



HYBRID ECOLOGY LTD

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Preliminary Ecological Appraisal:

Land adjacent to Stebbing, Essex

On behalf of:

Montare

Prepared by:

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Report version control:

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Summary

Land adjacent to Stebbing (the site) was visited on 19th May 2021 in response to a proposal for residential development. The site comprises Site 1A and Site 1B; both sites are grasslands bordered by various semi-natural habitats, including hedgerows. 1A and 1B are collectively referred to as “the site”.

Designated sites and priority habitats

- The site is not designated for any conservation reason and no impacts are predicted to national or locally designated sites. No Priority Habitat is expected to be impacted.

Legally protected species

- Bats: There are several trees on Site 1B with potential roost features. If any work is required to these trees, bat surveys should be undertaken prior. A bat friendly lighting scheme will be required to avoid impacts to foraging/commuting bats.
- Great crested newt: There are several ponds within 250 metres and both sites contain suitable terrestrial habitat in the form of undisturbed grassland with boundary hedgerows. There is a reasonable likelihood of presence. Further survey is required, initially taking the form of Habitat Suitability Index on surrounding ponds. If the results indicate a suitable environment for breeding activity, further surveys in the form of eDNA, presence/absence and population size class assessment may be required. Alternatively, the Essex great crested newt District Level Licensing Scheme (DLS) could be used to compensate for impacts.
- Reptiles: The site is suitable for legally protected reptiles, containing grassland and with good connectivity off-site. To establish impacts development may pose, reptile presence/absence survey is required.
- Flora: The site contains grassland with wildflowers in places. Further survey is required to establish any notable or protected plant species and to classify the type of grassland. A walkover survey should be undertaken by an experienced botanist in summer with further National Vegetation Classification (NVC) surveys carried out if deemed necessary.
- Badger: No setts were identified on or adjacent to the site. Given the optimal habitat and mammal burrows on boundaries, a pre-construction badger survey is recommended.
- Nesting birds: Any work with potential to impact an active nest will avoid the nesting period (March – August inclusive) unless active nests can be confidently ruled out by an ecologist.

In accordance with Paragraph 99 of the Office for Deputy Prime Ministers (ODPM) Circular (2005), the presence or otherwise of legally protected species and Priority Habitats is a material consideration and must be established before an application can be determined. Where there is a reasonable likelihood of presence, the surveys should be completed and any necessary measures to protect the species/habitats should be in place, through conditions and/or planning obligations before the permission is granted.

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1.0 Introduction

Personnel

- 1.1 This report has been prepared by Gemma Holmes; Consultant Ecologist at Hybrid Ecology Ltd. Gemma is a qualified ecologist with 13 years' experience in professional survey work and is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Gemma holds licences to survey for great crested newt and bats in the UK (Licence numbers 2015-19096-CLS-CLS and 2016-27305-CLS-CLS respectively).

Brief

- 1.2 Montare instructed Hybrid Ecology to produce a Preliminary Ecological Appraisal Land adjacent to Stebbing, Essex (grid reference TL 65846 24548) in relation to a proposed residential development. A Location Plan is in Figure 1 and Survey Boundary is in Figure 2.

Aims

- 1.3 This Preliminary Ecological Appraisal has been produced to advise the client/developer and relevant members of the project team as to the key ecological constraints and opportunities associated with this project and any necessary further survey or mitigation requirements to ensure legal obligations in respect of protected species, designated sites and habitats are met.

Limitations

- 1.4 Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. Wildlife is transient and mobile, and results of a survey can reasonably vary from one day to the next or across the seasons.
- 1.5 The protected species assessment provides a view of the likelihood of protected species occurring on the site based on the known distribution of species in the local area and the suitability of the habitat. However, it should not be taken as providing a full and definitive survey of any protected species/group.
- 1.6 Biological records can be patchy, and some areas/species are under recorded, therefore absence of records for a species or group does not necessarily mean that there is a lack of ecological interest. Equally, the presence of records does not necessarily mean the habitat is still suitable for the species/group in question.
- 1.7 In accordance with CIEEM Guidelines, this report is valid for 18 months, after which point habitats are reasonably expected to have changed to warrant a re-survey.

Figure 1. Location plan

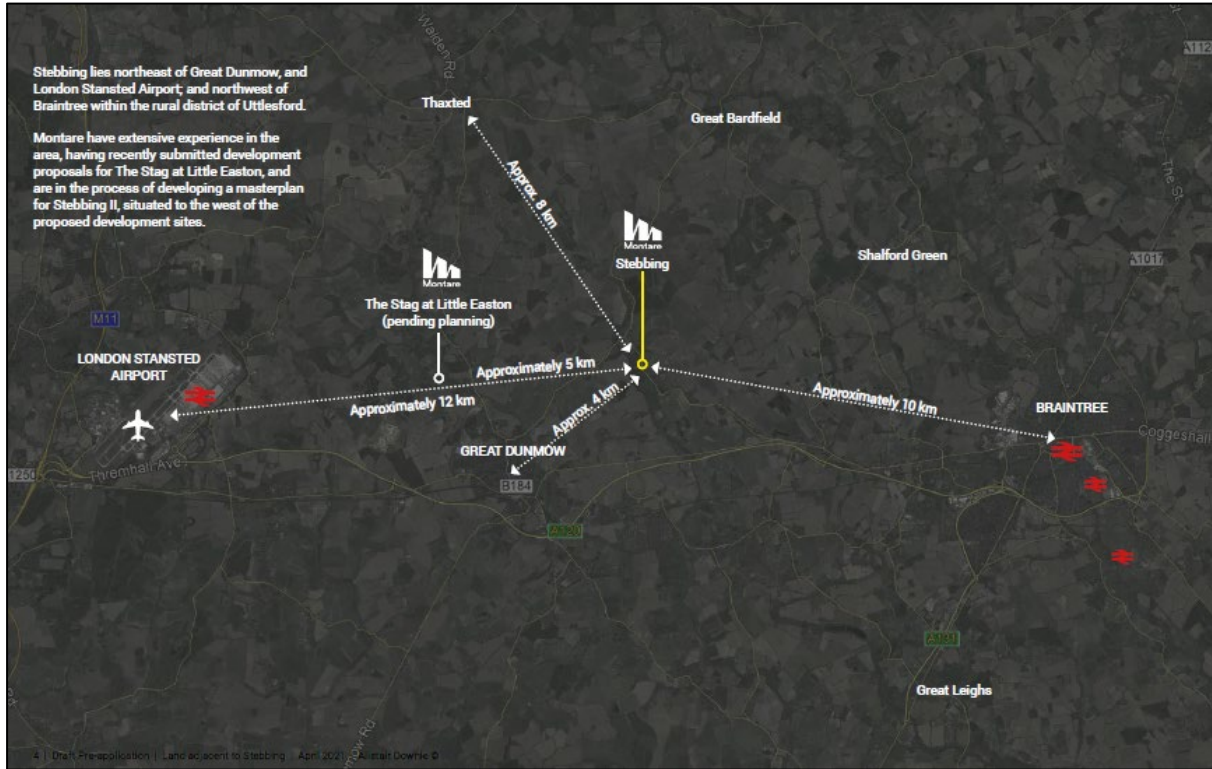


Figure 2. Surveyed boundaries



2.0 Planning Policy and Legislation

National Planning Policy Framework (2019): Conserving and Enhancing the Natural Environment

Please note the below policies have been taken directly from the National Planning Policy Framework, which can be found here: [National Planning Policy Framework – GOV.UK \(www.gov.uk\)](http://www.gov.uk)

Paragraph 170

2.1 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 (in a manner commensurate with their statutory status or identified quality in the development plan);
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;
- Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Paragraph 175 (d)

2.2 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.

Legislation: Protection of Designated Sites, Habitats and Species

Please note this section is a summary of legislation only and should not be taken as a definitive interpretation of any wildlife law. UK wildlife legislation can be found here: [Legislation.gov.uk](https://legislation.gov.uk)

Designated sites

RAMSAR

- 2.3 Ramsar sites are designated under the Convention on Wetlands of International Importance especially as Waterfowl Habitat. Wetlands are designated, protected and promoted in order to stem the progressive encroachment on and loss of wetlands, which are broadly defined to include marsh, fen, peatland and water.

Special Areas of Conservation (SAC)

- 2.4 Special Areas of Conservation are sites designated by Member States under the EC Habitats Directive. The aim is to establish a network of important high quality conservation sites that will make a significant contribution to conserving habitats and species considered to be most in need of conservation at an international level.

Special Protection Areas (SPA)

- 2.5 Special Protection Areas are designated under the EC Birds Directive, to conserve the habitat of certain rare or vulnerable birds and regularly occurring migratory birds. Any significant pollution or disturbance to or deterioration of these sites has to be avoided.

National Nature Reserves (NNR)

- 2.6 National Nature Reserves are statutory reserves established for the nation under the Wildlife and Countryside Act, 1981. NNRs may be owned by relevant national body (e.g. Natural England in England) or established by agreement; a few are owned and managed by non-statutory bodies. NNRs cover a selection of the most important sites for nature conservation in the UK.

Sites of Special Scientific Interest (SSSI)

- 2.7 Sites of Special Scientific Interest are areas notified under the Wildlife and Countryside Act, 1981, as being of 'special interest for nature conservation'. They represent the finest sites for wildlife and natural features in Great Britain supporting many characteristic, rare and endangered species, habitats and natural features. Notification as a SSSI is primarily a legal mechanism organised by Natural England and selected according to specific criteria.

Local Nature Reserves (LNR)

- 2.8 Land owned, leased or managed by Local Authorities and designated under the National Parks and Access to the Countryside Act. A site of some nature conservation value managed for educational objectives – no need for SSSI status. Some reserves are managed by a non-statutory body.

Local Wildlife Site / Wildlife Sites

Local Wildlife Sites (LoWS) are non-statutory sites designated at a county level as being of conservation importance and often recognised in Local authority development plans. The aim of this identification is to protect such sites from land management changes, which may lessen their nature conservation interest, and to encourage sensitive management to maintain and enhance their importance. Although LoWSs have no statutory protection they are a material consideration in the planning process.

Regionally Important Geological / Geomorphological Site (RIGS)

- 2.9 Regionally Important Geological/Geomorphological Sites are non-statutory earth science sites. The RIGS networks are locally based voluntary groups drawing on both professional and interest groups identifying sites using a methodical and rational approach. RIGS are analogous to non-statutory biological sites – they are not a second tier but sites of regional or local importance in their own right.

Legally protected species

- 2.10 The Conservation of Habitats and Species Regulations (2019, EU Exit) affords protection to various species/species groups including bats (all species), great crested newt, otter and dormouse.
- 2.11 The Wildlife and Countryside Act 1981 (as amended) is the main source of legal protection for wildlife in England and was strengthened by the Countryside and Rights of Way Act 2000. Species protection is provided under Schedules 1, 5, 6 and 8 to species including bat, great crested newt, water vole, otter and nesting birds. Badgers are protected separately under the Protection of Badgers Act (1992).

Species and Habitats of Principal Importance in England (or Priority habitats/species)

- 2.12 The Natural Environment and Rural Communities Act (2006) places a duty on Local Planning Authorities to conserve and enhance certain habitats and species. The species that have been designated to be of “principal importance for the purpose of conserving biodiversity” are those that are most threatened, in greatest decline, or where the UK holds a significant proportion of the world’s total population. They mainly derive from lists originally drawn up for the UK Biodiversity Action Plan (UK BAP). Similarly, the list of habitats of principal importance in England also derive from the UK Biodiversity Action Plan.

3.0 Methodology: Desktop Study

Mapping exercise

- 3.1 Aerial imagery (Google Earth Pro, 2021) was used to examine the landscape context of the site in relation to significant ecological assets such as woodland, established hedgerows, grassland and any naturalised features that would allow wildlife use and dispersal.
- 3.2 Multi-Agency Geographical Information for the Countryside (MAGIC) was used to:
 - Determine the proximity to international, national and locally designated sites and whether the site lies within the Zone of Influence/Impact Risk Zone, as appropriate.
 - Identify any areas of land mapped by Natural England as Priority Habitat within 250 metres of the site.
 - Identify any mitigation licenses granted by Natural England for great crested newt or bats within a 5km radius of the site that could be relevant to this development.

Biological Records Search

- 3.3 Essex Field Club (EFC) was instructed in June 2021 to carry out a search of records for protected and priority species within a 2km radius of the site. Data records are included in the protected species evaluation in Section 7.

4.0 Methodology: Habitats and Species

Phase 1 Habitat Survey

- 4.1 An Extended Phase 1 Habitat Survey was carried out on 19th May 2021 by ecologist Gemma Holmes (BSc Hons ACIEEM). The survey included the red line boundaries in Figure 2 and up to 30 metres beyond site boundaries, where accessible. The weather conditions were conducive to surveying, with good visibility, no wind and no rain. The survey was undertaken in accordance with the Handbook for Phase 1 Habitat Survey (JNCC 2010).

Protected/priority species scoping

- 4.2 The survey also included an assessment of the site's potential to support any legally protected species; or Species and Habitats of Principal Importance, as identified by Section 41 of the Natural Environment and Rural Communities Act (2006).
- 4.3 Where best practice guidelines exist, these have been used to assess the likelihood that individual species will be present, for example Bat Surveys: Good Practice Guidelines (BCT 2016) and Habitat Suitability Index for Great Crested Newt (Oldham et al, 2000).

Evaluation criteria

- 4.4 Ecological features (designated sites, habitats and species) were evaluated where possible in relation to a geographical context (i.e. International, National, Regional, Metropolitan, County, District, Borough, Local and Site), in accordance with CIEEM Ecological Impact Assessment Guidelines (2016). Criteria include designations, quality of habitat in relation to the site context, ability to support notable assemblages of species, contribution to habitat connectivity, dispersal opportunities or providing intrinsic ecological value.

5.0 Results: Desktop Study

Landscape context

- 5.1 The site is in a rural location to the west of Stebbing in Essex. Stebbing lies north-east of Great Dunmow, and London Stansted Airport; and northwest of Braintree within the rural district of Uttlesford. The ancient monument of The Mount with Stebbing Park is to the west of both sites, with the access road lined by a mature avenue of lime trees in the centre. The Mount and immediate surrounds provide a good mosaic of habitats including woodland, ponds and grassland.

Mapping exercise

Designated sites and Priority Habitats

- 5.2 See Appendix 1. The site is not the subject of a conservation designation. The closest designated site is High Wood SSSI, which is 5.8km to the west. High Wood includes both ancient woodland (irreplaceable Priority Habitat), formerly managed as coppice-with-standards, and a smaller area of secondary woodland which arose in the eighteenth century (New Wood). In both areas, the canopy is open and is dominated by Ash *Fraxinus excelsior* and Hornbeam *Carpinus betulus* with some Pedunculate Oak *Quercus robur* and abundant Willow *Salix spp.*, including large trees of Crack Willow *S. fragilis* and White Willow *S. alba*. There is also a small amount of planted hybrid Poplar *Populus sp.* The coppice is fragmented and over-mature, and consists mainly of Ash, Hazel *Corylus avellana* and Hornbeam, with some Field Maple *Acer campestre* and Sweet Chestnut *Castanea sativa*. The wood also contains isolated stands of Plateau Alder (dominated by *Alnus glutinosa*), a woodland type which is scarce in Essex. High Wood will not be directly or indirectly impacted by the proposal due the distance, intervening land-use and private ownership.
- 5.3 There are several Local Wildlife Sites around Stebbing, the closest is Ufd269 Bran End (approximately 300 metres to the north-east of the site). This LoWS contains unique mosaic of wet woodland, swamp and damp grassland through to dry acid grassland. There is no reason that development at this distance would impact this designation.
- 5.4 The site is at a sufficient distance from Essex Coastal sites (e.g. Blackwater Estuary SPA) that it is not within the scope of the Essex Coast Recreational Avoidance and Mitigation Strategy (Essex Coast RAMS). Therefore, a financial contribution is not required for this development.

Species licensing

- 5.5 The closest licence granted for bats is EPSM2010-2210, approximately 4km to the south west and concerns common pipistrelle, soprano pipistrelle and brown long-eared bats. The closest licence granted for great crested newt is 2015-7487-EPS-MIT, approximately 4.8km to the south-east. Neither is relevant to this proposal given the distance from the site.

Evaluation: The site is not designated for any conservation reason and mitigation is not required in respect of designated sites.

6.0 Results: Phase 1 Habitat Survey

Photographs from the site visit are provided in Appendix 2. For full details on legally protected species, please refer to Section 7. Latin names appear in the text once.

Summary: The site comprises two separate areas of semi-improved/rank grassland (Site 1A and Site 1B) separated by an access driveway. Boundaries are defined by hedgerows and trees in places. Target Note plans are in Figure 4 and Figure 6.

Site 1A

Semi improved/rank grassland

- 6.1 Site 1A is a semi-improved/rank grassland with a topographical descent to the west. Observable species on the upper slope to the east include common bent *Agrostis capillaris*, meadow buttercup *Ranunculus acris*, geranium, common ragwort *Senecio jacobaea*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, sorrel *Rumex sp.*, ribwort plantain *Plantago lanceolata*, yarrow *Achillea millefolium*, dandelion *Taraxacum officinale* and common nettle *Urtica dioica*.
- 6.2 The area to the west is dominated by rank grassland with mare's tail *Equisetum arvense*, false oat grass *Arrhenathrum elatius*, perennial rye grass *Lolium perenne*, Yorkshire fog *Holcus lanatus*, common nettle, creeping thistle, spear thistle, self-heal *Prunella vulgaris*, silverweed *Argentina anserina*, creeping buttercup *Ranunculus repens*, creeping cinquefoil *Potentilla reptans* and timothy *Phleum pratense*. There are several footpaths crossing the grassland and leading into Stebbing Park beyond.

Species-poor hedgerows

- 6.3 See Figure 3. H1 comprises a defunct hawthorn, holly *Ilex sp.* and lilac which is beyond the northern boundary of the site. H2 is a managed hawthorn *Crataegus mongyna* hedgerow with individual hornbeam *Carpinus betulus* and *Robinia sp.* trees along the eastern boundary. H2 is Priority Habitat. H3 follows the line of a pond (described below) and contains alder *Alnus glutinosa* trees, with dense hawthorn scrub. H3 is Priority Habitat. H4 is a defunct hawthorn hedge with occasional elder *Sambucas nigra* to the north-west of the site.

Plantation

- 6.4 There is a semi-mature crack willow *Salix fragilis* plantation to the west of the site, beyond a barbed wire fence. The plantation area includes extensive rank, unmanaged grassland dominated by false oat grass, Yorkshire fog, cocksfoot *Dactylis glomerata*, creeping thistle and mare's tail.

Pond

- 6.5 There is a large linear water body (connected to Mill Stream) to the south-west of the site, culverted underneath the access track leading to Stebbing Park. The pond is overhung by dense alder trees and scrub. The pond appears to support significant wildfowl with marginal and aquatic vegetation virtually absent. The pond appears deep and is heavily shaded. A dense hedgerow extends to the north, forming the site's western boundary.

Individual/row of trees

- 6.6 To the south of the access road is a row of Lombardy poplar *Populus nigra* and leylandii trees, which border a small off-site woodland dominated by alder trees. There is a prominent avenue of lime *Tilia sp.* tree along the access road into Stebbing Park, which bisects Site 1A and 1B.

Wet ditch

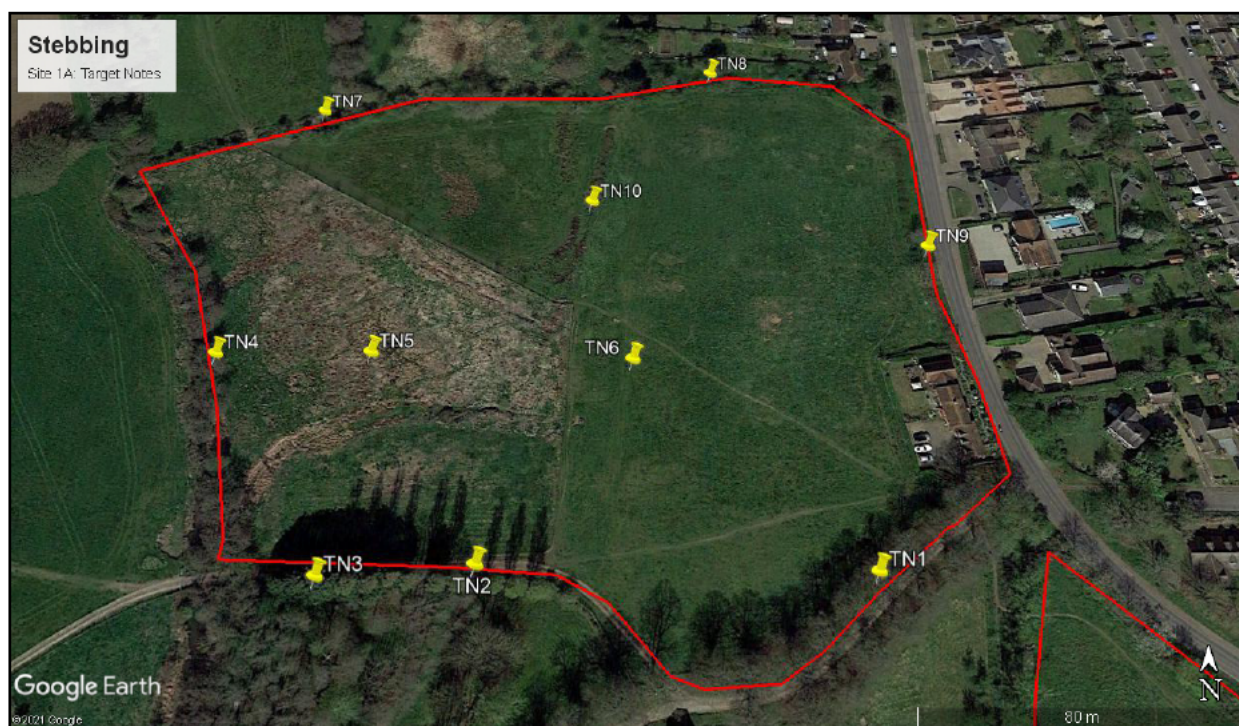
- 6.7 There is a wet ditch running north-south along the northern aspect of the site.

Figure 3. 1A Hedgerows



Site 1A: Habitat evaluation: Further survey is required to classify the grassland and establish its importance before ecological significance can be established. H2 and H3 are Priority Habitat and should be retained/enhanced in accordance with the NERC Act (2006). All other habitats are important at site level only but collectively provide a mosaic with good connectivity for a range of wildlife.

Figure 4. 1A Target notes



Target note (TN)	Description
1	Avenue of mature lime trees (off-site)
2	Row of lombardy poplar trees to south of access track (off-site)
3	Alder woodland (off-site)
4	H3: Dense unmanaged hedgerow along western boundary.
5	Willow plantation and rank grassland.
6	Semi-improved and rank grassland with footpath links.
7	H4: Northern boundary hedgerow, defunct.
8	H1: North-eastern boundary hedgerow, defunct.
9	H2: Eastern boundary hedgerow, priority habitat.
10	Wet ditch

Site 1B

Semi-improved/rank grassland

- 6.8 Site 1B is a semi-improved grassland with a topographical incline to the south-east and depression to the south-west. Observable species in the semi-improved areas include common bent, sorrel, ragwort, lady's bedstraw *Galium Verum*, red fescue *Festuca rubra*, annual meadow grass *Poa annua*, creeping thistle, white clover *Trifolium repens*, cocksfoot and creeping buttercup. The northern and southern corners comprise rank grassland with false oat grass, meadow foxtail *Alopecurus Pratensis*, cow parsley *Anthriscus sylvestris*, creeping buttercup, common nettle, field forget me not *Myosotis Arvensis* and creeping thistle. Whilst the meadows are largely unmanaged, species-poor and lack diverse wildflowers, there are small areas on free-draining soils that are botanically more diverse – including the south-eastern corner. There are several footpaths across the grassland.

Species-poor hedgerows

- 6.9 See Figure 5. H1 runs along the north-eastern boundary of the site and comprises an unmanaged row of ash *Fraxinus excelsior*, cherry *Prunus sp.* and field maple *Acer campestre*. Further down this boundary there are mature sycamore and field maple trees on a raised bank beyond the boundary chain link fence. H2 continues from the southern extent of H1 and runs along the north-eastern edge of the site. H2 is unmanaged and contains ash, dogrose *Rosa canina*, rowan *Sorbus aucuparia* birch *Betula sp.* and a dense stand of hawthorn and blackthorn *Prunus spinosa* in the far southern corner. H3 is along the western edge of the site and contains hawthorn and gorse encroaching to the east.

Figure 5. 1B Hedgerows



Tall ruderal/scattered scrub

- 6.10 Along the southern boundary is an area of rubble covered by scattered scrub including bramble and blackthorn, and tall ruderals including fern, common nettle and foxglove *Digitalis sp.* To the south of the site there is a large unmanaged area covered by dense common nettle and scattered bramble. In the southern corner of the site there is an area of unmanaged hawthorn and elder scrub. There is a narrow area of tall ruderal habitat along H3, including fern, nettle and burdock *Arctium sp.*

Individual trees

- 6.11 To the south of the site there are several over-mature crack willow trees along a dry ditch. Several trees contain defects suitable for nesting birds and roosting bats. There is a mature oak *Quercus robur* tree beyond the south-eastern corner, in a residential garden and a multi-stemmed ash tree to the south of the site.

Rows of trees

- 6.12 Along the western boundary following the line of a public footpath there is a prominent row of poplar trees.

Site 1B: Habitat evaluation: Further survey is required to classify the grassland and establish its importance before ecological significance can be established. All boundary hedgerows are Priority Habitat and should be retained/enhanced in accordance with the NERC Act (2006). All other habitats are important at site level only but collectively provide a mosaic with good connectivity for a range of wildlife.

Figure 6. 1B Target Notes



Target note (TN)	Description
1	H1: hedgerow beyond boundary fence. Priority Habitat.
2	H2: Intact species poor hedgerow beyond boundary fence. Priority Habitat.
3	Dense scrub in south-eastern corner.
4	Mature oak tree (off-site).
5	Rubble with tall ruderals and scattered scrub.
6	Twin-stemmed ash tree.
7	Dense tall ruderals along dry ditch.
8	Group of over-mature crack willow trees.
9	Scattered hawthorn and elder scrub.
10	Hawthorn with gorse encroaching to the east.
11	Row of mature poplar trees.
12	Rank grassland in southern corner.
13	More diverse grassland on upper slope.
14	Rank grassland around northern corner (primary access point).

7.0 Results: Protected/Priority Species Scoping

In this section “the site” refers to 1A and 1B collectively. The sites are separated where appropriate to assist the reader.

Bats

Data records:

- 7.1 The closest bat record is for a common pipistrelle, 0.3km from the site (2003).

Habitat requirements:

- 7.2 Bats roost in buildings, trees and underground sites. Buildings with large, uncluttered loft voids, external crevices (e.g. hanging tiles, fascias, weatherboarding) and missing roof tiles are often suitable, particularly when a building is close to a foraging resource – e.g. woodland or water. Trees with cavities, woodpecker holes, hazard beams and flaking bark are also suitable for roosting.

Assessment:

- 7.3 There are no buildings on Site 1A nor any trees with potential roost features.
- 7.4 There are no buildings on Site 1B. There are several trees on 1B with potential roost features, including crack willow trees in the southern corner. If any work is proposed to trees with flaking bark, woodpecker holes, cavities/open wounds, further bat survey would be required. This could take the form of a climbed endoscopic survey or a dusk/dawn bat survey. This area is likely to be beyond the development footprint and trees could therefore be retained with some sensitive management.
- 7.5 The site is likely to attract moderate numbers of foraging bats due to the available habitat, trees, hedgerows and woodland/water nearby. The use of the site for a residential development is unlikely to alter the landscape to the extent it impacts the Favourable Conservation Status of foraging bats in their local range but any development would need to avoid illuminating boundary habitats at night. Lighting within the new development should be minimal – ideally limited to small porch lights and located as close to the ground as possible. Any additional external lighting should be motion sensitive and use hoods, cowls, louvres and shields to direct light to the ground.
- 7.6 Recommendations to enhance the site for roosting bats are provided later in this report.

Outcome: Further survey is required if the development necessitates work to trees with potential roost features. A bat sensitive lighting scheme is required. Enhancement recommendations are made in later sections of this report.

Great crested newt

Data records:

- 7.7 No great crested newt records were returned from EFC.

Habitat requirements:

- 7.8 Great crested newt (GCN) require both terrestrial and aquatic habitats. They return to aquatic habitat to breed March-June, using small to medium ponds with no fish and suitable marginal vegetation including watercress and float grass (Froglife 2001).
- 7.9 Terrestrial habitat includes refuges and foraging and dispersal opportunities as well as hibernation sites such as rubble piles or mammal burrows. It is rare to find GCN over 250 metres from a breeding pond (Cresswell & Whitworth 2004).

Assessment:

- 7.10 There are no ponds on the site. The closest ponds (according to OS, 2021) are within Stebbing Park, immediately to the west and include a large moat. There are multiple ponds within 250 metres of the site (see Appendix 3 for a plan showing all ponds within 250 metres).
- 7.11 The site contains a mix of grassland, tall ruderals, scrub and hedgerows that great crested newt could reasonably use throughout the terrestrial stage for foraging and shelter.
- 7.12 In the first instance it is recommended that all ponds within 250 metres of the site (and connected via suitable habitat) are subject to a Habitat Suitability Index (HSI) assessment to give an indication of quality for breeding great crested newt. This would require written permission from the landowner. If deemed suitable, eDNA surveys would be an efficient way of determining presence. eDNA can be carried out between April and June inclusive. If the eDNA result is positive, it would be reasonable to conclude the site would be used for terrestrial purposes between approximately June and February inclusive. This would require further detailed surveys consisting of population size class assessment so that the population can be accurately determined and mitigation established as appropriate. Population size class assessment is carried out between March-June inclusive.
- 7.13 If GCNs are identified in local ponds and habitat loss is unavoidable, a mitigation strategy would be required to demonstrate that harm will be avoided on site through implementing specific measures. A mitigation licence would be required from Natural England if offences (e.g. killing, injury, loss of habitat used for shelter/hibernation) are unavoidable. Habitat lost would be calculated and would require compensation. The mitigation licence would be applied for following planning consent.
- 7.14 An alternative means of dealing with great crested newt is to enter the Natural England District Level Licensing (DLL) scheme, whereby a sum is calculated, informed by the distance to surrounding ponds, and this sum is paid on receipt of planning permission. DLL offers an alternative approach to licensing whereby more habitat is created than lost to development (at a ratio of four to one). Developers pay for this new habitat based on the predicted impact of their development which covers the creation or restoration of ponds in areas modelled to make more joined up great crested newt populations. New

habitat is delivered by conservation bodies and maintained and monitored for 25 years –funded by the initial payment.

Outcome: Given the habitat opportunities on the site and connectivity to local ponds, further survey in the form of HSI and eDNA is recommended, followed by further detailed surveys (where appropriate) in compliance with best practice. The Essex DLLS could be used as an alternative means of securing off-site mitigation.

Dormouse

Data records:

7.15 No dormouse records were returned from EFC.

Habitat requirements:

7.16 The hazel dormouse requires wooded habitats, usually semi-natural woodland containing hazel coppice and oak, and a rich understorey cover through which to disperse safely between trees (English Nature 2006).

Assessment:

7.17 The site does not contain ancient woodland, continuous species-rich hedgerows or continuous, dense stands of bramble and consequently is unlikely to attract this species. Boundary hedgerows generally lack favourable species.

Outcome: No impacts predicted. Further survey is not required.

Otter and water vole

Data records:

7.18 Water vole has been recorded 0.3km from the site (1991). No records were returned for otter.

Habitat requirements:

7.19 Both species require flowing water, deep enough to support foraging behaviour and with connectivity into the wider landscape.

Assessment:

7.20 The site does not contain nor is it adjacent to any suitable watercourse. Mill Stream to the west of the site is culverted in several locations. It lacks suitable bankside vegetation for water vole and there were no field signs of otter nor any potential holts in accessible locations.

Outcome: No impacts predicted. Further survey is not required.

Reptiles

Data records:

- 7.21 Grass snake and adder have been recorded 0.5km and 0.6km from the site respectively.

Habitat requirements:

- 7.22 Reptiles (common lizard, slow worm, grass snake and adder) require mosaic habitats with features in which to bask, forage and shelter. These habitats need to have onward connectivity for dispersal. Suitable habitats include grassland with scrub edges or small woodland coppices (Edgar et al. 2010).

Assessment:

- 7.23 The habitats on site are suitable for reptiles including common lizard, slow worm, grass snake and adder. They include grassland with connectivity into hedgerows, woodland and surrounding gardens.
- 7.24 Reptiles are legally protected from killing and injury. To establish whether a population exists on the site, further surveys are recommended. Reptile presence/absence survey includes a setup visit, a 14 day wait period to allow the refugia to “bed in” and 7 subsequent visits on non-consecutive days. Surveys are carried out between March-October (note that June and July are sub-optimal) when temperatures are between 10-18 degrees C and there is no wind/rain.
- 7.25 If reptiles are found to be present, a mitigation strategy would be developed to ensure the species are not harmed by development and appropriate habitat compensation is provided.

Outcome: The habitats on site are suitable for reptiles and further survey is required in compliance with best practice.

Birds

Habitat requirements:

- 7.26 Nesting birds use a wide range of habitats including buildings, scrub and woodland between March and August inclusive (note some species including pigeon will nest all year round).

Assessment:

- 7.27 No evidence of ground-nesting birds was seen on the site. The boundary trees, hedgerows and scrub are suitable for generalist nesting birds.

Outcome: Nesting birds are likely in boundary trees, hedgerows and scrub. In accordance with best practice, any required vegetation removal/management will be undertaken between September and February inclusive, to avoid the nesting period. If this is not possible, an ecologist can carry out a check for active nests immediately prior to work commencing. Any active nests found must be left undisturbed until the young have fledged, this can take up to 3 weeks (species dependent).

Badger

Data records:

7.28 The closest badger record is 1.4km from the site.

Habitat requirements:

7.29 Badger is a widespread, common mammal and is legally protected due to persecution rather than rarity or conservation significance. Badger requires habitats in which to build their setts and in which to forage. Badgers preferentially choose sloping banks (road verges, railway embankments, woodlands) with easy-dig substrate for sett building where foraging habitat is available.

Assessment:

7.30 No setts were identified on the site. A mammal passage was identified under the eastern boundary fence in Site 1B. Several rabbit warrens were found around the rubble pile to the south of 1B. It is possible given the rural location that badgers may disperse across the site, but no further field signs were seen.

Outcome: As a precautionary measure, a pre-construction badger survey is recommended to account for changes. The following general measures are advised to protect all mammals that might disperse across the site:

- **Any trenches or deep pits should be securely covered overnight to stop mammals falling in and becoming trapped.**
- **Any trenches/pits should be inspected each morning before work commences to ensure no badgers have become trapped overnight.**
- **The storage of topsoil or other 'soft' building materials within the site should be given careful consideration. Badgers will readily adopt such mounds as setts, which would then be afforded the same protection as established setts. So as to avoid the adoption of any mounds, they should be subject to daily inspections before work commences.**
- **During construction work, the storage of any chemicals should be contained in such a way that they cannot be accessed or knocked over by any roaming badgers.**
- **Open pipework with a diameter of more than 120mm should be properly covered at the end of the work day to prevent badgers entering and becoming trapped.**

Legally protected plants/invertebrates

Data records:

7.31 Notable plants including bluebell, lesser calamint and narrow-leaved vetch have been recorded on the site (note that the precision of the records is a 1km grid square).

Assessment

- 7.32 The areas of grassland may support notable or legally protected plant species and it is recommended that further botanical survey is carried out so the grassland type can be established along with its importance.
- 7.33 The site does not contain any significant invertebrate habitat, offering a uniform grassland with limited habitat opportunities and no exposed south facing slopes.

Outcome: No impacts predicted. Further survey is not required.

Species evaluation: The importance of the site to protected species is currently unknown and further survey is required. Further survey is required for great crested newt and reptiles to establish whether populations exist and decide upon necessary mitigation. A pre-construction badger survey is recommended. Further botanical surveys are also required on the grassland. As the presence or otherwise of legally protected species is a material consideration and required before a planning application is determined, it is recommended that all recommended surveys are undertaken prior to planning submission.

8.0 Ecological Constraints and Opportunities

Constraints

Bats

- 8.1 Bats are legally protected from killing, injury and roost destruction. There are several trees on Site 1B that contain potential bat roost features. Should any work be required, further survey (climbed, endoscopic inspection or dusk/dawn) should be completed prior.

Great crested newt

- 8.2 Great crested newt is legally protected from direct harm, and the protection extends to the habitat used for breeding (aquatic) and terrestrial stages. The site contains unmanaged habitats with features including rubble that could reasonably support terrestrial great crested newt. There are multiple ponds within 250 metres with connectivity to the site.
- 8.3 Further surveys are required in accordance with best practice, which should initially take the form of HSI and eDNA with further population size class assessments where results are positive. The purpose of the surveys is to establish the nature of any local population that might be affected by habitat loss and to establish suitable mitigation. An alternative means of securing mitigation would be to enter into Natural England DLL which would not require any surveys and would secure suitable off-site compensation.

Reptiles

- 8.4 Reptiles (including common lizard, slow worm, grass snake) are legally protected from direct harm. The site contains grassland, hedgerows and features including rubble that could reasonably support this species group. Further surveys are required to establish presence/likely absence and decide upon mitigation.

Nesting birds

- 8.5 All nesting birds receive basic legal protection from killing and injury. Any work that could impact an active nest (e.g. tree work, hedgerow management) will be carried out between September and February inclusive unless a check for active nests has been completed by an ecologist immediately beforehand and the habitat in question deemed clear. Any active nests (e.g. supporting eggs, chicks or young) found must be left undisturbed with a suitable undisturbed buffer until the young have fledged.

Flora

- 8.6 The site provides some areas of grassland with wildflowers which should be subject to a botanical survey and classified to establish importance. It is recommended that at least one walkover survey is carried out by an experienced botanist, with further NVC surveys following if deemed appropriate.

Opportunities

8.7 The following enhancement recommendations are proportionate to the size of the site/nature of development and would result in improvements for wildlife. Please note that enhancement measures are a guide at this stage and may change on completion of the further surveys:

- Hedgerow management – Management and infill planting would improve the value of boundary hedgerows for wildlife.
- Where possible and if space allows, ponds could be included in the layout to benefit insects and amphibians. The pond is best situated on a boundary or grassland to the north to allow connectivity off-site.
- Habitat boxes – new houses could include integrated features for roosting bats and nesting birds, including Priority Species. Please see Appendix 4 for habitat box examples.

9.0 Conclusions

- 9.1 The survey has established ecological constraints to developing the site and identified opportunities that new development could bring.
- 9.2 There is a reasonable likelihood of bats, great crested newt and reptiles being present due to the habitats present and landscape connectivity. Further surveys are required to establish whether populations exist on the site and to determine appropriate mitigation. Further surveys are also required to classify the grassland and establish its ecological significance. A pre-construction badger survey is recommended.
- 9.3 Legally protected species are a material consideration in the determination of planning applications, in so far as their presence or otherwise must be determined before consent can be granted. As the above could have a bearing on the site design and requirements for habitat compensation, further surveys should be carried out to inform design and before planning submission.
- 9.4 Nesting birds are likely to be present in boundary vegetation between March-August inclusive. Mitigation measures are required to ensure nesting birds are given appropriate protection in accordance with wildlife legislation. A bat friendly lighting scheme is recommended in respect of foraging/commuting bats.

Enhancement opportunities

- 9.5 There is significant scope to include areas of open space which could include ponds, trees, hedgerow planting and wildflower grassland. These measures will also ensure compliance with the requirement for measurable “biodiversity net-gain” and provide new habitat opportunities in accordance with Paragraph 170(d) of the NPPF 2019 and Local Plan policies.

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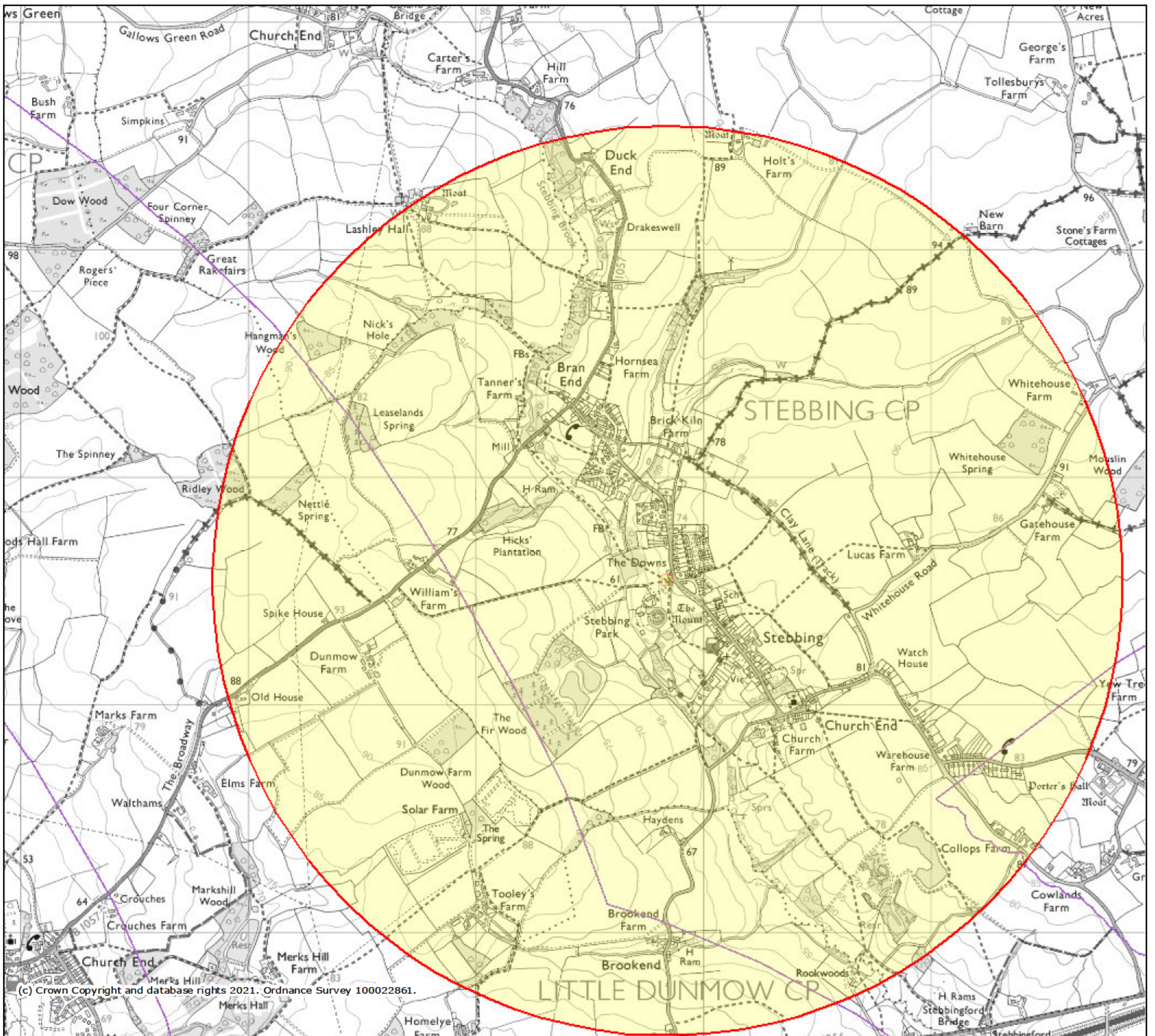
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Appendix 1. MAGIC Map

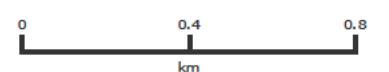


Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Sites of Special Scientific Interest Units (England)**
- Favourable Condition
- Unfavourable Recovering
- Unfavourable no change
- Unfavourable Declining
- Part Destroyed
- Destroyed
- Not Assessed
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
- Special Areas of Conservation (England)
- Possible Special Areas of Conservation (England)
- Special Protection Areas (England)
- Potential Special Protection Areas (England)
- Special Protection Areas (Scotland)
- Special Protection Areas (Wales)
- Biosphere Reserves (England)

Projection = OSGB36
 xmin = 560900
 ymin = 222500
 xmax = 570000
 ymax = 227100

Map produced by MAGIC on 19 July, 2021.
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Appendix 2. Photographs

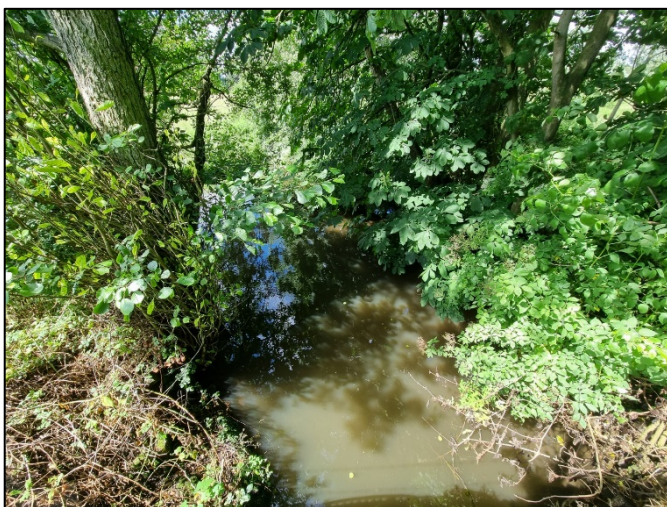
Site 1A



a) View west from public footpath on southern boundary



b) Wire fence between grassland and plantation



c) Pond on western boundary



d) Plantation to west of site



e) Rank grassland in south-western corner



f) Avenue of lime trees in between 1A and 1B

Site 1B



a) Northern corner of site



b) Row of poplar trees along northern boundary



c) View south-west across semi-improved grassland



d) Southern corner of site, dry ditch and crack willow trees



e) Potential bat roost features on crack willow tree to south of site



f) Twin-stemmed ash tree to south of site



g) South-eastern corner of grassland

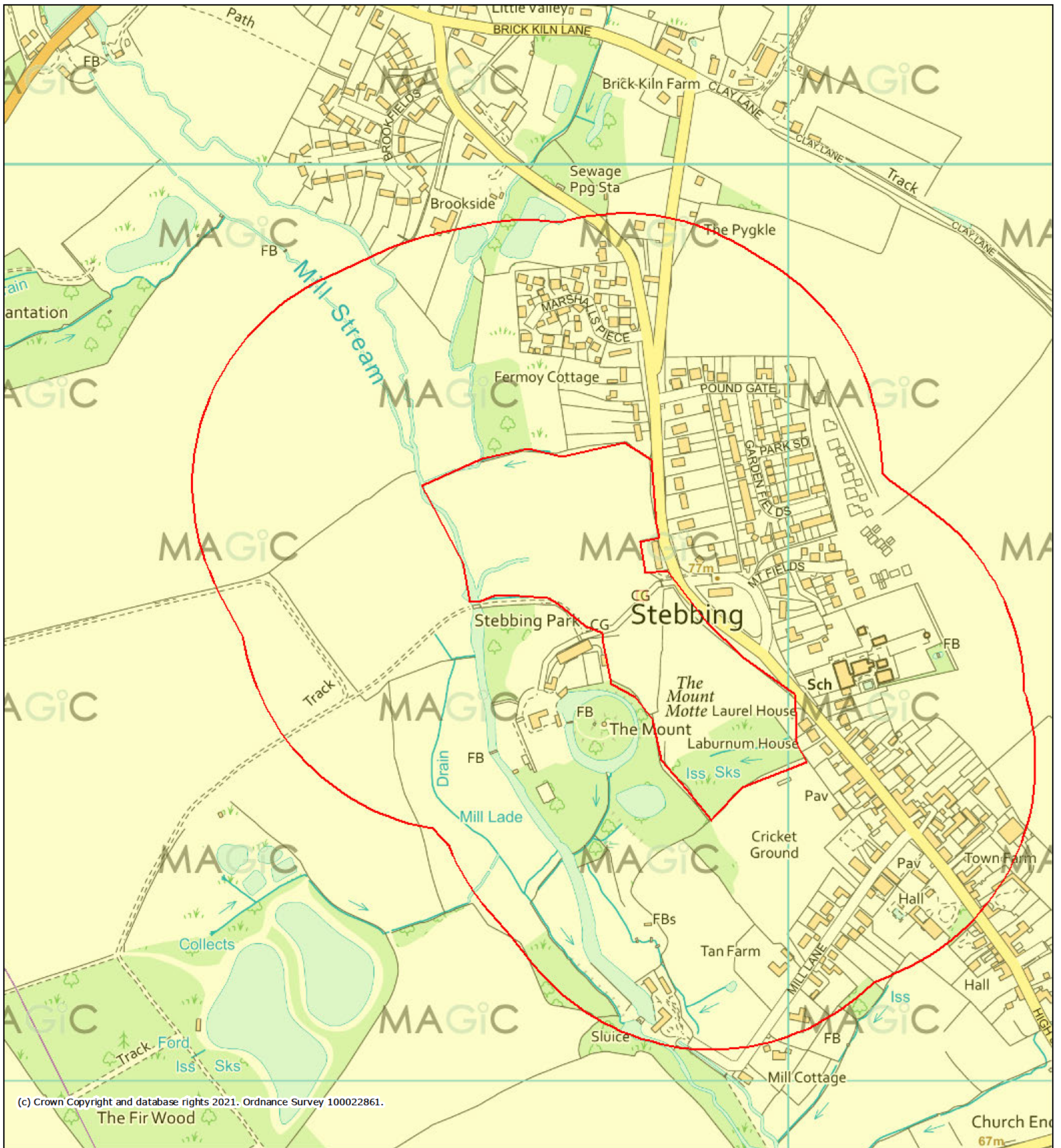


h) Rubble pile along south-eastern boundary – suitable for amphibians and reptiles



i) Mammal access under fence along eastern boundary

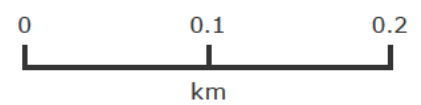
Appendix 3. Ponds within 250 metres



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Legend

-  Local Nature Reserves (England)
-  National Nature Reserves (England)
-  National Nature Reserves (Scotland)
-  National Nature Reserves (Wales)
-  National Parks (England)
-  Ramsar Sites (England)
-  Proposed Ramsar Sites (England)
-  Ramsar Sites (Scotland)
-  Ramsar Sites (Wales)



Projection = OSGB36
 xmin = 564700
 ymin = 224000
 xmax = 566800
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Appendix 4. Bat and bird boxes



- a) Habitat 003 Built in Bat Box faced with red brick. Dimensions 44 x 21.5 x 10.2 cm plus facing bricks. Self cleaning.



- b) Schwegler 1FR Bat Tube, to be integrated into building wall, and either bricked in or rendered. Self cleaning. Dimensions: 47.5 x 20 x 12cm.



- c) Integrated sparrow terrace

SINGLE CREVICE BAT BOX

TWO CREVICE BAT BOX



£36

£48

Individually Handmade - Specifications are in CM and approximate.

External: 43 high x 21.5 wide x 6.8 deep.

Internal: 41 x 16.5 x 1.8 crevices @ 1.

Made with small groups of crevice dwelling bat species in mind, such as pipistrelles. Approx.

4.75kg

Individually Handmade - Specifications are in CM and approximate.

External: 43 high x 21.5 wide x 6.8 deep.

Internal: 41 x 16.5 x 1.8 crevices @ 2.

Made with small groups of crevice dwelling bat species in mind, such as pipistrelles. Approx.

6.75kg

d) Greenwoods eco habitat bat boxes for trees