The Ecology Consultancy

The Grove St Leonards on Sea/ Badger Survey / **Report for Miller Bourne Architects**

The Grove,

St Leonards on Sea, East Sussex

Badger Survey

Report for

Miller Bourne Architects

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Executive Summary

The Ecology Consultancy was commissioned to undertake a badger survey at The Grove, St Leonards on Sea in East Sussex. The survey was carried in March 2016 in order to update the findings of the Preliminary Ecological Appraisal carried out by The Ecology Consultancy (2012). The main findings from the surveys were as follows:

- The site contains large swathes of habitat suitable for badger sett building, foraging and commuting, and there are currently no significant barriers to the movement of badgers into or within the site.
- Badger activity was recorded across the site with the highest levels of activity associated with woodland habitat, located within the southern section of the site.
- Two active or partially active setts were recorded within the woodland habitat during the survey;
- Of the two setts identified, one was classified as a main sett, comprising ten entrance holes of which only three holes appeared to be active at the time of survey;
- The second sett was defined as an subsidiary sett and comprised three entrance holes of which only one was active;
- An abundance of snuffle holes were recorded within close proximity to the active setts located within the woodland;
- Intermittent snuffle holes were recorded within an area of scrub and semi improved grassland, located to the north of the woodland;
- Two badger runs/push-throughs leading into private residential gardens, situated immediately adjacent to the site, were recorded under a timber fence located along the western site boundary;
- Evidence of an active fox den comprising a single hole was recorded along the south east site boundary and a number of mammal runs and diggings were recorded within the improved grassland habitat, situated within close proximity to the fox den. Wild rabbits were also observed within this same locality and diggings within this section of the site are considered likely to be attributed to these two other species;
- The active badger setts were situated within an area of woodland that is proposed to be retained and redevelopment of the site is not likely to result in the loss of any active setts. However a number of mitigation measures are outlined to prevent any short or long term impacts upon badgers during redevelopment of the site.

1 Introduction

BACKGROUND

1.1 The Ecology Consultancy was commissioned by Miller Bourne Architects to carry out a badger *Meles meles* survey of The Grove (hereafter referred to as the site), which is located in St Leonards on Sea, East Sussex.

1.2 Evidence of badger was identified at the site during the initial Ecological Appraisal (The Ecology Consultancy, 2012). Redevelopment of the site is proposed in 2016 subject to planning consent being granted by Hasting Borough Council.

SCOPE OF REPORT

1.3 This report details the results of survey work undertaken, and provides an assessment of the status of badgers at the site, the potential impacts of the development proposals and measures to mitigate these. The surveys followed good practice guidelines (Scottish Natural Heritage, 2003; Harris *et al.,* 1989) and were undertaken by ecologists with experience of working with this species.

1.4 Badgers and their setts are legally protected under The Protection of Badgers Act 1992 (as amended) – see Appendix 3. All details of sett locations included within this report are confidential and should not be disclosed to the general public.

1.5 This appraisal has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2013) and detailed in British Standard 42020:2013: Biodiversity – Code of Practice for Biodiversity and Development (BSI, 2013).

SITE CONTEXT AND STATUS

1.6 The site is located at National Grid Reference TQ 784 104 on the western edge of Hastings and accessed via Darwell Close. The site comprises the grounds associated with the former secondary school The Grove, which covers approximately 9.29 hectares. The majority of the built structures formerly present at the site have been demolished.

1.7 The site comprises a built structure, areas of hard-standing and sports pitches, along with an area of woodland and a large pond located in the south-west. It is surrounded

to the east, south and west by residential housing, and to the north by Dogkennel Wood, which is classified as ancient semi-natural woodland (ASNW) and is a Site of Nature Conservation Importance (SNCI).

1.8 A number of blocks of woodland; many of which are ancient, are located within 2km of The Grove. Combe Haven Site of Special Scientific Interest (SSSI) is located approximately 220m to the west of the site. The SSSI was notified due to its rich diversity of habitat (English Nature, 1985), which includes alluvial meadows, ditches, fen, reedbed and woodland. A reservoir is present approximately 165m to the northwest of the site and there are a number of watercourses and water-bodies present within the local landscape; in particular those associated with the Combe Haven river to the west.

DEVELOPMENT PROPOSALS

1.9 Subject to planning permission being granted the site is proposed to be redeveloped for residential housing. It is proposed to erect 190 houses plus a three storey block of flats (20 flats) giving a total of 210 dwellings on a site area of 9.326 hectares (22.5 DPH).

1.10 The current development plan proposes to retain the woodland habitat present upon the site and a 15m margin adjacent to ancient woodland along the north boundary is proposed.

2 Methodology

BADGER SURVEY

Personnel

2.1 The survey of the site was undertaken by Charlie Dwight, a Senior Chartered Ecologist and full member of CIEEM. Charlie has ten years' experience in badger survey, bait marking and mitigation.

Badger Survey

2.2 The badger survey was undertaken on 1 March 2016. The survey followed best practice guidelines (Scottish Natural Heritage, 2003; Harris *et al.,* 1989).

2.3 During the survey, all areas of suitable habitat were systematically examined for evidence of badger activity. The surveyor recorded all badger field signs, including:

- *Setts*: several sett types may be present within a social group territory, ranging from a single hole to numerous interconnecting tunnels. Setts can be categorised into main, annexe, subsidiary and outlier (Wilson *et al.*, 1997). See Table 1 for definitions of these sett categorisations;
- *Dung pits and latrine sites*: badgers characteristically deposit dung in pits, which may be located along boundary features and within the social group territory. These sites serve as means of inter- and intra-group communication. A latrine is comprised of several dung pits. Dung pits and latrines are often used to mark setts or territorial boundaries;
- *Paths and runs*: well-used routes between setts and/or foraging areas which may be used by generations of badgers;
- *Snuffle holes and foraging signs*: areas of disturbed vegetation often formed by badgers foraging for ground-dwelling invertebrates such as earthworms and insect larvae, and subterranean roots and tubers. Snuffle holes may sometimes be re-used as dung pits on territorial boundaries;
- *Hair*: often found among spoil and bedding outside sett entrances or snagged on fences alongside well-used runs; and,

- *Footprints*: easily distinguishable from other large mammal species, such as the fox *Vulpes vulpes* and domestic dog *Canis familiaris,* often found along paths and runs or in spoil outside sett entrances.

2.4 Any excavations attributed to badgers were classified as to whether they were in current use in line with the methodology given in the National Badger Survey (Cresswell *et al.*, 1990; Wilson *et al.*, 1997). The location and classification of setts and field signs are detailed in Appendix 2.

Table 1: Conventions used in classifying badger setts (Wilson *et al.*, 1997)

Sett Type	Definition
Main	Several holes (average of 15) with large spoil heaps and obvious paths leading to and from the sett and between sett entrances. Normally the breeding sett and in continuous use.
Annexe	Normally less than 150m from the main sett and connected by well-used pathways. May comprise several holes (six holes on average), and may not be in use all the time even if the main sett is very active.
Subsidiary	Usually at least 50m from the main sett with no obvious paths connecting to main sett. Fewer holes (five on average) and may only be used intermittently. Ownership can often only be determined by bait-marking.
Outlier	Usually comprising one or two holes with little spoil at the entrance(s). No obvious paths connecting to other setts and may only be used sporadically. Often used by foxes and rabbits *Oryctolagus cuniculus* when not in use by badgers.

LIMITATIONS

2.5 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment. It is considered that this report reflects accurately the status of badger activity on the site at the time of the surveys although patterns of activity can change due to perturbation or other factors.

Badger Survey

2.6 It was not possible to access private residential gardens adjacent to the site. Signs of badger activity in these areas are therefore not accounted for, however clear runs into these areas was recorded where present.

2.7 Areas of scrub restricted access in a number of locations around the site. Where these areas could not be accessed, evidence was searched for, including any pathways extending out from the scrub, which may indicate the presence of a badger sett.

2.8 The badger survey was undertaken on the 1 March and within the optimal survey period, when there are peaks in territorial activity. Therefore the results presented within this report are considered to provide a thorough assessment of badger activity at the site and mitigation measures that address the limitations associated with the survey are provided within the recommendations section of this report.

3 Results

BADGER SURVEY

Habitat suitability

3.1 The site contains large areas of suitable badger habitat, both in terms of substrate and topography for sett building, with woodland, dense scrub and semi-improved grassland providing opportunities for foraging. There are currently no significant barriers to the movement of badgers within the site and to suitable habitats located immediately adjacent to the site.

Survey Results

3.2 Badger activity was largely confined to the woodland, scrub and semi improved grassland habitats located in the south-west, west and north-west sections of the overall site. The highest levels of foraging activity was concentrated within the woodland and included the presence of two active setts. Badger snuffle holes and runs under fences leading into residential private gardens were recorded within the scrub and grassland habitats located to the west of the site.

3.3 Over the course of the survey two active and/or partially active badger setts were identified within the woodland habitat.

3.4 A description of each sett and the signs of badger activity recorded is provided in Table 2. Numbers have been assigned to aid identification of the setts. Maps of the results including other signs of badger activity such as foraging signs, latrine sites and pathways are presented in Appendix 2.

3.5 The badger setts identified during the survey were classified as follows:

- *Main sett* – one main sett comprising ten entrance holes of which only three holes were active at the time of survey. The sett was is within the woodland habitat (proposed to be retained) and situated approximately 30m west from an existing access track.
- *Subsidiary sett* – one subsidiary sett comprising three entrance holes (only one hole was in use at the time of survey) was identified and located within the same area of woodland, approximately 20m west of the main sett.

Table 2: Overview of badger sett classification and field signs

Map Feature Ref	Feature	Sett classification	Description	Grid Reference
1	Sett 1	Main sett	Located in woodland proposed to be retained. The set comprised ten entrance holes of which three appeared to be in use.	TQ 78400 10369
2	Sett 2	Subsidiary sett	Located in woodland proposed to be retained. The set comprised three entrance holes of which two were overgrown and disused.	TQ 78304 10397
3	Run	n/a	Badger run/push-through under timber fence leading into private garden situated west of the site.	TQ 78275 10414
4	Run	n/a	Badger run/push-through under a timber fence leading into a private garden situated west of the site.	TQ 78273 10438
5	Snuffle Holes	n/a	Approximately 60 snuffle holes recorded within the woodland proposed to be retained and within close proximity to two active setts	TQ 78400 10369
6	Fox Den	n/a	Located within an area of dense scrub situated to the north west of the site. Diggings and runs were also present within the scrub.	TQ 78283 10474
7	Mammal Run	n/a	Mammal run within improved grassland. Fox *Vulpes vulpes* and rabbit *Oryctolagus cuniculus* activity likely.	TQ 78640 10324
8	Mammal Run	n/a	Run leading up to a gap in the garden fence, located to the south-east of the site. Rabbit or fox is considered likely and no badger snuffle holes were recorded within this section of the site.	TQ 78640 10324
9	Mammal Hole	n/a	A single mammal hole considered likely to be fox was recorded within scrub located	TQ 78646 10366

Table 2: Overview of badger sett classification and field signs

Map Feature Ref	Feature	Sett classification	Description	Grid Reference
			adjacent to a stand of Japanese knotweed. Two further holes not in current use were also present.	
10	Mammal Run	n/a	Mammal run leading to a gap under a garden mesh fence, fox or rabbit considered likely. Diggings within an area of improved grassland were present and rabbits were observed close by.	TQ 78565 10306

4 Conclusions and Recommendations

CONCLUSIONS

4.1 The site is considered to contain high value sett building, commuting and foraging habitat for badgers. The majority of badger activity at the site is largely confined to the woodland habitat located within the south-west section of the overall site which will be retained under the current development proposal. The results of the 2016 badger survey are largely consistent with the results recorded during the ecological appraisal undertaken in 2012 and suggests the social group is stable.

4.2 Two active setts including a partially used main and sett were present within the woodland habitat and no other active sets were found elsewhere upon the site, at the time of the survey. These setts are proposed to be retained in situ and the development is not likely to result in any long term impacts upon these setts where suitable avoidance mitigation measures are implemented.

4.3 Badger runs and snuffle holes were also recorded within the north western section of the site, however no active setts were found within this location. Badger runs and push-throughs into adjacent gardens may indicate that further annexe or outlier setts associated with this social group of badgers is located outside the site boundaries within private residential gardens, adjacent to the site.

4.4 Two areas of dense scrub were present (refer map references 6 and 9) within the site boundaries and evidence of fox dens were recorded. No evidence of badgers was found within these areas, however the presence of dense scrub may have obscured badger signs.

4.5 Given the low density and localised distribution of badger activity at the site, the proposed development of the site is not likely to result in any long term permanent impacts upon badgers. However short term impacts associated with increased noise and obstruction to dispersal corridors is likely to occur in the absence of suitable mitigation. Severance of traditionally used pathways by development, and increased extra-territorial movements as a result of perturbation and disruption of group dynamics, could also lead to an increase in road accidents/deaths (Harris & Yalden, 2008).

4.6 Recommendations are made below with regarding to avoiding and mitigating potential impacts upon badgers. Compensation and enhancement measures are also recommended, as is further survey and monitoring post-construction.

RECOMMENDATIONS

Further Survey

4.7 Badger territories remain relatively stable over time; however, new setts can be created and the status of setts may change. Therefore, a re-survey of badger setts should be undertaken no more than 8 weeks prior to site clearance works commencing, in order to provide an update on the status of badgers at the site and to ensure that any prescribed mitigation measures are adequate to address possible impacts on badgers.

4.8 Presence of badgers could not be fully discounted within two areas of dense scrub (refer map reference numbers 6 and 9) at the time of the 2016 survey. Whilst presence of badgers within these areas is considered unlikely based upon the signs recorded at the time of the survey, these areas are recommended to be strimmed no more than 8 weeks prior to site clearance commencing, to enable a thorough updated badger survey to be carried out.

Retention of badger setts

4.9 Two active badger setts are located within the woodland and are proposed to be retained. If the scheme design is subject to any changes the advice of an ecologist should be sought prior to any works commencing.

4.10 The isolation of badger setts should be avoided and existing corridors providing connectivity through the landscape should be retained. Where there are opportunities to enhance existing habitat or create new habitat that functions as a movement corridor these should be pursued.

4.11 Any new planting used to strengthen existing corridors of woody habitat or create new ones should use native tree and shrub species typical of the local landscape and be guided by the existing species mix present. British native stock should be use for planting in order to avoid the potential introduction of pest species or diseases.

4.12 Loss of primary badger foraging habitat (woodland) should be minimised and, where this cannot be avoided, measures should be taken to provide compensatory foraging habitat.

4.13 Close coordination with any proposed neighbouring schemes is recommended as developments to the west and north of the survey area will have cumulative impacts on badgers and may cause further perturbation of territories.

Safeguarding badgers during development

4.14 A number of precautions are detailed below that should be taken during construction to prevent accidental harm to badgers that may be commuting or foraging within the site and indirect disturbance to any badgers occupying the sett during the works:

- any security lighting should be positioned as far away as possible from setts or runs and there should be no direct illumination of any entrances;
- chemicals should be stored in sealed containers, and preferably will not be left out overnight;
- any trenches left uncovered overnight should have a means of escape; such as a wooden ramp, should a badger (or other animal) find its way in;
- the blocking of any pathways clearly used by mammals should be avoided;
- the use of any heavy machinery that has the potential to cause noise and/or vibration should be constrained to occur only outside of a 20m buffer around a sett;
- fires within 20m of a sett should be avoided;
- and trees should be felled away from setts.

Safeguarding badgers post-development

4.15 Badgers are faithful to their commuting routes and continue to try and use them despite any obstacles being created, including roads and gardens. Foraging routes to and from any main setts need to be safeguarded wherever possible to minimise risks to badgers. Where development intersects these routes, mitigation should include the incorporation of wildlife corridors and suitably sized gaps in fencing.

4.16 Boundary features such as hedgerows and field margins serve to provide important foraging and commuting routes for badgers and these should be retained and

enhanced where possible. As part of ecological master-planning for the site open green spaces and green corridors should be incorporated to ensure foraging areas are retained or any losses compensated for.

Closure of badger setts

4.17 The current scheme design proposes to retain the woodland habitat where two active badger setts have been recorded. However if the proposed scheme design is subject to change and works that are likely to cause damage or destruction to a badger sett that is in current use, obstruction of a sett or in any way or disturb and badgers using it, a badger licence with respect to development from Natural England will be required. Planning permission will need to be obtained before a licence application can be submitted.

4.18 The following elements are likely to form the basis of a licence application with respect to badgers and development:

- *Timing*: exclusion of badgers and sett closure can only be undertaken between 1 July and 30 November (inclusive) to avoid disturbance during the breeding season.
- *Exclusion:* in order to avoid trapping badgers underground, it is usually a condition of any licence that badgers are excluded from the sett first. This is generally undertaken through the installation of one-way badger gates which enable badgers to leave the sett but not to return. Full details regarding the design and fitting of badger gates is provided by Natural England (2011). Installation of these gates without a badger licence with respect to development, would constitute an offence under the Protection of Badgers Act 1992 (as amended).
- *Monitoring:* during the sett exclusion, monitoring will need to be carried out every two to three days to establish a clear three-week period where no badger movement has taken place.
- *Sett closure:* following the monitoring period setts are typically slowly destroyed by hand or using a mini-excavator, under an ecological watching brief.

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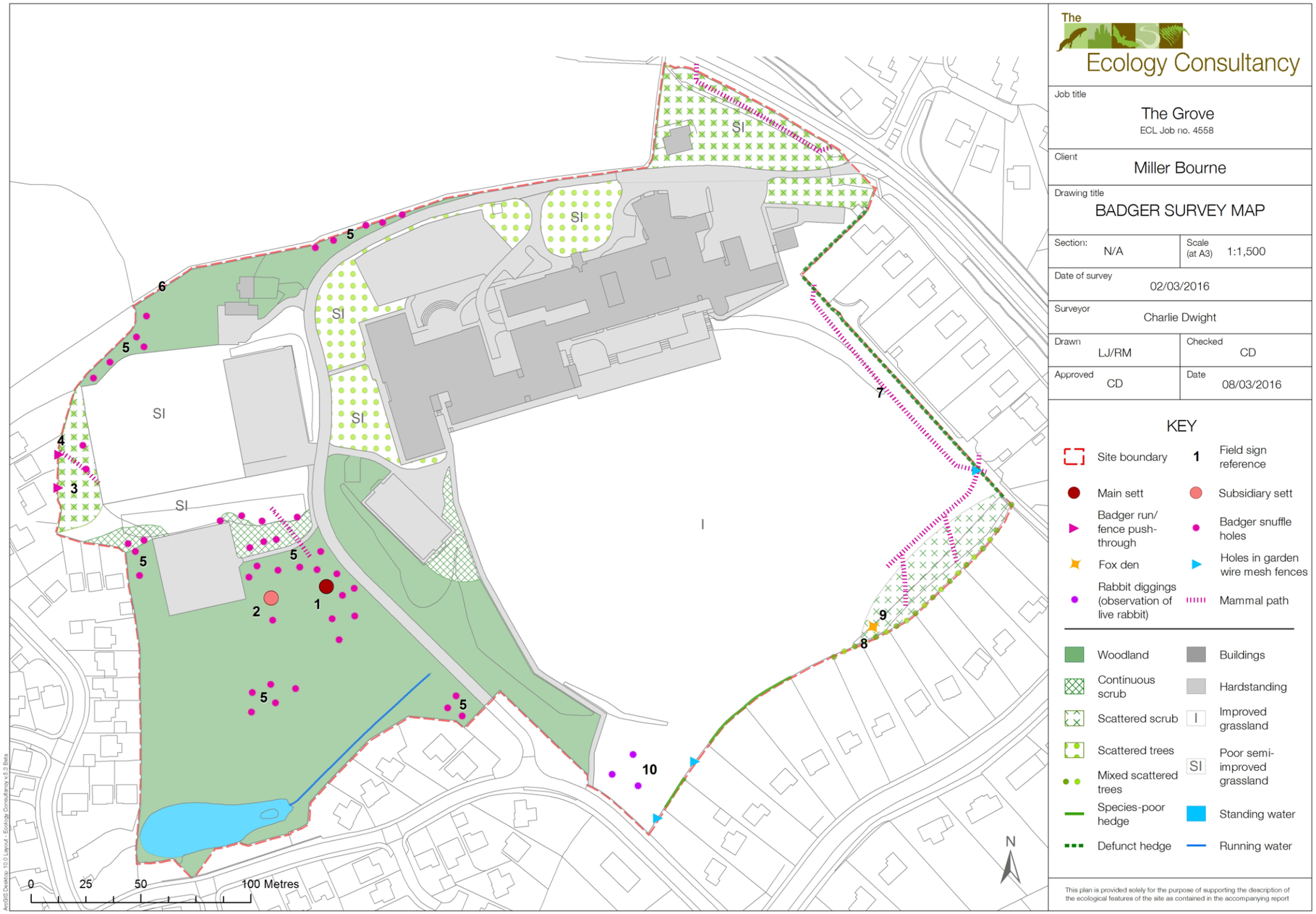
Appendix 1: Survey Plan

Map 1: Badger Survey Plan



The Ecology Consultancy

Job title	The Grove ECL Job no. 4558
Client	Miller Bourne
Drawing title	BADGER SURVEY MAP
Section: N/A	Scale (at A3) 1:1,500
Date of survey	02/03/2016
Surveyor	Charlie Dwight
Drawn LJ/RM	Checked CD
Approved CD	Date 08/03/2016

KEY

Site boundary	1	Field sign reference	
Main sett		Subsidiary sett	
Badger run/ fence push-through		Badger snuffle holes	
Fox den		Holes in garden wire mesh fences	
Rabbit diggings (observation of live rabbit)		Mammal path	
Woodland		Buildings	
Continuous scrub		Hardstanding	
Scattered scrub		Improved grassland	I
Scattered trees		Poor semi-improved grassland	SI
Mixed scattered trees		Standing water	
Species-poor hedge		Running water	
Defunct hedge			

This plan is provided solely for the purpose of supporting the description of the ecological features of the site as contained in the accompanying report

ArcGIS Desktop 10.0 Layout - Ecology Consultancy v3.0 Beta

Appendix 3: Legislation

Important Notice: This section contains details of legislation and planning policy applicable in Britain only (i.e. not including the Isle of Man, Northern Ireland, the Republic of Ireland or the Channel Islands) and is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

BADGER

Protection of Badgers Act 1992

Badgers receive legal protection under the Protection of Badgers Act 1992 which consolidates the previous Badger Acts of 1973 and 1991. The Act makes it an offence to:

- Wilfully kill, injure, take, or, in England and Wales only, attempt to kill, injure or take a badger;
- Cruelly ill-treat a badger, including use of tongs and digging;
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett[1] or any part thereof;
- Intentionally or recklessly disturb a badger when it is occupying a badger sett; or,
- Intentionally or recklessly cause a dog to enter a badger sett.

Under Section 10(2) and (3) of the Act, Natural England, under powers conferred by the Secretary of State, has authority to issue licences for the following purposes:

To interfere with badger setts for the following purposes:

- Preventing serious damage to land, crops, poultry or any other form of property (e.g. house, garden, road etc.);
- Any agricultural or forestry operation;
- Any operation to maintain or improve any existing watercourse or drainage works, or to construct new works required for the drainage of land, including works of defence against sea or tidal water;

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[1] A badger sett is defined in the legislation as *"any structure or place which displays signs indicating current use by a badger"*. This includes seasonally used setts. Natural England (2009) have issued guidance on what is likely to constitute current use of a badger sett: www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf

- Preventing the spread of disease.

To kill or take badgers for the following purposes:

- Preventing the spread of disease;

Wild Mammals (Protection) Act 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to:

- Mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

The Ecology Consultancy is part of the Temple Group.

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