EAST MALLING TRUST

DITTON EDGE,
EAST MALLING, KENT

Ecological Assessment

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ecology solutions for planners and developers

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1. INTRODUCTION

1.1. Background & Proposals

1.1.1. Ecology Solutions was instructed by East Malling Trust in May 2017 to undertake an ecological assessment of two parcels of land within its ownership, known as Ditton Edge and Parkside. This report is concerned with Ditton Edge.

1.1.2. Ecology Solutions was instructed in June 2018 to undertake a further ecological assessment as a result of an extension of the boundaries of Ditton Edge.

1.1.3. A Strategic Ecological Appraisal was produced by Lloyd Bore in November 2016, which included recommendations for further survey work.

1.2. Site Characteristics

1.2.1. The site is located to the west of Kiln Barn Road, Ditton, Kent and approximately 3km northwest of Maidstone. To the north of the site are three cul-de-sacs, Cherry Orchard, Brampton Field and Wilton Drive. To the south is a large area of agricultural land including the East Malling Horticultural Research Station with large areas of commercial orchards, a number of barns and other farm buildings. To the west of the site is an unnamed road with several houses and a large pond. The location of the site is shown in Plan ECO1.

1.2.2. The eastern area of Ditton Edge consists of a large area of pear orchard. To the north, south and east of the pear orchard is a windbreak of trees mostly consisting of Italian Alder *Alnus cordata*. There are three large farm buildings located within the south of the pear orchard, surrounded by hardstanding and recolonising ground. The west part of the site is an area of community allotment surrounded by semi-improved grassland. The east and west areas are separated by a public footpath. The application boundary includes part of Kiln Barn Road and adjacent land required for highways work to the east of the site.

1.3. Ecological Assessment

1.3.1. This document assesses the ecological interest of the site. The importance of the habitats within the site is evaluated with due consideration given to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)[1].

1.3.2. Where necessary, mitigation measures are recommended so as to safeguard any significant existing ecological interest within the site and, where appropriate, potential enhancement measures are put forward and reference made to both national and local biodiversity priorities (see Plan ECO8).

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

2. SURVEY METHODOLOGY

2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

2.2. Desk Study

2.2.1. In order to compile background information on the site and the surrounding area, Ecology Solutions contacted Kent and Medway Biological Records Centre (KMBRC).

2.2.2. Information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)[2] database which uses information held by Natural England and other organisations. This information is reproduced in Appendix 1.

2.3. Habitat Survey

2.3.1. A habitat survey was carried out by Ecology Solutions in June 2017 in order to ascertain the general ecological value of the site and to identify the main habitats and associated plant species. An update survey was undertaken in July 2018.

2.3.2. The site was surveyed based around extended Phase 1 survey methodology[3], as recommended by Natural England, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail.

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

2.3.4. All the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons. Survey work was undertaken within the optimal period for phase 1 and botanical surveys. Given the habitats present and the species evident at the time of the survey it is considered an accurate assessment has been made.

2.4. Faunal Survey

2.4.1. Obvious faunal activity, such as birds or mammals observed visually or by call during the course of the surveys, was recorded. Specific attention was paid to any potential use of the site by protected species, Biodiversity Action Plan (BAP) species, or other notable species.

[2] http://www.magic.gov.uk

[3] Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

2.4.2. In addition, specific surveys were undertaken in respect of Badger *Meles meles*, bats, Dormouse *Muscardinus avellanarius*, reptiles and Great Crested Newt *Triturus cristatus*. All surveys were undertaken by experienced surveyors.

2.5. **Badgers**

2.5.1. Ecology Solutions undertook a survey of Badger activity across the site and adjacent areas in June 2017.

2.5.2. The survey was extended to cover adjacent land of up to 30 metres away from the site, where possible, within habitat considered suitable for Badgers. This was considered necessary as any potential impacts which development at the site may have upon Badger setts located within adjacent habitat would also have to be considered.

2.5.3. Evidence of any Badger activity was identified in the following ways:

- Identification of Badger setts on the basis of their size and location;
- Inspection of spoil heaps for footprints or discarded hair;
- Presence of dung pits or latrines;
- Presence of well-used mammal pathways; and
- Presence of other indications of Badger activity including signs of foraging or hair caught in fences.

2.6. **Bats**

2.6.1. Field surveys were undertaken with regard to best practice guidelines issued by Natural England (2004[4]), the Joint Nature Conservation Committee (2004[5]) and the Bat Conservation Trust (2016[6]).

2.6.2. All trees within the site were assessed for their potential to support roosting bats. Features typically favoured by bats or evidence of past use by bats were searched for, including:

- Obvious holes, e.g. rot holes and old Woodpecker holes;
- Dark staining on the tree, below the hole;
- Tiny scratch marks around a hole from bats' claws;
- Cavities, splits and or loose bark from broken or fallen branches, lightning strikes etc.; and
- Very dense covering of mature Ivy over trunk.

2.6.3. An internal bat survey of Buildings B1 to B3 was undertaken in July 2018. The survey work was undertaken using (where necessary) a ladder, torch, endoscope, mirrors and binoculars. Internally, evidence of the presence of bats was also sought. Where appropriate, detailed search was made for bat droppings on the floor of the building (droppings can indicate present or past use by bats and extent of use). Other signs sought included dead

[4] Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.
[5] Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2004). *Bat Workers' Manual*. 3rd edition. Joint Nature Conservation Committee, Peterborough.
[6] Collins, J. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Edition. The Bat Conservation Trust, London.

animals, staining on beams or around crevices, and areas that were conspicuously cobweb-free.

2.6.4. Exterior checks of all buildings were also undertaken in order to search for signs of any use by bats. Binoculars were used to inspect any inaccessible areas more closely.

2.6.5. The probability of a building being used by bats as a summer roost site increases if it:

- is largely undisturbed;
- dates from pre-20th Century;
- has a large roof void with unobstructed flying spaces;
- has access points for bats (though not too draughty);
- has wooden cladding or hanging tiles; and / or
- is in a rural setting and close to woodland or water.

2.6.6. Conversely, the probability decreases if a building is of a modern or pre-fabricated design / construction, is in an urban setting, has small or cluttered roof voids, has few gaps at the eaves or is heavily disturbed.

2.6.7. In addition, the site was appraised in terms of their likely value for both foraging and commuting bats.

2.6.8. Three activity surveys were undertaken, one in each of June, July and August 2017, to establish any important areas for foraging and commuting bats within the site, and to identify the bat species present.

2.6.9. The surveys began approximately at sunset, ending approximately two hours after sunset. Each surveyor was equipped with an Echo Meter EM3 or EM3+ bat detector. The transects for the surveys were completed with the aim of taking in a variety of habitat types across the site (see Plans ECO3 to ECO5).

2.6.10. To bolster the survey effort across each month that the activity surveys were completed, a single automated SongMeter SM4 bat detector was deployed at a strategic location on the site for five nights (the detector location is shown in Plans ECO3 to ECO5). The detector recorded bat activity throughout these nights.

2.6.11. The bat data recorded during the course of the surveys was subsequently analysed using the Analook computer software package. Computer analysis of recorded ultrasound can assist in determining the species of any bats that have been detected.

2.7. **Dormice**

2.7.1. A nest tube survey for Dormice was undertaken in respect of suitable scrub and wooded habitats within and bordering the site. The surveys were commenced in June and were checked monthly until November 2017 inclusive.

2.7.2. Features of importance to Dormice include diverse well-structured hedgerows offering a range of food sources throughout the year. Good

arboreal links through the canopy layer of hedgerows / woodlands are required along with suitably dense cover for nest sites and good hibernation sites. Typical indicator tree / plant species include Hazel *Corylus avellana*, Honeysuckle *Lonicera periclymenum* and Bramble *Rubus fruticosus* agg., however a mix of other species (such as Oak *Quercus* sp., Ash *Fraxinus excelsior*, Sycamore *Acer pseudoplatanus*, Blackthorn *Prunus spinosa* and Hawthorn *Crataegus monogyna*) can prove equally important and it is the presence of food sources throughout the active period for Dormice, coupled with the presence of suitable hibernation sites that is of more importance than the presence / absence of any one key indicator species.

2.7.3. The survey technique involves the erection of nest tubes within all habitats in the survey area considered to be species-rich or of value to Dormice.

2.7.4. The Dormouse nest tubes utilised were those approved as standard by the Mammal Society. Nest tubes were placed in accordance with the guidance provided by the Mammal Society and Natural England[7]. Typically, tubes are placed within hedgerows and woodland approximately every 20 metres where suitable locations can be identified. The nest tubes were attached with wire ties underneath suitably sturdy horizontal branches and positioned on average at approximately 1.5 metres above ground level.

2.7.5. The survey has been scored for effort according to the method developed from the South West Dormouse Project (Chanin and Woods, 2003) and carried through in the second edition of *The Dormouse Conservation Handbook* (English Nature, 2006[8]). The system used provides an overall score that reflects the chances of Dormice being discovered if present, and thus provides an indicator of 'thoroughness' of a survey. This score is calculated based on the number of tubes used and the number of months the tubes were in place.

2.7.6. The months of the year are weighted according to the likelihood of recording Dormice as set out below.

Month	Weighting
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

Table 2.1. Monthly Score Weighting for Dormouse surveys (Chanin & Woods 2003).

2.7.7. The index of effort is calculated based on the use of 50 nest tubes as a standard minimum, with less tubes used proportionately reducing the

[7] Chanin P. & Woods M. (2003). *Surveying Dormice Using Nest Tubes – Results & Experiences from the South West Dormouse Project.* Research Report 524. English Nature, Peterborough.
[8] English Nature (2006). *The Dormouse Conservation Handbook*. English Nature, Peterborough.

overall score and more tubes proportionately increasing the score (i.e. 25 tubes halve the score and 100 tubes double the score).

2.7.8. A score of 20 (or above,) is deemed a thorough survey, and a score of 15 to 19 may be regarded as adequate where circumstances do not permit more time or more tubes (particularly if other survey methods have also proved negative).

2.7.9. The location of the Dormouse tubes is shown on Plan ECO6. Dormouse tubes numbered 1 to 24 were used at Ditton Edge and those numbered 25 to 68 were used at Parkside (in the wider East Malling Trust ownership). The total number deployed across both sites was 68 and all tubes were checked monthly from June to November 2017 inclusive. The effort score is greater than 20, which deems the survey as a thorough assessment.

2.8. **Reptiles**

2.8.1. A series of specific presence / absence reptile surveys were undertaken at the site between June and August 2017.

2.8.2. The methodology utilised principally derived from guidance given in Froglife Advice Sheet 10: Reptile Survey[9], the *Herpetofauna Workers' Manual*[10], the Herpetofauna Groups of Britain and Ireland's (HGBI) advisory note[11] and Natural England's Standing Advice for Reptiles[12].

2.8.3. The surveys followed the standard guidelines and utilised squares of thick roofing felt known as 'tins' which were cut to approximately 0.5m x 0.5m. The tins provide shelter and heat up quicker than the surroundings in the morning and can remain warmer than the surroundings in the late afternoon. Being ectotherms (cold-blooded), reptiles use them to bask under to raise their body temperature which allows them to forage earlier and later in the day.

2.8.4. The distribution of the reptile tins was completed on 1 June 2017. Ecology Solutions placed 33 reptile tins within suitable habitat across the site (namely the areas of rough grassland) in accordance with relevant guidelines. This gave the tins a suitable 'bedding in' period of nine days before surveys were commenced. The locations of the tins are shown in Plan ECO7.

2.8.5. The tins were checked seven times during suitable weather conditions between June and August 2017, in line with the survey guidelines.

2.9. **Great Crested Newts**

2.9.1. The Habitat Suitability Index (HSI) for the Great Crested Newt, developed by Oldham *et al.* (2000), was applied to accord with guidance set out by the National Amphibian and Reptile Recording Scheme. The survey of the

[9] Froglife (1999) *Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.
[10] Gent, T and Gibson, S. (2003). *Herpetofauna Workers' Manual*. JNCC, Peterborough.
[11] Herpetofauna Groups of Britain and Ireland (HGBI). (1998). *Evaluating Local Mitigation / Translocation Programmes: Maintaining Best Practice and Lawful Standards*.
[12] Natural England (2011). Standing Advice for Reptiles.
http://www.naturalengland.org.uk/Images/Reptile%20feb11_tcm6-21712.pdf

ponds and ditches located to the northwest of the site was undertaken in July 2018.

2.9.2. The HSI is a numerical index in which scores between 0 and 1 indicate the suitability of habitat. The scoring system is shown in Table 2.2 below. Certain variables can only be gauged accurately between May and September and as the pond was surveyed in July, an indicative assessment of the pond was made.

HSI Score	Pond Suitability
<0.5	Poor
0.5 – 0.59	Below Average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Table 2.2. Habitat Suitability Index (HSI) Scores Summary.

3. ECOLOGICAL FEATURES

3.1. Habitat surveys were undertaken within the site by Ecology Solutions in June 2017 and July 2018.

3.2. The following main habitat / vegetation types were identified within the site:

- Commercial Pear Orchard;
- Buildings;
- Hardstanding;
- Recolonising Ground;
- Semi-improved Grassland;
- Trees;
- Community Allotment;
- Scrub;
- Amenity Grassland; and
- Windbreak.

3.3. The location of these habitats is shown on Plan ECO2.

3.4. Commercial Pear Orchard

3.4.1. The majority of the east of the site is a commercial pear orchard with short mown grassland between the trees (see Photograph 1). Species recorded within this area include Yorkshire Fog *Holcus lanatus*, Soft Brome *Bromus hordeaceus*, Cockspur *Echinochloa crus-galli*, Wall Barley *Hordeum murinum*, Red Fescue *Festuca rubra*, Perennial Rye Grass *Lolium perenne*, Dandelion *Taraxacum officinale*, Ribwort Plantain *Plantago lanceolata*, Greater Plantain *Plantago major*, Groundsel *Senecio vulgaris*, Ragwort *Senecio jacobaea*, Field Horsetail *Equisetum arvense*, Fat-hen *Chenopodium album*, Creeping Buttercup *Ranunculus repens*, Scentless Mayweed *Tripleurospermum inodorum*, Broad-leaved Willowherb *Epilobium montanum* and Wild Carrot *Daucus carota*.

3.5. Buildings

3.5.1. Three buildings are present on site. Building B1 is a double height single storey, breeze block and corrugated asbestos structure with a peaked corrugated asbestos roof (see Photograph 2). The roof of the building contains a number of clear plastic skylights. Building B1 is currently used to store farm equipment and wooden storage boxes.

3.5.2. Building B2 has a similar build to Building B1 but the roof does not contain any clear plastic skylights (see Photograph 3). The building is currently in use as a store for farming equipment.

3.5.3. Building B3 is a metal-framed structure with a corrugated asbestos roof.

3.6. Hardstanding

3.6.1. The area immediately surrounding Buildings B1 to B3 is comprised of hardstanding and recolonising bare ground (see Photographs 2 and 3). Species recorded in the cracks and edges of the hardstanding include Barren Brome *Anisantha sterilis*, Yorkshire fog, Perennial Rye Grass,

Knotgrass *Polygonum aviculare*, Redshank *Persicaria maculosa*, Hawkweed *Hieracium murorum agg.*, Smooth Sow-thistle *Sonchus oleraceus*, Ribwort Plantain, Greater Plantain, Common Poppy *Papaver rhoeas*, Common Mouse-ear *Cerastium fontanum*, Broad-leaved Willowherb *Epilobium montanum*, White Clover *Trifolium repens*, Prickly Lettuce *Lactuca serriola*, Scentless Mayweed, Bramble *Rubus fruticosus*, Raspberry *Rubus idaeus*, White Bryony *Bryonia dioica* and Elder *Sambucus nigra*.

3.6.2. The application boundary includes part of Kiln Barn Road running along the eastern boundary of the site proper.

3.7. **Recolonising Ground**

3.7.1. Species associated with the recolonising bare ground surrounding Buildings B1 to B3 include Cleavers *Galium aparine*, Common Mallow *Malva sylvestris*, Broad-leaved Willowherb, Prickly Sow-thistle *Sonchus asper*, Prickly Lettuce, Fennel *Foeniculum vulgare*, Round-leaved Cranesbill *Geranium rotundifolium*, Fat-hen, Yarrow *Achillea millefolium*, Pineappleweed *Matricaria discoidea*, Creeping Thistle *Cirsium arvense*, Common Nettle *Urtica dioica*, Bramble, Field Bindweed *Convolvulus arvensis*, White Bryony and Elder.

3.8. **Semi-improved Grassland**

3.8.1. The borders of the site are predominantly grassland that is regularly mown (see Photograph 1). The boundary at the west of the pear orchard adjacent to the public footpath has become dominated by taller species. Species recorded in 2018 include Yorkshire Fog, Perennial Rye Grass, Wall Barley, Rough Meadow Grass *Poa trivialis,* False Oat-grass *Arrhenatherum elatius*, Cow Parsley *Anthriscus sylvestris*, Creeping Thistle, Common Nettle, Bramble, Spear Thistle *Cirsium vulgare*, Common Mallow, Prickly Lettuce, Great Willowherb *Epilobium hirsutum*, Ragwort, Yarrow, Mugwort *Artemisia vulgaris*, Bramble, Broad-leaved Dock *Rumex obtusifolius*, Ivy *Hedera helix*, Hedge Bindweed *Calystegia sepium*, Black Horehound *Ballota nigra*, Dog Rose *Rosa canina*, Silver Birch *Betula pendula* and Elder.

3.8.2. Additional species noted to the north and west of the pear orchard during the course of the 2017 survey include Yorkshire Fog*,* Perennial Rye Grass*,* Annual Meadow-grass *Poa annua,* Soft Brome, Red Fescue*,* Rough Meadow Grass*,* Cocksfoot *Dactylis glomerata,* Wall Barley*,* Cat's-ear *Hypochaeris radicata,* Ragwort*,* Common Mallow *Malva sylvestris,* Ribwort Plantain *Plantago lanceolata*, Cow Parsley, Broad-leaved Dock*,* Common Nettle *Urtica dioica,* Prickly Lettuce*,* White Clover*,* Dandelion*,* Creeping Thistle, Cleavers, Daisy *Bellis perennis,* Creeping Buttercup, Curled Dock *Rumex crispus*, Prickly Sow-thistle *Sonchus asper,* Spotted Medick *Medicago arabica*, Dovesfoot *Cranesbill Geranium molle,* Spear Thistle, Black Medick*,* Black Horehound*,* White Dead-Nettle *Lamium album,* Yarrow*,* Field Bindweed*,* Perforate St. Johns-wort *Hypericum perforatum,* Rough Hawkbit *Leontodon hispidus,* Garlic Mustard *Alliaria petiolata,* Mugwort*,* Creeping Cinquefoil *Potentilla reptans*, Hop Trefoil *Trifolium campestre* and Scentless Mayweed*.*

3.8.3. An unmanaged area of semi-improved grassland is present within the west of the site surrounding the community allotments (see Photograph 5). Species noted within the community allotments include Yorkshire Fog, Rough Meadow Grass, False Oat-grass *Arrhenatherum elatius,* Cocksfoot, Perennial Rye Grass, Timothy *Phleum pratense,* Red Clover *Trifolium pratense*, Ribwort Plantain, Bramble, Common Nettle, Dandelion, Daisy, Prickly Lettuce, Smooth Sow-thistle, Broad-leaved Dock, Field Bindweed, Creeping Thistle, Hedge Cranesbill G*eranium pyrenaecium*, Fat Hen, Common Poppy *Papaver rhoeas*, Ragwort, Cow Parsley, Cleavers, Hedge Bindweed and Willow *Salix* sp.

3.8.4. Additional species noted in 2017 include Common Couch *Elymus repens,* Annual Meadow-grass, Wall Barley, Barren Brome, Red Fescue, Soft Brome, Nipplewort *Lapsana communis,* Cut-leaved Cranesbill *Geranium dissectum,* Hedge Woundwort *Stachys sylvatica*, Long Headed Poppy *Papaver dubium,* Common Field Speedwell *Veronica persica,* Spearmint *Mentha spicata*, Hedge Mustard *Sisymbrium officinale*, Wild Mignonette *Reseda lutea*, Bristly Oxtongue *Picris echioides,* Tufted Vetch *Vicia cracca*, Red Dead-nettle *Lamium purpureum,* Corncockle *Agrostemma githago*, Oxeye Daisy *Leucanthemum vulgare*, Hogweed *Heracleum sphondylium,* Cornflower *Centaurea cyanus*, Charlock *Sinapis arvensis*, Welsh Poppy *Meconopsis cambrica,* Shepherd's Purse *Capsella bursa-pastoris*, Common Cat's-Ear, Green Alkanet *Pentaglottis sempervirens*, Black Horehound, Common Mallow, Russian Comfrey *Symphytum x uplandicum*, Butterfly Bush *Buddleja davidii,* White Clover, Bittersweet *Solanum dulcamara*, Fennel, Yarrow, Prickly Sow-thistle and Petty Spurge *Euphorbia peplus.*

3.9. **Trees**

3.9.1. There are two mature trees located on the western boundary of the pear orchard. A London Plane *Platanus* x *hispanica* is located at the northern end of the public footpath and an Ash is located at the southern end.

3.10. **Community Allotments**

3.10.1. The majority of the west of the site is taken up by community allotments. The plots are surrounded by areas of semi-improved grassland (see Photograph 4).

3.11. **Scrub**

3.11.1. A strip of scrub is present adjacent to Kiln Barn Road in the east of the site. Dominant species include Bramble, Dog Rose, Clematis and Hedge Bindweed.

3.12. **Amenity Grassland**

3.12.1. A small area of well managed amenity grassland is present adjacent to Kiln Barn Road in the east of the site.

3.13. **Windbreak**

3.13.1. The majority of the north, south and east of the site has a border of Italian Alder. Other species noted in 2018 include Garden Privet *Ligustrum*

ovalifolium, Yew *Taxus baccata*, Hazel, Elder, Sycamore, Hawthorn, Cherry *Prunus avium,* Honeysuckle, Ivy, Dog Rose, Clematis *Clematis vitalba*, Hop *Humulus lupulus*, White Bryony, Common Toadflax *Linaria vulgaris*, Prickly Sow-thistle, Smooth Sow-thistle, Common Mallow, Cow Parsley, Garlic Mustard, Black Horehound, Cleavers, Mugwort, Wood Avens *Geum urbanum*, Wild Carrot and Bittersweet *Solanum dulcamara*.

4. WILDLIFE USE OF THE SITE

4.1. General observations were made during the surveys of any faunal use of the site, with specific attention paid to the potential presence of protected species.

4.2. Badgers

4.2.1. No signs of use by Badgers were recorded during survey work undertaken in the immediate area of the site. It is considered that the site offers reasonable foraging and dispersal opportunities for any locally present social group.

4.2.2. Records from KMBRC show Badgers within close proximity to the site. In 2014 an individual was recorded at the recreation ground approximately 0.1km northeast of the site, while in 2012 another was recorded at a location approximately 0.5km to the south.

4.3. Bats

4.3.1. There are three buildings within the site. All buildings were identified as having negligible bat roosting potential. A large London Plane with four bat boxes is present on the northern boundary (see Plan ECO2), but one box is missing a door and the boxes are generally in poor condition and covered in cobwebs (see Photograph 6). The site provides reasonable foraging opportunities mainly along the margins.

Transect Surveys

4.3.2. Three transect surveys were completed between June and August 2017 inclusive. For timings and conditions see Table 4.1 below and for detailed results see Appendix 2 tables A2.1 to A2.3.

Date	14.06.17	31.07.17	28.08.17
Survey Type	Activity Transect	Activity Transect	Activity Transect
Sunset	21:15	20:46	19:52
Survey Start	21:25	20:46	19:54
Survey End	23:57	22:53	22:23
Cloud Cover (%)	50	30	20
Temperature (°C)	16-18	10-16	16-22
Weather & Wind	Dry, calm	Dry, light breeze	Dry, calm

Table 4.1. Bat Activity Transect survey conditions and timings.

4.3.3. During the transect on 14 June a high level of activity was recorded with the majority of registrations attributed to Common Pipistrelle *Pipistrellus pipistrellus*. Other species recorded were Soprano Pipistrelle *Pipistrellus pygmaeus*, Noctule *Nyctalus noctula*, Leisler's Bat *Nyctalus leisleri* and Brown Long-eared Bat *Plecotus auritus*. The earliest record was 14 minutes after sunset and attributed to a Leisler's Bat.

4.3.4. Three species were recorded on 31 July. The majority of records were attributed to Common Pipistrelle. Soprano Pipistrelle and Noctule were also recorded. The earliest record was attributed to a Noctule at seven minutes after sunset.

4.3.5. The majority of the records on 28 August were attributed to Common Pipistrelle. Soprano Pipistrelle and Brown Long-eared Bat were also recorded. The earliest record was 26 minutes after sunset and attributed to a Common Pipistrelle.

4.3.6. During the transect surveys bat activity was high, particularly in the east of the site surrounding the orchards and along the windbreak.

Static Detectors

4.3.7. A static detector was placed beneath the London Plane tree with the existing bat boxes for three sets of five nights during June to September 2017 inclusive. Detailed results are shown in Appendix 2 tables A2.4 to A2.6.

4.3.8. The majority of activity during 12 to 16 June was attributed to Common Pipistrelle, with over 2500 registrations. A single registration of Nathusius' Pipistrelle *Pipistrellus nathusii* was recorded 90 minutes after sunset on 12 June. The earliest record was three minutes after sunset and attributed to a Noctule Bat. Other species recorded include Soprano Pipistrelle, Leisler's Bat, Brown Long-eared Bat, Serotine *Eptesicus serotinus* and a number of registrations from unidentified larger bats (i.e. Noctule, Leisler's Bat and Serotine) and *Myotis* sp.

4.3.9. During 22 to 26 July the majority of activity was attributed to Common Pipistrelle. The earliest record was attributed to a Noctule 21 minutes before sunset. Other species recorded include Soprano Pipistrelle, Nathusius' Pipistrelle and a number of unidentified larger bats and *Myotis* sp.

4.3.10. The majority of activity during 30 August to 3 September was attributed to Common Pipistrelle. The earliest registration was eight minutes after sunset and attributed to Common Pipistrelle. A Noctule was recorded one minute before sunrise. Soprano Pipistrelle, Nathusius' Pipistrelle, Brown Long-eared Bat and a number of unidentified larger bats and *Myotis* sp. were also recorded.

4.3.11. The most frequently recorded species during the activity and remote surveys was Common Pipistrelle with social calls suggesting the presence of multiple individuals. Other species frequently recorded include Noctule and Soprano Pipistrelle. Low numbers of Leisler's Bat, Serotine, Nathusius' Pipistrelle, Brown Long-eared and *Myotis* sp. registrations were recorded during the surveys.

4.3.12. The earliest registrations were most often attributed to Noctules and Pipistrelle sp., often less than 30 minutes after sunset. The time of the registrations after sunset suggest there are Pipistrelle and Noctule roosts within or close to the site.

4.3.13. Records from KMBRC show ten species of bat within 3km of the site in the last 20 years (1997-2017). There are a number of roosts within 2km of the site. The closest is a hibernating bat recorded approximately 0.7km east of the site and a Soprano Pipistrelle maternity roost 1km east of the site with 42 individuals, both recorded in 2015. A mixed hibernation roost is known from approximately 4.5km northeast of the site.

4.3.14. There were 13 records returned for Serotine Bat. The closest record is from approximately 1km west of the site, recorded in 2008. The most recent record is from 2012, approximately 3.3km north of the site, which is north of the M20 motorway.

4.3.15. One hundred and one records for Daubenton's Bat *Myotis daubentonii* were returned. The closest and most recent record relates to a grounded bat approximately 1.8km northeast of the site in 2016.

4.3.16. Fifty-one records of Natterer's Bat *Myotis nattereri* were returned. The closest record is approximately 1.8km northeast of the site, dating from 2000.

4.3.17. There are eight records of Whiskered Bat *Myotis mystacinus*. The closest record is approximately 1.2km north of the site, dating from 2001.

4.3.18. Ten records were returned for Leisler's Bat. The closest record is within 100m of the site, dating from 2001. The most recent record is from 2014, approximately 3.5km east of the site.

4.3.19. Fifty-three records of Noctule were returned with the closest being approximately 1km east of the site, dating from 2015. In 2016, one was recorded around 2.5km north of the site. A Noctule roost was present in 2008, approximately 4.6km to the south of the site.

4.3.20. Two records of Nathusius' Pipistrelle were returned. The closest record is approximately 2.9km to the northwest of the site, dating from 2003. In 2013, an individual was recorded approximately 4.3km east of the site.

4.3.21. One hundred and fifty records of Common Pipistrelle were returned by the KMBRC. The closest record relates to a grounded bat approximately 0.4km north of the site, dating from 2001. The most recent record was in 2016, approximately 1.9km northwest of the site. An unknown roost type was present in 2013, approximately 2km to the northwest of the site.

4.3.22. There were 68 records returned for Soprano Pipistrelle. The closest was recorded approximately 1km west of the site, in 2005. In 2016, an individual was recorded 3.7km west of the site.

4.3.23. Eighty-one records for Brown Long-eared Bat were returned by the data search. The closest record relates to a location approximately 1km west of the site, dating from 2011. In 2016, a grounded bat was recorded 3.1km west of the site. Two Brown Long-eared Bat roosts were recorded close to the site. An unknown roost type was present approximately 1km south of the site in 2003. In 2009, a maternity roost was present approximately 1.6km south of the site.

4.4. **Dormouse**

4.4.1. The results of the surveys carried out are summarised in Table 4.2 below and are illustrated on Plan ECO6.

Date	Tube / Box No.	Results	Location
14.06.17	-	Nothing found	-
21.07.17	6	Empty nest (not Dormouse)	Northern treeline
11.08.17	-	Nothing found	-
30.08.17	6	Empty nest (not Dormouse)	Northern treeline
05.09.17	6	Empty nest (not Dormouse)	Northern treeline
11.10.17	6	Empty nest (not Dormouse)	Northern treeline
11.10.17	7	Empty nest (not Dormouse)	Northern treeline
14.11.17	6	Empty nest (not Dormouse)	Northern treeline
14.11.17	7	Empty nest (not Dormouse)	Northern treeline

Table 4.2. Dormouse survey results 2017.

4.4.2. No confirmed evidence of the presence of Dormice was recorded during the site survey. Two empty unknown nests were found during a survey in tube 6 on the 21 July and tube 7 on the 11 October. Both tubes are located on the northern treeline, and neither nest is considered to represent evidence of Dormouse presence. It is considered that the habitats present within and surrounding the site offer limited foraging and dispersal opportunities for the species.

4.4.3. Records from KMBRC show the last record of a Dormouse was in 1998 approximately 3.3km southwest of the site.

4.5. Other Mammals

4.5.1. An American Mink *Neovison vison* or Otter *Lutra lutra* was recorded in Pond P1 approximately 0.5km west of the site. There are no habitats suitable for either species within the site.

4.5.2. The site provides opportunities for a number of mammal species of no conservation concern. The site provides opportunities for a number of mammal species of no conservation concern.

4.5.3. Records from KMBRC show a number of other mammal species present close to the site. In 2010 Water Vole *Arvicola amphibius* was recorded approximately 1.1km to the west. In 2009 Water Shrew *Neomys fodiens* and Common Shrew *Sorex araneus* were recorded approximately 1.4km southeast of the site. Hedgehog *Erinaceus europaeus* was recorded approximately 0.9km southeast of the site in 2008. In 2012, Roe Deer *Capreolus capreolus* was recorded approximately 1.1km to the southwest.

4.6. **Birds**

4.6.1. Wood Pigeon *Columba palumbus*, House Sparrow *Passer domesticus*, Great Tit *Parus major*, Starling *Sturnus vulgaris* and Chaffinch *Fringilla coelebs* were recorded within or directly over the site during the initial survey conducted by Ecology Solutions in June 2017.

4.6.2. Pied Wagtail *Motacilla alba*, Green Woodpecker *Picus viridis*, Blackbird *Turdus merula*, Wood Pigeon, Chaffinch, Yellowhammer *Emberiza citrinella*, Wren *Troglodytes troglodytes* , Dunnock *Prunella modularis*, Magpie *Pica pica*, Swift *Apus apus*, House Sparrow, Long-tailed Tit *Aegithalos caudatus*, Blue Tit *Cyanistes caeruleus*, Great Tit and Whitethroat *Sylvia communis* were recorded on, directly over or immediately adjacent to the site during the update survey in July 2018.

4.6.1. The tree line along the north and east of the site provides reasonable potential for breeding birds. The pear orchard is likely to provide a good feeding source for wintering thrushes such as Fieldfare *Turdus pilaris* and Redwing *Turdus iliacus*.

4.6.2. Records from KMBRC returned a number of notable bird species (listed in the Annex I of the Birds Directive and / or Schedule 1 of the Wildlife and Countryside Act 1981) within the search area. All species were seen in the 1km grid square approximately 1.2km southwest of the site. Most recently these include Brambling *Fringilla montifringilla*, Fieldfare and Redwing in 2016 and Little Egret *Egretta garzetta*, Peregrine *Falco peregrinus*, Mediterranean Gull *Larus melanocephalus*, Osprey *Pandion haliaetus* and Black Redstart *Phoenicurus ochruros* in 2015. In 2014 Hobby *Falco subbuteo* and Kingfisher *Alcedo atthis* were recorded. Common Crossbill *Loxia curvirostra*, Green Sandpiper *Tringa ochropus* and Glossy Ibis *Plagadis falcinellus* were recorded in 2010. Merlin *Falco columbarius* and Red Kite *Milvus milvus* were recorded in 2007, and a Hoopoe *Upupa epops* was recorded in 2004.

4.7. **Reptiles**

4.7.1. No reptiles were recorded during the surveys from June to August 2017. Details on conditions and timings are shown in Table 4.3 below. A single Grass Snake *Natrix helvetica* was recorded in Pond P2, approximately 0.5km west of the site, during the July 2018 survey. A recently created log pile was recorded within the semi-improved grassland within the community allotments during the July 2018 survey (see Photograph 5).

Date	Time	Cloud Cover (%)	Temp (˚C)
14.06.17	17:30	60	18
28.06.17	10:00	70	17
30.06.17	09:30	10	18
06.07.17	08:30	10	18
14.07.17	12:00	40	17
21.07.17	09:00	60	17
01.08.17	09:00	100	17

Table 4.3. Reptile survey conditions and timings.

4.7.2. The site is subject to a regular management regime which will restrict the opportunities for common reptiles and prevent the establishment of a sward structure commonly associated with suitable reptile habitat. The site lies in close proximity to areas that were recorded as supporting Common Lizard *Zootoca vivipara,* Slow Worm *Anguis fragilis* and Grass Snake, but it is apparent from the results that the existing management regime discourages colonisation.

4.7.3. Records from KMBRC returned four records of Common Lizard, the closest was within 100m of the site in 2010. Six records were returned for Slow Worm. The closest record relates to a location approximately 0.6km north of the site, dated from 2010. The only record of Grass Snake was recorded in 2004, 1.2km west of the site. Adder *Vipera berus* was reported approximately 3km southwest of the site in 1999 and 1998.

4.8. **Amphibians**

4.8.1. No amphibians were recorded within the site during the survey work. There is a lack of waterbodies on site and the terrestrial habitat is of limited suitability for amphibians. A recently created log pile and small flooded sink were recorded within the semi-improved grassland within the community allotments during the July 2018 survey (see Photograph 5).

4.8.2. The Habitat Suitability Index assessment carried out on the ponds and ditches to the northwest of the site indicate that they are of average to poor quality for Great Crested Newts (see Table 4.4 below). Given that all the ponds and ditches are associated with the East Malling Stream, and therefore have at least a slight flow, the suitability for amphibians is reduced.

Index	Ditch D1	Ditch D2	Ditch D3	Ditch D4	Pond P1	Pond P2	Pond P3
Location A = optimal B = marginal C = unsuitable	B	B	B	B	B	B	B
Pond Area (m^2)	250	150	600	270	6600	180	180
Permanence 1 = never dries 2 = rarely dries 3 = sometimes dries 4 = dries annually	1	1	1	1	1	2	1

Water Quality 1 = good 2 = moderate 3 = poor 4 = bad	2	2	2	2	3	2	2
Shade (% Perimeter)	80	100	70	40	60	80	60
Fowl	Absent	Absent	Minor	Absent	Major	Absent	Absent
Fish 1 = absent 2 = possible 3 = minor 4 = major	1	1	3	3	4	1	1
Pond Count	3	3	3	3	3	3	3
Terrestrial Habitat 1 = good 2 = moderate 3 = poor 4 = none	3	2	2	3	2	3	2
Macrophytes (%, Excluding Duckweed)	10	0	80	80	20	70	20
HSI	**0.61**	**0.54**	**0.68**	**0.64**	**0.27**	**0.64**	**0.67**
Pond Suitability	**Average**	**Below Average**	**Average**	**Average**	**Poor**	**Average**	**Average**

Table 4.4. Habitat Suitability Index Results.

4.8.3. One record of Great Crested Newt was returned within the last 20 years. This was from 2.1km west of the site in 2004. KMBRC returned 19 records for Common Toad *Bufo bufo* and six for Smooth Newt *Lissotriton vulgaris*. Both these species were recorded on a private residence approximately 0.1km east of the site in 2010. The most recent record of Smooth Newt dates from 2011 and relates to a location approximately 0.8km west of the site. Twenty-five records were returned for Common Frog *Rana temporaria*. The closest record relates to a location approximately 0.3km northwest of the site and dates from 2012. Common Frog was most recently recorded in 2013, at a location approximately 1km southwest of the site. In 2005 Palmate Newt *Lissotriton helveticus* was recorded at a location 1.2km northeast of the site. This was the closest and most recent of two records returned.

4.9. **Invertebrates**

4.9.1. Given the habitats present it is likely an assemblage of common invertebrate species would be present within the site. There appears to be little potential for notable species using the commercial orchards within the site due to the heavy use of insecticides.

4.9.2. The site lies in close proximity to areas recorded to support Stag Beetle *Lucanus cervus*. It is unlikely the site is being used as there is no presence of dead wood or large trees with standing dead wood.

4.9.3. KMBRC returned 36 records of Stag Beetle in the last 20 years. The closest record is located around 0.1km southeast of the site in 2013. The only record of White-letter Hairstreak *Satyrium w-album* is from 2009, approximately 2km northwest of the site.

5. ECOLOGICAL EVALUATION

5.1. The Principles of Ecological Evaluation

5.1.1. The guidelines for ecological evaluation produced by CIEEM propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.

5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe[13]. These are broadly used across the United Kingdom to rank sites so priorities for nature conservation can be attained. For example, current Sites of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.

5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological / geographical units are also incorporated into the ranking procedure.

5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.

5.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with a comparatively poor species diversity, common in the south of England, may be of importance at its northern limits, say in the border country.

5.1.6. In addition, habitats of local importance are often highlighted within a local Biodiversity Action Plan (BAP).

5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the international level.

5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

5.2. Habitat Evaluation

Designated Sites

5.2.1. The site is not subject to any statutory or non-statutory designation. A number of statutory and non-statutory sites are located within 3km of the site (see Plan ECO1).

5.2.2. **Statutory Sites:** The closest SSSI designated for biological purposes is Holborough to Burham Marshes SSSI which lies approximately 2.7km north of the site (See Plan ECO1). An area in the north of the SSSI is also

[13] Ratcliffe, D A (1977). *A Nature Conservation Review: The Selection of Study areas of Biological National Importance to Nature Conservation in Britain*. Two Volumes. Cambridge University Press, Cambridge.

designated as a Special Area of Conservation (SAC) for its large population of Great Crested Newts. The site falls within the Impact Risk Zone associated with Holborough to Burham Marshes SSSI. Natural England consider development within these zones may have the potential to affect the SSSI.

5.2.3. Proposed development requiring consultation with Natural England in respect of this SSSI is limited to certain categories such as residential developments of over 100 units and proposals with liquid waste discharges not to mains sewerage. Given the spatial separation, the geological topography and the existing intervening development, infrastructure and agricultural land, including the M20 motorway, it is considered unlikely that development at the site will have any adverse effects upon this SSSI and the associated SAC during the construction or operational phases.

5.2.4. Ditton Quarry Local Nature Reserve (LNR) is situated 0.2km east of the site. It is also listed as Local Wildlife Site (LWS) but was originally designated for its geological importance.

5.2.5. **Non-statutory Sites:** The nearest non-statutory designation is Ditton Quarry LWS, which includes Ditton Quarry LNR. Five plant species rare to Kent have been recorded at the quarry, but it is unlikely that development at the site will have any major adverse effects on this locally designated site. Best practice methods should be employed during the construction phase of development at the site to limit potential pollution (dust, noise, surface runoff etc.) and ensure protection of the LWS.

5.2.6. Oaken Wood LWS is situated approximately 1.3km to the south of the site. Owing to the spatial separation, it is unlikely development at the site will have any adverse effects upon this locally designated site.

5.2.7. Six areas of ancient and semi-natural woodland are located within 2km of the site. The majority of Oaken Wood LWS is a plantation on an ancient woodland site.

5.2.8. A number of additional statutory and non-statutory sites are located in the wider area (see Plan ECO1), but no significant adverse effects are anticipated given their spatial separation.

Habitats

5.2.9. The habitats within the site consist of common and widespread species and are of no intrinsic ecological interest. Their removal to facilitate development at the site is of no significance. The two mature trees present on site are of moderate ecological interest. These trees are to be retained under current proposals.

5.2.10. Corncockle and Cornflower were recorded in the margins of the community allotment area in 2017. These two species are rare wildflowers of arable land, and it is not clear how they came to be in this location. It seems mostly likely that they have been sown by hand at some point in the past rather than being a naturally occurring remnant of the former land uses of the wider area, though this is a possibility.

5.2.11. It is recommended that the landscape strategy for the proposed development incorporate, wherever possible, native species of local provenance and those of known value to wildlife.

5.3. Faunal Evaluation

Badgers

5.3.1. **Legislation.** The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is, in fact, common over most of Britain, with particularly high populations in the southwest.

5.3.2. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of Badger setts an offence. A sett is defined as, *"any structure or place which displays signs indicating current use by a Badger"*, by current Natural England guidance.

5.3.3. In addition, the intentional elimination of sufficient foraging area used to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a Badger.

5.3.4. Any work that disturbs Badgers is illegal without a licence granted by Natural England. The 1992 Act makes specific provision for the granting of licences for development purposes, including for the destruction of setts.

5.3.5. It should be noted that a licence cannot be issued until the site is in receipt of planning permission, and that generally licences are not granted between December and June inclusive to avoid disruption to the Badger breeding cycle.

5.3.6. **Site Usage.** No Badgers were recorded during any surveys. However, there are recent records which show presence of Badgers close to the site.

5.3.7. **Mitigation.** A check survey will be undertaken prior to the commencement of development to ensure there is no active use of the site. The potential exists for Badgers to roam into areas where construction is underway and become trapped in trenches and / or excavate new setts in piles of subsoil or disturb chemicals that may be being used for development. The following measures will be followed throughout the construction phase of development:

- All site personnel will be made aware of the potential presence of this species and the appropriate steps required to ensure the safety of Badgers while on site;
- Inclines and mounds of loose soil present ideal habitats for Badgers seeking to establish new setts; therefore, during the construction process, all dug ground and loose soil will be levelled and compacted wherever possible. This will prevent Badgers from attempting to excavate setts prior to completion of the works and causing potential disruption;

- Planks will be left in any uncovered trenches to provide any Badger that may stray onto the site with an escape route;

- Any open trenches will be checked at the beginning of each day, to ensure that Badgers are not present, and at the end of each day, to ensure that the means of escape remain in place;

- Tools and loose materials will be stored in an appropriate container in order to reduce the risk of injury to Badgers that come onto the site;

- Fires and chemicals will not be used within 20 metres of a sett, and no fires or chemicals should be left unsupervised anywhere on the site; and

- Any open pipework greater than 150mm outside diameter will be blanked off at the end of each working day to prevent Badgers from entering the pipework.

Bats

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

- Deliberately to kill, injure or take (capture) bats;
- Deliberately to disturb bats in such a way as to:-
  (i) be likely to impair their ability to survive, to breed or rear or nurture their young; or to hibernate or migrate; or
  (ii) affect significantly the local distribution or abundance of the species to which they belong;
- To damage or destroy any breeding or resting place used by bats;
- Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).

5.3.9. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.

5.3.10. The offence of damaging (making worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

5.3.11. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:

- the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
- there must be no satisfactory alternative; and
- the favourable conservation status of the species concerned must be maintained.

5.3.12. Licences can usually only be granted if the development is in receipt of full planning permission.

5.3.13. **Site Usage.** Eight species were confirmed to be using the site during the surveys that took place between June and September 2017. Common Pipistrelle, Soprano Pipistrelle and Noctule bats were the most frequently recorded. Common Pipistrelles had a particularly high registration count. Nathusius' Pipistrelle, Brown Long-eared Bat and number of larger bat species (Noctule, Leisler's Bat and / or Serotine) and *Myotis* sp. were recorded less frequently. Both Common and Soprano Pipistrelle are given extra protection as Priority Species in Kent.

5.3.14. The results of the bat survey work undertaken suggest that bats are roosting close to the site due to the short time after sunset which they were detected. The site provides foraging opportunities in the form of trees and hedge margins.

5.3.15. **Mitigation and Enhancements.** There is no requirement for a Natural England European Protected Species licence on the results of the surveys completed. It is recommended that, where possible, the proposals retain current boundary features and incorporate landscape planting based on native species or species of known wildlife value. Development works should be planned and carried out in a manner that does not detrimentally impact any bats that may be using the on-site habitats. Any lighting used to assist construction or installed as part of the development should not cause any significant increase in illumination above the current levels. The provision of three Schwegler 1FF bat boxes on retained trees would establish new roosting opportunities within the site (see Plan ECO8). Provided that these recommendations are followed, development at the site is not likely to have any significant effects on locally present bat species, with all species likely to be retained at a favourable conservation status.

Dormice

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

- Deliberately to kill, injure or take (capture) Dormice;
- Deliberately to disturb Dormice in such a way as to:-
  (i) be likely to impair their ability to survive, to breed or rear or nurture their young, or to hibernate or migrate; or
  (ii) affect significantly the local distribution or abundance of the species;
- To damage or destroy any breeding or resting place used by Dormice;
- Intentionally or recklessly to obstruct access to any place used by Dormice for shelter or protection (even if Dormice are not in residence).

5.3.17. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if it was not the primary purpose of the act.

5.3.18. European Protected Species licences are available from Natural England in certain circumstances, and permit activities that would otherwise be considered an offence.

5.3.19. In accordance with the Habitats Regulations, Natural England must apply the three derogation tests as part of the process of considering a licence application. These tests are that:

- the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
- there must be no satisfactory alternative; and
- the favourable conservation status of the species concerned must be maintained.

5.3.20. Licences can usually only be granted if the development is in receipt of full planning permission.

5.3.21. **Site Usage.** No confirmed evidence of the presence of Dormice was recorded during the site survey. Two empty unknown nests were recorded in the northern treeline, but these are not considered to be evidence of Dormice. Records from KMBRC show the last record of a Dormouse was in 1998, approximately 3.3km southwest of the site. The lack of records and limited suitability for Dormouse mean it is unlikely that they are using the site.

5.3.22. The nature of the proposed development is such that there is no likelihood of adverse effects during construction and operation. In summary Dormice are not thought likely to be present, but if they were the potential habitat is being retained and safeguarded. Therefore, development at the site is not likely to cause a significant adverse effect and no Natural England licence would be required.

5.3.23. **Mitigation and Enhancements.** Any new landscape planting should include species of known value to Dormice such as Blackthorn, Hawthorn and Honeysuckle.

Hedgehogs

5.3.24. **Legislation.** Hedgehogs are not a protected species, but they are a priority species under section 41 of the Natural Environment and Rural Communities Act 2006. The NERC Act 2006 requires the Secretary of State to:

…take such steps as appear…to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or…promote the taking by others of such steps.

5.3.25. **Site Usage.** Hedgehogs were not recorded during survey work, but the habitat is suitable, and they are known to be present in the local area.

5.3.26. **Mitigation and Enhancement.** New residential gardens will offer new potential habitat for small mammals, including Hedgehogs. It is recommended that garden fences be provided with a 'Hedgehog Gateway', a 13cm x13cm section of fence cut out at the base, to facilitate dispersal for Hedgehogs and other small animals. This will enhance permeability of the new development for wildlife.

Birds

5.3.27. **Legislation.** Section 1 of the Wildlife and Countryside Act 1981 (as amended) is concerned with the protection of wild birds, whilst Schedule 1 lists species that are protected by special penalties. All species of birds receive general protection whilst nesting.

5.3.28. **Site Usage.** A small number of bird species were recorded during the course of the habitat surveys completed by Ecology Solutions, none of which are of any conservation concern or indicate the site is of any elevated ornithological value.

5.3.29. **Mitigation and Enhancements.** The removal of suitable nesting habitat should only be completed outside the nesting bird season (outside of March to July inclusive), or during this period after a survey by an experienced ecologist has confirmed the absence of any active nests. Where new planting is proposed this should be based around native species or species of known wildlife value that would provide additional foraging and nesting opportunities. The provision of five Schwegler bird boxes post-development, including Schwegler Sparrow Terraces on new buildings, would provide new nesting opportunities at the site (see Plan ECO8).

Reptiles

5.3.30. **Legislation.** All reptile species receive protection under legislation in the UK. Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis* receive full legal protection in England due to their status as scarce, rather local species. Which are highly unlikely to be present within the adjacent habitats.

5.3.31. The other reptile species, namely Slow Worm, Common Lizard, Grass Snake and Adder, are common and widespread across the country. As such, these species receive only partial protection under the Wildlife and Countryside Act 1981 (as amended) being protected from deliberate killing or injury, their habitat receiving no statutory protection.

5.3.32. **Site Usage.** No reptiles were recorded during the surveys from June to August 2017. A single Grass Snake was recorded in Pond P2, approximately 0.5km west of the site, during the July 2018 survey. The majority of the habitat on site is subject to a regular management regime which will restrict the opportunities for common reptiles.

5.3.33. **Mitigation and Enhancements.** It is recommended that two hibernacula are created to provide opportunities for common reptiles (see Plan ECO8). The removal of boundary scrub, log piles and other habitat with the potential for reptiles should be undertaken with care.

Amphibians

5.3.34. **Legislation.** Great Crested Newts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017. These include provisions making it an offence:

- Deliberately to kill, injure or take (capture) Great Crested Newts;
- Deliberately to disturb Great Crested Newts in such a way as to:-
  (i) be likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate or migrate; or
  (ii) affect significantly the local distribution or abundance of the species to which they belong;
- To damage or destroy any breeding or resting place used by Great Crested Newts;
- Intentionally or recklessly to obstruct access to any place used by Great Crested Newts for shelter or protection.

5.3.35. Common Toads are listed as a species of principal importance under section 41 of the NERC Act 2006 and are afforded the same protection as Hedgehogs.

5.3.36. **Site Usage.** The site currently offers limited foraging and hibernation opportunities for common amphibian species. The recently created log pile and sink style pond in the semi-improved grassland in the west of the site offer limited opportunities for these species. The HSI carried out on the ponds and ditches to the northwest of the site indicate that they are of average to poor quality for Great Crested Newts. Given that all the ponds and ditches are associated with the East Malling Stream, and therefore have at least a slight flow, the suitability for amphibians is reduced. There are no records of Great Crested Newt within 2km of the site.

5.3.37. **Mitigation and Enhancements.** It is recommended that two hibernacula are created to provide opportunities for amphibians (see Plan ECO8). Any attenuation ponds should be designed with opportunities for amphibians. The removal of boundary scrub, log piles and other habitat with the potential for amphibians should be undertaken with care.

Invertebrates

5.3.38. **Legislation.** Stag Beetles are protected internationally, under the Habitats Directive Annex II. The species is also protected nationally under Schedule 5 of the Wildlife & Countryside Act (1981), making it illegal to trade in the species without an appropriate licence.

5.3.39. **Site Usage.** No Stag Beetles were recorded during the course of the habitat surveys. However, they have been recorded in close proximity to the site in 2013. There is no potential habitat for this species on site.

5.3.40. **Mitigation and Enhancements.** The provision of two log piles amongst potential habitat is a recommended form of enhancement for this species (see Plan ECO8). Any attenuation ponds should be designed with opportunities for invertebrates. It is recommended that new planting include species rich grassland and other native species with known value to wildlife.

6. PLANNING POLICY CONTEXT

6.1. The planning policy framework that relates to nature conservation at the site is issued nationally through the National Planning Policy Framework and locally through the documents of the Tonbridge and Malling Core Strategy and Development Plans.

6.2. National Policy

National Planning Policy Framework

6.2.1. Guidance on national policy for biodiversity and geological conservation is provided by the NPPF, published in March 2012 and revised on 24 July 2018. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).

6.2.2. The key element of the NPPF is that there should be "a presumption in favour of sustainable development" (paragraphs 10 to 11). It is important to note that this presumption "does not apply where development requiring Appropriate Assessment because of its potential impact on a habitats site is being planned or determined" (paragraph 177). 'Habitats site' has the same meaning as the term 'European site' as used in the Habitats Regulations 2017.

6.2.3. A Government consultation is currently underway to address the difficultly presented by paragraph 177 in light of the People Over Wind case, which is considered further below. Paragraphs 39 to 42 of the consultation paper are as follows:

39. Following the ruling of the European Court of Justice on case C323/17 (*People over Wind, Peter Sweetman v Coillte Teoranta*), we propose to make one additional clarification to national planning policy.

40. The effect of the ruling is that appropriate assessment of habitats impacts is required in plan-making and decision-making whenever there is a potential impact on a habitats site, regardless of any mitigation measures proposed.

41. One of the measures which the National Planning Policy Framework takes to protect habitats sites is to disengage the presumption in favour of sustainable development where there is potential for harm to these sites. However the judgment means that sites with suitable mitigation are now excluded from the application of the presumption, which was not the intention of the policy.

42. To rectify this we propose to amend paragraph 177 of the Framework to make clear that the presumption is disapplied only where an appropriate assessment has concluded that there is no suitable mitigation strategy in place. The revised paragraph would read:

177. The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an

appropriate assessment has concluded that there will be no adverse effect from the plan or project on the integrity of the habitats site.

6.2.4. Hence the direction of Government policy is clear; that is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect.

6.2.5. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 170).

6.2.6. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.

6.2.7. Paragraphs 174 to 176 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential SPAs, possible SACs, listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or deterioration of 'irreplaceable' habitats – unless there are 'wholly exceptional reasons' (for instance, infrastructure projects where the public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

6.2.8. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

6.3. Local Policy

Tonbridge and Malling Core Strategy (adopted September 2007)

6.3.1. The Local Planning Authority is Tonbridge and Malling Borough Council. The Core Strategy was adopted in September 2007, and contains three policies concerned in whole or part with nature conservation.

6.3.2. Policy CP1 is concerned with sustainable development. It specifies that the council will balance the need of development against the need to protect and enhance the natural environment.

6.3.3. Policy CP8 is concerned with SSSIs. It specifies that the council will not be permitted where it would directly or indirectly cause material harm to the scientific or nature conservation interest of a SSSI.

6.3.4. Policy CP25 regards the mitigation of development impacts. It specifies that where a development that causes material harm to a natural resource

is justified, appropriate mitigation measures will be required to minimise or counteract any adverse impacts.

Managing Development and the Environment: Development Plan Document (Adopted April 2010)

6.3.5. This Development Plan Document was adopted in April 2010, and contains seven policies concerned in whole or part with nature conservation.

6.3.6. Policy NE1 is concerned with Local Sites of wildlife, geographical and geomorphological interest. It specifies that where development adversely affects any LWS or LNR mitigation must be put in place.

6.3.7. Policy NE2 is concerned with habitat networks. It specifies that the biodiversity of the borough and in particular priority habitats, species and features will be protected, conserved and enhances. It also states the restoration and creation of new habitats will be pursued to contribute to the UK and Kent BAP targets.

6.3.8. Policy NE3 regards the impacts on local biodiversity. It specifies that development that adversely affects biodiversity or the value of wildlife habitats will only be permitted if mitigation is provided. It goes on to say that proposals must make provision for the retention of the habitat and protection of wildlife links. It also states that the council will impose conditions where necessary and appropriate to minimise the effects of disturbance and habitat removal.

6.3.9. Policy NE4 is concerned with Trees, Hedgerow and Woodland. It specifies that the extent of tree cover and any hedgerow network must be retained or enhanced. It also states that provision should be made for the creation of new woodland and hedgerow with indigenous species.

6.3.10. Policy OS1 regards the protection of open space. It specifies that any development that results in a loss, or reduction, of the nature conservation or biodiversity value of a site must provide a replacement site. This replacement should be equivalent or better in terms of quality, quantity and accessibility. Contributions towards the enhancement of listed sites will also be accepted.

6.3.11. Policy OS3 is concerned with the standards of open space. It states that any new open space on, or off site, should be located, where possible, to provide connection to a current area of open space or wildlife corridor. It also specifies that the maintenance of the open space should support natural habitat creation and wildlife migration.

6.3.12. Policy OS5 is concerned with the Green Infrastructure Network. It specifies that any open space provided must, where possible, have a safe connection with the existing network. It also says that the open space should, and be managed to, provide opportunities for habitat creation and species migration.

Tonbridge and Malling Local Plan: Regulation 19 Pre-Submission Publication (September 2018)

6.3.13. This document is still in development, with expected adoption in 2019. There are currently four policies concerned in whole or part with nature conservation. Although not currently adopted, this draft Local Plan will shape the future of decision making within the borough.

6.3.14. Policy LP11 concerns designated sites and states that the council will apply the relevant policy in line with NPPF.

6.3.15. Policy LP13 is concerned with local natural environment designations. The policy states that development must protect and where possible enhance Local Wildlife Sites, Local Nature Reserves, Public open spaces, allotments and Priority Habitats.

6.3.16. Policy LP14 is concerned with achieving high quality sustainable design and states that development should, where practicable and proportionate, be designed to maximise opportunities for achieving net biodiversity.

6.3.17. Policy LP19 concerns habitat protection and creation. Policy LP19 states that major developments should provide opportunities for habitat creation, and that this is most important where development is within a Principal Green Corridor (the site is not).

6.4. **Discussion**

6.4.1. The development proposals at the site at East Malling would be assessed against the policies summarised above. It is considered that the site is of intrinsically low ecological interest. Mitigation procedures may need to be considered to ensure proposed development at the site does not affect Ditton Quarry LNR. Redevelopment of the site presents the opportunity to implement local biodiversity enhancements. In summary, it is considered that the relevant policy requirements will be met.

7. SUMMARY AND CONCLUSIONS

7.1. Ecology Solutions was instructed by East Malling Trust in May 2017 to undertake an ecological assessment of two parcels of land within its ownership, known as Ditton Edge and Parkside. This report is concerned with Ditton Edge.

7.2. Ecology Solutions was instructed to undertake a further ecological assessment in June 2018 as a result of an extension of the boundaries of Ditton Edge.

7.3. The site is located to the west of Kiln Barn Road, Ditton, Kent and approximately 3km northwest of Maidstone. To the north of the site are three cul-de-sacs, Cherry Orchard, Brampton Field and Wilton Drive. To the south is a large area of agricultural land including the wider East Malling Horticultural Research Station with large areas of commercial orchards, a number of barns and other farm buildings. To the west of the site is an unnamed road with several houses and a large pond.

7.4. The site was subject to a range of surveys from June 2017. These were an extended Phase 1 survey including Badger survey, bat surveys, Dormouse surveys and reptile surveys.

7.5. The eastern area of Ditton Edge consists of a large area of pear orchard. To the north, south and east of the pear orchard is a windbreak of trees mostly consisting of Italian Alder *Alnus cordata*. There are three large farm buildings located within the south of the pear orchard, surrounded by hardstanding and recolonising ground. The west part of the site is an area of community allotment surrounded by semi-improved grassland. The east and west areas are separated by a public footpath. The application boundary includes part of Kiln Barn Road and adjacent land required for highways work to the east of the site.

7.6. **Statutory Sites.** The closest SSSI designated for biological purposes is Holborough to Burham Marshes SSSI which lies approximately 2.9km north of the site. Given the spatial separation, the geological topography and the intervening development, infrastructure and agricultural land, including the M20 motorway, it is considered unlikely that the development at the site will have any direct, indirect or in-combination adverse effects upon the SSSI and associated SAC, be it during the construction or operational phases. Ditton Quarry LNR is situated only 0.2km east of the site. The is also listed as a LWS but was originally designated for its geological importance.

7.7. **Non-statutory Sites.** The nearest such site is Ditton Quarry LWS, which includes Ditton Quarry LNR. Best practice methods should be employed during the construction phase of development at the site to limit potential pollution (dust, noise, surface runoff etc.) and ensure protection of the LWS. Oaken Wood LWS is situated approximately 1.3km to the south of the site. Owing to the spatial separation, it is unlikely that development will have any adverse effects upon this locally designated site.

7.8. **Habitats.** The habitats within the site consist of common and widespread species, and of no intrinsic ecological interest. Their removal to facilitate development at the site is of no significance. The two mature trees present on site are of moderate ecological interest. These trees are to be retained under current proposals.

7.9. Corncockle and Cornflower were recorded in the margins of the community allotment area in 2017. These two species are rare wildflowers of arable land, and it is not clear how they came to be in this location. It seems mostly likely that they have been sown by hand at some point in the past rather than being a naturally occurring remnant of the former land uses of the wider area, though this is a possibility.

7.10. It is recommended that any landscape strategy accompanying development incorporate native species of local provenance, and those of known value to native wildlife wherever possible.

7.11. **Badgers.** No Badger setts or signs were recorded within or immediately adjacent to the site. Recent records were returned by KMBRC, showing the presence of Badgers close to the site. It is possible that roaming Badgers could become trapped in trenches and / or excavate new setts in piles of subsoil, or disturb chemicals that may be being used for development. Appropriate mitigation measures will be put in place to prevent this.

7.12. **Bats.** There are no trees on site which have been identified as offering potential roosting features for bats. However, there are areas in close proximity that support roosts of common species. The site provides some favourable foraging potential particularly along the site margins. The site is expected to be of low significance in terms of the favourable conservation status of any locally present bat species. Therefore, mitigation should involve the retention or creation of open space and planting of native species particularly along site margins. The provision of three Schwegler 1FF bat boxes on retained trees would establish new roosting opportunities on the site.

7.13. **Dormice.** No confirmed evidence of the presence of Dormice was recorded during the site survey. The last known record of a Dormouse was in 1998 approximately 3.3km southwest of the site, which makes the presence of Dormice on site unlikely.

7.14. **Birds.** A small number of bird species were recorded during the course of the habitat survey completed by Ecology Solutions in June 2017. Removal of any nesting habitat should be completed outside the nesting season or only during this period following checks by an experienced ecologist to confirm an absence of any nests. The provision of five Schwegler bird boxes post-development, including Schwegler Sparrow Terraces on new buildings, would provide new nesting opportunities at the site.

7.15. **Reptiles.** No reptiles were recorded during the surveys that took place between June and August 2017. A single Grass Snake was recorded in Pond P2, approximately 0.5km west of the site, during the July 2018 survey. The site is subject to a regular management regime which will restrict the opportunities for common reptiles and prevent the establishment of a sward structure commonly associated with suitable reptile habitat. It is recommended that two hibernacula are created to provide opportunities for common reptiles. The removal of boundary scrub, log piles and other habitat with the potential for reptiles should be undertaken with care.

7.16. **Amphibians.** No amphibians were recorded within the site during the survey work. There is a lack of waterbodies on site and the terrestrial habitat is of limited suitability for amphibians. The Habitat Suitability Index assessment carried out on the ponds and ditches to the northwest of the site indicate that they are of

average to poor quality for Great Crested Newts. Given that all the ponds and ditches are associated with the East Malling Stream, and therefore have at least a slight flow, the suitability for amphibians is reduced. It is recommended that two hibernacula are created to provide opportunities for amphibians. Any attenuation ponds should be designed with opportunities for amphibians. The removal of boundary scrub, log piles and other habitat with the potential for amphibians should be undertaken with care.

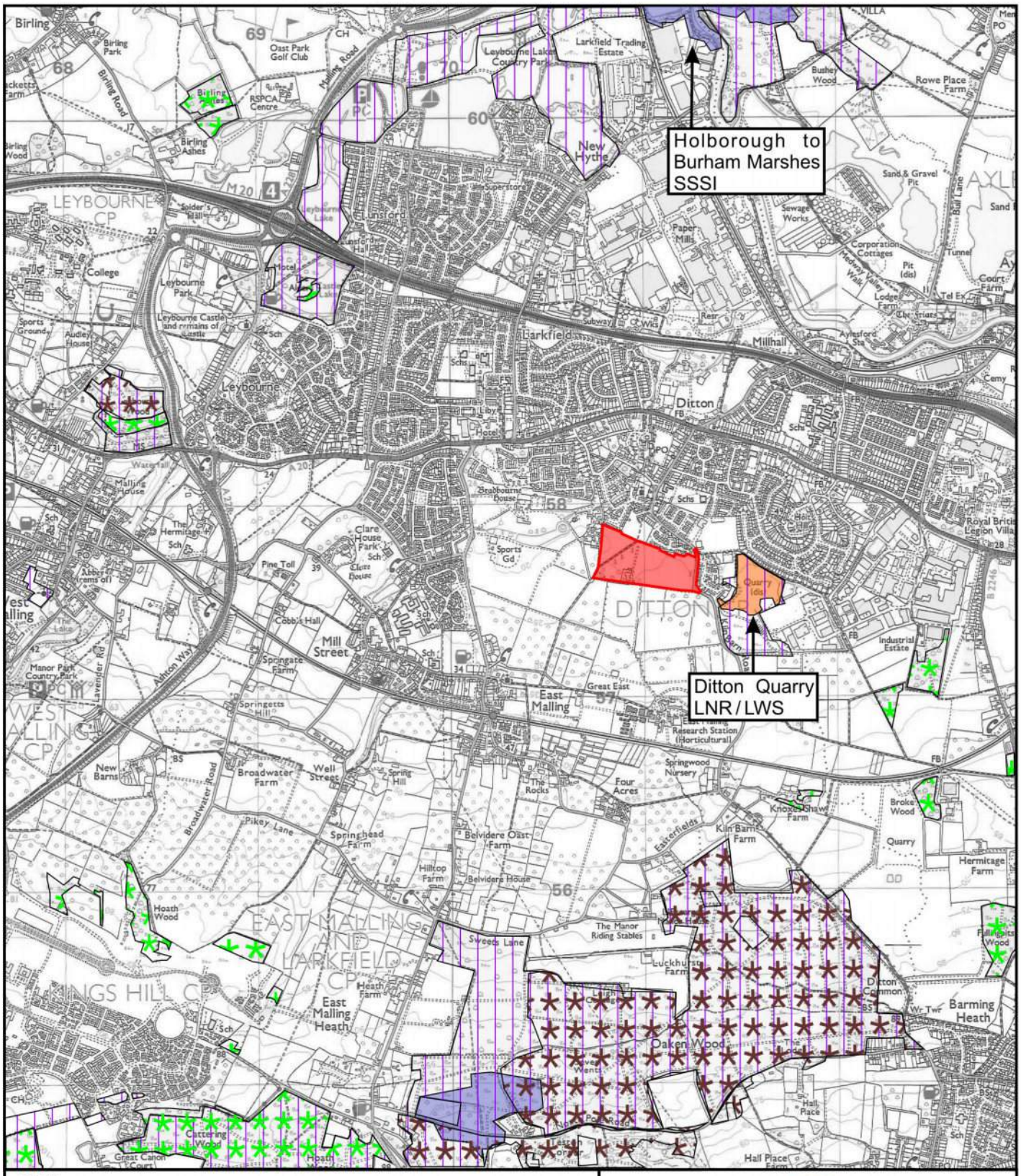
7.17. **Invertebrates.** Stag Beetles were not found to be present on site, though the large number of records nearby indicates that there are local populations. The creation of two log piles in suitable areas would improve the site for this species. Any attenuation ponds should be designed with opportunities for invertebrates. It is recommended that new planting include species rich grassland and other native species with known value to wildlife.

7.18. In summary, the site is not subject to any statutory or non-statutory nature conservation designations. Protective measures are recommended to avoid any impact on the nearby LNR and LWS. The site does offer some potential for foraging bats and nesting birds. Nevertheless, with good design and the adoption of safeguards as detailed within this report it is considered that adverse effects could be avoided or adequately mitigated. Overall it is considered that there are no overriding ecological constraints to development at the site, which would accord with relevant planning policies.

PLANS

PLAN ECO1

Site Location and Ecological Designations



KEY:

- SITE LOCATION
- SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
- LOCAL NATURE RESERVE (LNR)
- LOCAL WILDLIFE SITE (LWS)
- ANCIENT & SEMI-NATURAL WOODLAND
- ANCIENT REPLANTED WOODLAND

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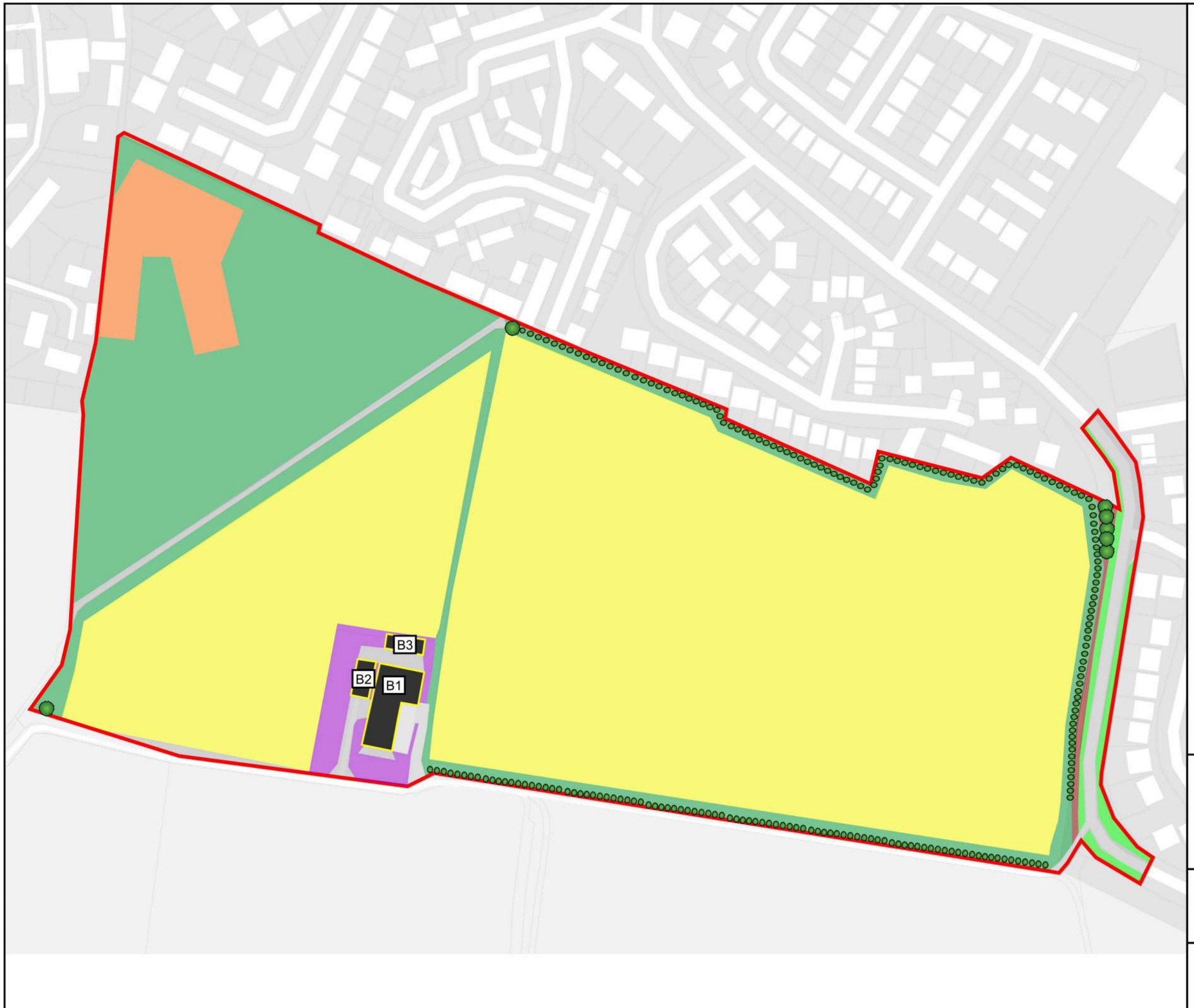
7480: DITTON EDGE, EAST MALLING, KENT

PLAN ECO1: SITE LOCATION AND ECOLOGICAL DESIGNATIONS

PLAN ECO2

Ecological Features



KEY:

- SITE BOUNDARY
- COMMERCIAL PEAR ORCHARD
- SEMI-IMPROVED GRASSLAND
- COMMUNITY ALLOTMENT
- BUILDING
- REGENERATING GROUND
- HARDSTANDING
- AMENITY GRASSLAND
- SCRUB
- MATURE TREE
- WINDBREAK

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PLAN ECO2:
ECOLOGICAL FEATURES

PLAN ECO3

Bat Activity Survey Results 14.06.17

KEY:

- SITE BOUNDARY
- NUMBER OF REGISTRATIONS (x2)
- FLIGHT PATH
- TRANSECT ROUTE
- CHECK POINT
- COMMON PIPISTRELLE
- SOPRANO PIPISTRELLE
- NOCTULE BAT
- LEISLER'S BAT
- BROWN LONG-EARED BAT
- STATIC BAT DETECTOR

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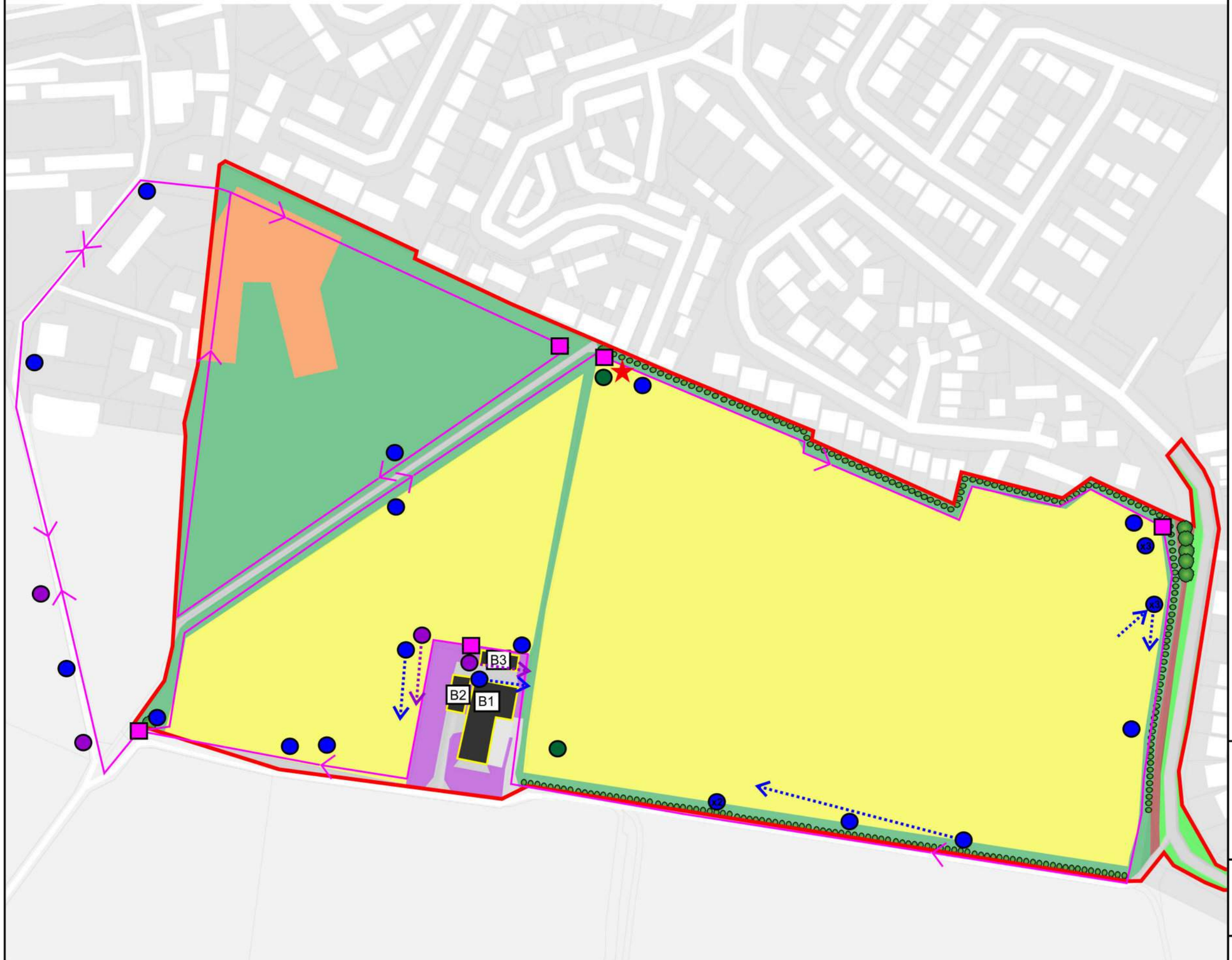
EAST MALLING, KENT

PLAN ECO3:
BAT ACTIVITY SURVEY
RESULTS 14.06.17

PLAN ECO4

Bat Activity Survey Results 31.07.17



KEY:

- SITE BOUNDARY
- NUMBER OF BATS SEEN
- FLIGHT PATH
- TRANSECT ROUTE
- CHECK POINT
- COMMON PIPISTRELLE
- SOPRANO PIPISTRELLE
- NOCTULE BAT
- STATIC BAT DETECTOR

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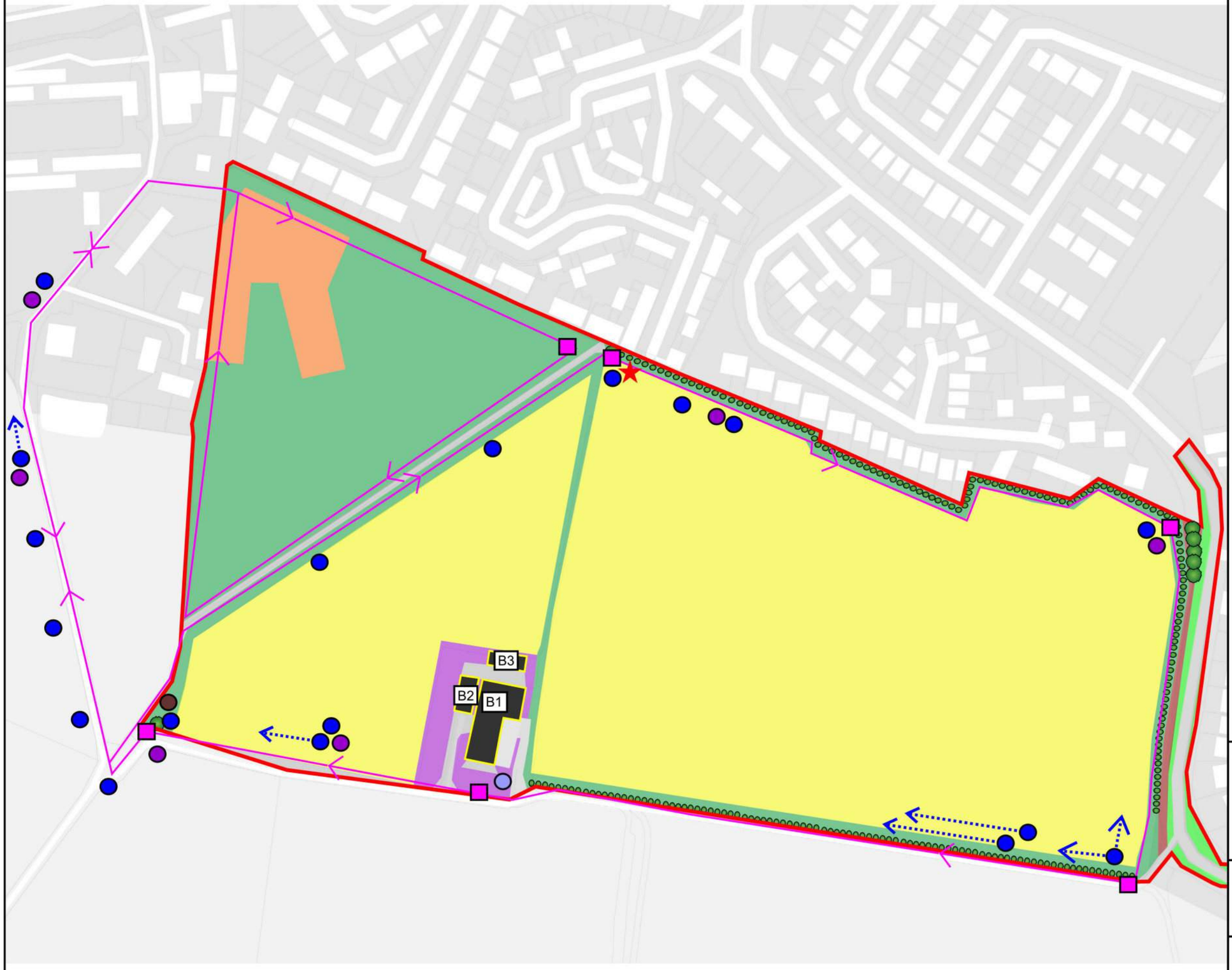
PLAN ECO4:
BAT ACTIVITY SURVEY
RESULTS 31.07.17

PLAN ECO5

Bat Activity Survey Results 28.08.17



KEY:

- SITE BOUNDARY
- FLIGHT PATH
- TRANSECT ROUTE
- CHECK POINT
- COMMON PIPISTRELLE
- SOPRANO PIPISTRELLE
- PIPISTRELLE SP.
- BROWN LONG-EARED BAT
- STATIC BAT DETECTOR

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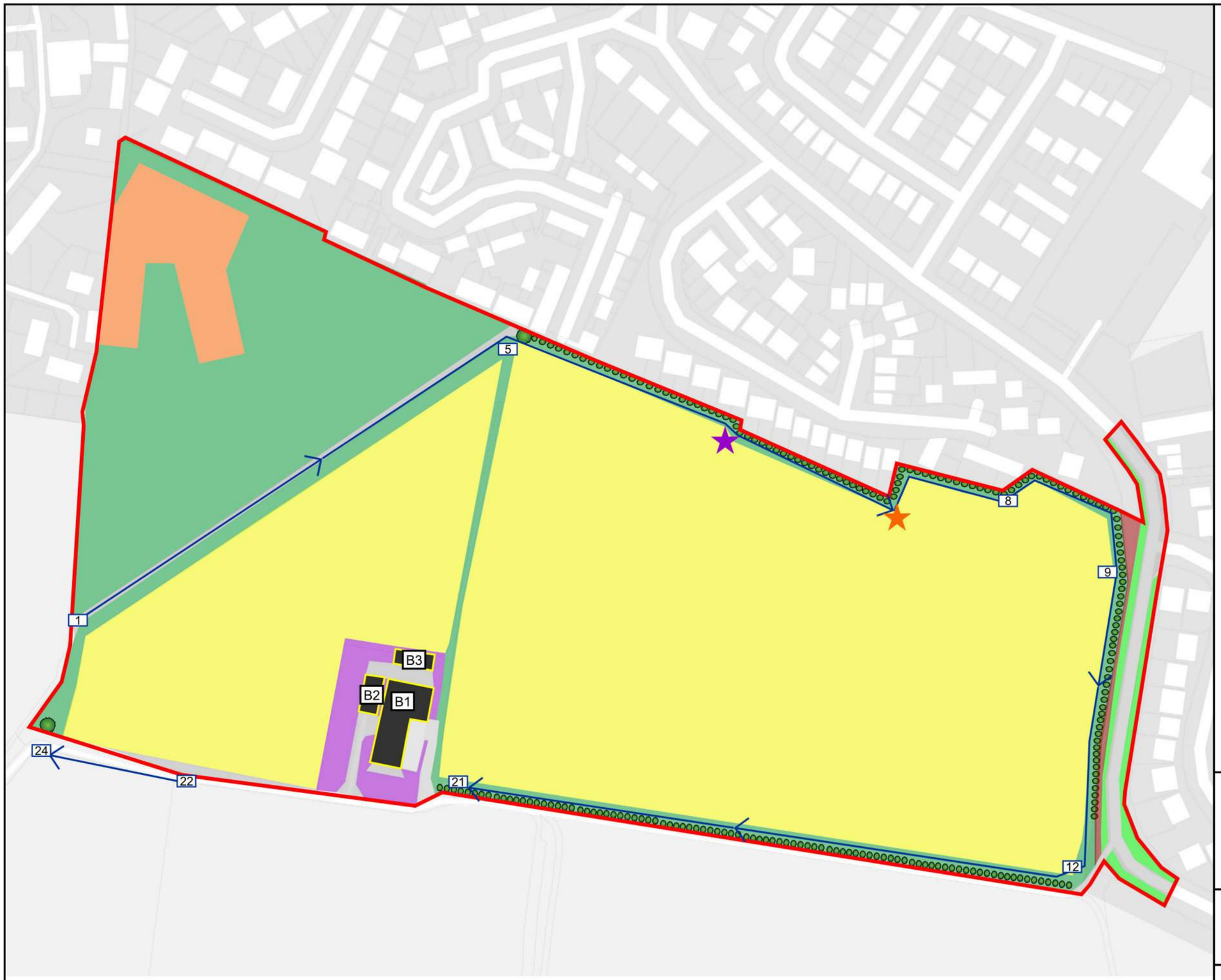
PLAN ECO5:
BAT ACTIVITY SURVEY
RESULTS 28.08.17

PLAN ECO6

Dormouse Survey Results



KEY:

- SITE BOUNDARY
- DORMOUSE TUBES
- EMPTY NEST FOUND 21.07.17 (NOT DORMOUSE)
- EMPTY NEST FOUND 11.10.17 (NOT DORMOUSE)

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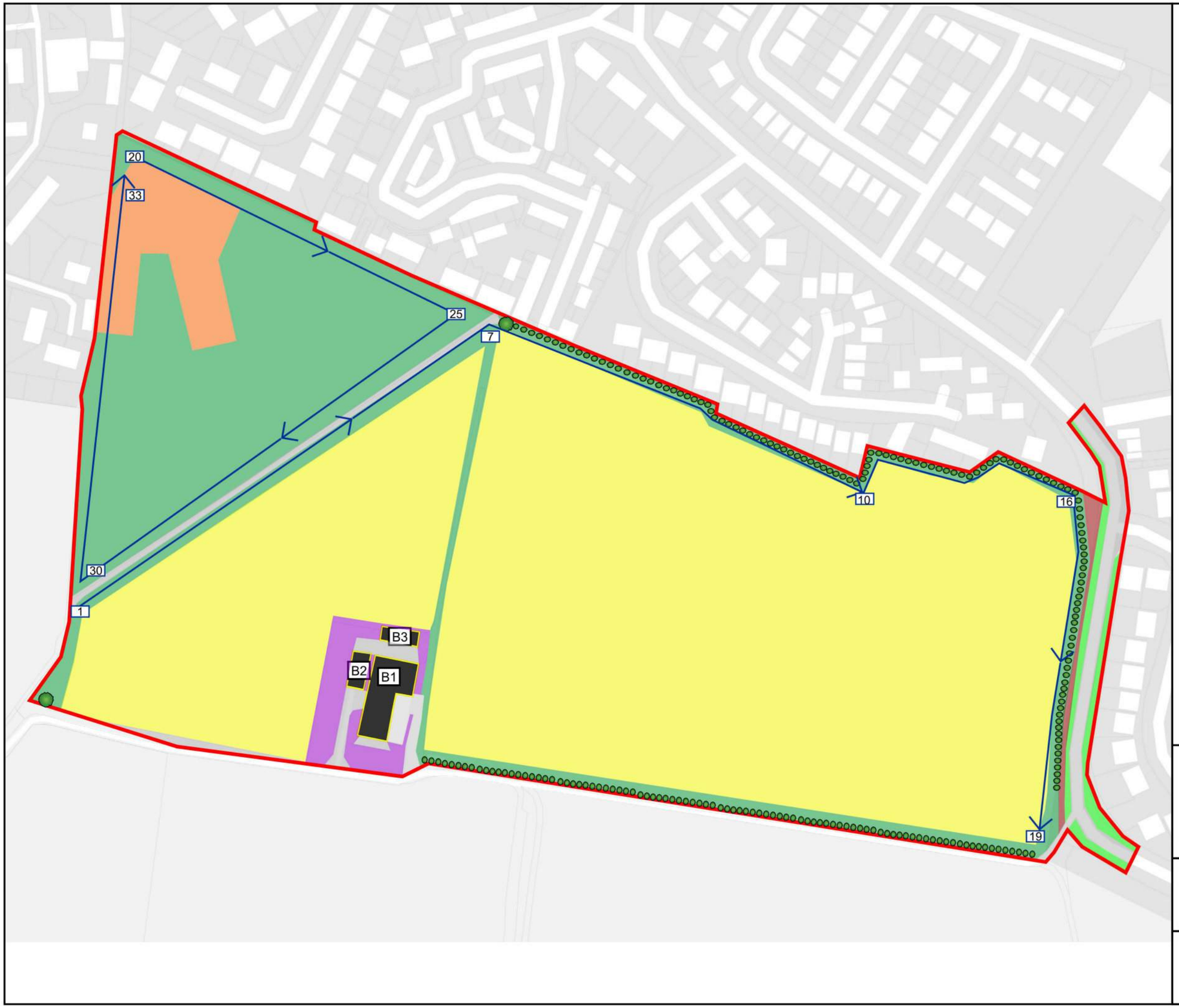
PLAN ECO6:
DORMOUSE SURVEY RESULTS

PLAN ECO7

Reptile Survey Results



KEY:

SITE BOUNDARY

1 REPTILE TINS

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7480: DITTON EDGE,
EAST MALLING, KENT

PLAN ECO7:
REPTILE SURVEY RESULTS

PLAN ECO8

Mitigation and Enhancement Strategy

Buffer zones and screening to prevent light spill on bat commuting and foraging routes

Attenuation ponds designed with opportunities for amphibians and invertebrates.

Vegetation clearance completed outside nesting bird season.

New planting to include native species of known wildlife value such as Blackthorn, Hawthorn and Honeysuckle.

Provision of bat boxes on retained trees to enhance roosting opportunities.

KILN BARN ROAD

CHERRY ORCHARD

RAGSTONE COURT

Provision of a variety of bird boxes on retained trees and buildings post-development to enhance nesting opportunities.

Creation of hibernacula for reptile and amphibian species.

Creation of new species rich grassland.

Garden fences to be provided with a 13cm x 13cm 'Hedgehog Gateway' to facilitate dispersal.

Creation of log piles for Stag Beetles and other saprophytic organisms.

KEY:

- SITE BOUNDARY
- INDICATIVE BAT BOX LOCATION
- INDICATIVE BIRD BOX LOCATION
- INDICATIVE HIBERNACULA LOCATION
- INDICATIVE LOG PILE LOCATION
- WILDLIFE CORRIDORS

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Based on Illustrative Masterplan (December 2018) by Savills.

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PLAN ECO8: MITIGATION AND ENHANCEMENT STRATEGY

PHOTOGRAPHS

PHOTOGRAPH 1: Commercial Pear Orchard and Vegetation at Boundary

PHOTOGRAPH 2: Building B1 and Associated Recolonising Ground

PHOTOGRAPH 3: Building B2 with associated Hardstanding and Recolonising Ground

PHOTOGRAPH 4: Allotment in West of Site

PHOTOGRAPH 5: Semi-improved Grassland in West of Site

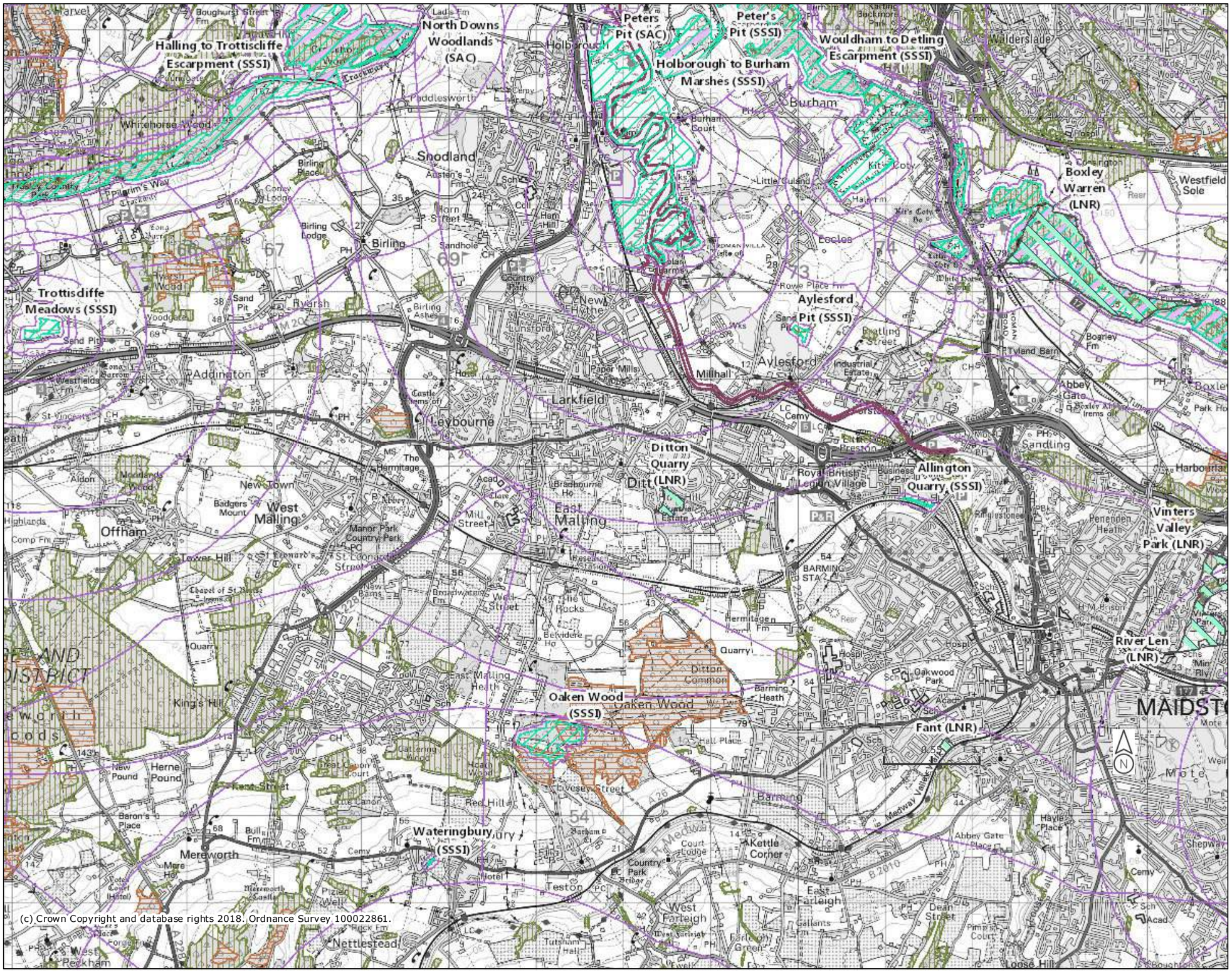
PHOTOGRAPH 6: London Plane Tree with Existing Bat Boxes

APPENDICES

APPENDIX 1

Information downloaded from Multi-Agency
Geographic Information for the Countryside (MAGIC)

7480: Ditton Edge, East Malling, Kent



Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- 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)
- Special Protection Areas (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 559800
ymin = 152300
xmax = 582000
ymax = 163200

0 0.85 1.7
km

Map produced by MAGIC on 7 December, 2018.

APPENDIX 2

Summary of Results from Bat Surveys
June – September 2017

Activity surveys

Species	Number of Registrations	First Registration After Sunset
Pip sp.	4	31 mins
C. Pip	300	23 mins
S. Pip	25	31 mins
BLE	1	149 mins
Noctule	7	28 mins
Leisler	10	14 mins

Table A2.1 Summary of bat activity survey undertaken on 14.06.17.

Species	Number of Registrations	First Registration After Sunset
Pip sp.	2	59 mins
C. Pip	155	18 mins
S. Pip	14	33 mins
Noctule	2	7 mins

Table A2.2 Summary of bat activity survey undertaken on 31.07.17.

Species	Number of Registrations	First Registration After Sunset
Pip sp.	1	74 mins
C. Pip	217	26 mins
S. Pip	14	32 mins
BLE	1	96 mins

Table A2.3 Summary of bat activity survey undertaken on 28.08.17.

Static detectors

Species	Number of Registrations	First Registration After Sunset	Last Registration Before Sunrise
Pip sp.	15	52 mins	47 mins
C. Pip	2650	22 mins	35 mins
S. Pip	36	31 mins	160 mins
N. Pip	1	90 mins	
BLE	3	35 mins	214 mins
Nyc / Serotine	19	43 mins	70 mins
Noctule	65	3 mins	27 mins
Serotine	19	374 mins	68 mins
Leisler	28	56 mins	77 mins
Myotis sp.	3	166 mins	160 mins

Table A2.4 Survey summary for static bat detector on site from 12.06.17 to 16.06.17.

Species	Number of Registrations	First Registration After Sunset	Last Registration Before Sunrise
Pip sp.	2	115 mins	194 mins
C. Pip	2127	17 mins	17 mins
S. Pip	107	20 mins	76 mins
N. Pip	1	25 mins	
Nyc / Serotine	6	22 mins	287 mins
Noctule	79	21 mins before sunset	23 mins
Myotis sp.	2	91 mins	295 mins

Table A2.5 Survey summary for static bat detector on site from 22.07.17 to 26.07.17.

Species	Number of Registrations	First Registration After Sunset	Last Registration Before Sunrise
Pip sp.	10	35 mins	348 mins
C. Pip	1495	8 mins	16 mins
S. Pip	77	24 mins	20 mins
N. Pip	1	163 mins	
BLE	8	97 mins	84 mins
Nyc / Serotine	3	56 mins	56 mins
Noctule	24	16 mins	1 min
Myotis sp.	8	97 mins	130 mins

Table A2.6 Survey summary for static bat detector on site from 30.08.17 to 03.09.17.

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ecology solutions for planners and developers