmental audit. JNCC.

Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. Natural England, Peterborough.

Natural England (2009a). *Guidance on 'current use' in the definition of a Badger Sett*.

Natural England (2009b). *Interpretation of 'Disturbance' in relation to Badgers occupying a sett*.

Roper, T. (2010). *Badger*. Collins, London.

Shawyer, C.R. (2011). *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting*. IEEM, Winchester.

Stace, C.A. (2010). *New Flora of the British Isles (3<sup>rd</sup> Edition)*. Cambridge University Press, Cambridge.

Strachan, R., Moorhouse, T. and Gelling, M. (2011). *Water Vole Conservation Handbook – Third Edition*. WildCRU, Oxford.

The British Standards Institution (2013). *BS42020:2013 Biodiversity – Code of practice for planning and development*. BSI, London.

Wood, S. (2007). *Birds of Essex*. Christopher Helm Publishers Ltd.

## 6. Appendices

### Appendix 1. Species Records

Ground Flora species:

Vernacular	Taxon
Angelica	<i>Angelica archangelica</i>
Bittersweet	<i>Solanum dulcamara</i>
Common Knapweed	<i>Centaurea nigra</i>
Borage	<i>Borago officinalis</i>
Bracken	<i>Pteridium aquilinum</i>
Bristly Oxtongue	<i>Helminthotheca echioides</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Charlock	<i>Sinapis arvensis</i>
Cleavers	<i>Galium aparine</i>
Agrimony	<i>Agrimonia eupatoria</i>
Common Centaury	<i>Centaurium erythraea</i>
Fleabane	<i>Pulicaria dysenterica</i>
Groundsel	<i>Senecio vulgaris</i>
Common Mallow	<i>Malva sylvestris</i>
Common Nettle	<i>Urtica dioica</i>
Common Orache	<i>Atriplex hortensis</i>
Cow Parsley	<i>Anthriscus sylvestris</i>
Creeping Thistle	<i>Cirsium arvense</i>
Curled Dock	<i>Rumex crispus</i>
Dock sp.	<i>Rumex</i>
Fat Hen	<i>Chenopodium album</i>
Field Bindweed	<i>Convolvulus arvensis</i>
Figwort	<i>Scrophularia nodosa</i>
Germander Speedwell	<i>Veronica chamaedrys</i>
Greater Plantain	<i>Plantago major</i>

Greater Stitchwort	<i>Stellaria holostea</i>
Great Willowherb	<i>Epilobium hirsutum</i>
Ground Ivy	<i>Glechoma hederacea</i>
Hedge Bedstraw	<i>Galium mollugo</i>
Hedge Bindweed	<i>Calystegia sepium</i>
Hedge Woundwort	<i>Stachys sylvatica</i>
Hogweed	<i>Heracleum sphondylium</i>
Hollyhock	<i>Alcea rosea</i>
Horsetail	<i>Equisetum arvense</i>
Knotgrass	<i>Polygonum aviculare</i>
Mayweed sp.	<i>Matricaria</i> sp.
Nipplewort	<i>Lapsana communis</i>
Oxeye Daisy	<i>Leucanthemum vulgare</i>
Ragwort	<i>Jacobaea vulgaris</i>
Red Deadnettle	<i>Lamium purpureum</i>
Ribwort Plantain	<i>Plantago lanceolata</i>
Rosebay Willowherb	<i>Chamaenerion angustifolium</i>
Scarlet Pimpernel	<i>Anagallis arvensis</i>
Scentless Mayweed	<i>Tripleurospermum inodorum</i>
Self-heal	<i>Prunella vulgaris</i>
Sow-thistle species	<i>Sonchus</i> sp.
Spear Thistle	<i>Cirsium vulgare</i>
Stone Parsley	<i>Sison amomum</i>
Thistle sp.	<i>Cirsium</i> sp.
Wild Carrot	<i>Daucus carota</i>
Wild Radish	<i>Raphanus raphanistrum</i>
Willowherb sp.	<i>Epilobium</i> sp.
Yarrow	<i>Achillea millefolium</i>

Grass Species:

<b>Vernacular</b>	<b>Taxon</b>
Common Bent	<i>Agrostis capillaris</i>
Brome sp.	<i>Bromus</i> sp.
Cock's-foot	<i>Dactylis glomerata</i>
Common Couch	<i>Elymus repens</i>
Wild Oat	<i>Avena fatua</i>
Crested Dog's-tail	<i>Cynosurus cristatus</i>
False Oat	<i>Arrhenatherum elatius</i>
False-brome	<i>Brachypodium sylvaticum</i>
Fescue sp.	<i>Festuca</i> sp.
Meadow Foxtail	<i>Alopecurus pratensis</i>
Perennial Ryegrass	<i>Lolium perenne</i>
Red Fescue	<i>Festuca rubra</i>
Rough Meadow-grass	<i>Poa trivialis</i>
Perennial Ryegrass	<i>Lolium perenne</i>
Soft-brome	<i>Bromus hordeaceus</i>
Tall Fescue	<i>Festuca arundinacea</i>
Timothy	<i>Phleum pratense</i>
Yorkshire Fog	<i>Holcus lanatus</i>

Tree, Scrub and Climbers species:

<b>Vernacular</b>	<b>Taxon</b>
Aspen	<i>Populus tremuloides</i>
Bird Cherry	<i>Prunus padus</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i> agg.
Buddleia sp.	<i>Buddleja</i> sp.
Butcher's-broom	<i>Ruscus aculeatus</i>

Cherry	<i>Prunus</i> sp.
Common Box	<i>Buxus sempervirens</i>
Common Cotoneaster	<i>Cotoneaster integerrimus</i>
Common Holly	<i>Ilex aquifolium</i>
Common Honeysuckle	<i>Lonicera periclymenum</i>
Common Ivy	<i>Hedera helix</i>
Common Lilac	<i>Syringa vulgaris</i>
Crab Apple	<i>Malus sylvestris</i>
Dog Rose	<i>Rosa canina</i>
Dogwood	<i>Cornus sanguinea</i>
Elder	<i>Sambucus nigra</i>
Elm	<i>Ulmus procera</i>
Ash	<i>Fraxinus excelsior</i>
Beech	<i>Fagus sylvatica</i>
Hornbeam	<i>Carpinus betulus</i>
Spindle	<i>Euonymus europaeus</i>
Field Maple	<i>Acer campestre</i>
Garden Rose	<i>Rosa</i> sp.
Goat Willow	<i>Salix caprea</i>
Gorse	<i>Ulex europaeus</i>
Guelder Rose	<i>Viburnum opulus</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Leylandii	<i>Cupressus × leylandii</i>
Oak sp.	<i>Quercus</i> sp.
Pedunculate Oak	<i>Quercus robur</i>
Rowan	<i>Sorbus aucuparia</i>

Aquatic species:

<b>Vernacular</b>	<b>Taxon</b>
Common Club-rush	<i>Schoenoplectus lacustris</i>
Common Reed	<i>Phragmites australis</i>
Duckweed	<i>Lemna minor</i>
Fool's Watercress	<i>Apium nodiflorum</i>
Narrow-leaved Reedmace	<i>Typha angustifolia</i>
New Zealand Pigmyweed	<i>Crassula helmsii</i>

**Appendix 2. Relevant protected species and Priority Species present within 1km of the application site.**

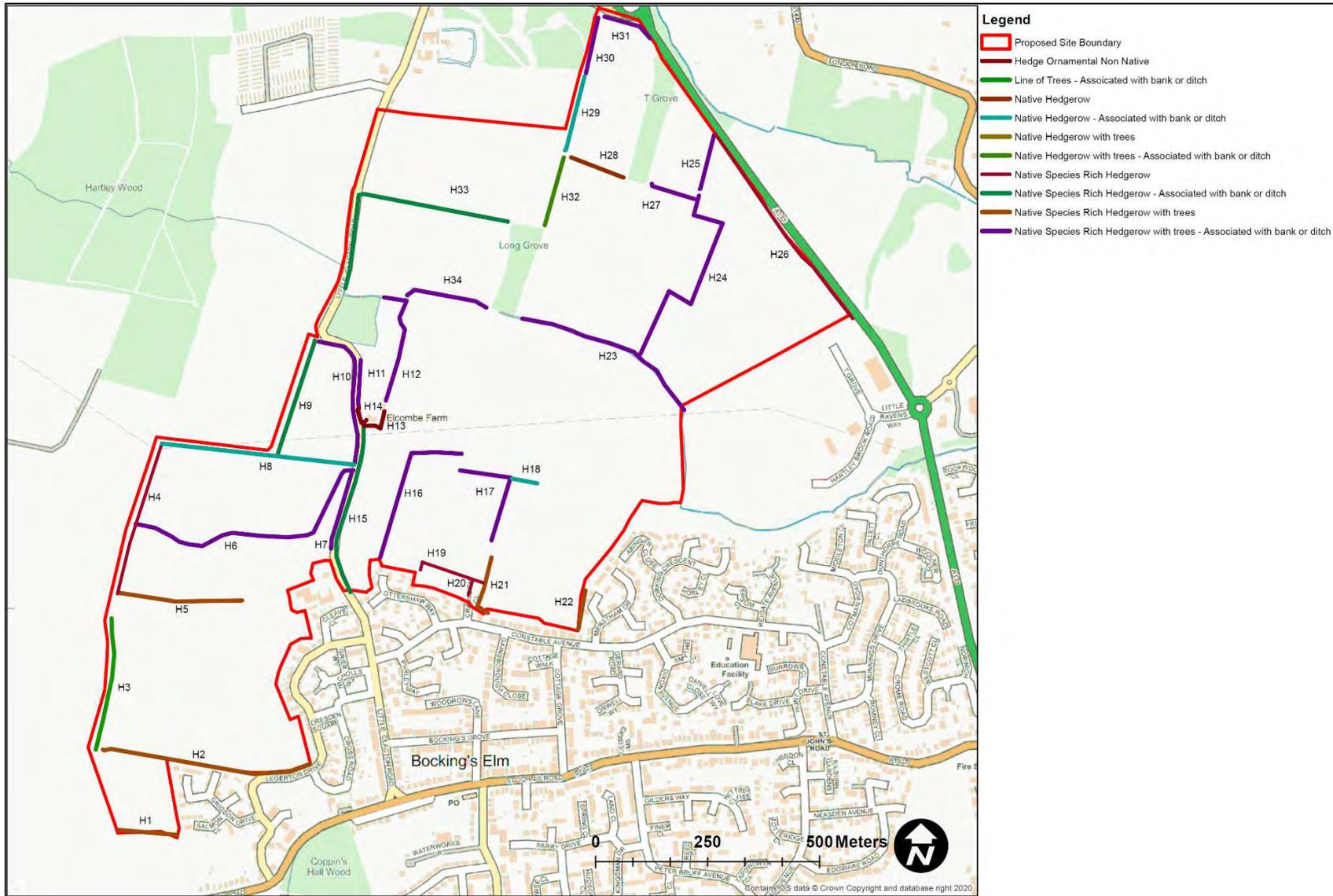
Vernacular	Taxon	Last Recorded
Adder	<i>Vipera berus</i>	2016
Badger	<i>Meles meles</i>	2007
Barn Owl	<i>Tyto alba</i>	2018
Bats	<i>Chiroptera</i>	2015
Black Redstart	<i>Phoenicurus ochruros</i>	2017
Brown Hare	<i>Lepus europaeus</i>	2015
Brown Long-eared Bat	<i>Plecotus auritus</i>	2015
Cetti's Warbler	<i>Cettia cetti</i>	2014
Common Lizard	<i>Zootoca vivipara</i>	2017
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	2015
Cuckoo	<i>Cuculus canorus</i>	2013
Curlew	<i>Numenius arquata</i>	2019
Dunnock	<i>Prunella modularis</i>	2015
Fieldfare	<i>Turdus pilaris</i>	2013
Grass Snake	<i>Natrix helvetica</i>	2019
Grey Partridge	<i>Perdix perdix</i>	2014
Hazel Dormouse	<i>Muscardinus avellanarius</i>	2019
Hobby	<i>Falco subbuteo</i>	2013
House Sparrow	<i>Passer domesticus</i>	2018
Lesser Noctule	<i>Nyctalus leisleri</i>	2015
Nathusius's Pipistrelle	<i>Pipistrellus nathusii</i>	2015
Natterer's Bat	<i>Myotis nattereri</i>	2015
Noctule Bat	<i>Nyctalus noctula</i>	2016
Osprey	<i>Pandion haliaetus</i>	2017
Otter	<i>Lutra lutra</i>	2013
Peregrine	<i>Falco peregrinus</i>	2016
Pipistrelle Bat species	<i>Pipistrellus</i>	2013

Purple Sandpiper	<i>Calidris maritima</i>	2014
Red Kite	<i>Milvus milvus</i>	2014
Redwing	<i>Turdus iliacus</i>	2016
Reed Bunting	<i>Emberiza schoeniclus</i>	2017
Skylark	<i>Alauda arvensis</i>	2013
Slow worm	<i>Anguis fragilis</i>	2019
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	2015
Stag Beetle	<i>Lucanus cervus</i>	2015
Turtle Dove	<i>Streptopelia turtur</i>	2018
Unidentified Bat	<i>Myotis sp.</i>	2015
Waxwing	<i>Bombycilla garrulus</i>	2011
West European Hedgehog	<i>Erinaceus europaeus</i>	2019
White Admiral	<i>Limenitis camilla</i>	2017
White-letter Hairstreak	<i>Satyrium w-album</i>	2009
Yellowhammer	<i>Emberiza citrinella</i>	2013

**Appendix 3. Schedule 9 Invasive species present within 1km of the application site.**

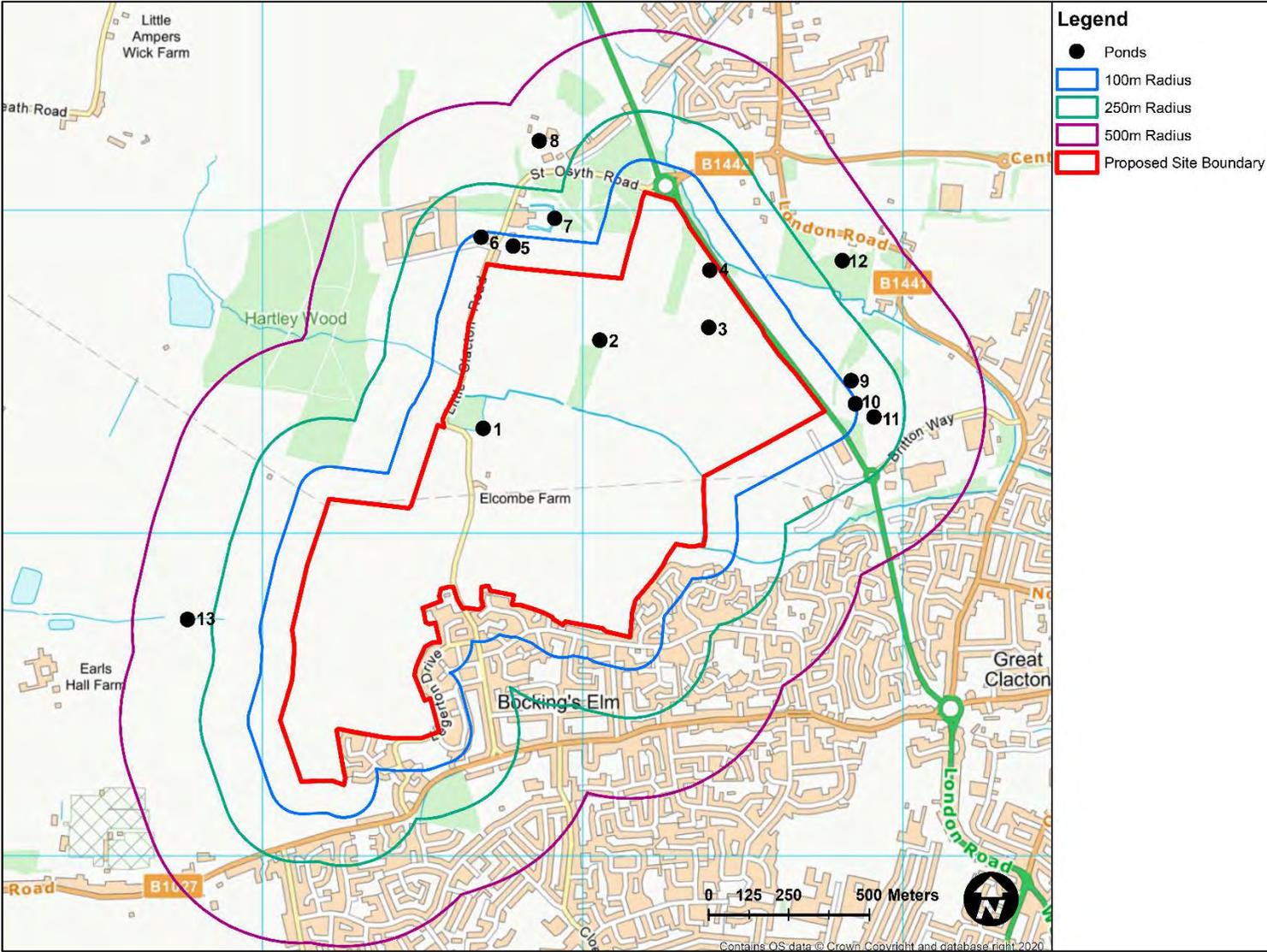
Vernacular	Taxon	Last Recorded
Alexanders	<i>Smyrniololus satrum</i>	1998
False-acacia	<i>Robinia pseudoacacia</i>	1988
Floating Pennywort	<i>Hydrocotyle ranunculoides</i>	2016
Goat's-rue	<i>Galega officinalis</i>	1984
Himalayan Balsam	<i>Impatiens glandulifera</i>	2006
Hottentot-fig	<i>Carpobrotus edulis</i>	1998
Japanese Knotweed	<i>Fallopia japonica</i>	2008
Least Duckweed	<i>Lemna minuta</i>	2016
New Zealand Pigmyweed	<i>Crassula helmsii</i>	2016
Nuttall's Waterweed	<i>Elodea nuttallii</i>	2016
Parrot's-feather	<i>Myriophyllum aquaticum</i>	1992
Rhododendron	<i>Rhododendron ponticum</i>	2016
Russian-vine	<i>Fallopia baldschuanica</i>	1998
Winter Heliotrope	<i>Petasites fragrans</i>	2013

### Appendix 4. Hedgerows within the proposed site boundary



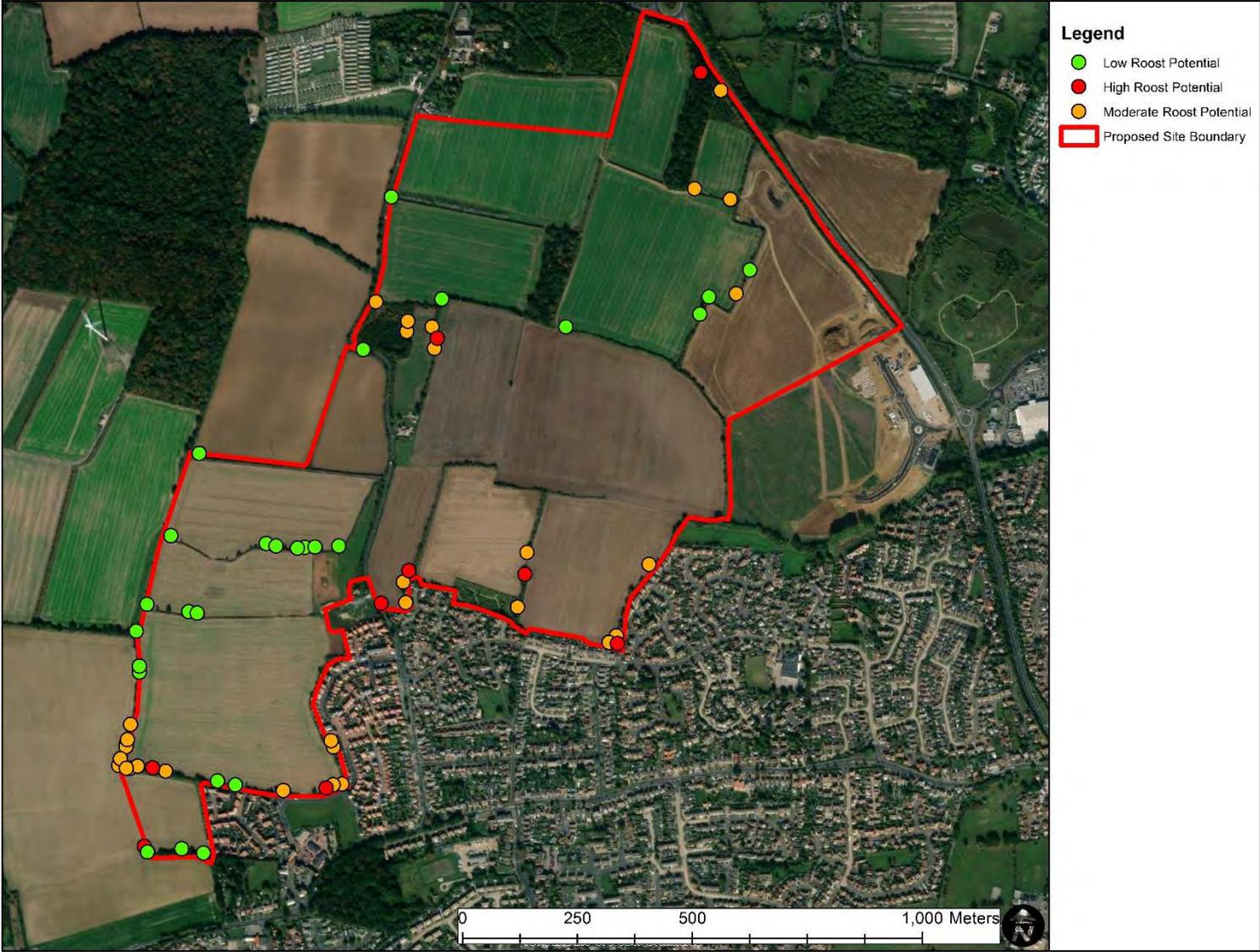
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**Appendix 5. Ponds within 500 metres of the proposed site boundary.**



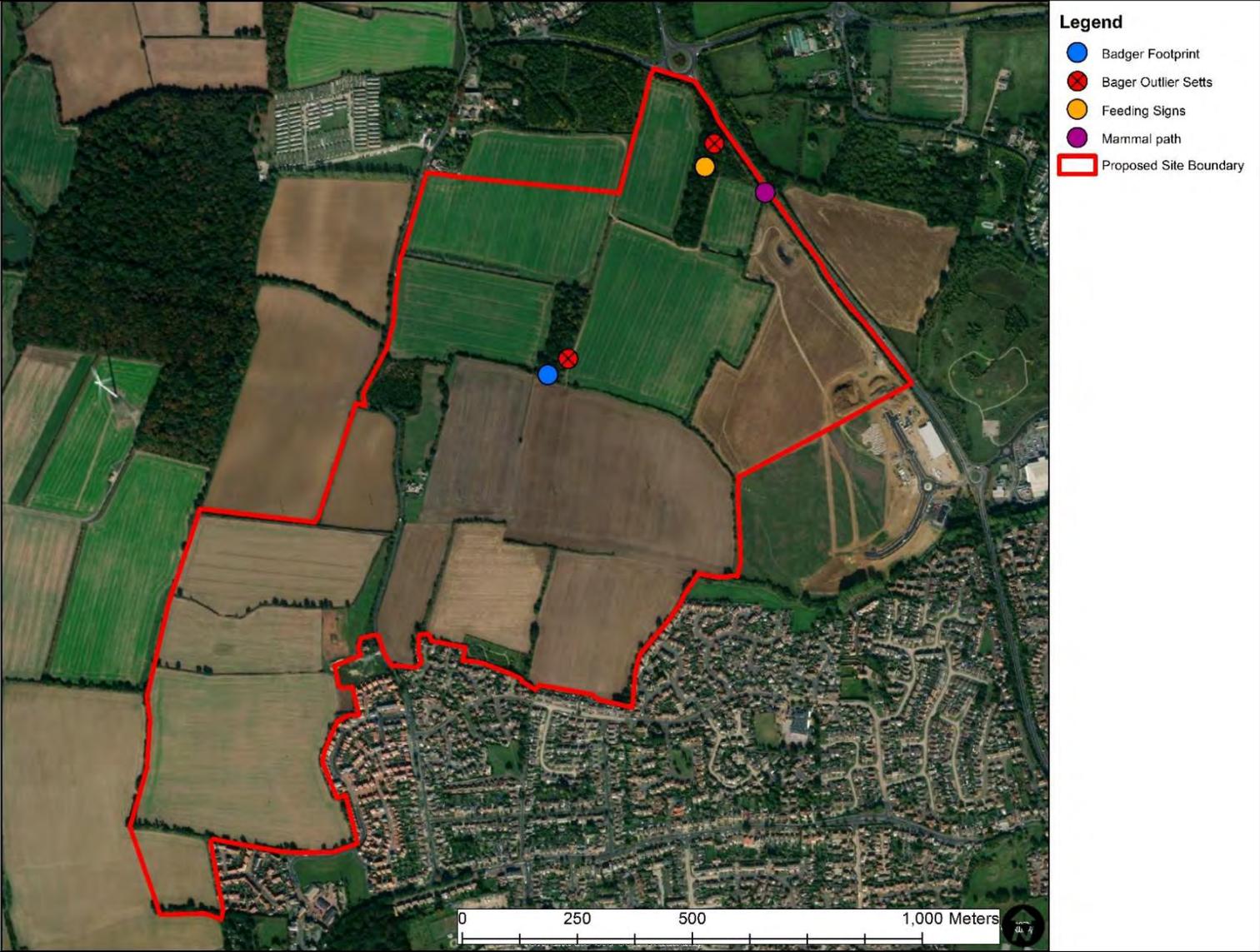
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### Appendix 6. Location of trees with roost features



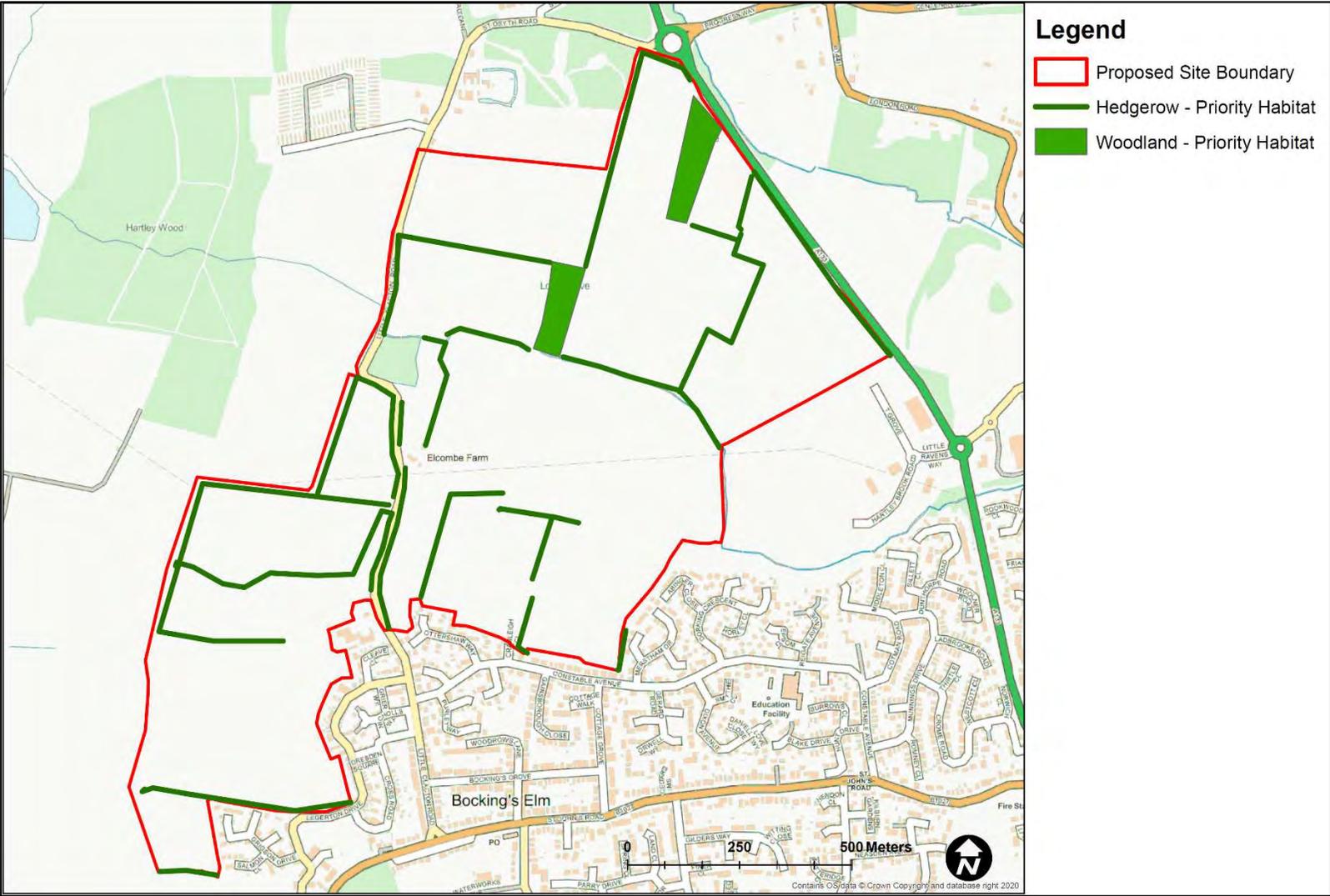
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### Appendix 7. Evidence of Badgers – Sensitive Information



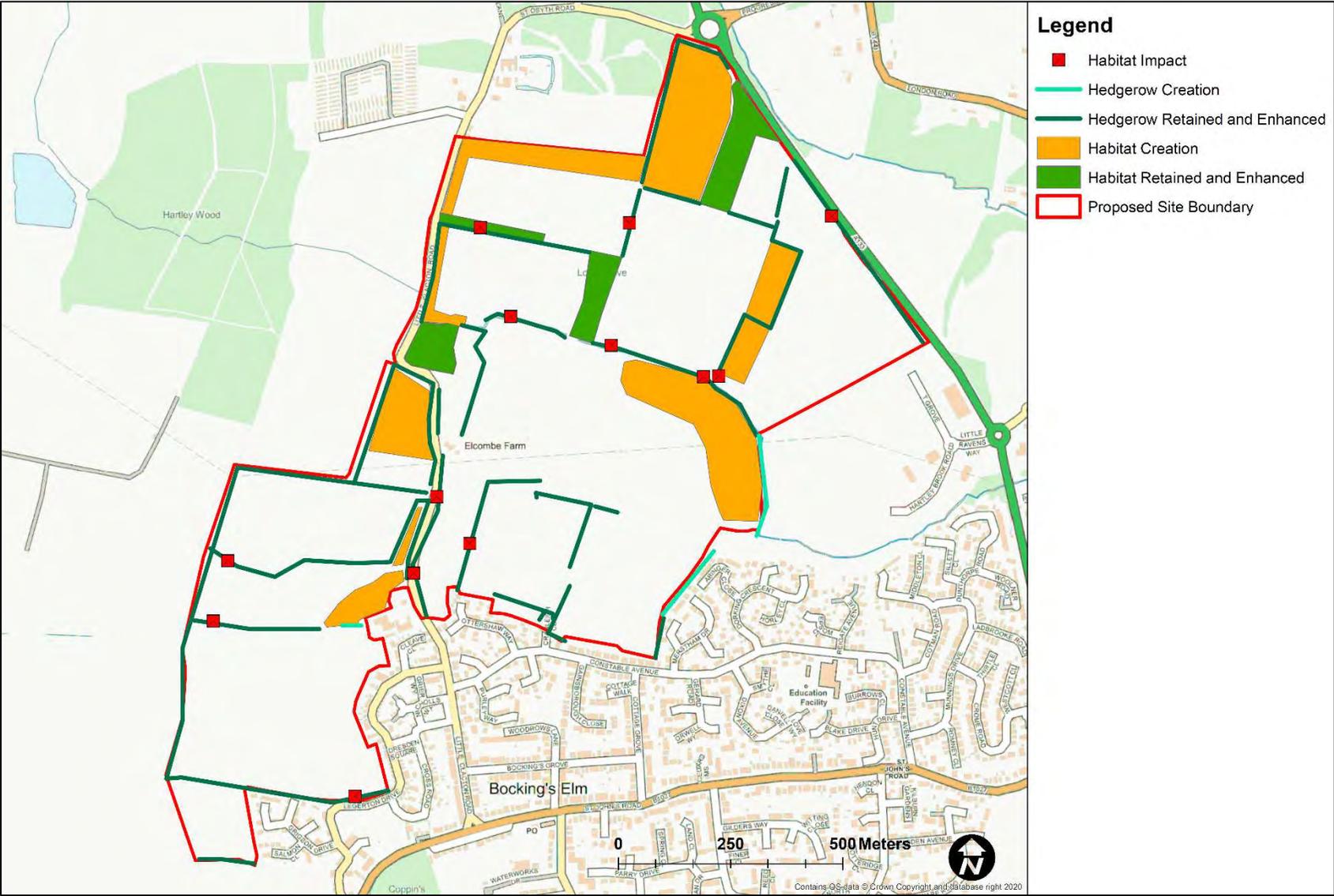
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### Appendix 8. Priority Habitats under S.41 of NERC Act



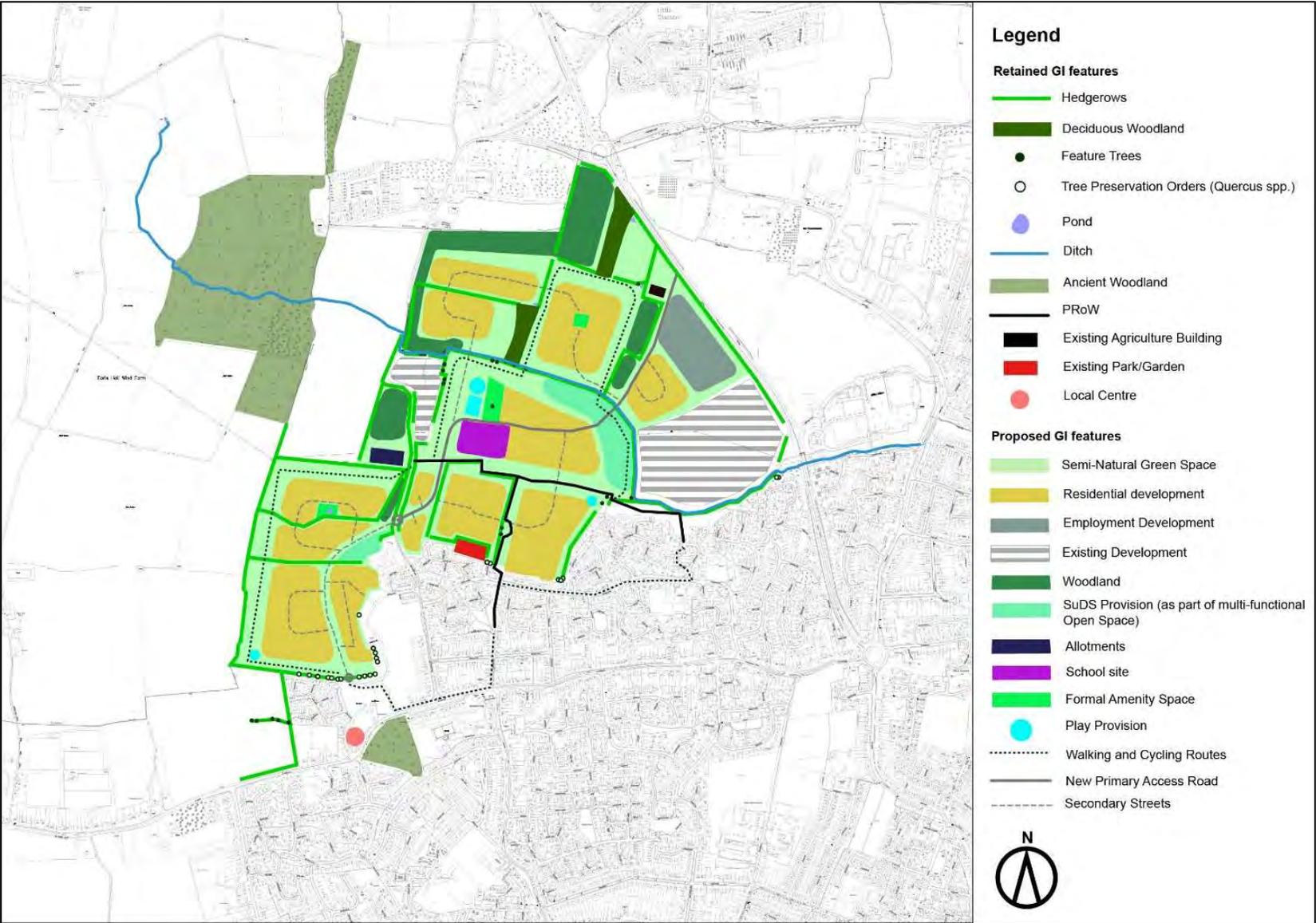
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### Appendix 9. Constraints and Opportunities Plan



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### Appendix 10. Proposed Site Boundary



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## Appendix 11. Site Photographs



1. Hedgerow 1 from the northern side.



2. Agricultural land and hedgerow 2, looking south-west



3. View of a section of the line of trees (hedgerow 3)



4. View of the south-east side of Hedgerow 4



5. Hedgerow 5 at the north-east side



6. Hedgerow 6 at the north-west side



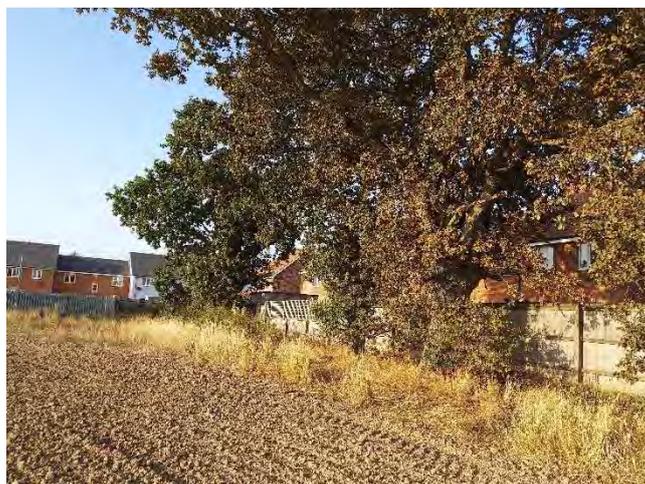
7. Other neutral grassland and hedgerow 7 looking south



8. hedgerow's 8 & 9 and associated field margin to the north-west



9. Hedgerow 10, including gap with bramble scrub



10. Mature trees and neutral grassland to the north-east of hedge 2



11. Western planted woodland to the east of Little Clacton Road



12. View of Scrub adjacent to western planted woodland



13. View of hedgerow 12 & 34 and other neutral grassland section.



14. Pond 1, which was dry and devoid of aquatic vegetation



15. Neutral grassland to the east of Little Clacton Road and hedge 14



16. Hedgerow 15 view from the south-east side.



17. View of hedgerow 17 from the northside



18. Public Open Space and hedgerows 19 & 20 from the south-west



19. Tall ruderal ephemeral habitat to the south of the site



20. Hedgerow 20 from the north-east side



21. View of ditch and hedgerow 23 in the distance from the south.



22. Bare ground to the east side of the site



23. Hedgerow 26 from the south-west side



24. View of new agricultural development and access road



25. View of gap between hedgerow separating hedgerow 24, 25 & 27



26. Pond 3 from the north looking south, dry during survey



27. Scrub and T Grove to the east of the site



28. Pond 4 from the west which was only slightly wet during survey



29. Wasp nest dug out by Badger in T Grove



30. View of Hedgerow 28 & 29 from the eastern side



31. View of a section of hedgerow 32, with dead elm present.



32. View of Pond 2 with marginal plants dominated.



33. View of the interior of Long Wood Grove



34. View of potentially active badger setts to the west of the site.



35. View of hedgerow 33 from the east of the site.



36. View of a Long Wood Grove and Hedgerow 23, by hedgerow gap.

## Place Services

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