# SHEPPEY WAY,
# IWADE,
# KENT

## ECOLOGY
## PRELIMINARY ECOLOGICAL APPRAISAL

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**SUMMARY**

1. During September 2019 LaDellWood were commissioned to undertake a Preliminary Ecological Appraisal at the Sheppey Way, Iwade site. This report provides details of the survey which including a desk top study search and a Phase 1 Habitat assessment of habitats on and adjacent to the sites. Further consideration was given to the value of habitats for supporting protected species. Using information gathered from the survey this report assesses any likely ecological constraints to development proposals and provides an outline of any ecological mitigation that may be required.

2. During the desktop study there were two internationally designated sites located within 6km of the site and a single nationally designated statutory site located within 2km of the site. A single non-statutory local wildlife site was located within 2km of the site. NERC section 41 Priority habitats located within 2km of the site include areas of lowland mixed deciduous woodland and traditional orchard. There were no areas of ancient and semi natural woodland located within 2km of the site. Habitats at the site included areas of rough improved grassland, a line of windbreak trees and fence lines. Records of protected species located within 2km of the site included protected plant species, bats, great crested newt, widespread reptiles, western European hedgehog and protected or notable invertebrate species.

3. During the survey habitats on or adjacent to the site were considered suitable for badger, roosting and foraging and commuting bats, breeding birds, widespread reptiles and western European hedgehog. A single tree located beyond the southern site boundary was highlighted with habitat value for roosting bats.

4. The Preliminary Protected Species and Habitat assessment confirmed that the site has a high habitat value for breeding birds and reptiles. The site has a low habitat value for dormouse, great crested new and badger. The site has a moderate habitat value for foraging and commuting bats.

5. Recommendations have been given for further survey regarding reptiles. Surveys will advise if reptiles are present at the site. Further recommendations for mitigation have been given to reduce impacts to on species such as badger, roosting bats, foraging and commuting bats, hedgehog and breeding birds at the site. Further enhancements have been recommended regarding habitats, roosting bats invertebrates and breeding birds.

**CONTENTS**

## 1.0 Introduction

### Background

1.1 This report has been prepared by LaDellWood for proposed works at Sheppey Way, Iwade, Kent. LaDellWood were commissioned to carry out a preliminary ecological appraisal at the site.This report represents the findings of the above survey undertaken on the 17th September 2019. The survey was carried out in order to assess the habitats on the sites and their surroundings and determine the ecological value of the site. The report then assesses any likely ecological constraints to development proposals and provides an outline of any ecological mitigation that may be required.

### Scope of the Report

1.2 This report details the results of the ecological survey as a preliminary ecological appraisal, assesses the results and recommends any actions necessary to satisfy statutory guidance, National legislation, European legislation (**see Table 1.2 & Annex 1**) and the requirements of National Planning Policy Framework (NPPF), 15: Conserving and enhancing the natural environment; and recommends further survey works and/or mitigation/enhancement measures where these are required.

### Site Context and Status

1.3 The site is approximately 0.9 hectares in size and located at NGR TQ 899 670. Habitat within the site and its boundaries comprises of improved grassland, scrub, lines of trees and fence lines.

1.4 The site is located in an urban edge / rural setting approximately 0.5km south west of the Iwade Village centre. Access to the site is via Sheppey Way which runs north from the A2. The site is surrounded to the north and west by extensive area of recently built residential housing. To the south of the site lie large arable fields. To the east of the site beyond Sheppey Way is an area of improved pasture

### Ecologists

1.5 The site survey was undertaken by Andrew Bodey BSc hons ACIEEM, bat licence Level 2, (2015-13096-CLS-CLS) and GCN licence (2016 – 20334 – CLS-CLS) who has over ten years' experience of ecology practice. The report was prepared by Andrew Bodey BSc hons ACIEEM and checked by Tom La Dell MA (botany), MCIEEM, CMLI who has over forty years experience in ecology practice.

**Site Proposals**

1.6 The proposals for the site include the construction of residential properties and associated infrastructure.

## 2.0 Methodology

**Desk Study**

2.1 In order to establish baseline ecological data of the site Kent & Medway Biological Records Centre (KMBRC) were commissioned to complete an ecological data search for the site. The search included protected species and habitats recorded within 2km of the site. An extended search of 4km was undertaken for bats. In addition the MAGIC database was accessed to establish the presence of designated sites within up to 6km of the site. An assessment of habitats surrounding the site was undertaken using OS mapping and satellite imagery of the site, the assessment included a search for waterbodies located within 250m of the site.

**Site Survey**

2.2 The Preliminary Ecological Appraisal included a Phase 1 habitat walkover survey which involved a detailed daytime investigation of the site and surrounding land to record habitat and vegetation types following guidance set out by JNCC in the Phase 1 habitat surveys handbook (JNCC 2010). This approach is designed to identify habitat types according to those defined in the handbook and to assist in providing an overview of the ecological interest at a site. It follows, where relevant, BS42020:2013 Biodiversity – Code of practice for planning and development.

**Preliminary Protected Species Assessment**

2.3 During the Preliminary Ecological Appraisal survey an assessment was undertaken to determine the potential of the site and surrounding habitats to support legally protected species. During the assessment provisional signs of protected or notable species were recorded. Due to records of species located up to 5km of the site and/ or the habitats present at the site particular consideration was given to the potential of the site to support badger, dormice, bats, hedgehog, breeding birds, reptiles, invertebrates and great crested newt. The following details the species-specific methodologies used.

Badger

2.4 A detailed inspection was undertaken searching for evidence of badgers on site and where access was possible within 30 metres radius of the site boundary. Evidence of badger such as such as sett entrances with characteristic spoil heaps, claw marks, pathways, hairs, latrines, snuffle holes and scratching posts were searched for during the inspection.

Dormouse

2.5 The assessment of Dormouse was based on a visual inspection of habitats at the site. During the survey dormouse habitat features were searched for including the presence of suitable habitats offering cover and food such as hazel *Corylus avellana*, honey suckle *Lonicera periclymenum* and bramble *Rubus fruiticosus*. Also the connectivity of the site to suitable areas of habitat off-site was considered.

Bats

2.6 The Assessment for the presence of suitable bat habitat at the site involved a detailed investigation of trees that may support roosting features for bats such as loose bark, hazard beams and rot holes. During the survey further consideration was given to potential bat foraging and commuting habitats at the site.

An assessment of the bat habitat value is made in **Table 1.3, section 4.0**. The assessment was made using criteria set out in **Table 1.1** below. The survey followed methodologies set out in the current Bat Conservation Trust guidelines (Collins 2016).

| **Table 1.1: Bat Tree Habitat Grading Criteria (adapted from BCT Guidelines Collins 2016)** |
|---|
| **TREES CONFIRMED AS A BAT ROOST** |
| bats seen roosting during initial assessment survey<br>Evidence suggesting recent use of the tree by bats (e.g. accumulations of droppings of a mixture of ages)<br>Social chattering heard within a roost during survey (often on hot days or close to emergence time)<br><br>**Stage 1: Initial Assessment**<br>Identify tree on map, provide a description of significant roost features and or evidence found during survey<br><br>**Stage 2: Further Survey**<br>Further emergence/ dawn return survey to assess status of roost and how bats utilise the site.<br><br>**Stage3: Likely Mitigation requirements** |

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| Any works that may impact upon the roost must be undertaken under EPSM licence. |
| **TREE OF HIGH HABITAT VALUE** |
| **Potential Roost Features:**<br>Numerous potential bat roost features of high suitability such as woodpecker holes, rot holes, hollowing. Features that are able to support large roosts.<br><br>**Stage 1: Initial Assessment**<br>Identify tree on map, provide a description of significant roost features and or evidence found during survey<br><br>**Stage 2: Possible Further Works/Survey**<br>Where possible complete climbing inspection to assess features present in more detail.<br><br>If evidence of bat roosting are found during climbing inspection further emergence/ dawn return survey to assess status of roost and how bats utilise the site.<br><br>**Stage3: Likely Mitigation requirements**<br>Works to trees confirmed as supporting roosting bats must be undertaken under EPSM licence.<br><br>Trees with no confirmed roosts taking reasonable impact avoidance measures such as soft felling under the supervision of an ecologist. |
| **TREE OF MEDIUM HABITAT VALUE** |
| **Potential Roost Features:**<br>Moderate numbers of potential bat roost features of moderate suitability such as areas of dense ivy or cracks and splits. Features may support smaller roosts of individual bats<br><br>**Stage 1: Initial Assessment**<br>Identify tree on map, provide a description of location and significant potential roost features. Assess potential impacts of proposals. If impacts cannot be avoided through mitigation further survey may be required.<br><br>**Stage 2: Possible Further Works/Survey**<br>Where possible complete more detailed inspection to assess features present in more detail.<br><br>If evidence of bat roosting are found during inspection further emergence/ dawn return survey to assess status of roost and how bats utilise the site.<br><br>**Stage3: Likely Mitigation requirements**<br>Works to trees confirmed as supporting roosting bats must be undertaken under EPSM licence.<br><br>Works can proceed on trees with no confirmed roosts taking reasonable impact avoidance measures such as soft felling. If bats are found at any stage works should cease and advice sought |
| **TREES OF LOW HABITAT VALUE** |
| **Potential Roost Features:**<br>Low numbers of potential bat roost features of low suitability such as areas of light coverings of ivy. Features may be of limited suitability to bats.<br><br>**Stage 1: Initial Assessment**<br>Provide a description of location and potential roost features. Assess potential impacts of proposals..<br><br>**Stage 2: Possible Further Works/Survey** |

| |
|---|
| Where possible avoid impacts to trees, no further survey required.<br><br>**Stage3: Likely Mitigation requirements**<br>Works can proceed taking reasonable impact avoidance measures such as soft felling. If bats are found at any stage works should cease and advice sought. |
| **TREES OF VERY LOW HABITAT VALUE** |
| **Potential Roost Features:**<br>Trees with no bat roost features or trees with bat roost features that through further detailed survey using endoscopes and binoculars have been shown as any of the following:<br><br>• Superficial features lacking sufficient depth or size to support roosting bats,<br>• Features with environmental conditions considered unsuitable for bats<br>• Suitable features that support no evidence of previous bat use.<br><br>These trees are often, but not always, immature or trees in good health.<br><br>**Stage 1: Initial Assessment**<br>Assess potential impacts of proposals and provide description of location.<br><br>**Stage 2: Possible Further Works/Survey**<br>No further survey required.<br><br>**Stage3: Likely Mitigation requirements**<br>No mitigation required. |

Breeding Birds

2.7 An Assessment of the presence of birds using visual and song identification and habitat suitable for breeding birds such as mature trees, dense scrub, hedgerows, and recording of evidence of previous nesting, including old nests and faecal marks etc;

Widespread Reptiles

2.8 An assessment of the site's potential for supporting reptiles was based on the presence of suitable habitats in or surrounding the site. Reptiles are cryptic species. It can be hard to establish presence from a single visual inspection alone as they often leave little or no evidence to their presence at a site. These species often require a diverse habitat structure with both cover for protection from predators and foraging and open sunny areas for basking. Typical habitats that support these species are long grass, scrub, woodland, hedgerows and wood and rubble piles.

Great crested newt

2.9 An assessment of the potential presence of amphibians was made through the identification of possible breeding sites located within 250 metres of the site, such as ponds, ditches and other still water bodies as well as terrestrial habitats of grassland and scrub mosaic and of potential sheltering and hibernation sites.

Invertebrates

2.10 An assessment of the presence of invertebrates was based on the habitats present on or adjacent to the site. Typical wetland habitats that can be of value for to invertebrates include ponds, lakes, ditches, rivers and streams. Typical terrestrial habitats of value to invertebrates include unimproved or semi improved species rich grasslands, woodlands and mature trees offering deadwood features, brown field sites supporting a diverse range of disturbed and semi natural habitats. Consideration was given to both aquatic and terrestrial invertebrates.

Hedgehog

2.11 An assessment of the potential presence of hedgehogs was made through the identification of suitable refuges such as piles brash or logs and garden refuse piles, as well as suitable foraging and commuting areas such as hedgerows, woodland, scrub and grassland areas.

**Limitations**

2.12 The survey is a Preliminary Ecological Appraisal. The survey was limited to a visual inspection of habitats and their potential for supporting protected species based on the suitability of the habitat and any direct evidence on the site. The site survey was undertaken at a time of year when activity or visibility of the majority of the target species groups highlighted in this report is considered to be moderate.

2.13 The protected species assessment provides an overview of the likelihood of protected species occurring in the habitats on the site. It should not be taken as providing a full and definitive survey of any species group any direct evidence is only valid at the time the survey was carried out

2.14 The bat survey was limited to a visual inspection of habitats and their potential for supporting bats.

2.15 The findings of this report represent the opinion of a professional and suitably qualified ecologist they do not constitute professional legal advice. The client may wish to seek further legal interpretation of wildlife legislation cited in this document.

**Survey Timings**

2.16 The survey was completed on 17$^{h}$ September 2019 between 08:00 – 11:00. Weather conditions were optimal with dry ground, 70% cloud cover, 16 $^{0}$C with a Light wind.

## 3.0 Results

### Desk Top Study

3.1 Information detailing any recent and historical ecological records and designated sites from within a 2km radius of the site was compiled using data provided by KMBRC and using Magic Maps online data resource, the results are detailed as follows. An extended search of 5km was undertaken for bat species and a search radius of 6km was undertaken for internationally designated sites.

### Statutory Designated Sites

3.2 Statutory designated sites of international importance were located within 6km of the site.

The Swale SSSI, SPA and RAMSAR site

3.3 This site is located at NGR: TQ 910 677 and at its closest point is approximately 1.2km east of the site. This designated area covers approximately 6558 hectares and contains areas of mudflat, saltmarsh and freshwater grazing marsh. It is designated as a SPA and Ramsar for its importance to wintering waterfowl and waders and also supports notable breeding populations of birds. Numerous rare species of plant and invertebrate are also present at this site.

The Medway Estuary & Marshes SSSI, SPA and RAMSAR site

3.4 This site is located at NGR: TQ 888 685 and at its closest point is approximately 1.5km north west of the site. This designated area covers approximately 4680 hectares and contains areas of mudflat, saltmarsh and freshwater ditches and grazing marsh. It is designated as a SPA and Ramsar for its importance to wintering waterfowl and waders and also supports breeding populations of birds. Numerous rare species of plant and invertebrate are also present at this site.

### Non Statutory Designated Sites

3.5 A single non-statutory Local Wildlife Site was located within 2km of the site. Details have been provided below.

SW 25 – Milton Creek

3.6 The site is designated for the coastal wetland habitats present and their associated species assemblages. This site is located at NGR: TQ 908 659 approximately 1.5km southeast of the site.

3.7 The closest area of priority habitat lowland deciduous woodland located off site is approximately 0.3km northwest.

3.8 There were no areas of ancient woodland located within 2km of the site.

**Protected and notable species**

3.9 The KMBRC desk top study search revealed records of the following protected and notable species located up to 2 km from the site.

Flora

3.10 Records of protected or notable plant species were located within 2km of the site. The following species were recorded.

Common spotted orchid *Dactylorhiza fuchsia*
Early purple orchid *Orchis mascula*
Pyramidal orchid *Anacamptis pyramidalis*
Bee orchid *Ophrys apifera*
Bluebell *Hyacinthoides non-scripta*

Badger:

3.11 There were no records of badger located within 2km of the site.

Dormouse:

3.12 There were no records of dormouse located within 2km of the site.

Bats

3.13 An extended data search was undertaken for bats as they are wide ranging species. The closest known roost is a maternity roost located approximately 0.9km south east. The following species were recorded within a 5km radius of the site.

Serotine Bat *Eptesicus serotinus*
Daubenton's bat *Myotis daubentonii*

Natterer's bat *Myotis nattereri*

Leisler's bat *Nyctalus leisleri*

Noctule bat *Nyctalus noctula*

Nathusius pipistrelle bat *Pipstrellus nathusii*

common pipistrelle bat *Pipistrellus pipstrellus*

soprano pipistrelle bat *Pipistrellus pygmaeus*

Brown long eared bat *Plecotus auritus*

Birds:

3.14 Numerous records of notable bird species are located within 2km of the site.

Little Grebe *Tachybaptus ruficollis*

Shelduck *Tadorna tadorna*

Mallard *Anas platyrhynchos*

Tufted duck *Aythya fuligula*

Pochard *Aythya ferina*

Grey partridge *Perdix perdix*

Kestrel *Falco tinnunculus*

Oystercatcher *Haematopus ostralegus*

Ringed plover *Charadrius hiaticula*

Lapwing *Vanellus vanellus*

Snipe *Gallinago gallinago*

Redshank *Tringa totanus*

Stock Dove *Columba oenas*

Turtle Dove *Streptopelia turtur*

Cuckoo *Cuculus canorous*

Green woodpecker *Picus viridus*

Lesser spotted woodpecker *Dryobates minor*

skylark *Alauda arvensis*

Swift *Apus apus*

House martin *Delichon urbicum*

Swallow *Hirundo rustica*

Meadow pipit *Anthus pratensis*

Yellow wagtail *Motacilla flava*

Wheatear *Oenanthe oenanthe*

Song thrush *Turdus philomelos*

Willow warbler *Phylloscopus trochilus*

Starling *Sturnus vulgaris*

House sparrow *Passer domesticus*

Linnet *Carduelis cannabina*

Bullfinch *Pyrrhula pyrrhula*

Yellowhammer *Emberiza citrinella*

Reed bunting *Emberiza schoeniclus*

Corn bunting *Emberiza calandra*

Reptiles

3.15 Numerous records of slowworm Anguis fragilis, common lizard *Zootoca vivipara* and grass snake *Natrix helvetica* were located within 2km of the site. Populations of these species of reptiles were also recorded by LaDellWood within suitable habitats located approximately 0.15 km north west of the site during 2015.

Great Crested Newt

3.16 Numerous records of great crested newt were located within 2km of the site. The closest record is located approximately 0.8km north of the site beyond residential housing associated with the Village of Iwade.

Two water bodies were located within 250m of the site (**see Map 4**).

Waterbody 1 located at TQ 901 671. This water body is located approximately 230m to the east of the site.

Waterbody 2 located at TQ 579 087. This waterbody is located approximately 200m northwest of the site.

Western European Hedgehog

3.17 22 records of hedgehog were located within 2km of the site.

Invertebrates

3.18 Records of notable invertebrate species were recorded within 2km of the site. A single record of Stag beetle was located within 2km of the site approximately 1.4km south east of the site.

**Phase 1 Habitat Survey**

3.19 The following habitats were recorded at the site. The position and extent of on-site habitats are shown on **Map 2**-Phase 1 Habitat Map.

Improved Grassland

3.20 The site is dominated by unmanaged, rough, improved grasslands. The grassland is dominated by meadow grasses *Poa* sp. with cocksfoot *Dactylis glomerata* and Yorkshire fog *Holcus lanatus* present. Herbaceous species present include common nettle *Urtica dioca*, creeping thistle *Cirsium arvense*, hogweed *Heraculum spondylium*, common ragwort *Senecio jacobea* and bristly ox tongue *Helminthotheca echioides* (**Figures 1 and 2**).

Scrub

3.21 Scattered areas of bramble scrub are located within grasslands and along the southern boundary treeline (**Figures 3 and 4**).

Lines of trees

3.22 A row of pollard Lombardy poplar trees *Populus nigra* Italica is located along the southern boundary of the site (**Figures 5 and 6**).

Fence lines

3.23 Timber, close board, garden fencing is present along the northern and western boundaries (**Figure 7**).

**Protected Species**

3.24 The following details the results of the protected species field survey. Results of the desktop study for protected species records and their significance are assessed in the preliminary protected species assessment in **Table 1.2**

Badger:

3.25 During the survey evidence no evidence of badger was recorded at the site. The grassland present within the offers some value to foraging badger however given the lack of evidence the site is unlikely to offer significant habitat to local badger populations. Further optimal areas of badger foraging are

present within pastures to the east and woodlands and stream habitats to the west, it is considered likely that, if present in the area, badger may utilise the site for commuting and or foraging on occasions.

Dormouse

3.25 The on-site habitat is dominated by grassland habitats considered limited value for this species. The Line of trees located along the southern boundary comprise entirely if poplar and are unluckily to provide a continuum of food sources for species through the active season. The site has limited connectivity to extensive external areas of habitat that may offer suitable foraging and cover such as blocks of mixed deciduous woodland, scrub or mature hedgerow networks. The site is considered unsuitable for this species.

Bats**:**

Tree Assessment

3.26 All trees requiring removal or maintenance or trees located close to the proposed works were surveyed. A single tree with habitat value for roosting bats was located along the southern boundary treeline. Further trees with coverings of ivy were present however the light coverings of ivy were not considered to provide suitable roosting locations for bats.

Tree1: Pollard Poplar with standing deadwood with splits (**Figure 8, Map 3**).

Foraging and Commuting Habitat Assessment

3.27 The site is dominated by areas of improved grassland. This habitat is unlikely to support significant invertebrate populations that would offer value to foraging bats. The treeline extending along the southern boundary of the south site offers a sheltered, linear landscape feature for foraging bats that may provide connectivity to habitats located off site within the surrounding landscape.

Breeding Birds:

3.28 During the survey of the site bird species recorded included blackbird *Turdus merula* and wren *Troglodytes troglodytes*. These species are commonly associated with scrub and treeline habitats present at the site.

Widespread Reptiles

3.29 Habitats within the sites are considered of value for common species of reptile. Areas of rough grassland and scrub provide suitable shelter and foraging areas. In addition piles of garden refuse (**TN1, Map 2**) are present along northern and western boundary fence lines offer suitable basking and refuge locations.

Great Crested Newt:

3.30 Two water bodies were located within 250m of the site. **Map 4** shows location in relation to the site. Water body 1 is located approximately 250m from the eastern site boundary. The water body could not be accessed during the survey. The water body is isolated with no other waterbodies connected by suitable habitats located within 500m radius. Water body 2 is a woodland stream (**Figure 9**), located to the north west of the site at the time of survey the stream was dry, it is considered unsuitable for great crested newt. Previous surveys undertaken by LaDellWood during 2015 also assessed areas of ditch line and pond as dry.

3.31 Great crested newts are generally found in areas supporting a network of suitable water bodies surrounded by suitable terrestrial habitats that can maintain meta population dynamics. This species is known to disperse up to 500m or more from suitable breeding water bodies. However the majority of terrestrial newt activity surrounding suitable breeding ponds is associated with habitats up to 100m from the water body with core habitat of greatest value located within 50m (NE 2001). Whilst the habitats within the site offer suitable habitat for terrestrial great crested newt given the distance and limited suitability of nearby water bodies the presence of this species within the site is considered unlikely.

**Western European Hedgehog:**

3.32 Suitable foraging habitat and opportunities for daytime refuge are present within areas of rough grass, scrub and refuse located within the site.

**Terrestrial Invertebrates:**

3.33 The sites are dominated by improved habitats are unlikely to offer significant invertebrate populations. Areas of scrub and trees do offer some value to terrestrial invertebrates with areas of fallen deadwood located along the southern site boundary

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**Preliminary Protected Species and Habitat Assessment**

4.0 The habitats on site were assessed as to their likelihood of supporting protected species. **Table 1.2** highlights the likely occurrence of each protected species and what, if any, impact the development is likely to have upon each protected species or important habitat.

**Table 1.2 Assessment of the potential impact of protected species and habitats within and adjacent to the development site**

| Species/Habitat | Main legislation and policy | Species or habitat assessment | Likely impact of development on species or habitat |
|---|---|---|---|
| Designated Sites: The Swale SSSI, SPA and RAMSAR site<br><br>The Medway estuary and marshes SSSI, SPA and RAMSAR site<br><br>NERC priority Habitat: Traditional Orchard and lowland deciduous woodland | Section 28 of the Wildlife and Countryside Act 1981<br><br>Section 21 of the National Parks and Access to the Countryside Act 1949, and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006 | During the desktop study data search a single non statutory designated local wildlife site was identified within 2km of the site. The site is located approximately 1.9km south east of the site. The site is considered of **high ecological value** on a local scale.<br><br>Two statutory internationally designated sites were located within 6km of the site. The closest was located approximately 1.0km east of the site. The sites are considered of **high ecological value** on an international scale.<br><br>Numerous areas of Priority habitat were located within 2km of the site. The closest areas are a small fragment of woodland to the west and areas of traditional orchard beyond Sheppey way to the east. These habitats are considered of **moderate value** on a local scale. | There are no statutory or non statutory designated wildlife sites located on the site.<br><br>Two designated sites of international importance were located within 6km of the site. Considering the habitats and species associated with these designated sites, the size of the proposals and the distance between the proposed development site and the designated site it is considered there will be **no significant impacts** upon these internationally designated sites.<br><br>Considering the distance between the site and the highlighted non statutory designated site It is considered there will be **no significant impact** upon this non-statutory designated area.<br><br>Considering the areas of priority habitat are located beyond Sheppey way and residential housing areas It is considered the proposals will have **no significant impacts** upon priority habitats.<br><br>No further recommendations regarding designated sites or |

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| | | | habitats have been given. |
| Habitats | National Planning Policy Framework (NPPF), 11: Conserving and enhancing the natural environment | Habitats within the site are dominated by improved grassland habitats that were formerly used as arable farmland. The boundary treeline is of greatest value. The habitats within the site are considered of **low ecological value**. | The majority of the proposed development will impact upon areas of common and widespread habitats of low ecological value. Areas of boundary treeline will be removed. The proposals will have **low – moderate impact** upon habitats at the site.<br><br>Further mitigation and enhancement recommendations have been given in **section 5.0.** |
| Badger | Protection of Badgers Act 1992. | During the site survey no evidence of badger setts or badger activity was recorded within the site or within 30m of its boundary where access was possible.<br><br>The desk top study recorded no badger records within 2km of the site. During the site survey no evidence of badger activity was recorded. However the site is located within a semi - rural situation and it is considered that badgers may occasionally commute through the site. The site offers some value for foraging value to badger however given the lack of evidence it is unlikely the site is used extensively by badger and furthermore surrounding landscape offers further foraging potential within orchards, woodlands and pastures.<br><br>Considering the lack of records and lack of evidence of badger activity, the site is considered to have a **low habitat value** for foraging and commuting badger. | Areas of grassland will be lost however given the lack of evidence of badger foraging and the extent of optimal badger foraging habitats available to the west and east of the site It is considered the proposals will have a **low impact** upon foraging and commuting badger.<br><br>Further recommendations for mitigation have been given in **section 5.0** |
| Dormouse | Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended).<br><br>Schedule 2 of the | The data search revealed no records of this species within 2km of the site. The small areas of scrub and treeline are unlikely to offer a continuum of food for this species through the active season. Given the limited suitability of habitats within the site and landscape | Habitats that will be impacted by the proposals comprise of habitats of limited value for this species. This species is unlikely to be present at the site. It is considered the proposed works will have **no significant impact** upon this species. |

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| | Conservation of Habitats and Species Regulations 2010. | surrounding the site it is unlikely this species would be present on the site.<br><br>The site is considered of **low habitat value** for dormice. | No further recommendations have been given. |
| Bats | Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended).<br><br>Schedule 2 of the Conservation of Habitats and Species Regulations 2010. | Numerous records of bat species were located within 5km of the site. There is potential for the majority of these species to be present at the site.<br><br>A single tree was highlighted with habitat value for roosting bats<br><br>Tree 1 (poplar sp.) located along the southern boundary of the site (**see map 3**). The tree has splits within deadwood present and is considered of **low habitat value** for roosting bats.<br><br>The southern site boundary supports areas of treeline that offer suitable linear boundary features for foraging and commuting bats that may connect the site with off site habitats. The site is considered to offer **moderate habitat value** for foraging and commuting bats. | The highlighted tree is located along the southern boundary. Should this tree be required for removal there is potential of for **high impacts** upon roosting bats.<br><br>Areas of treeline within the boundaries of the site offer suitable areas of foraging and commuting habitat. Areas of treeline will be retained potential, however there is potential for **moderate impacts** on foraging and commuting bats through light disturbances.<br><br>Further recommendations for mitigation have been given in **section 5.0**. |
| Breeding Birds | Wildlife and Countryside Act 1981 (as amended). | Numerous records of bird species were recorded within 2km of the site. During the survey common species of bird were recorded singing within the site. The scrub and treeline habitats at the site offer suitable habitat for breeding bird.<br><br>It is considered that there is a **high habitat value** for breeding birds on the sites. | Treeline habitats will be retained however if any of these treeline or scrub habitats require removal there is a potential for **high impacts** to breeding birds through the disturbance or destruction of active nests during the clearance.<br><br>Further recommendations for mitigation are given in **section 5.0**. |

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| Widespread Reptiles | Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended). | Records of reptiles were located within 2km of the site with populations of slowworm, common lizard and grass snake recorded within habitats to the east during 2015. Habitats within the sites are dominated rough grassland with patches of scrub and piles of garden refuse along the northern and western boundaries. These habitats are considered to have **moderate to high habitat value** for widespread reptiles. | Reptiles are likely to utilise habitats within the site therefore it is considered there is potential for **high impacts** associated with injuring and killing of reptiles during works.<br><br>Further recommendations for survey have been given in **section 5.0.** |
| Great Crested Newt | Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended).<br><br>Schedule 2 of the Conservation of Habitats and Species Regulations 2010. | The KMBRC search revealed numerous records of this species located within 2km of the site. The closest record was located 0.8km north of the site. A known population of great crested newts are known to be present within network of waterbodies within Iwade Nature Park.<br><br>Waterbody 1 located to the east of the site is located on private land could not be accessed. The water body is a small pond located within grazed pasture and adjacent to areas of optimal terrestrial habitat within traditional orchards to the north. The water body is relatively isolated from known populations of great crested newts to the north of Iwade Village and other ponds within the surrounding landscape. Considering the distance of this water from known populations to the north it is unlikely newts would disperse and colonise this isolated water body. Great crested newts are generally found in areas supporting a network of suitable waterbodies that can maintain metapopulation dynamics.<br><br>Water body 2 located to the west of the site comprises a stream, at the time of survey the stream was dry, it is considered the stream may flow during during periods of heavy rain fall. Waterbody 2 was considered unsuitable for great | This species is unlikely to be present at the sites. It is considered the proposed works will have **no significant impact** upon this species.<br><br>No further recommendations have been given. |

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| | | crested newt.<br><br>The site supports suitable areas of terrestrial habitat for great crested newt. However given the limited suitability of water bodies surrounding the site. The site is considered of **low habitat value** for great crested newt. | |
| Invertebrates | Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended). | Grassland Scrub and tree habitats within the sites are likely to support a range of common invertebrate species. Some areas of fallen deadwood were present along eth southern boundary treeline. The sites are considered of **low – moderate habitat value** for invertebrates. | The presence of rare or protected invertebrate species is considered unlikely. It is considered the proposals will have **no significant impact** upon terrestrial invertebrates.<br><br>Recommendations for site mitigation and site enhancements have been given in **section 5.0**. |
| Species of Principal Importance<br><br>Western European Hedgehog | NERC Act (2006) section 41 | Records of hedgehog were located within 2km of the site and suitable areas of habitat are located within the within areas of scrub and rough grassland. | It is considered that the development is unlikely to have a significant impact on this species of principal importance if recommendations in **section 5.0** are followed. |

## 5.0 Recommendations

### Habitats

5.1 It is recommended as a post-development enhancement new plantings are established within the proposed development increasing the value of habitats on the site. Species planted should include a diverse mixture of native tree and shrub species commonly used for planting hedgerows. The following provides a list of native plant species suitable for planting.

Trees

Silver Birch *Betula pendula*

Horn beam *Carpinus betulus*

Field maple *Acer campestre*

Cherry *Prunus avium*

Pedunculate Oak *Quercus robur*

Shrubs

Hazel *Corylus avellana*

Holly *Ilex aquifolium*

Blackthorn *Prunus spinosa*

Goat willow *Salix cinerea*

Elder *Sambucus nigra*

*Dogwood* Cornus sanguinea

*Wild privet* Ligustrum vulgare

*Dog rose* Rosa Canina

*Hawthorn* Crataegus monogyna

*Guelder rose* Viburnum opulus

**Badger**

5.2 There were no active setts recorded on-site or within 30 metres of the site and no evidence of foraging or commuting badger was recorded on-site. However the site is located within a semi-rural situation and it is considered that badgers may occasionally commute and forage through the site. During ongoing site works consideration must be given to the possibility of badgers entering the site. It is recommended that site excavations should be covered during night time to prevent badgers from falling and becoming trapped. If excavations are unable to be covered then a board should be placed within the hole overnight to ensure badgers a safe escape route.

**Bats**

5.3 The proposals should provide opportunities to enhance the site for roosting, foraging and commuting bats. New planting within the proposed development will encourage a richer diversity of invertebrates and provide enhanced foraging opportunities for bats post development. Where possible the proposed new buildings should incorporate bat roost features such as bat access tiles. To provide enhancements for roosting bats a total of four bat boxes will be erected with boundary trees within the site.

5.4 The tree highlighted with habitat value for roosting bats will be retained. To avoid impacts to foraging and commuting bats through lighting of retained tree line habitat along southern boundary it is

recommended a bat sensitive lighting scheme should be incorporated into the proposals, the Bat Conservation Trust offer advice on such schemes within their current guidance document *Bats and lighting – overview of current evidence and mitigation guidance* (Stone 2013).

**Breeding Birds**

5.5 Any clearance of vegetation should be carried out outside of the breeding bird survey season of March to August inclusive or following a nesting bird check by an appropriately qualified ecologist during the nesting season. This check must take place no more than 24 hours before the commencement of works. If during clearance a nesting bird is discovered, no works may occur within 5m of the nest until the young have fledged. To compensate the loss of suitable nesting suitable a total of 4 bird nest boxes should be installed within southern boundary trees at the site.

**Terrestrial Invertebrates including Stag Beetle**

5.6 To enhance habitat for invertebrate species log refugia should be created within the retained boundaries of the proposed development, any fallen deadwood present on the site should be retained and incorporated within log piles. Additional logs utilised to create the piles should matched the broad-leaf tree species present on site and should be cut to approximately 1.8m in length. The logs should be positioned upright within the ground to a depth of 60cm allowing 1.2m showing above ground level.

**Hedgehog**

5.7 The installation of log pile refugia within retained boundary habitats will increase the value of this site for hedgehog. The refugia should include approximately a $1m^2$of cut timber. Timber from trees removed at the site may be utilised. During clearance works at the site any suitable refuges such as log piles, dense leaf litter or scrub piles should be undertaken carefully, and dismantled by hand. Any hedgehogs found during the process should be carefully moved to the retained boundary habitats at the site and placed near the log pile refugia previously created.

## 6.0 Conclusions

6.1 The sites in general are considered of low ecological value with habitats comprising of common and widespread habitats types, the habitats of greatest value are the line of trees, these habitats will be retained. It is considered the site proposals will not have a negative impact on the surrounding statutory, non-statutory designated sites. Recommendations for further survey will fully asses the

presence or absence of widespread reptiles within the site and advise further mitigation or compensation if required. Mitigation recommended here, will reduce highlighted impacts to bats, badger and birds at the site. The proposed site enhancements will provide suitable habitat for a range of wildlife including invertebrates, hedgehog, breeding birds and bats.

# FIGURES

**Figure 1:** Grassland looking south east across site

**Figure 2**: Grassland looking west across site

**Figure 3:** scattered scrub and grassland at centre of site

**Figure 4:** low bramble scrub and grassland along s boundary

**Figure 5:** Southern boundary treeline looking south east

**Figure 6:** Southern boundary treeline looking west

**Figure 7:** fence line along the northern boundary

**Figure 8:** Tree of low habitat value for roosting bats

**Figure 9:** Dry stream to west of the site

# REFERENCES

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

English Nature 2001 Great Crested Newt Mitigation Guidelines

JNCC (2010) *Handbook for Phase 1 Ha77bitat Survey – a technique for environmental audit* Joint Nature Conservation Committee

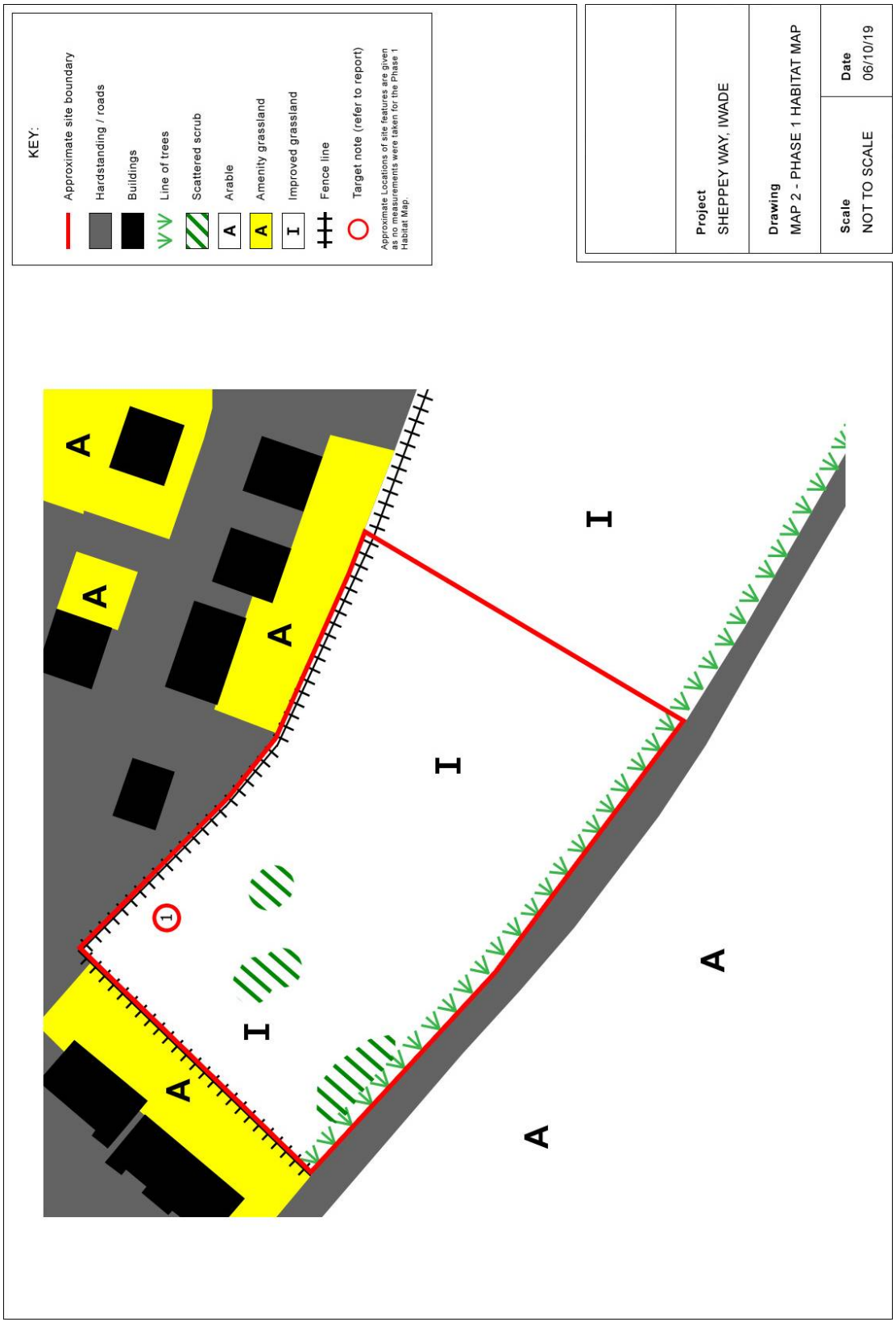
JNCC(2003) *Herptofauna Worker's Manual* Joint Nature Conservation Committee

MAGIC http://www.magic.gov.uk

Stone. E L (2013) *Bats and lighting – overview of current evidence and mitigation guidance*, Bat Conservation Trust

# MAP 1 – Site Location (approximate site boundary shown in red)

# MAP 2– Phase 1 Habitat Map



# MAP 3 – Location of tree with bat roost habitat value

# MAP 4 – Water body Locations

# ANNEX 1- LEGISLATION

**The following details legislation covering the protection of UK species highlighted in this report, the information provided should be taken as a general guide, rather than comprehensive. In all cases readers should consult the relevant legislative documents in full and where necessary obtain further legal advice.**

**Badgers**

Badgers are afforded protection under The Protection of Badgers Act 1992. Under this legislation the following are considered an offence:

- To wilfully, kill, injure, take, possess or cruelly ill treat a badger;
- To attempt to do so; or
- To intentionally or recklessly interfere with a sett.

Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it occupies a sett.

Section 3(a) of the Protection of Badgers Act 1992 makes it an offence for a person to interfere with a badger sett by disturbing a badger that is occupying the sett.

There are two elements in this offence:

- There must be an action, capable of disturbing a badger, which amounts to an interference with a sett, and
- A badger must be occupying the sett at the time of the disturbance.

The latter point is a question of fact i.e was there or was there not a badger occupying the sett when the alleged offence or action took place? However what constitutes an act capable of a disturbing badger occupying a sett is more difficult to determine.

The act does not define either interference or disturbance and we are not aware of any case law on the meaning of section 3(e) of the act. We therefore have to rely on the ordinary everyday meaning of the words. The Oxford Dictionary defines “to disturb” as:

- To agitate or destroy (quiet etc);
- To break up the quiet, tranquility;
- To stir up, trouble, disquiet, to agitate, to unsettle;
- To agitate mentally; and
- To interfere with the settled course of operations.

Disturbance is therefore something less than what might otherwise be considered damage to a sett – this distinction is recognised by the existence of two separate offences in the Act; one where there is damage to the sett and one for disturbance to a badger occupying a sett. However it is also something more than limited noise or activity near a sett at levels which badgers commonly tolerate.

**Birds**

The Wildlife and Countryside Act 1981 protects all birds, their nests and eggs, thus it is an

offence, with certain exceptions to intentionally:

- Kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Have in one's possession or control any wild bird (dead or alive) or any part of a wild bird which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Have in one's possession or control any egg or part of an egg which has been taken in contravention to the Act. This includes items taken or killed before the passing of the Act.
- Have in one's possession or control any live bird of prey of any species in the world (with the exception of vultures and condors) unless it is registered and ringed in accordance with the Secretary of State's regulations.
- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered (and in some cases ringed) in accordance with the Secretary of State's regulations.

- Disturb any wild bird listed on Schedule 1 (including barn owl) while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

**Bats**

In England & Wales all bat species are protected under **Annex II EC Habitats Directive 92/43/EEC**. This European legislation is implemented in the UK by the **Conservation (Natural Habitats, &c.) Regulations 2010**.

In addition bats are afforded protection under The Wildlife and Countryside Act 1981 (as amended) listed on schedule 5.

The above legislation makes it illegal to carry out the following activities:

- deliberately capture, injure or kill a bat
- deliberately disturb a bat, including in particular any disturbance which is likely to:
  impair the bats ability to survive, breed, reproduce or nurture their young.
  Impair their ability to hibernate or migrate, or
  To affect significantly the local distribution and or abundance of the species
- Damage or destroy a breeding place a breeding site or resting place of a bat
- Posess, control, transport exchange or sell a bat or parts of a bat dead or alive.

Additional conservation significance is afforded to four species of UK bats. Barbastelle, bechstein's and greater and Lesser horseshoe bats, These species are listed on **Annex II EC Habitats Directive 92/43/EEC**. The conservation of these species requires the designation of Special Areas of Conservation (SAC).

Activity that would result in the above offences being committed would require a EPS licence to avoid committing an offence. Natural England has powers to grant a licence

- preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment; or
- for the purpose of health and safety

Natural England can only issue a licence if it is satisfied that the activity meets one of the above purposes and is also satisfied of the following;

- there is no satisfactory alternative; and
- that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

In order to satisfy the above three tests Natural England and the LPA must be provided with survey information of sufficient quality. Without the survey information a licence/planning application cannot and should not be assessed or issued.

**Referenced from Bat Conservation Trust Guidelines (Collins 2016)**

**Widespread reptiles**

All common reptile species which includes grass snakes, adders, common lizards and slow worms, are protected by the Wildlife & Countryside Act, 1981. This legislation makes it illegal to intentionally kill or injure a common reptile.