

Elmsbrook, Bicester  
(Phase 3 and 4)

**Ecology Pre-construction Survey  
and Mitigation Scheme**  
(to address Condition 81 of Planning Permission  
Ref: 10/01780/HYBRID)

November 2017

Quality Management	
<b>Client:</b>	Crest Nicholson Regeneration
<b>Project:</b>	Elmsbrook, Bicester
<b>Report Title:</b>	Ecology Pre-construction Survey and Mitigation Scheme
<b>Project Number:</b>	ECO-5192
<b>File Reference:</b>	5192 SMS vf/TT/LB
<b>Date:</b>	27/11/2017

Copyright
The copyright of this document remains with Aspect Ecology. All rights reserved. The contents of this document therefore must not be copied or reproduced in whole or in part for any purpose without the written consent of Aspect Ecology.

Confidentiality
This report may contain sensitive information relating to protected species. The information contained herein should not be disseminated without the prior consent of Aspect Ecology. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance
The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

Liability
This report has been prepared for the exclusive use of the commissioning client and unless otherwise agreed in writing by Aspect Ecology no other party may use, or rely on the contents of the report. No liability is accepted by Aspect Ecology for any use of this report, other than for the purposes for which it was originally prepared and provided. No warranty, express or implied, is made as to the advice in this report. The content of this report is partly based on information provided by third parties. Unless otherwise stated, information obtained from any third party has not been independently verified by Aspect Ecology.

Contact Details
<p><b>Aspect Ecology Ltd</b>  Hardwick Business Park   Noral Way   Banbury   Oxfordshire OX16 2AF  t 01295 276066 f 01295 265072 e info@aspect-ecology.com  w www.aspect-ecology.com</p>



# 1 Introduction

- 1.1 Aspect Ecology has been appointed by Crest Nicholson Regeneration in respect of ecological matters relating to land at Elmsbrook, Bicester. The site, which forms Phase 3 and 4 of the Exemplar Phase of the north-west Bicester Eco Town development, is in receipt of full planning permission for residential development (ref: 10/01780/HYBRID).
- 1.2 The permission is subject to a number of planning conditions of which this report is concerned with Condition 81, which states:
- “Prior to the commencement of construction on each phase, as defined in Condition 2, the area within that phase shall be checked by a suitably qualified ecologist to ensure that there is no presence of protected species that have moved on to the site since previous surveys have taken place and could be harmed by the development. Should protected species be found details of mitigation measures to prevent their harm shall be submitted to and approved in writing by the Local Planning Authority. The development shall be implemented in accordance with the agreed scheme.”*
- 1.3 Previous survey work undertaken by a third-party consultancy to address this condition was conducted between November 2016 and January 2017 (see Appendix 5192/1). This work highlighted the presence of a possible Badger sett, a small number of trees with the potential to support roosting bats, and the presence of small areas of suitable reptile habitat within the site.
- 1.4 Given the delay in commencement of construction since the previous survey work was undertaken, Aspect Ecology has been commissioned to undertake update survey work to address this condition. Accordingly, Aspect Ecology conducted survey work between June and September 2017, with specific attention paid to Badger, reptiles and roosting bats.
- 1.5 The results of the work undertaken by Aspect Ecology is set out below, together with any additional recommended mitigation. This report supersedes mitigation in respect of Badger, reptiles and roosting bats set out in the previous report produced to address this condition (see Appendix 5192/1).

## 2 Update Surveys

- 2.1 The update survey work identified the potential for the site to support a number of protected species, as set out below and shown on Plan 5192/SMS1.

### *Badger*

#### Survey Results

- 2.2 Previous survey work undertaken by a third-party consultancy identified a possible 2-entrance outlier Badger sett located within hedgerow H6 (as shown on Plan 5192/SMS1).
- 2.3 In order to determine whether the mammal entrances comprise a Badger sett and, if so, to establish level of use, Aspect Ecology undertook survey and monitoring exercise of the potential sett in 2017, the full results of which are set out at Appendix 5192/2.
- 2.4 The survey identified two mammal entrances located within the centre of the eastern boundary hedgerow. Access into the hedgerow was not feasible, so a thorough investigation of the mammal entrances was not fully possible, although both entrances appeared to be in active use, with fresh spoil and no evidence of leaves or debris in the entrances. However, no evidence to suggest use of the mammal entrances by Badger was recorded. Indeed, 2-3 smaller burrows were observed in the offsite grassland field in very close proximity which were of a size likely attributable to Rabbit, so it is possible that the aforementioned mammal entrances form part of a wider Rabbit warren.
- 2.5 Given that the results of the update survey failed to definitively confirm use of the mammal entrances by Badger, a further period of monitoring was undertaken. The monitoring exercise comprised video surveillance in the form of remote camera traps positioned around the mammal entrances.
- 2.6 Natural England define current use of a sett as one which '*displays signs indicating current use by Badger*' with such signs potentially present for '*a period of several weeks after the last actual occupation of the sett by a Badger*'. As such, the monitoring exercise was undertaken over a three week period, from 22<sup>nd</sup> August 2017 – 12<sup>th</sup> September 2017. During the course of the monitoring, no evidence for the presence of Badger was recorded associated with either mammal entrance. However, evidence for current occupation by Rabbit was observed on numerous occasions, suggesting the burrows do indeed form part of a Rabbit warren.

#### Evaluation

- 2.7 As set out within Natural England Guidance<sup>1</sup>, '*a sett is likely to fall outside of the definition of a sett in the Act [Protection of Badgers Act 1992] if the evidence available indicates that it is NOT in use by Badger e.g. absence of Badger field signs*'.
- 2.8 On this basis, given that no evidence to suggest occupation by Badger has been recorded over a period of several weeks, it is considered that the burrows do not form a Badger sett and therefore they are currently not covered under the legislation protecting this species.

---

<sup>1</sup> Natural England (June 2009) Interpretation of 'Current Use' in relation to Badgers occupying a sett.

## *Reptiles*

### Survey Results

- 2.9 A low population of Common Lizard and Grass snake was recorded within the wider Exemplar development site in 2010. On this basis, it was considered reasonable to implement a habitat manipulation exercise to displace reptiles into retained habitat at the boundaries of the site during reporting for planning.
- 2.10 During survey work conducted in November 2016 by a third-party consultancy, the site, which had previously consisted of arable land, was found to support small areas of suitable reptile habitat in the form of recolonising grassland associated with boundary features.
- 2.11 Update survey work undertaken by Aspect Ecology in June 2017 recorded a further increase in recolonising grassland, largely associated with the western part of the site, the extent of which is shown on Plan 5192/SMS1.

### Evaluation

- 2.12 The site is considered to support areas of habitat with the potential to be of value to reptiles. However, given the surrounding landscape, being dominated by arable land which is intrinsically of low value to this species group, there does not appear to be any significant areas of suitable habitat that could support a source population, whilst given the very low numbers of reptiles recorded during the survey work previously, it is considered unlikely that any significant number of reptiles would have populated the site. On this basis, it would still seem appropriate to implement the agreed habitat manipulation exercise to relocate any reptiles away from the development area, as detailed at Section 3 below.

## *Roosting Bats*

### Survey Results

- 2.13 Previous survey work conducted at the site recorded the presence of two trees with features that had potential to support roosting bats, located in the northwest corner of the site and along the western boundary (as shown on Plan 5192/SMS1).
- 2.14 Update survey work undertaken by Aspect Ecology identified the continued presence of bat roosting features associated with these trees, although no other trees at the site were observed to support suitable features for roosting bats.

### Evaluation

- 2.15 Both trees identified to support opportunities for roosting bats are present at the boundaries of the site, and will be retained within the scheme. In order to ensure these trees (as well as all boundary features) are protected during construction, it is recommended that suitable protection fencing is installed (e.g. Heras fencing), as set out at Section 3. Subject to the implementation of tree protection fencing, it is considered that roosting bats will be fully safeguarded under the proposals.

### 3 Mitigation and Safeguarding Measures

- 3.1 A suite of ecological mitigation measures are set out in the third-party consultancy report provided at Appendix 5192/1. On the basis of the update survey work undertaken by Aspect Ecology, additional mitigation measures are provided in respect of Badger, reptiles and roosting bats, as set out below.

#### *Badger*

- 3.2 The identified mammal entrances located along the eastern boundary of the site are not considered to qualify as a Badger sett and, as such, there is no requirement for mitigation to be implemented in respect of this protected species. However, as Badgers are dynamic animals and use of setts can change over time, an update survey will be undertaken immediately prior to the commencement of construction to confirm the continued absence of Badger, or the requirement for mitigation to be implemented.

#### *Reptiles*

- 3.3 The recolonising grassland and tall ruderal vegetation within the site have the potential to provide minor opportunities for reptiles, should they be present in the immediate surrounds of the site. As such, a precautionary approach will be taken to minimise potential adverse effects on reptiles during construction.
- 3.4 Given the grassland and tall ruderal vegetation is unlikely to offer hibernating opportunities for this species group, with opportunities largely restricted to the site boundary features, these habitats will be strimmed or cut short with a low-impact mower in winter (ideally December – February inclusive). This will reduce the sites suitability to support reptiles and likelihood of reptiles being present within the construction area when works begin in 2018. Should any potential hibernation features be identified, these will be retained in situ and subject to a destructive search in the reptile active season (March to October inclusive) under ecological supervision. Habitats will then continue to be maintained as unsuitable for reptiles until commencement of construction.
- 3.5 Subject to the implementation of these safeguarding measures, it is considered unlikely that reptiles, if present in low numbers, will be adversely affected by construction activities.
- 3.6 Should the above measures not be undertaken, and vegetation clearance works are carried out in March to October inclusive, the following safeguards will be implemented to avoid the risk of injury to any active reptiles which may be present:
- All site clearance will be undertaken under the supervision of a suitably qualified ecologist and preceded by a briefing of all contractors (see toolbox talk in Appendix 5192/2);
  - The working area will be marked out by the supervising ecologist and a hand search of the working area undertaken prior to works commencing;
  - Habitat will be cut in two stages, initially to a height of no less than 15cm, to encourage any reptiles to disperse naturally and allow a more detailed search, before then being cut to ground level;
  - Where necessary, a destructive search of the working area will be undertaken following habitat manipulation works to ensure no suitable opportunities for reptiles remain; and

- In the event that reptiles are encountered during works on site, any individuals encountered will be moved by an Ecologist to an area of suitable habitat outside of the working area.

3.7 In the unlikely event that reptiles are encountered during any unsupervised works on site, all works in that area will cease and an Ecologist be contacted immediately to advise on actions required to proceed with works. Such actions would likely involve the implementation of measures in line with the safeguards set out above, where they are applicable.

#### *Roosting Bats*

3.8 The trees recorded with features to support roosting bats are located at the boundary of the site and are to be retained under the proposals. In order to minimise the likelihood of damage to trees during construction, all hedgerows and trees to be retained within the proposed development shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees / hedgerows.



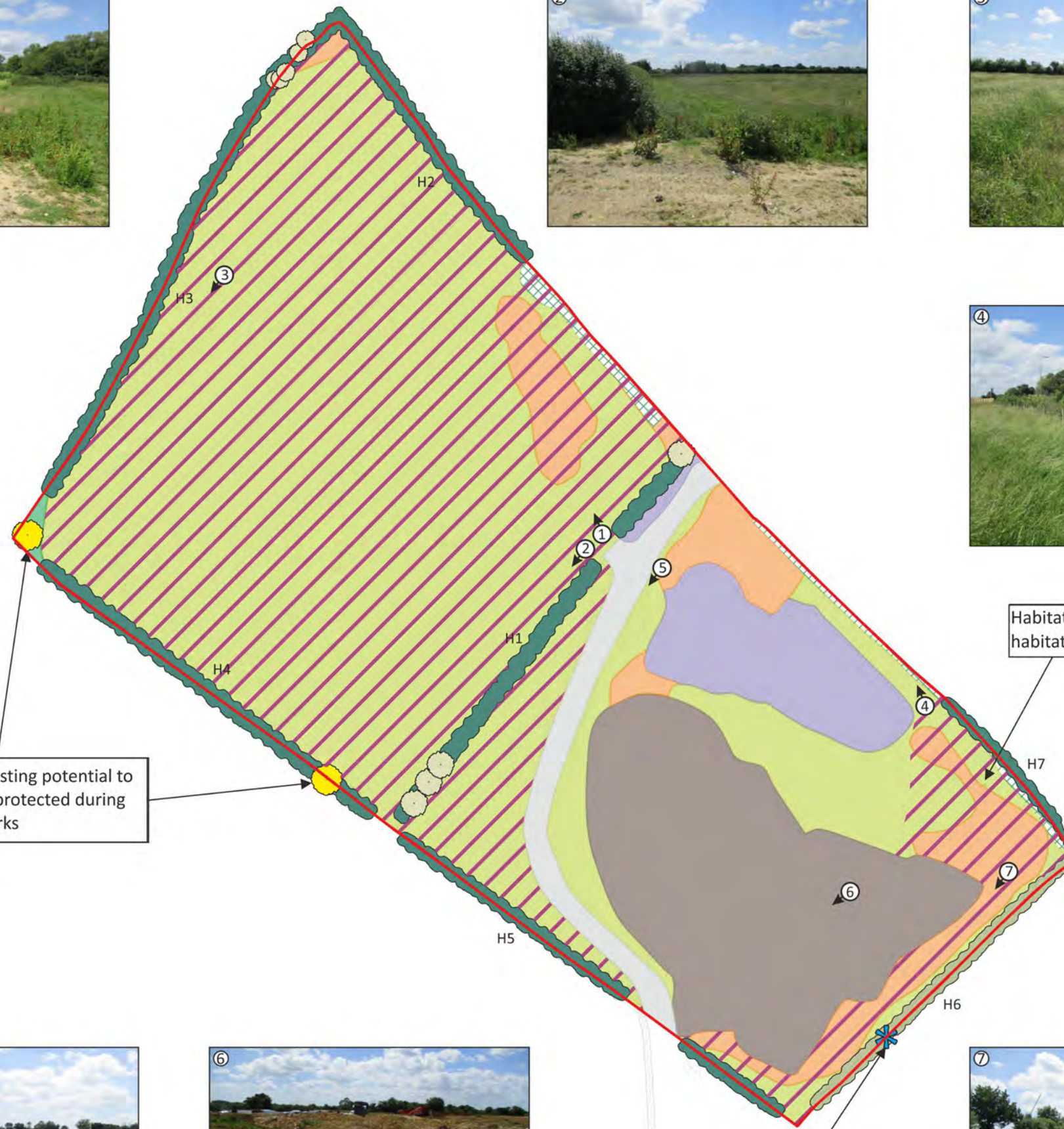
## 4 Conclusions

- 4.1 The purpose of this report is to discharge Condition 81 of full planning permission relating to land at Elmsbrook, Bicester (ref: 10/01780/HYBRID).
- 4.2 Reporting to address this condition was initially undertaken by a third-party consultancy in January 2017, with mitigation measures set out to minimise adverse effects on habitats of ecological importance and protected species as a result of the consented development (see Appendix 5192/1).
- 4.3 Update survey and monitoring work has been undertaken by Aspect Ecology in respect of Badger, reptiles and roosting bats. Subject to the implementation of the mitigation safeguards set out above and at Appendix 5192/1, it is considered that retained habitats and protected faunal species will be fully safeguarded during construction works at the site.

## **Plan 5192/SMS1:**

Ecological Features and Mitigation

---



Trees with bat roosting potential to be retained and protected during works

Habitat to be subject to reptile habitat manipulation exercise

Location of mammal entrances subject to monitoring

- Key:**
- Site Boundary
  - Semi-improved Grassland
  - Tall Ruderal Vegetation
  - Unvegetated Mound
  - Woodland
  - Hardstanding
  - Recolonising Vegetation
  - Hedgerow
  - Hedgerow Likely to Qualify as 'Important' under the Hedgerow Regulations 1997
  - Dense Scrub
  - Tree
  - Mammal Entrances
  - Photograph Location
- Constraints:**
- Tree with Low Potential to Support Roosting Bats (BCT Category 2)
  - Area Subject to Reptile Habitat Manipulation Exercise

**aspect ecology**

Aspect Ecology Limited - West Court - Hardwick Business Park  
 Noral Way - Banbury - Oxfordshire - OX16 2AF  
 01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Elmsbrook, Bicester PROJECT

Ecological Features and Mitigation TITLE

5192/SMS1 DRAWING NO.

- REV.

November 2017 DATE



## **Appendix 5192/1:**

ACD Environmental Ecological Mitigation Plan

---

BICESTER NW  
PHASE 3 & 4

ECOLOGICAL  
MITIGATION  
PLAN

**ACD**  
ENVIRONMENTAL

Ecology  
Archaeology  
Arboriculture  
Landscape Architecture

<b>Written By:</b>	SW
<b>Checked By:</b>	DW
<b>Date:</b>	JAN 2017
<b>Document File Ref:</b>	HILL20939EMP
<b>Revision:</b>	*

## **Contents**

<b>1.0 INTRODUCTION</b>	<b>1</b>
<b>2.0 DEFINITION OF TERMS</b>	<b>3</b>
<b>3.0 RESULTS OF PREVIOUS ECOLOGY SURVEYS</b>	<b>4</b>
<b>4.0 RESULTS OF UPDATED SURVEY</b>	<b>7</b>
<b>5.0 WILDLIFE LEGISLATION</b>	<b>14</b>
<b>6.0 PRECAUTIONARY WORKS</b>	<b>17</b>

### **APPENDIX 1 : TREES WITH BAT ROOST POTENTIAL**

## INTRODUCTION

- 1.1 ACD Environmental Ltd was commissioned by Hill Partnership on behalf of A2 Dominion Developments to produce an Ecological Mitigation Plan (EMP) in order to satisfy a Planning Condition for Phases 3 & 4 only of the NW Bicester Eco Development. Phases 3 & 4 fall within the approved Exemplar Phase for which development commenced in other parcels during April 2014 (Planning reference; 10/01780/HYBRID).



**Image 1: Site boundary highlighting each Phase (image taken from Imagery 2017, Infoterra Ltd & Bluesky, map Data 2017, Google).**

- 1.2 This EMP has been produced to satisfy Planning Condition 81 which states that;
- 1.3 *'Prior to the commencement of construction on each phase, as defined in Condition 2, the area within that phase shall be checked by a suitably qualified ecologist to ensure that there is no presence of protected species that have moved on to the site since previous surveys have taken place and could be harmed by the development. Should protected species be found details of mitigation measures to prevent their harm shall be submitted to and approved in writing by the Local Planning Authority. The development shall be implemented in accordance with the agreed scheme.'*

- 1.4 The purpose of this EMP is to provide details of previous ecological surveys, the updated ecology visit, and precautionary methods of work (PMW) relevant for these two Phases.
- 1.5 This report will include;
- A summary of previous ecology survey results;
  - Updated ecology walkover results;
  - Appropriate mitigation measures; and
  - Any monitoring requirements.
- 1.6 An Environmental Statement was produced by Hyder Consulting in November 2010 which covered all parcels of the Exemplar development. Original Phase 1 and Phase II surveys were carried out by Arup during 2010.
- 1.7 Historically the site comprised arable fields with native species rich hedgerows bordering the site. The ES highlighted that the key ecological habitat was the hedgerows (which were being translocated if they were subject to removal) and one tree was highlighted as having bat roosting potential. A main badger sett was noted to the south of Phase 3 & 4 (a disturbance licence is in place), as well as a small population of grass snake and common lizard recorded offsite.
- 1.8 This report covers Phase 3 & 4 only, of which the boundary is shown in Image 1 and provides precautionary methods of works to reduce impacts upon wildlife. Updated badger surveys must be carried out prior to construction commencing to ensure there are no new entrance holes and the sett must be monitored throughout construction.
- 1.9 This report must be given to the developers and contractors dealing with Phase 3 & 4.



## 2.0 DEFINITION OF TERMS

2.1 The following terms are defined as;

- *The Developer* – A2 Dominion Developments who is responsible for the development of the site.

### 3.0 RESULTS OF PREVIOUS ECOLOGY SURVEYS

3.1 Results of the Arup Ecology Surveys (2010) are outlined below.

#### *Hedgerows*

3.2 All hedgerows within the Exemplar boundary were classed a UK BAP Priority Habitats, 70% were classified as Important hedgerows under the Hedgerow regulations (1997) and all hedges were either high or very high value under HEGS (Hedgerow Evaluation and Grading System).

3.3 Hedgerows that were to be impacted by the development have been translocated.

#### *Amphibians*

3.4 Four ponds were identified within 500m of the site boundary and all were assessed as being of below average / poor for great crested newts (GCN) *Triturus cristatus* and further surveys resulted in no confirmed breeding populations of GCN. It was deemed unlikely that GCN are present within the surrounding environment.

#### *Bats*

3.5 Nine potential roosts were noted and emergence / re-entry surveys were carried out. Of these nine potential roosts, three bat roosts were located and emergence surveys carried out in 2010. A small common pipistrelle *Pipistrellus pipistrellus* was located within a mature willow tree adjacent to the River Bure, a brown long-eared roost *Plecotus auritus* within a church and a common pipistrelle roost within a near-by house. None of these confirmed roosts were within Phase 3 & 4.

3.6 Within Phase 3, the southern boundary hedgerow was noted as a key activity corridor for common pipistrelles.

#### *Badgers*

3.7 A field survey and bait marking surveys were carried out during 2010. Two large active badger setts were originally noted within the Exemplar site with a large number of badgers using both setts. These setts were noted as a main sett with

over 25 entrance holes and an Annexe sett comprising of 25 entrance holes with only 6-8 holes appearing active.

- 3.8 Outlier holes were noted within the wider survey area, but none within Phase 3 & 4 and no latrines were noted within these two Phases. The main and annexe sett are being retained within the development.

### *Breeding Birds*

- 3.9 A total of 19 bird species were either confirmed or probable breeders within the entire Exemplar survey boundary site with one Schedule 1 and Amber listed bird species noted; barn owl *Tyto alba*. Three UK BAP and red / amber listed species (dunnock *Prunella modularis*, song thrush *Turdus philomelos* and yellowhammer *Emeriza citronella*) were recorded and one amber listed species kestrel *Falco tinnunculus*.

- 3.10 The barn owl was noted of County value, kestrel as District value and yellowhammer, dunnock and song thrush as Parish value.

- 3.11 With Phase 3 & 4 bird activity was restricted to the boundary hedgerow. Two territories of yellowhammer were recorded, two dunnock territories and one song thrush territory was noted.

### *Crayfish*

- 3.12 Unsuitable habitats within the site to support a population of crayfish *Austropotamobius pallipes*.

### *Dormouse*

- 3.13 Dormouse tubes were deployed between May and September 2010 and no evidence of dormice were noted.

### *Reptiles*

- 3.14 Reptile surveys were carried out between May and September 2010 and the results highlighted a small population of grass snakes *Natrix natrix* with a peak

count of 2 common lizards and 1 grass snake. These records were not found within Phase 3 & 4, but they were within the adjacent field to the south and the habitats were deemed unsuitable.

*Water voles*

3.15 No evidence of water vole was noted.

*Otter*

3.16 No evidence of otter was noted.

## 4.0 UPDATED ECOLOGY SURVEY RESULTS

4.1 ACD Environmental was commissioned to carry out an updated ecology walk over survey to check the presence of protected species within the site. The site visit was carried out on the 22<sup>nd</sup> November 2016.

### *Habitats*

4.2 Phase 3 now comprises spoil heaps / earth mounds as shown in Photograph 1 below, with some containing ruderal vegetation. The southern and eastern hedgerow are still present and in a good condition with a c.10m grassland / ruderal vegetation buffer strip along the hedgerow. A section of the northern hedgerow has been removed and translocated.



**Photograph 1: Earth mounds within Phase 3.**



**Photograph 2: Grassland strip and boundary hedgerow of Phase 3.**

- 4.3 Phase 3 comprises an unmanaged grass field with scattered scrub and ruderal vegetation that is grazed by rabbits. An earth mound covered in ruderal vegetation is also present within the field and contains asbestos.
- 4.4 Boundary hedgerows and an offsite small wooded copse are still present, with a small section of the northern boundary hedge being previously removed. A dry ditch is present along the western boundary.



**Photograph 3: Phase 4 un-managed grassland.**

### *Protected Species*

4.5 During the survey the current suitability of the site for protected species (primarily reptiles, birds and badger) was assessed and any new evidence of badgers was searched for.

### *Breeding birds*

4.6 Boundary hedgerows still provide the greatest opportunities for breeding birds to be present, however the grassland buffers and grassland within Parcel 4 will provide additional foraging opportunities.

4.7 It is not anticipated that the species diversity within the site has changed as the majority of bird species originally recorded within Parcel 3 & 4 were common birds found within the hedgerows, which will be retained and protected.

4.8 Precautionary mitigation measures for breeding birds are outlined in Section 6.

## *Badgers*

- 4.9 The main sett previously identified by Arup was inspected to establish current use. The location of the main sett is adequately protected through heras fencing, and remains relatively undisturbed by the development. Evidence of badgers moving under the fenced area was noted with the presence of three tracks under the fence. The sett appeared very active with evidence of bedding, regular use of entrances, footprints and fresh diggings noted. Within the area searched at least 15 holes were noted.
- 4.10 Within Phase 3 & 4 the earth mounds were searched for evidence of fresh digging by badgers but none was found, only evidence of rabbits.
- 4.11 No regularly used mammal tracks were noted within the grassland buffers of Phase 3, but a 2-holed sett was noted within the eastern hedgerow, which is considered to be an outlier sett. This is shown in Image 2. The tunnels of these two holes run in a southerly direction along the hedgerow and not into the site. Tracks into the sett entrance came from the adjacent field and not the site. It is therefore anticipated that this outlier sett is irregularly used and will not be impacted by the development.
- 4.12 Within Phase 4 regular rabbit activity was noted both within the field and along the boundary hedgerows. No definitive badger holes were noted but three fresh latrines were recorded along the southern hedgerow boundary, shown in Image 2.





**Image 2: Outlier sett and estimated latrine location (red dots).**

- 4.13 Badger activity within the outlier sett is being monitored and pre-commencement checks will be carried out within 3 months of works commencing. This is outlined in Section 6.
- 4.14 Monitoring of the badger sett is being carried out through the installation of an Acorn 6210MGX Remote Trail Camera deployed for at least one week. The camera was installed between 20<sup>th</sup> December 2016 and 10<sup>th</sup> January 2017. The trail cameras were pre-programmed to take a 60 second video clip for each trigger event.
- 4.15 Although Phase 4 does provide some minor additional foraging ground, it is thought that this is not the badger's main food source. Adjacent pasture fields and woodland would provide greater opportunities for badgers. No snuffle holes or digging characteristic of badgers was noted.

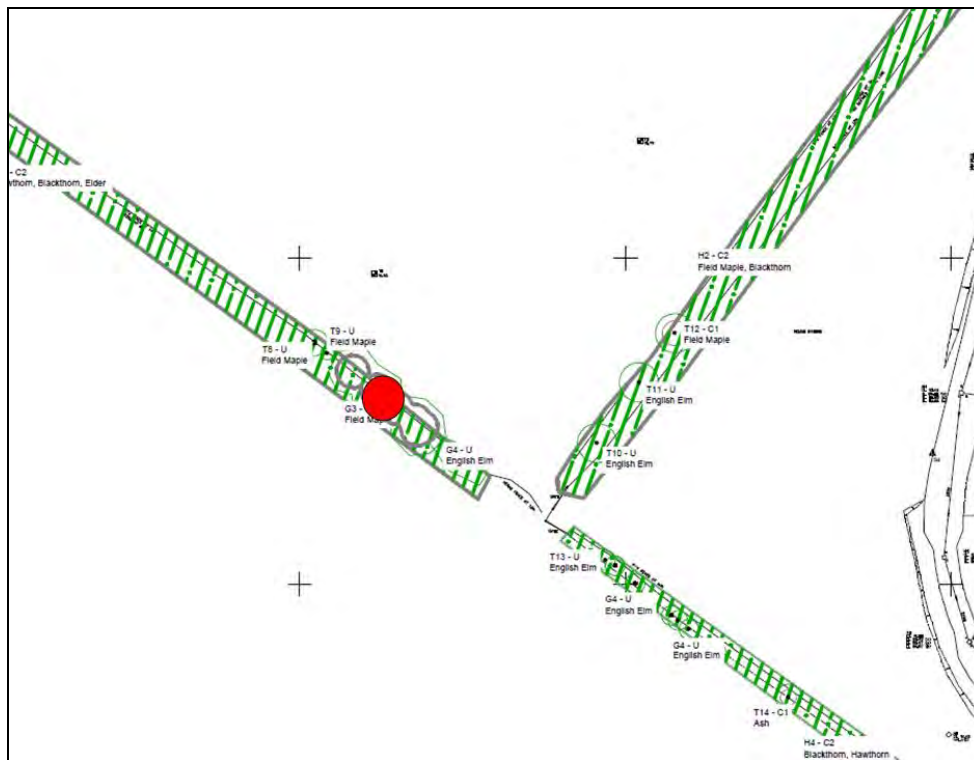
## *Bats*

4.16 The site provides similar opportunities for bats to commute along the boundaries and forage along the hedgerows and grass habitat. It is anticipated that the site will support a similar number and diversity of bats that was noted during the original surveys.

4.17 Further to the previous ecology survey, an additional field maple *Acer campestre* (G3 – HILL20939 01, shown in Image 3) was noted along the southern boundary of Phase 4 that contained a frost crack with the potential to support roosting bats, as shown in Photograph 4. This tree will be retained.



**Photograph 4: Bat roost potential (G3).**



**Image 3: Location of G3.**

4.18 The location of both trees with bat roosting potential can be found in Appendix 1.

### *Reptiles*

4.19 The site, in particularly Phase 4, has improved in its quality for reptiles due to the recent cessation of land (former arable) and as such a grass sward has developed. Central areas of Phase 4 contained bare earth patches and rabbit grazed grassland which was unsuitable for reptiles. Boundary habitats (hedgerow and grassland) could be used by common lizards, but it is not anticipated that populations of reptiles would have significantly increased.

4.20 The location of the previous records was within the adjacent field and this field is currently grazed grassland. It is anticipated that this field will still support the same numbers of reptiles previously recorded (small populations). Therefore should reptiles have colonised the Phase 4, it is anticipated that it would only be individuals or small numbers. The earth mound within Phase 4 does not provide suitable hibernacula for reptiles.

4.21 Precautionary mitigation measures for reptiles are outlined in Section 6.

## 5.0 WILDLIFE LEGISLATION

### *Non-European Protected Species*

5.1 Badgers and their setts are protected under the Protection of the Badgers Act 1992<sup>1</sup>. Activities that can harm badgers include destroying a sett, causing noise, additional lighting or vibration and pile driving, quarry blasting, lighting fires or using chemicals. It is an offence to;

- Wilfully capture, kill or injure badgers;
- Damage, destroy or block access to setts (even accidentally);
- Disturb badgers in their setts;
- Cruelly ill-treat a badger;
- Deliberately introduce a dog into a sett;
- Bait badgers;
- Dig for badgers;
- Possess, sell to offer for sale a live badger;
- Possess or control a dead badger or parts of the a badger (if unlawfully obtained); and
- Mark or attach a device to a badger.

5.2 All wild birds<sup>2</sup> and their nests are protected under the WCA as amended. It is an offence to;

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built;
- intentionally take or destroy the egg of any wild bird;
- have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or

---

<sup>1</sup> [http://www.legislation.gov.uk/ukpga/1992/51/pdfs/ukpga\\_19920051\\_en.pdf](http://www.legislation.gov.uk/ukpga/1992/51/pdfs/ukpga_19920051_en.pdf)

<sup>2</sup> <https://www.gov.uk/wild-birds-protection-surveys-and-licences>

the Protection of Birds Act 1954;

- have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954;
- use traps or similar items to kill, injure or take wild birds;
- have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations (see *Schedules*);
- intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

5.3 Widespread reptiles<sup>3</sup> (including; adder, common lizards, grass snakes and slow worms) are protected under the WCA as amended and it is therefore an offence to deliberately kill, injure, sell or trade widespread reptiles.

#### *European Protected Species*

5.4 European Protected Species are protected The Conservation (Natural Habitats, &c.) Regulations 1994, under regulation 39<sup>4</sup>, as well as the WCA. These species include great crested newts, all bat species, dormice and otter.

5.5 This level of protection for these species (at all stages of their life cycle) makes it an offence to do the following;

- deliberately to capture or kill a wild animal of a European protected species;
- deliberately to disturb any such animal;
- deliberately to take or destroy the eggs of such an animal; or
- to damage or destroy a breeding site or resting place of such an animal.

---

<sup>3</sup> <http://naturenet.net/law/herps.html>

<sup>4</sup> <http://www.legislation.gov.uk/ukxi/1994/2716/regulation/39/made>

- It is an offence to keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European protected species, or any part of, or anything derived from, such an animal.

## 6.0 PRECAUTIONARY METHODS OF WORKS

6.1 This mitigation will cover Precautionary Methods of Work (PMW) that should be adopted within Phase 3 & 4 plus species specific works. Species covered will include;

- Badgers;
- Bats;
- Breeding birds; and
- Reptiles.

6.2 The Developer will appoint a suitably qualified ecologist (SQE) to oversee site clearance work and to provide guidance to construction staff as required.

### *General Ecological Measures*

6.3 These ecological measures should be carried out at all times during the construction phase.

- Site induction and toolbox talks, provided by an appropriate person, will be regularly undertaken to ensure that all workers and contractors are aware of the presence of protected species within the area (to include badgers, breeding birds, reptiles and bats).
- All tree protection fencing will be checked weekly to ensure that it is still functioning in protecting boundary vegetation and the outlier badger sett.
- No overnight construction works will take place and construction related lighting will be directed away from retained areas of habitat. Noisy construction works will cease 1 hour before sunset.
- Night time security lighting and non-essential lighting will be fitted with automatic cut-off switches to minimise disturbance to wildlife.
- All chemicals will be stored in well-sealed containers and stored well

away from watercourses and boundary vegetation so that they cannot spill into the brook or be knocked over, or consumed by wildlife.

- All retained trees and areas of retained vegetation will be protected in accordance with the Tree Protection Plan using tree protection fencing. The integrity of the tree protection fencing will be checked regularly throughout the development to ensure that there is no damage and it will remain in situ until the completion of the development.

6.4 The ecological receptors identified; badgers, bats, reptiles, and breeding birds require specific protection measures during the site preparation and construction phases of the development.

#### *Badgers*

6.5 A large active main badger sett is located to the south of the site. As a result, there are high levels of badger activity along the boundaries of the site. An outlier sett is located along the western boundary of Phase 3 and a number of latrines were noted along the southern boundary of Phase 4.

6.6 The site manager is responsible for regularly checking the main sett and exclusion fencing as per the EPS licence that is in place. It is recommended that the site manager should also walk the perimeter of Phase 3 & 4 once the tree protection fencing is installed to check the site for badger activity once work commences.

6.7 No badger activity was noted within the earth mounds of Phase 3, or 4, but it is recommended that should areas of earth be moved by ground workers, it is checked prior to work being carried out to ensure there is no new evidence of badger digging.

6.8 The outlier sett on the eastern boundary of Phase 3 is being monitored with camera traps but does not appear to be actively used. An updated badger survey / pre-commencement check must be carried out prior to any works commencing on site to ensure there are no new sett entrance holes within the working corridor.



6.9 Below are Precautionary Methods of Works that must be carried out.

Vegetation clearance

6.10 It is recommended that ruderal vegetation that has developed upon the earth mounds within Phase 3 & 4 is managed during winter months in order to reduce the suitability of the earth mounds to be used by badgers. These areas should be strimmed and vegetation removed. Should this work be carried out after March 1<sup>st</sup>, the advice provided in paragraph 6.19 must be followed.



**Image 3: Approximate location of earth mounds required vegetation removal.**

6.11 For any work being carried out along the western boundary of Phase 3 and southern boundary of Phase 4, the following must take place:

- Advice from an ecologist should be sought throughout the development within this area.
- Prior to construction work commencing adequate surveys must be carried out to ensure that there is no risk to tunnel disturbance / collapse and to ensure there are no new sett entrances.

- Avoid heavy machinery within 5-10m of the boundary vegetation;
- Any areas of landscape planting within the areas marked below should be hand dug.

6.12 During the construction of the development, good practice activities must be adopted during the construction phase. These include;

- All work trenches left open overnight will include a means of escape for animals, such as a plank angled from the bottom of the trench to the top.
- Noisy machinery and construction lighting will not be used after dark to reduce potential disruption to foraging activity.
- Any tree felling should take place so that they fell away from any active badger setts and paths should not be blocked by felled timber or scrub;
- Fires and chemicals should not be used within 20m of a sett; and
- Any temporary exposed pipes should be capped to prevent badgers gaining access during the night.

6.13 Badger activity must be monitored at regular intervals throughout the development.

### *Bats*

6.14 Boundary vegetation is being retained and enhanced which will maintain foraging and commuting routes for bats.

6.15 Two trees along the southern boundary were identified as having bat roost potential (location shown in Appendix 1), but will be retained. It is imperative that these trees are retained and protected in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction.'

6.16 PMW must be adopted during construction, which will include protection measures

and recommendations for lighting.

- If artificial lighting is required during construction it must be directional and not cause any back spill onto boundary vegetation;
- Artificial lighting, if required, must not be used along the boundaries of the site. Lighting must be of a low lux and direction with cowls used, if required (information provided in paragraph 5.23 onwards); and
- Before any arboricultural works are carried out on retained trees, even for H&S purposes, the bat roosting potential of the trees must be assessed and additional surveys carried out where required.
- Should any work be required on G3, the advice of an ecologist must be sought.

### *Breeding birds*

6.17 The majority of boundary vegetation is being retained, but sections through the central hedgerow will be removed to allow for new road access. Site clearance should therefore be pre-empted by a nesting bird check by an ecologist if works occur during the bird nesting season.

6.18 Management of ruderal vegetation and grassland should be carried out in order to reduce the potential for ground nesting birds to colonise the site.

6.19 Vegetation removal works should be carried out during the period September to February, inclusive (i.e. outside of the bird nesting season). Should it prove necessary to remove trees or vegetation during the bird nesting season, a SQE will check the vegetation for the presence of active bird nests. If no active nests are found, clearance work will be completed within 48 hours of inspection. If any active nests are found, removal work will cease and an area of 5m radius around the nest will be cordoned off with hi-visibility tape and appropriate signage to prevent disturbance of nesting birds. Any noisy machinery, such as wood chippers, will be moved at least 10m away from the location of the nest. Work within the cordoned off area will only proceed once a SQE has confirmed that the

young have fledged and the nest is no longer in use.

6.20 No heavy machinery should be allowed in close proximity to the western and southern boundary hedgerows to reduce levels of disturbance.

### *Reptiles*

6.21 A small population of grass snakes and common lizards have been recorded within an adjacent field and some areas of the site has improved for reptiles.

6.22 It is therefore recommended that precautionary site clearance is carried out in order to avoid any potential impacts on reptiles that have colonised the site. This PMW will include;

- Prior to works commencing, the grassland will be strimmed in two phases – the first to c.150mm, area checked and arisings removed and the second to ground level and arisings removed, ensuring no roots or burrows are disturbed. The grassland must be strimmed in a direction towards the boundaries (southern, western and northern boundaries within Phase 4 and towards the eastern boundary of Phase 3). The following cut will be to ground level. Approximate areas of sensitively strimmed areas shown by green dashed lines in Image 4 below. This may change depending on the timing of works.



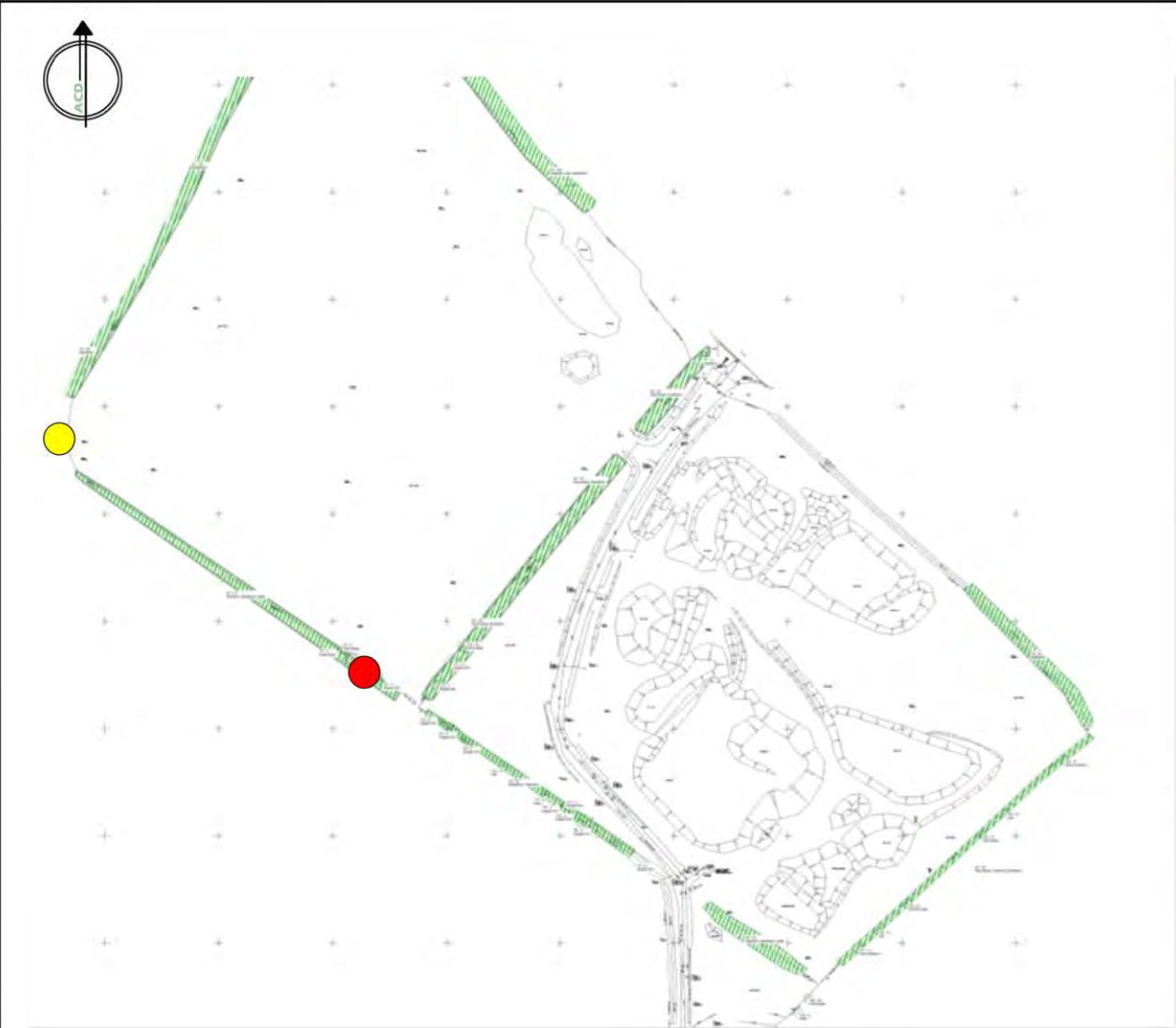
**Image 4: Approximate areas to be sensitively strimmed.**

- Reptiles would not be hibernating within the grassland and so it is recommended that strimming should be carried out during winter months.
- Sections of the central hedgerow are to be removed. In order to avoid conflicts with breeding birds, whilst avoiding impacts on any hibernating reptiles that could be present, it is recommended that the hedgerow is cut in two phases. The first is to cut the vegetation to c.500mm using hand tools during winter months. During April – October with temperatures above 10 degrees on consecutive days, the remainder of the hedgerow can be cut and uprooted, if required.
- Tree Protection fencing to be installed to prevent heavy machinery being within close proximity to retained hedgerows.
- All building materials must be stored above ground level (i.e. on pallets) and away from areas of tall vegetation, or inside well-sealed containers, to prevent creating potential refuge/hibernation sites for

amphibians or reptiles.

- The creation of rubble piles should be avoided.

# APPENDIX 1 : TREES WITH BAT ROOST POTENTIAL



**KEY:**

- Trees identified as having bat roost potential - 2016.
- Trees identified as having bat roost potential - 2010.

**ACD**  
ENVIRONMENTAL

Ecology  
Archaeology  
Arboriculture  
Landscape Architecture  
RODBOURNE RAIL BUSINESS CENTRE  
GRANGE LANE, MALMESBURY  
WILTSHIRE, SN16 0ES  
TEL: 01666 825646



scheme: Bicester NW Ph 3 & 4  
client: Hill Partnership / A2 Dominion  
Development  
date: January 2017

drawing no.: HILL20939-61  
drawn: SW checked: DW



**Head Office**

Rodbourne Rail Business Centre  
Grange Lane  
MALMESBURY  
SN16 0ES

Tel: 01666 825646

**Surrey Office**

Courtyard House  
Mill Lane  
GODALMING  
GU7 1EY

Tel: 01483 425714

**Hampshire Office**

Suite 6  
Crescent House  
Yonge Close  
EASTLEIGH  
SO50 9SX

Tel: 02382 026300

**Cambridgeshire Office**

PO Box 1272  
CAMBRIDGE  
CB1 0YR

Tel: 07825 868654

Email: [mail@acdenv.co.uk](mailto:mail@acdenv.co.uk)

Website: [www.acdenvironmental.co.uk](http://www.acdenvironmental.co.uk)

**ECOLOGY \* ARBORICULTURE  
ARBORICULTURAL SITE MONITORING AND SUPERVISION \* ARCHAEOLOGY  
LANDSCAPE & VISUAL IMPACT ASSESSMENT \* LANDSCAPE DESIGN & PLANNING  
LANDSCAPE AUDIT \* PROJECT MANAGEMENT \* EXPERT WITNESS  
LANDSCAPE MANAGEMENT**



## **Appendix 5192/2:**

Aspect Ecology Badger Monitoring 2017

---

# Technical Briefing Note

---

Project: Elmsbrook, Bicester

## TN02: Badger Monitoring

September 2017

---

### 1 Introduction

- 1.1 Aspect Ecology has been appointed by Crest Nicholson Regeneration in respect of ecological matters relating to land at Elmsbrook, Bicester. The site, which forms Phase 3 and 4 of the Exemplar Phase of the north-west Bicester Eco Town development, is in receipt of full planning permission for residential development (ref: 10/01780/HYBRID).
- 1.2 Survey work undertaken by a third-party consultancy in November 2016 identified the potential presence of a Badger sett along the eastern boundary of the site. Under the proposals, this potential sett would likely be affected by ground works due to its locality in relation to the permitted development.
- 1.3 In the UK, the relevant legislation pertaining to Badger is the Protection of Badgers Act 1992. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is common over most of Britain. Under the Protection of Badgers Act 1992 it is an offence to damage or destroy a Badger sett or any part of it, obstructing access to a sett and disturbing a Badger when it is occupying a sett. Guidance from Natural England<sup>1</sup> sets out that '*A Badger sett is protected by the legislation if it displays signs indicating current use by a Badger. A sett is therefore protected as long as such signs remain present. In practice, this could potentially be for a period of several weeks after the last actual occupation of the sett by a Badger.*' It is therefore important to determine if evidence of current use of the potential sett by Badger is present, in order to inform the need for any mitigation and licensing requirements.
- 1.4 Accordingly, this note sets out a methodology that has been followed to survey and monitor the potential Badger sett, along with the results of this work.

### 2 Update Survey

- 2.1 In order to try and establish the status of the potential Badger sett, an update survey was conducted by Aspect Ecology in June 2017.
- 2.2 The survey identified two mammal entrances located within the centre of the eastern boundary hedgerow, as shown on Plan 5192/TN02. Access into the hedgerow was not feasible,

---

<sup>1</sup> Natural England (June 2009) Interpretation of 'Current Use' in relation to Badgers occupying a sett.

so a thorough investigation of the mammal entrances was not fully possible, although both entrances appeared to be in active use, with fresh spoil and no evidence of leaves or debris in the entrances. However, no evidence to suggest use of the mammal entrances by Badger was recorded. Indeed, 2-3 smaller burrows were observed in the offsite grassland field in very close proximity which were of a size likely attributable to Rabbit, so it is possible that the aforementioned mammal entrances form part of a wider Rabbit warren.

### **3 Monitoring Exercise**

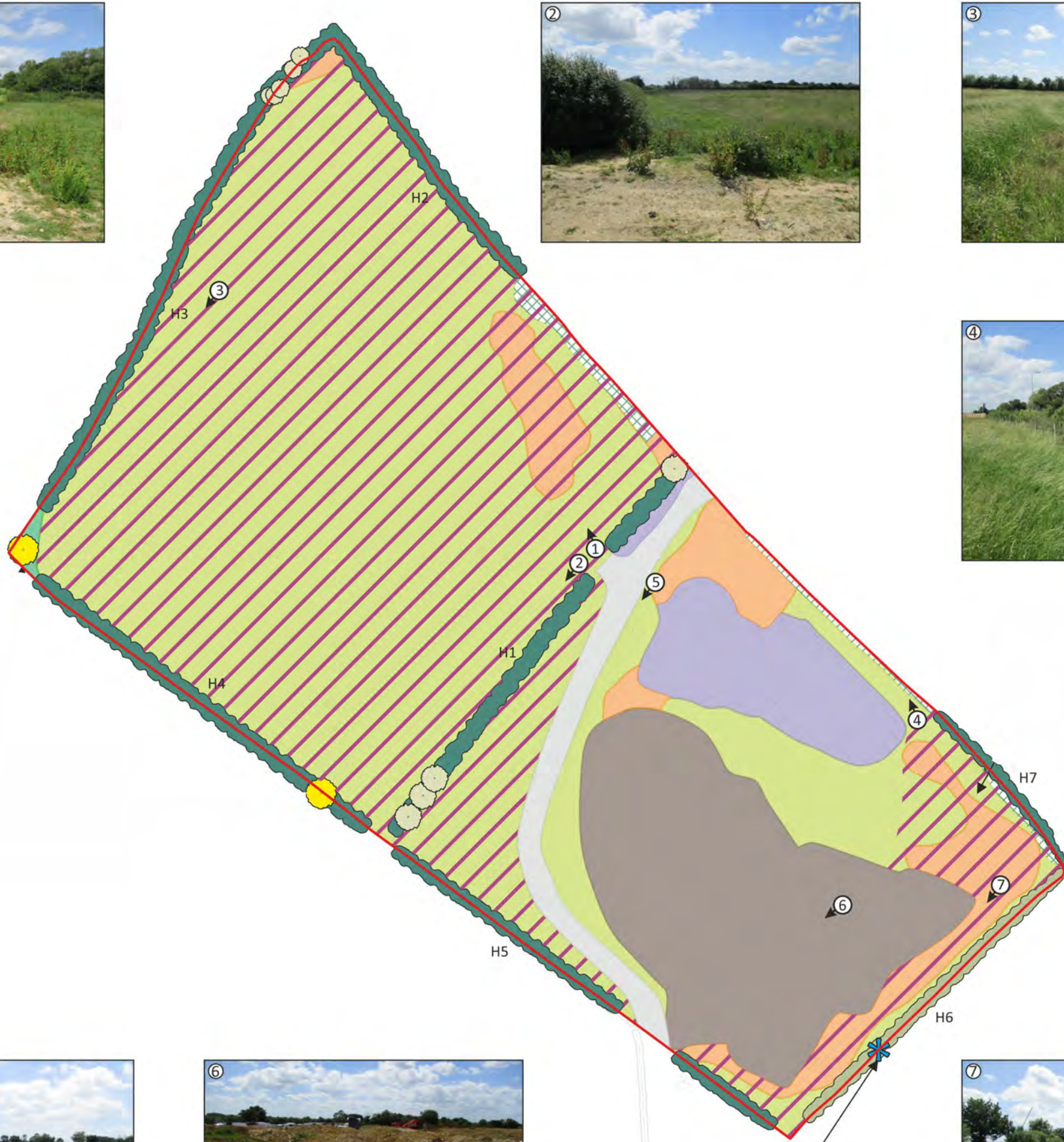
- 3.1 Given that the results of the update survey failed to definitively confirm use of the mammal entrances by Badger, a further period of monitoring was undertaken. The monitoring exercise comprised video surveillance in the form of remote camera traps positioned around the mammal entrances.
- 3.2 Natural England define current use of a sett as one which '*displays signs indicating current use by Badger*' with such signs potentially present for '*a period of several weeks after the last actual occupation of the sett by a Badger*'. As such, the monitoring exercise was undertaken over a three week period, from 22<sup>nd</sup> August 2017 – 12<sup>th</sup> September 2017. During the course of the monitoring, no evidence for the presence of Badger was recorded associated with either mammal entrance. However, evidence for current occupation by Rabbit was observed on numerous occasions, suggesting the burrows do indeed form part of a Rabbit warren.

### **4 Conclusion and Recommendations**

- 4.1 As set out within Natural England Guidance<sup>2</sup>, '*a sett is likely to fall outside of the definition of a sett in the Act [Protection of Badgers Act 1992] if the evidence available indicates that it is NOT in use by Badger e.g. absence of Badger field signs*'.
- 4.2 On this basis, given that no evidence to suggest occupation by Badger has been recorded over a period of several weeks, it is considered that the burrows do not form a Badger sett and therefore they are currently not covered under the legislation protecting this species. As such, measures could be undertaken to minimise the risk of the burrows being subsequently adopted by Badgers without contravention of the Protection of Badgers Act.
- 4.3 However, given that Badger are known to be present within the wider surrounds of the site, and that the use of setts by Badgers is a dynamic process, with new setts being regular created, it is strongly recommended that an update check survey be undertaken immediately prior to construction work beginning, in order to verify that the level and location of any Badger activity has not significantly altered.

---

<sup>2</sup> See footnote 1



Potential outlier Badger sett

- KEY:**
- Site Boundary
  - Semi-Improved Grassland
  - Tall Ruderal Vegetation
  - Unvegetated Mound
  - Woodland
  - Hardstanding
  - Recolonising Vegetation
  - Hedgerow
  - Hedgerow likely to qualify as 'important' under the Hedgerow Regulations (1997)
  - Dense Scrub
  - Tree
  - Photograph Location
  - Potential Badger Set

**CONFIDENTIAL**

**aspect ecology**

Aspect Ecology Limited - West Court - Hardwick Business Park  
 Noral Way - Banbury - Oxfordshire - OX16 2AF  
 01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Elmsbrook, Bicester	PROJECT
Potential Badger Set	TITLE
Plan 5192/TN02	DRAWING NO.
	REV.
September 2017	DATE



landscape planning • ecology • arboriculture

aspect

Aspect Ecology Ltd  
West Court  
Hardwick Business Park  
Noral Way  
Banbury  
Oxfordshire OX16 2AF

T: 01295 276066  
F: 01295 265072  
E: [info@aspect-ecology.com](mailto:info@aspect-ecology.com)  
W: [www.aspect-ecology.com](http://www.aspect-ecology.com)