



**APPENDIX 11.4**  
**EAST HILL, HEMPSTEAD, MEDWAY**

**Badger Report**

<b>Date of report</b>	27 <sup>th</sup> February 2019
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## 1.0 INTRODUCTION

1.1 Corylus Ecology has undertaken badger surveys and presence/likely absence surveys for badger *Meles meles* at East Hill, Hempstead, Medway hereinafter referred to as 'the Site'.

### *Summary*

1.2 During the Extended Phase I Habitat Survey the habitat was assessed for potential for badgers.

1.3 The majority of the Site consists of arable wheat fields. The boundaries comprise of mature treelines, hedgerows, dense bramble scrub and ancient woodland boundaries. The Site is situated within the Hempstead Valley within the Medway Towns urban conurbation with the surrounding landscape dominated by Country Park, arable fields and blocks of deciduous and ancient woodland to the east and south and dense urban development to the west and north including busy roads. The woodland, hedges and grassland habitat types to the south and east of the Site and at the Site boundaries are optimal for badgers, as setts tend to be located in the shelter of woodland, with badgers emerging at night or early evening to forage in fields and meadows. The on-Site habitat is considered suitable for foraging badgers due suitable food sources. Badgers are also known to eat small mammals such as hedgehog *Erinaceus europaeus*, mice *Apodemus* species and amphibians, which are likely to be found within the on-Site, although limited to the Site boundaries only. The Site is adjacent to two small blocks of ancient woodland, as well as set within a slope with banked boundary features which comprise suitable habitat to support badger setts.

1.4 The objective of the badger survey was to determine the location of badger setts and field signs within the Site.

### *Legislation and Licensing*

1.5 The protection of Badgers Act 1992 consolidates the previous Badger Acts of 1973 and 1991. As badgers are relatively common and widespread in the UK, the legislation aims to protect the species from persecution and cruelty rather than addressing a conservation concern. There are approximately 400,000 badgers in the UK according to the Wildlife Trusts and they are not considered an endangered species. As well as protecting the animal itself, the 1992 Act makes it an offence to intentionally or recklessly destroy, damage or obstruct a badger sett.

1.6 Natural England's guidance on activities that should be licensed are described in its publication 'Badgers and Development' (2002). This includes use of heavy machinery within 30m of any entrance to an active

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sett, light machinery within 20m and light work such as hand digging within 10m. An update has been provided in the publication '*Badgers and Development: A Guide to Best Practice and Licensing*' (2009).

#### *Badger Ecology*

- 1.7 Badgers are members of the weasel family (*Mustelidae*). They are omnivorous and their diet typically consists of earthworms, insects, grain and fruits. During late summer and autumn they accumulate fat reserves. Badgers do not hibernate over winter but they are much less active and stay below ground especially during very cold or wet weather. Dominant sows give birth to cubs underground at the end of January or beginning of February, the cubs emerging some 8 weeks later.
- 1.8 Badgers are highly sociable animals and live in family or social groups of related mature and young adults and cubs. They commonly live in groups of circa six individuals but can form extended kinship groups of 30 or more. Their territory or home range consists of feeding grounds and one or more setts. They typically excavate setts into firm, free-draining and steep ground. A badger sett is defined in the legislation as '*any structure or place which displays signs indicating current use by a badger*'.

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## 2.0 METHODOLOGY

2.1 An initial badger survey was undertaken on March 2018, a time of year when badgers are becoming active and mark their territory. Vegetation is also low, allowing detection of field signs. Field signs associated with badger were searched for and mapped, including setts, paths, scratching posts, foraging 'snuffle holes', latrines, footprints, pushes and hairs. Update assessments were undertaken throughout 2018, monitoring known badger evidence and looking for new evidence.

2.2 Setts can usually be classified as one of the following, as described in the Natural England (2009) guidance:

- *Main Setts*: These usually have a large number of holes with large spoil heaps, and look well used. They usually have well used paths to and from the sett and between sett entrances. Although normally the breeding sett, and in continual use all year round, it is possible to find a main sett that has become disused because of excessive disturbance or for some other reason.
- *Annexe Setts*: These are always close to a main sett and are usually connected to the main sett by one or more obvious, well-worn paths. They usually consist of several holes, but are not necessarily in use all the time, even if the main sett is very active.
- *Subsidiary Setts*: Often these have only a few holes, are usually at least 50 m from a main sett, and do not have an obvious path connecting them with another sett. They are not continuously active.
- *Outlying Setts*: These usually only have one or two holes, often have little spoil outside the entrance(s), have no obvious path connecting them with another sett, and are only used sporadically.

2.3 Classification of setts can be difficult in the field and in areas of low badger density, main setts may be relatively small with only a few holes and not all sett types will be found in a particular area. For example, in poor badger habitat there may be no main sett which fits the above description. Setts are sometimes taken over or cohabited by fox *Vulpes vulpes* or rabbit *Oryctolagus cuniculus*. However, they can still be recognised as badger setts by the shape of the tunnel (not the entrance hole, which may be an enlarged rabbit or fox hole), which is at least 250 mm in diameter, broader than they are high and often oval in shape.

2.4 The condition of any sett found was recorded including the presence of freshly excavated soil, bedding material and whether the condition of the entrance suggests that the hole is active, overgrown or disused.

### 3.0 RESULTS

#### *Badger Setts*

3.1 During the initial badger survey undertaken March 2018, four areas of potential badger activity were identified across the Site. Figure 1 shows the location of all badger evidence.

- Dense scrub area between Field 2 and 3 - TQ 77809 65622
- Eastern boundary of Field 2 - Between TQ 77728 65584 and TQ 77723 65471
- South-eastern boundary of Field 2 - TQ 77619 64938
- Southern boundary of Field 1, edge of North Dane Wood - Between TQ 77334 64329 and TQ 77292 64259

#### Dense scrub area between Field 2 and 3

3.2 During the initial surveys two defined mammal paths were identified, MP1 and MP2 passing through this area of dense scrub, however no mammal holes were identified. During an update assessment undertaken in August 2018 a single new mammal hole M1 was found at TQ 77809 65622. This hole had recently been excavated and with fresh digging, soil and footprints.

3.3 A motion-sensor camera was set monitoring this new hole on 28<sup>th</sup> August until 7<sup>th</sup> September 2018. This camera recorded single adult badger emerging from the hole on the first night of 28<sup>th</sup> August, it subsequently recorded a badger emerging and re-entering this hole on all nights. On the night of the 2<sup>nd</sup> September a badger was recorded pulling leaf litter material into the hole. A fox *Vulpes vulpes* was also recorded on one occasion and rabbits were also recorded moving around the hole.

#### Eastern boundary of Field 2

3.4 During the initial assessment a well-used mammal path MP3 was recorded running along the east facing bank that forms the eastern boundary of Field 2. This area was searched and four mammal holes (M2 – M5) were identified within this area between points TQ 77728 65584 and TQ 77723 65471. These holes were all small in size and had no evidence of recent use being full of leaf litter and overgrown. These holes were checked periodically between March and November 2018 with no change in their condition and no evidence of use by any mammal species.

#### South-eastern boundary of Field 2

3.5 During the initial assessment three mammal holes (M6-M8) were identified within a shallow east facing bank that forms the south-eastern boundary of Field 2, located at TQ 77619 64938. These holes were small in nature and located within 1m of each other. A mammal path was recorded linking these holes

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and extending to the south and north (MP4). No evidence of recent use was identified in March, however on a subsequent check made in August 2018 some fresh digging evidence within M7 was found.

- 3.6 A motion-sensor camera was set monitoring this hole and M8 adjacent on 28<sup>th</sup> August until 7<sup>th</sup> September 2018. This camera recorded no activity by badgers, with a fox recorded on a single occasion on the night of 2<sup>nd</sup> September moving past the holes. There were also activity by song thrushes and wood pigeons recorded.
- 3.7 Further surveys of these holes found no fresh evidence of use by any mammal.

Southern boundary of Field 1, edge of North Dane Wood

- 3.8 During the initial assessment at least five mammal holes (M9-M13) were identified within the east facing bank that forms the eastern boundary of Field 1 and the western edge of North Dane Wood, between points TQ 77334 64329 and TQ 77292 64259. Mammal paths (MP5) were also recorded linking these holes and extending further into the woodland to the south.
- 3.9 Access to these holes and the further woodland was restricted as this woodland is outside of the Site boundary and also is used for shooting and as such activity near or in the woodland was a significant health and safety risk. As such further detailed assessments of these holes such as the setting of camera traps or the searching of the wider area of additional badger evidence was not possible.

*Field signs, latrines and paths*

- 3.10 No additional field signs such as latrines, paths or foraging were identified within or adjacent to the Site.



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## 4.0 EVALUATION

4.1 Badger surveys has been carried out at the Site across the East Hill, Hempstead and evidence of badger use has been identified. Four areas of the Site showed evidence of use by badgers and were monitored throughout 2018, the results are summarized below and Figure 1 shows the location of all badger evidence including showing a 30m buffer zone from all evidence found.

### Dense scrub area between Field 2 and 3

- Mammal paths and single mammal hole found
- Camera trap set and badger recorded using hole for duration of monitoring

### Eastern boundary of Field 2

- Mammal path and four small mammal holes found
- No signs of activity for duration of 2018

### South-eastern boundary of Field 2

- Three mammal holes found
- camera set with no badger activity recorded
- Single pass by fox
- No further evidence of activity during 2018

### Southern boundary of Field 1, edge of North Dane Wood

- Mammal paths and five mammal hole found
- Further surveys could not be undertaken due to access and health and safety restrictions

4.2 The only confirmed badger sett located within the Site is hole M1 within the dense scrub area between Field 2 and 3. Photographs and video taken by the camera traps showed that the badger sett is used by at least one badger. Only a single hole was found in this location and this hole was newly created between March and August 2018. A single mammal path leads to this hole that tracks to the north and south of the hole. It is likely that this sett is an outlying sett.

4.3 The holes found on the southern boundary of Field 1 within the edge of the Ancient Woodland could not be fully assessed due to access restrictions, however at least one mammal hole M10 was seen to have activity during the 2018 surveys as has the possibility to be used by badgers. If these holes are used by badgers it is likely that they form part of a subsidiary sett, however without more detailed survey information it is difficult to specify completely.

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- 4.4 The territory sizes of a badger social group have been found to range from 30ha in optimal habitat to 150ha in marginal habitat (Harris *et al.*, 1989). To put this into context, the total Site area surveyed covers approximately 50ha between all three fields, with the majority being arable fields. Within a semi-rural environment territory sizes and clan sizes are likely to be strongly influenced by available habitat and food sources, including those provided by humans, and may therefore not easily be predicted. The sett in the north of the Site and potential badger sett in the south are 1500m apart as could possibly be part of the same territorial and foraging area of a single badger clan. With regard to latrines it has been found that in some case studies, 70% of all latrines were located near or on a territorial boundary (Kruuk, 1989 *in* Neal and Cheeseman, 1996). However no latrines were found within or adjacent to the Site during the 2018 surveys suggesting that there are no territorial boundaries that cross the Site.

#### *Foraging habitat*

- 4.5 The Site supports suitable foraging habitat and this suitable habitat extends into the wider countryside to the south and east, whilst the north and west is limited by roads and dense urban development. Badgers are omnivorous and their diet typically consists of earthworms, insects, grain and fruits. As such they the foraging habitat is likely to include most of the arable fields within the Site boundary that are used to grow wheat as well and the areas of trees, hedges and scrub at the Site boundaries. The blocks of ancient woodland to the west and south of Field 1 as well as the grassland and scrub area of Capstone Country Park to the east will also provide high quality foraging habitat.

#### *Commuting routes*

- 4.6 There are mammal paths that link the areas of badge activity with a path running north to south through the dense scrub between Fields 2 and 3. The other paths appears to be restricted to the vegetated Site boundaries with no well-worn or obvious paths that run through the arable fields.

#### *Monitoring*

- 4.7 Regular monitoring of the Site will be required to track any changes in use and badger activity over time, up to and during the commencement of any works. This will involve the updating of Site assessments to monitor existing badger evidence as well and record any new activity as well as the use of camera traps, particularly in the period between February and April where possible, to determine whether cubs are present in the future. This information will be required to inform the detailed mitigation strategy which is part of the licencing process.

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*Legislation*

4.8 The protection of Badgers Act 1992 consolidates the previous Badger Acts of 1973 and 1991. As badgers are relatively common in the UK, the legislation aims to protect the species from persecution and cruelty rather than addressing a conservation concern. There are approximately 400,000 badgers in the UK according to the Wildlife Trusts and they are not considered an endangered species. Under this legislation it is an offence to kill, injure or inflict cruelty on a badger. The legislation also affords protection to badger setts, making it an offence to;

- damage a badger sett or any part of it;
- destroy a badger sett;
- obstructing access to, or any entrance of, a badger sett;
- causing a dog to enter a badger sett; or
- disturbing a badger when it is occupying a badger sett

4.9 Natural England's guidance on licensable activities is described in its publication 'Badgers and Development' (2002). An update has been provided in the publication '*Badgers and Development: A Guide to Best Practice and Licensing*' (2009). The guidance includes use of heavy machinery within 30m of any entrance to an active sett, light machinery within 20m and light work such as hand digging within 10m.

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## 5.0 CONCLUSIONS

- 5.1 Badger surveys has been carried out at East Hill, Hempstead and evidence of badger use has been identified. Four areas of the Site showed evidence of use by badgers and were monitored throughout 2018. One hole has been confirmed to be in active use by badgers and appears to be an outlier sett. There are an additional five holes located on the Site's southern boundary within the edge of North Dane Wood, the status of these holes are unconfirmed due to access limitations. It is considered that the badger population within Site is of **Local Importance**.
- 5.2 Recommendations have been made for the continued monitoring of entire Site for fresh badger evidence and the monitoring of the confirmed badger setts in the event that additional holes or setts develop in the intervening period. A licence from Natural England may be required to permit the development.

## REFERENCES

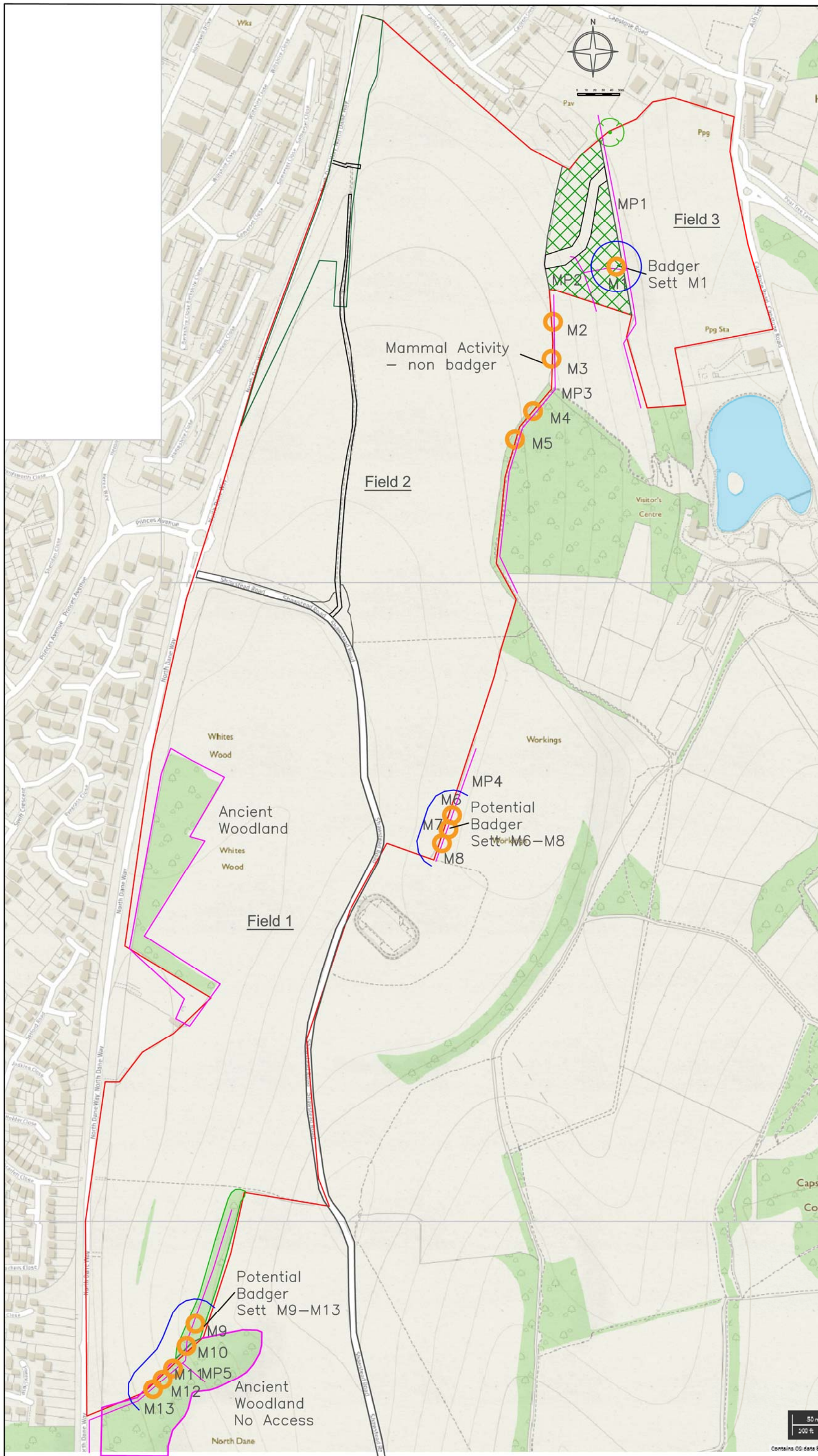
Harris, S., Cresswell, P. & Jefferies, D. J. 1989. Surveying badgers. Mammal Society, London.

Natural England. 2002. Badgers and Development.

Natural England. 2009. Badgers and Development: A Guide to Best Practice and Licensing.

Roper, T. 2010. Badger. New Naturalist. Harper Collins, London.





- Key**
- Site Survey Area
  - Tree
  - Ancient Woodland Boundary
  - Mammal Hole One
  - Mammal Path One
  - 30m Buffer from Badger Hole
  - Dense Scrub

Ordnance Survey  
Licence Number  
100050443

revision	description	date	checked by

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Project:  
17032 East Hill, Hempstead

Title:  
Badger Survey Results Plan

status	drawing no.
	Figure 1

scale	size	date	drawn	checked
NTS	A3	22.02.2019	AW	HL

Contains OS data ©  
CAD filename: Figure\_1.dwg



Figure 2 - Badger Survey Pictures



Hole M1 - Badger Emerging



Hole M1 - Badger re-entry



Hole M1 - Badger emerging



Hole M1 - Badger collecting leaf litter



Hole M1 - Badger collecting leaf litter



Hole M1 - Badger collecting leaf litter



Hole M7



Hole M7 and M8



Hole M7 and M8 - Fox activity