ECOLOGY REPORT

ROBSACK A SITE, CHURCH WOOD DRIVE, ST LEONARDS-ON-SEA

Report for

Hastings Borough Council

July 2012

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1 EXECUTIVE SUMMARY

1.1.1 This report outlines the results of ecological assessment completed by Applied Ecology Ltd over the period July 2010 to April 2011 with a follow-up survey for great crested newt completed in May 2012 in relation to proposals for future development at Robsack Ave, Hastings (the 'Robsack A' site).

1.1.2 The development site has no statutory or non-statutory designations. It does however adjoin Church Wood and Robsack Wood Local Nature Reserve, which is also ancient woodland. A narrow finger of ancient woodland occurs within the site beyond the LNR boundary along a steep earth bank in the south of the site.

1.1.3 The results of the surveys confirm that the site (0.96ha) supports relatively species-rich neutral grassland (NVC community MG5), with substantial bramble and woody scrub encroachment due to management neglect. The site is surrounded mainly by woodland, with existing residential development along its north east boundary.

1.1.4 The site supports a large population of slow-worm and common lizard, and these animals will need to be captured and translocated to a suitable off-site receptor site in advance of development. A single garden pond located 110m from the site has been confirmed to support a small population of great crested newt, and great crested newt in their terrestrial life stages are also therefore likely to be present on the development site in small numbers. These, like the reptiles, will need to be removed from the site under the auspices of a Natural England European Protected Species licence. Areas of adjoining woodland and patches of bramble/woody scrub within the site also support dormice. The clearance of woody/bramble scrub to enable construction will need to be completed under an EPS development licence. No other significant adverse impacts on protected wildlife are predicted to occur.

1.1.5 In summary, although there are no over-riding ecological constraints to future development of the site, a range of mitigation measures will be required to avoid/minimise potential impacts reptiles and dormice during site clearance and construction. In addition, potential negative impacts on the adjoining woodland during the development's construction and operational phases would be avoided by sensitive development design, including maintaining a native woodland buffer around the development and retaining arboreal connectivity across the proposed access road as shown on **Figure 1**. Compensation for semi-natural habitat loss

Key

Site boundary

Ancient woodland to be retained, protected and improved by enhanced management resulting from financial contribution towards management costs

Exisiting native woodland/scrub to be retained between ancient woodland and development site

New tree and scrub plantings to be managed as dense buffer

Robsack A, Church Wood Drive, St Leonards-on-Sea
Figure 1: Ecology Landscape Plan

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impacts within the development site would be provided by a financial contribution made towards future management of the adjoining woodland LNR.

2 INTRODUCTION

2.1 BACKGROUND

2.1.1 Applied Ecology Ltd (AEL) was commissioned by Kember Loudon Williams Ltd (on behalf of Hastings Borough Council, HBC) to complete an ecological appraisal of a land area known as the Robsack 'A' site, located off Robsack Avenue, St Leonards-on-Sea, East Sussex (TQ782109), as shown by **Figure 2**.

2.1.2 Subject to completion of a Section 106 Agreement, outline planning permission for residential development on the site consisting of 32 apartments in two blocks and 40 car-parking spaces, was granted by the HBC Planning Committee in June 2008 (planning application reference HS/OA/08/00221). Following s.106 negotiations it became apparent that certain material changes had occurred since the time of the Committee resolution, and additional supporting information was requested to be considered by the Council and its Committee members. The material changes included an amendment to the Weald and Downs Ancient Woodland Survey, confirming revisions to the boundaries of ancient woodland to Church and Robsack Woods (August 2009), and the publication of Natural England's standing advice on protected Species and Ancient Woodland (February 2009). As part of the review, HBC have requested that existing baseline ecology information (completed by Canopy Tree and Landscape Planning in 2007) is verified and updated, and a Tree survey and report is undertaken in conjunction with a detailed scheme for the new access road, focusing on the entrance to the site, to assess any potential impact on nearby trees within the ancient woodland. This additional information will inform any future planning decisions made in relation to this site.

2.1.3 Standing Advice issued by Natural England is a material planning consideration where surveys or reports have been submitted which indicate that an application is likely to affect species protected under the Habitats Regulations 2010 or other protected species. Standing advice is designed to provide guidance for local authorities to:

- Decide where there is a reasonable likelihood that protected species are present because of the associated habitats and features in the vicinity of the application site and therefore whether survey reports are required.
- Survey requirements for those species most frequently affected by

Robsack A Site, Church Wood Drive, St Leonards-on-Sea
Figure 2: Site boundary

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development proposals.

2.1.4 The following report provides details of work completed by AEL over the period July-September 2010 in order to update the ecological baseline in relation to proposed future development plans for the site. The following surveys have been completed by AEL:

- **Habitat and National Vegetation Classification (NVC) assessment survey** (completed 6 July 2010);
- **Badger survey** of the site and surrounding woodland (26 August 2010);
- **Reptile survey** (July-September 2010);
- **Dormouse survey** (July-September 2010);
- **Great crested newt survey**, comprising a visual inspection of ponds with 250 metres of the site, including calculation of Habitat Suitability Index (HSI) for each pond (6 July 2010, April 2011 and May 2012) and a great crested newt presence/absence and population survey of three ponds in May 2012;
- **Bat survey**, comprising a daylight tree inspection and after-dark bat activity survey (6/7 July 2010).

2.1.5 AEL have been provided with and have reviewed all drawings, reports and other information which accompanied planning application HS/OA/08/00221, including all updated tree reports which are prepared in association with the highways consultant Monson Engineering.

3 EXISTING ECOLOGICAL INFORMATION

3.1 PLANNING POLICY BACKGROUND

3.1.1 At national level *PPS 9 Biodiversity and Geological Conservation* provides the policy basis for considering ecological issues. At the local level, the adopted Hastings Local Plan 2004 Policies NC1 to NC 12 provide the policy basis.

UK Biodiversity Action Plan

3.1.2 The UK Biodiversity Action Plan (UK BAP) was published in 1994, and is the UK Government's response to the Convention on Biological Diversity (CBD), which the UK signed up to in 1992 in Rio de Janeiro. The CBD called for the development and enforcement of national strategies and associated action plans to identify, conserve and protect existing biological diversity, and to enhance it wherever possible.

3.1.3 The UK BAP describes the biological resources of the UK and provides detailed plans for conservation of these resources, at national and devolved levels. Action plans for the most threatened species and habitats have been set out to aid recovery.

Habitats and Species of Principal Importance in England

3.1.4 The Natural Environment and Rural Communities (NERC) Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.

3.1.5 The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

3.1.6 Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP). There are 943 species of principal importance included on the S41 list. These are the species found in England which have been identified as requiring action under the UK BAP.

3.2 DESIGNATED WILDLIFE SITES

Statutory Wildlife Sites

3.2.1 The site does not carry any statutory or non statutory wildlife designations.

Local Nature Reserves

3.2.2 In recognition that they contain ancient woodland, the borough Council has designated Church Wood and Robsack Wood which adjoin the site to the northwest and southeast respectively as a single Local Nature Reserve (Church Wood and Robsack Wood LNR). A figure showing the LNR boundary is provided in **Appendix 1**.

Ancient Woodland

3.2.3 *PPS9 Biodiversity and Geological conservation* requires local authorities to identify any areas of ancient woodland within their areas that do not have statutory protection. The area classified as ancient woodland in the vicinity of the site is mainly coincidental with the Church Wood and Robsack Wood LNR boundary, but a narrow finger of ancient woodland is also present within the site (beyond the LNR boundary) occurring along a steep earth bank that extends southeast from church Wood and runs parallel with a metalled track. There is also a small area of ancient woodland at the southern end of Robsack wood, which is not within the LNR boundary. The extent of ancient woodland is shown in **Appendix 2**.

3.3 PREVIOUS ECOLOGY SURVEYS

1998 Borough Ecologist Report

3.3.1 AEL has noted the report of the Borough Ecologist dated 19 January 1998 for Application HS/OA/97/00670. In doing so we recognise that the information is historical and written prior to a national policy framework for considering biodiversity within the planning system. Currently all applications affecting biodiversity are required to comply with national Planning Policy, PPS9 and its corresponding legal circular and Good Practice Guide. In considering the current application AEL has undertaken all work in compliance with current national and local planning policies.

2007 Surveys undertaken by Canopy Tree & Landscape Planning

3.3.2 A number of ecology surveys were undertaken by Canopy Tree & Landscape Planning in 2007 in relation to the previous planning application. This included a preliminary ecology survey[1], specific surveys for amphibians (visual pond inspection only)[2], badgers[3], reptiles[4], and bats[5], as well as outline proposals for an Ecological Mitigation Strategy[6] associated with the proposed development at that time. The presence of dormouse on site was considered unlikely by Canopy and the species was not specifically surveyed.

3.3.3 The Canopy reports have been reviewed by AEL and the key findings can be summarised as follows:

- The site was found to support a varied semi-improved grassland flora characteristic of neutral soil conditions, with encroaching peripheral scrub of bramble, gorse and young trees.
- Two ponds were identified close to the site within Robsack Wood and were visually inspected to assess their potential to support breeding amphibians, in particular great crested newt (GCN). The ponds were found to be heavily shaded and were not considered ideal for breeding GCN. However, the presence of this species was not discounted, and specific amphibian survey during the breeding period was recommended in order to confirm their presence/absence – this was not completed.
- A single hole partially-used outlying badger sett was present in the south-west corner of the site at TQ78211087, together with evidence of badger foraging and paths within the site.
- A reptile survey of the site was completed and confirmed the presence of a low population of slow-worm (peak count 5 adult individuals) and a good population of common lizard (peak count 11 adult individuals).

[1] Canopy (Feb, 2007). *Preliminary Ecological Survey - Robsack A*. Prepared by Dr Patrick Roper for AJK Ltd.
[2] Canopy (Oct, 2007). *Ecological Assessment of Two Ponds in Robsack Wood - Robsack A*. Prepared by Dr Patrick Roper for AJK Ltd.
[3] Canopy (Sept, 2007). *Assessment of Badger Presence and Activity – Robsack A*. Prepared by Peter Mortimer for AJK Ltd.
[4] Canopy (Sept 2007). *Reptile Survey and Report – Robsack A*. Prepared by Jason Weller for AJK Ltd.
[5] Canopy (Aug, 2007). *Bat Survey and Report - Robsack A*. Prepared by Roger Jones for AJK Ltd.
[6] Canopy (November, 2007). *Ecological Mitigation Strategy – Robsack A*. Prepared by Owen Saward for AJK Ltd.

- A two visit after-dark bat activity survey was completed on 13 and 17 August 2007. No trees within or adjacent to the site were identified as supporting roosting bats, but a soprano pipistrelle roost *Pipistrellus pygmaeus* was suspected to occur close to the site either within Robsack Wood or in a house along Robsack Avenue. The survey confirmed that the woodland edges were used by common pipistrelle *P. pipistrellus* and soprano pipistrelle bats for feeding and commuting.

2002 Hastings and St Leonards Borough Badger Survey

3.3.4 Relevant badger sett records collected by the 2002 Hastings and St Leonards Borough Badger Survey have been provided to AEL by HBC. In summary, the 2002 data included records of two badger setts close to, but just beyond the site boundary.

3.3.5 Both setts were located within Church Wood, the first (referred to as CHW08) comprised a single well-used hole, and was located five metres from the site boundary, and the second (CHW09), which consisted of three holes (two well-used, and one disused) was located 20 metres from the site boundary.

3.3.6 The locations of these two badger setts (CHW08/9) do not correspond to the sett recorded by Canopy in 2007 and represent additional setts. Therefore, records of three different badger setts exist that are relevant to the site, namely a single hole outlier located within the site (recorded by Canopy in 2007), and two off-site outlying setts recorded by the Hastings Badger Survey in 2002.

4 HABITATS AND PLANT COMMUNITIES

4.1 SURVEY APPROACH

Phase 1 Habitat Survey

4.1.1 A Phase 1 habitat survey of the site was completed by AEL on 6 July 2010, during fine and dry weather conditions. All habitats present were classified and mapped according to standard Phase 1 habitat survey categories[7]. In order to accurately map the extent of bramble and woody scrub encroachment, the scrub-grassland interface was walked and recorded as a logged route using a hand-held Global Positioning System (GPS).

NVC Grassland Assessment

4.1.2 The grassland habitat was also subject to a National Vegetation Community (NVC) assessment[8], together with a botanical walkover survey to record a full list of the higher plant species present and their relative abundance according to the DAFOR scale[9].

4.1.3 The grassland area was first walked to gain an understanding of the pattern and scale of variation present and to determine areas of vegetation that were homogeneous to the eye in terms of their plant species composition and structure. The grassland was found to be relatively homogenous and was sampled as a single vegetation unit.

4.1.4 A total of five quadrat samples (each 2x2 metres) were positioned in representative locations within the grassland. All higher plants were recorded together with their cover/abundance according to the Domin scale as shown in **Table 1**. The percentage cover of bare ground, average vegetation height (cms) and a 10-figure grid reference was also recorded for each quadrat.

4.1.5 The quadrat data was then used to assign the vegetation present to the most appropriate NVC community and sub-community type using professional judgement and aided by published NVC keys and statistical comparisons using the computer programme MATCH.

[7] JNCC (1993) *Handbook for Phase 1 Habitat Survey – A technique for Environmental Audit*. JNCC. Peterborough.
[8] Rodwell, J. S. (Ed) (1992) *British Plant Communities. Volume 3: Grassland and Montane Communities*. Cambridge University Press. Cambridge.
[9] DAFOR scale: where D=Dominant; A=Abundant; F=Frequent; O=Occasional, and R=Rare.

Table 1: The Domin scale

Cover	Domin
91–100%	10
76–90%	9
51–75%	8
34–50%	7
26–33%	6
11–25%	5
4–10%	4
<4% (many individuals)	3
<4% (several individuals)	2
<4% (few individuals)	1

4.2 SURVEY RESULTS

4.2.1 A map of the habitat types present within the site is shown by **Figure 3**, and grassland quadrat and plant species data is presented in a floristic table in **Appendix 3**.

4.2.2 In summary, the site (0.96 ha) comprised a south-west facing slope, probably former grazing pasture, dominated by tall, relatively species-rich grassland, and bramble and woody scrub. Mature broad-leaved woodland flanked the site along all but its northeast boundary, which abutted residential gardens.

Grassland

4.2.3 The grassland consisted of a tall, relatively species-rich and open sward of semi-improved character. In NVC terms, the grassland comprised **MG5a** *Cynosurus cristatus-Centaurea nigra* grassland, *Lathyrus pratensis* sub-community. This community type is the typical grassland of grazed hay-meadows treated in the traditional fashion and occurs on circum-neutral brown soils throughout the lowlands of Britain and is a habitat that is included on the S41 list (see para 3.1.4).

4.2.4 The most common plant species (i.e. constants recorded in four or five of the quadrat samples) within the site were common bent *Agrostis capillaris*, red fescue *Festuca rubra*, lesser stitchwort *Stellaria graminea*, common bird's-foot-trefoil *Lotus corniculatus*, common knapweed *Centaurea nigra*, ribwort plantain *Plantago lanceolata*, agrimony *Agrimonia eupatoria*, common ragwort *Senecio jacobaea*, common sorrel *Rumex acetosa* and meadow buttercup *Ranunculus acris*. In total, 51 species of higher plant, all of which were relatively common and widespread species, were recorded. A small patch of Dyer's greenweed *Genista tinctoria* was

Key

	Semi-natural broadleaved woodland
SI	Species-rich semi-improved grassland (NVC community MG5)
	Dense scrub
x	Scattered scrub

Robsack A Site, Church Wood Drive, St Leonards-on-Sea
Figure 3: Habitat map

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present in the north-eastern corner of the grassland. This plant is not scarce or rare within the County or nationally, but it is indicative of species-rich grassland and has declined nationally since the 1940s.

4.2.5 The absence of management in recent years had resulted in extensive encroachment of grassland areas by bramble, woody scrub and self-seeded trees, but it is of note that the remaining grassland did not exhibit the common ill-effects associated with management neglect, most notably a reduction in species diversity and increased dominance by aggressive grasses. Occasional ant hills were present, together with small patches of shorter sward grassland in areas subject to preferential rabbit-grazing.

Scrub

4.2.6 The grassland was fringed on all sides by patches of dense and encroaching bramble and mixed woody scrub, while the open grassland itself supported occasional bramble patches and widely scattered self-seeded scrub bushes and young trees. Species of scrub and tree saplings included pedunculate oak *Quercus robur*, sessile oak *Quercus petraea* (with probable oak hybrids also present), field maple *Acer campestre*, gorse *Ulex europaeus*, blackthorn *Prunus spinosa*, wild plum *Prunus domestica*, sweet chestnut *Castanea sativa*, ash *Fraxinus excelsior*, hawthorn *Crataegus monogyna*, hornbeam *Carpinus betulus*, dog-rose *Rosa canina* and apple *Malus* species.

4.2.7 Occasional small patches of tall ruderal vegetation, including nettle *Urtica dioica*, hogweed *Heracleum sphondylium*, and great horsetail *Equisetum telmateia,* were present amongst the fringing scrub.

Woodland

4.2.8 Mature woodland extended into the site along its northwest and southeast boundaries adjacent to Church and Robsack Woods, and along a steep earth embankment in the southwest corner of the site.

4.2.9 Preliminary inspection of adjoining areas of Church and Robsack Woods, suggested that both conform to the NVC community **W10** *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodland, and supported a varied ground layer indicative of ancient woodland, and a habitat type of principal importance on the S41 list.

4.2.10 The strip of woodland located on the earth embankment in the southwest corner of the site is also classified as ancient, and appeared to be of similar character to Church and Robsack Woods, supporting occasional mature oak and a range of other tree and woody shrub species. The ground layer in this location was slightly impoverished compared to the adjoining woodlands, probably due to higher levels of human disturbance and trampling, but a number of woodland specialist species typical of the wider woodland areas were present. This included bluebell *Hyacinthoides non-scripta*, dog's mercury *Mercurialis perennis*, moschatel *Adoxa moschatellina*, scaly male-fern *Dryopteris affinis*, and soft shield-fern *Polystichum setiferum*.

4.3 DEVELOPMENT IMPLICATIONS

4.3.1 We understand that the ACS and Monson reports have now been received and show very little tree loss.

4.3.2 There will be a loss on MG5 grassland as a result of the development. A relatively small area of grassland is, however, involved and we consider that any loss can be compensated for by a financial contribution towards enhanced management of the surrounding woodland. We understand that a Management Plan for Church and Robsack Woods already exists.

4.3.3 The route and design of the access road has been chosen to minimise the impact on the ancient woodland. As a result there will be very little tree loss and the integrity of the ancient woodland will be maintained. We also consider that a continuous woodland canopy can be maintained following road construction.

5 BADGER

5.1 BACKGROUND

5.1.1 In Britain badgers are protected under the Protection of Badgers Act 1992, a consolidation Act which brought together the Badgers Acts of 1973 and 1991 and the Badgers (Further Protection) Act 1991. They are also covered by other, more general animal welfare laws. Under this range of legislation, amongst other things, it is illegal to:

- Intentionally kill, injure, take or cruelly ill-treat a badger, or attempt to do so;
- Destroy or damage an active badger sett or any part thereof, obstruct access to an active sett or any of its entrances;
- Disturb a badger in a sett or cause a dog to enter a badger sett.

5.1.2 The Protection of Badgers Act 1992 enables licences to be issued to carry out certain otherwise illegal operations. The responsibility for issuing these licences in relation to commercial development is presently with Natural England

5.1.3 Badger survey information can be regarded to be in need of updating after a period a 12 months has elapsed.

5.2 SURVEY APPROACH

5.2.1 Specific field survey for badger was undertaken by AEL on 26 August 2010 to search for the presence of badger setts, and other characteristic badger field signs including paths and footprints, snuffle holes, latrines and hair. The survey area included all land within the site boundary and at least a 30 metre buffer area, excluding private garden land. All badger field signs were mapped and locations recorded using a hand-held GPS.

5.2.2 It is of note that a significant proportion of the site consisted of dense bramble and woody scrub that were not physically accessible. The margin of all inaccessible scrub stands was walked to check for the presence of badger paths, and enable an assessment to be made of the likelihood of badger setts occurring within these locations.

5.3 SURVEY RESULTS

5.3.1 Three individual badger setts were recorded by AEL as shown by **Figure 4**. Neither of the two setts recorded as part of the 2002 HBC badger survey were re-found by either Canopy or AEL. The location of AEL's Sett 1 (S1, see details below) corresponds to the single hole outlying sett recorded by Canopy in 2007, albeit this sett has expanded from one to four holes since 2007. The two other badger setts recorded by AEL in 2010 were not recorded by HBC or Canopy. Details of the three setts recorded by AEL are as follows:

- **Sett 1 (S1)** - A four hole (three partially-used, and one disused) subsidiary sett located within the site, but outside of the construction area, and positioned at the base of a fallen tree along the woodland bank in the south of the site (TQ 78221,10842). This sett corresponds to the sett recorded by Canopy in 2002.
- **S2 –** A six hole (three partially-used, and three disused) subsidiary sett located within Robsack Wood 8 metres east of the site boundary (TQ 78274,10864). This is a new sett, not recorded previously.
- **S3 –** A single hole (well-used) outlying sett located within Robsack Wood 15 metres to the east of the site boundary (TQ 78353,10915). This is a new sett, not recorded previously.

5.3.2 Evidence of badger activity in the form of foraging, dung pits and well worn paths was also present across the grassland area. A number of paths ran through stands of dense bramble scrub, and it is possible that additional low status badger setts are present in dense scrub areas within the site (**Figure 4**). This cannot however be reliably verified without undertaking substantial bramble clearance, and this action is not considered necessary or appropriate at this stage, provided site clearance works are completed to minimise risk to unseen setts i.e. by ensuring scrub clearance is completed using hand tools only and under ecological supervision at all time, and appropriate mitigation put in place.

5.3.3 If a badger sett is found during site clearance work, work would have to stop and an appropriate stand-off zone maintained to avoid disturbing the sett until an appropriate way forward has been established (e.g. continued clearance under a badger disturbance licence, or licenced sett closure) in consultation with Natural England. Works to close down a sett could only normally be licenced to take place between July and November.

Key

S1 Badger sett

Badger path

Area of badger foraging and a 7 dung pit latrine

Areas of dense bramble with high potential to support low status badger setts

Robsack A Site, Church Wood Drive, St Leonards-on-Sea
Figure 4: Badger survey

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5.4 DEVELOPMENT IMPLICATIONS

5.4.1 We have found no evidence of badger setts within the construction area and setts located close to the construction area can be retained and protected. The development will not have an adverse impact on the badger population in the locality.

6 REPTILES

6.1 BACKGROUND

6.1.1 All UK native reptile species are protected by law. The Wildlife & Countryside Act 1981 (and later amendments) provides the legal framework for this protection. Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* are rare species that have restricted distributions in the UK and the greatest level of legal protection. No known populations of either species occur close to the site and their potential presence is not consider further.

6.1.2 The more widespread and common reptile species, namely common lizard *Lacerta vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix*, and adder *Vipera berus* are protected against deliberate or reckless killing and injury. Natural England (formerly English Nature[10]) highlight that reptiles are likely to be threatened and the law breached by activities such as the following:

- Archaeological and geotechnical investigations;
- Clearing land, installing site offices or digging foundations;
- Cutting vegetation to a low height;
- Laying pipelines or installing other services;
- Driving machinery over sensitive areas;
- Removing rubble, wood piles and other debris.

6.1.3 Under the Wildlife & Countryside Act 1981, a conviction can result in a fine, and/or up to six months imprisonment for each offence. Harm to more than one animal may be taken as separate offences.

6.2 SURVEY APPROACH

6.2.1 A total of 50 artificial reptile refugia, made of roofing felt (dimensions approximately 1 x 0.5 metres), were placed in five groups across the site on 6 July 2010 (**Figure 5**). Rank well lit grassland areas were sampled preferentially as these habitat types were the most suitable habitats for reptiles within the site.

6.2.2 The refugia absorb heat from the sun and are consequently attractive to reptiles

[10] English Nature (2004) *Reptiles: guidelines for developers*.

Key

Location of reptile refugia groups (each group consisting of 10 tins)

Robsack A Site, Church Wood Drive, St Leonards-on-Sea
Figure 5: Location of reptile refugia

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for thermoregulation and as places of shelter. The best times of year to survey reptiles using refugia are during the spring and autumn when average air temperatures tend to be cooler and they are consequently used more frequently by reptiles compared to the warmer summer months. However, they can be reliably used throughout the main reptile activity season (April-September) provided they are checked in relatively cool conditions e.g. at the start or end of the day or in between rain showers.

6.2.3 According to best practice survey guidance[11], the refugia should be checked on up to seven separate occasions in order to confirm reptile absence.

6.3 SURVEY RESULTS

6.3.1 The 2007 reptile survey completed by Canopy confirmed the presence of a low (small) population of slow-worm (peak count 5 adult individuals) and a good (medium) population of common lizard (peak count 11 adult individuals). Both species are listed as species of principal importance on the S41 list (see para 3.1.4).

6.3.2 During the first survey visit completed on 26 August 2010 a total of 41 adult and juvenile slow-worms and 21 adult and juvenile common lizards were recorded on or under the refugia. According to the survey assessment criteria produced by Froglife (1999)[13] this constitutes an *Exceptional* (large) breeding population of both common lizard and slow-worm, and is the largest reptile population descriptor that can be applied using the Froglife criteria.

6.3.3 Six further survey visits, completed by AEL during September 2010 to check reptile species presence, recorded only slow worm and common lizard in similar numbers to those recorded in August.

6.4 DEVELOPMENT IMPLICATIONS

6.4.1 It will not be possible to retain the reptile population on site and it will need to be translocated to a replacement habitat. A suitable reptile receptor site exists near Burwash Common in the High Weald AONB some 17 miles from Hastings. The loss of reptiles from the site should be compensated for by the financial contribution to enhanced off-site woodland management.

[11] Froglife (1999) Reptile Survey – *An introduction to planning, conducting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife. Halesworth.

7 GREAT CRESTED NEWT

7.1 BACKGROUND

7.1.1 Great crested newt *Triturus cristatus* (GCN) is fully protected under the Wildlife and Countryside Act, 1981, (as amended and strengthened by the CROW Act 2000) and the Conservation (Natural Habitats, &c.) Regulations 1994 that implements the EC Directive 92/43/EEC in the UK. It is an offence, with certain exceptions, to:

- Intentionally or deliberately capture, kill, or injure GCN;
- Intentionally or recklessly damage, destroy, and disturb GCN in a place used for shelter or protection, or obstruct access to such areas;
- Damage or destroy a GCN breeding site or resting place;
- Possess a GCN, or any part of it, unless acquired lawfully; and
- Sell, barter, exchange, transport, or offer for sale GCN or parts of them.

7.1.2 The legislation covers all newt life stages such that eggs, tadpoles and adult newts are all equally protected. Actions that are prohibited can be made lawful by a licence issued by the appropriate statutory authority.

7.1.3 GCN can commute up to 500 metres from their breeding ponds, with most being found within 250 metres of a breeding site in suitable habitat.

7.1.4 GCN is a species of principal importance on the S41 list (see para 3.1.4).

7.2 SURVEY APPROACH

7.2.1 The presence of ponds within 250 metres of the site was checked against the 1:25,000 OS map and aerial photographs. Two ponds are present in Robsack Wood, and were subject to an initial visual assessment by AEL on 6 July 2010. Both ponds are located off site and are the same ponds checked by Canopy in 2007. The first pond (Pond 1) is located 60 metres to the southeast of the site, and the second (Pond 2) 65 metres to the southeast. Two additional small ponds (Ponds 3 and 4) that are not shown on the OS map are also present in the private residential garden of 6 Bedgebury Close circa 110m to the southeast of the site and were subject to survey in 2012 as their presence was not known in 2011.

7.2.2 The locations of the ponds are shown by **Figure 6**.

7.2.3 The physical and biological attributes of a pond which have a bearing on its value as a GCN breeding site were recorded in order to calculate a so called GCN Habitat Suitability Index (HSI) score[12]. The GCN HSI has been adopted by Natural England as a useful tool in relation to GCN survey and mitigation, and provides a quantitative measure of habitat quality for this species. However, HSI assessment is not a substitute for specific amphibian survey using standard survey techniques (e.g. bottle-trapping, torch and egg surveys) and a low index score must not be interpreted as evidence of GCN absence.

7.2.4 The HSI is a number between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts. A HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). Ponds with a HSI of <0.5 are considered to be sub-optimal and have a reduced chance of GCN occurrence. The HSI is calculated on a single pond basis, but takes into account surrounding terrestrial habitat and local pond density.

7.2.5 Ponds 1 and 2 were re-surveyed by AEL to confirm GCN presence/absence during the amphibian breeding season in April 2011 and again in May 2012.

7.3 SURVEY FINDINGS

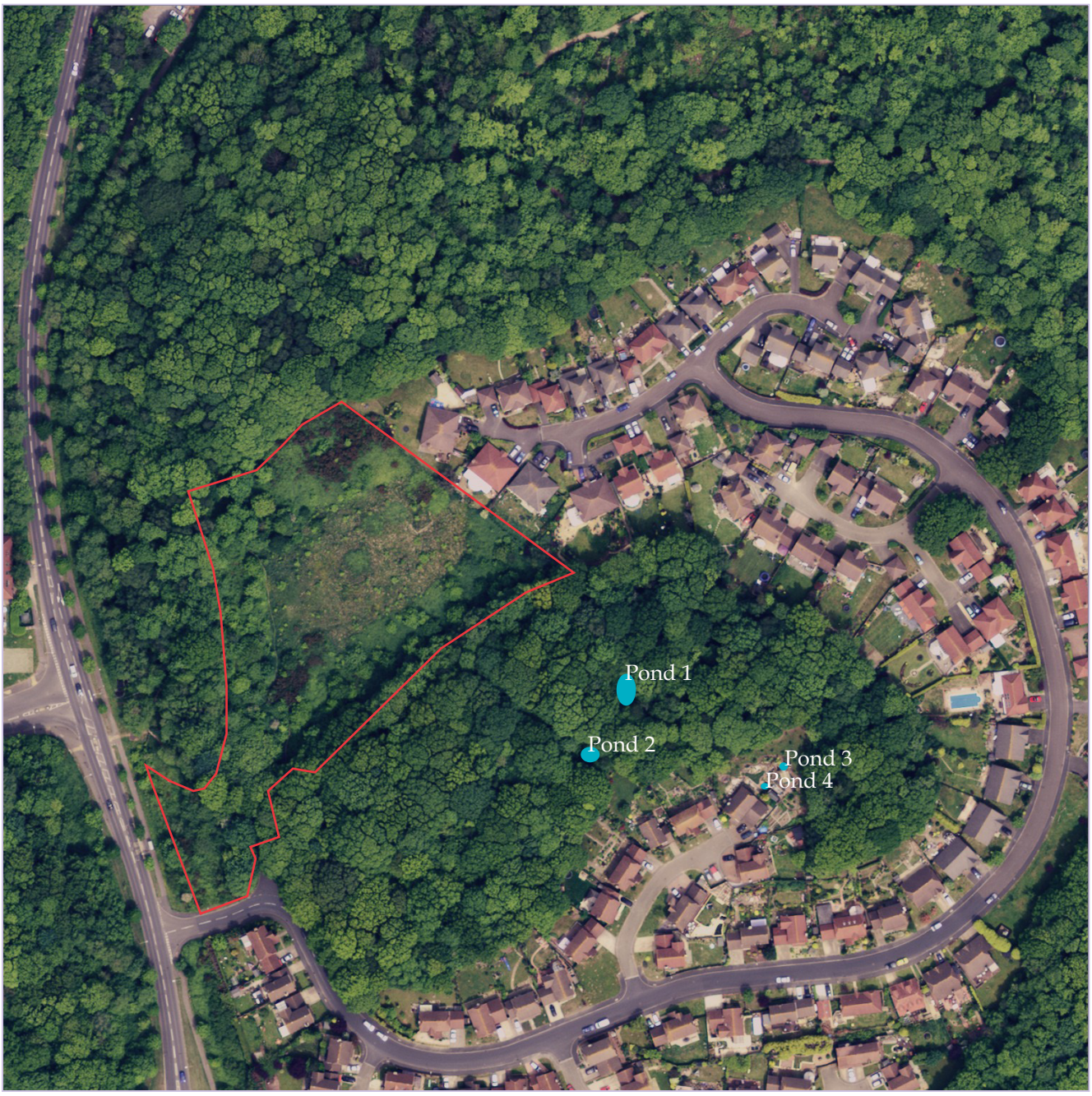
April 2011

7.3.1 The first survey visit in April 2011 found Ponds 1 and 2 to be drying out with each possessing only 1-3cm water depth – making it impossible to survey them using bottle or funnel traps . No newt eggs were found during a thorough inspection of fragments of marginal aquatic vegetation and select searches through leaf litter, and no amphibians were seen in either pond during an after-dark torch survey (1.5 m candle power torch) completed the same evening.

7.3.2 The second survey visit to the ponds at the end of April confirmed that both ponds were completely dry at this time and a second after dark torch survey recorded no newts in the vicinity of either pond.

7.3.3 The GCN survey was abandoned after the second April 2011 visit.

[12] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155).



Robsack A Site, Church Wood Drive, St Leonards-on-Sea
Figure 6: Location of Ponds

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May 2012

7.3.4 Following heavy and prolonged rainfall in April 2012, Ponds 1-2 were re-investigated by AEL, and Pond 1 was found to hold sufficient water to enable a great crested newt survey using funnel traps to be completed. Pond 2 was still largely dry and was not surveyed. Ponds 3 and 4 were also subject to a full survey for great crested newt at the same time.

7.3.5 Double ended funnel traps that work on the same basis a plastic drinks bottle traps but are constructed from 0.5mm wire mesh were used to survey Ponds 1 (six traps), 3 (four traps) and 4 (three traps) on the following overnight survey occasions:

- Pond 1: 9th, 11th, 15th and 17th May 2012
- Ponds 3 & 4: 2nd, 9th, 11th, 15th, 17th and 24th May 2012

7.3.6 Traps were set and retrieved from around the accessible perimeters of the three ponds in accordance with the trapping times recommended by EN 2001[13]. A torchlight survey using a 1.5m candle power torch was completed of Ponds 3 and 4 on 9 May 2012, and of Pond 1 on 11 May 2012. All three ponds were found to unsuitable for torch survey on account of the presence of dense aquatic vegetation (Ponds 3 and 4) and turbid water (Pond 1), and the torch light survey was not repeated thereafter.

7.3.7 Weather conditions were suitable for great crested newts to be active on each overnight survey occasion – air temperatures being, 9.0, 14.0, 14.0, 14.0, 12.0, 10.0, and 10.5^{0}C respectively on each trapping occasion.

7.3.8 Searches of submerged aquatic vegetation for great crested newt eggs were undertaken on each survey occasion for 15 minutes at each pond until an egg was found. No great crested newt eggs were found.

7.3.9 A single adult female great crested newt was captured from Pond 3 on two separate occasions (2 May and 15 May). No other great crested newts were captured on any other occasion from Pond 3 or Pond 1 and 4. On both occasions the captured newt was gravid (egg-bound) and the finding confirms that great crested newt are breeding in small numbers within the pond.

[13] English Nature (2001) *Great crested newt mitigation guidelines*. EN, Peterborough.

7.3.10 In summary, the survey verifies that great crested newt are absent from Ponds 1, 2 and 4, but are present as a small breeding population (less than 10 animals caught/seen on any survey occasion) in Pond 3.

7.3.11 Large numbers of smooth and palmate newt were captured from Ponds 1, 3 and 4 on each survey occasion.

7.3.12 The HSI scores for Ponds 1-4 are provided in **Table 2.1** and **Table 2.2** and confirm that Ponds 1 and 3 have scores of >0.5 which is the cut-off at which a pond is considered to be potentially suitable for great crested newt.

Table 2.1: Results of initial pond inspections and HSI assessment April 2011

HSI habitat variables	**Pond 1**	**Pond 2**
1. Location (Zone A, B or C)	A	A
2. Pond area (m^2)	300	150
3. Desiccation rate (never, rarely, sometimes, frequently)	Frequently	Frequently
4. Water quality (good, moderate, poor, bad)	Poor	Poor
5. Shaded (%)	100	100
6. Waterfowl (absent, major, minor)	Absent	Absent
7. Fish population (absent, possible, minor, major)	Absent	Absent
8. Pond density (within 1km and without barriers)	3	3
9. Terrestrial habitat (good, moderate, poor isolated)	Good	Good
10. Macrophyte cover (%)	10	0
HSI score	**0.52**	**0.48**

Table 2.1: Results of HSI assessment May 2011

HSI habitat variables	**Pond 3**	**Pond 4**
1. Location (Zone A, B or C)	A	A
2. Pond area (m^2)	6	6
3. Desiccation rate (never, rarely, sometimes, frequently)	Never	Never
4. Water quality (good, moderate, poor, bad)	Moderate	Moderate
5. Shaded (%)	0	0
6. Waterfowl (absent, major, minor)	Absent	Absent
7. Fish population (absent, possible, minor, major)	Absent	Major
8. Pond density (within 1km and without barriers)	4	4
9. Terrestrial habitat (good, moderate, poor isolated)	Good	Good
10. Macrophyte cover (%)	100	100
HSI score	**0.63**	**0.40**

7.1 DEVELOPMENT IMPLICATIONS

7.1.1 Ponds 1 and 2 have reached the end of their hydroseral successions to dry land and are unable to hold standing water long enough to allow GCN or other newt species to breed in them successfully. Pond 3 is a garden pond that supports small breeding population of GCN located 110m from the boundary of the development site with no barriers to GCN dispersal between it and the development site. Pond 4 is unsuitable habitat for GCN on account of the fact that it supports fish and because GCN larvae are particularly susceptible to GCN predation by fish.

7.1.2 The presence of GCN in Pond 3 confirms that GCN in their terrestrial life stages are likely to be present in grassland and scrub habitats within the development site in small numbers. Given their protected status, GCN will need to be captured and re-located to adjoining woodland prior to site clearance operations commencing, and a temporary newt proof barrier maintained around the construction working area to prevent GCN from being accidently killed and injured. This mitigation work will need to be implemented under the auspices of a Natural England EPS licence which can only be applied for after full planning permission is issued.

7.1.3 As part of a future EPS application, it is recommended that habitat management measures are proposed to restore Ponds 1 and 2 within the adjoining woodland for the benefit of GCN. However, given the small numbers of GCN likely to be adversely effected by the proposed development and the large extent of high value woodland that is unaffected by the development, the integrity of the local terrestrial GCN population is not likely to be significantly adversely impacted by the development and extensive habitat creation and management beyond pond restoration is unlikely to be necessary.

8 DORMOUSE

8.1 BACKGROUND

8.1.1 The common or hazel dormouse *Muscardinus avellanarius* is given full protection under Schedule 5 of the Wildlife and Countryside Act 1981, as amended. Protection to the species is also afforded by Schedule 2 of the Conservation (Natural Habitats &c) Regulations 1994, making the dormouse a European protected species. These two pieces of legislation operate in parallel, although there are some small differences in scope and wording. Under the provisions of Section 9 of the Wildlife & Countryside Act, it is an offence to:

- Intentionally kill, injure or take a dormouse [Section 9(1)];
- Possess or control and live or dead specimen or anything derived from a dormouse [S 9(2)] (unless it can be shown to have been legally acquired);
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse [S 9(4)(a)];
- Intentionally or recklessly disturb a dormouse while it is occupying a structure or place which it uses for that purpose [S 9(4)(b)].

8.1.2 Schedule 2 of the Conservation (Natural Habitats &c) Regulations, 1994 make it an offence to:

- Deliberately capture or kill a dormouse (Regulation 39(1)(a)];
- Deliberately disturb a dormouse [R. 39(1)(b)];
- Damage or destroy a breeding site or resting place of a dormouse [R. 39(1)(d)];
- Keep transport, sell or exchange, or offer for sale or exchange a live or dead dormouse or any part of a dormouse [R. 39(2)].

8.1.3 Any activity that would result in a contravention of the above legislation would require a European Protected Species licence (currently issued by Natural England in relation to development in England) to avoid committing an offence.

8.1.4 Dormouse is a species of principal importance on the S41 list (see para 3.1.4).

8.2 SURVEY APPROACH

8.2.1 A total of 50 dormouse nest tubes were installed in a representative sample of all potentially suitable habitats within the site including mature woodland edge, mixed woody scrub, and dense stands of bramble on 6 July 2010 (**Figure 7**). Nest tubes were numbered consecutively and placed at approximately 10 metre intervals along pre-planned transect routes. Tubes were fixed firmly to the undersides of low horizontal tree/shrub branches, or to robust stems of horizontal bramble or other shrubs at a height of 1-2 metres, as appropriate.

8.2.2 The tubes were checked on two occasions 26 August and 20 September 2010 by Robert Hutchinson (AEL) under the auspices of his Natural England dormouse survey licence.

8.3 SURVEY RESULTS

8.3.1 No evidence of dormice presence was found during the first visit on 26 August 2010, but a single nest tube (tube no. 13) located along the edge of woody scrub was found to contain a part completed wood mouse nest.

8.3.2 On the second visit (20 September) a single nest tube (tube no. 28) located with mature woodland close to the earth bank was found to support a complete and intact dormouse nest with a single adult dormouse inside. The dormouse was seen to exit the tube as the tube was approached and could not be captured to determine its sex. The presence of dormice within the site has therefore been confirmed and further survey visits were not considered necessary.

8.4 DEVELOPMENT IMPLICATIONS

8.4.1 In light of the presence of dormouse within the site, the removal scrub vegetation (including dense stands of bramble) would need to be completed under the auspices of Natural England European Protected Species (EPS) development licence to minimise the risk of such operations resulting in accidental harm to dormouse.

8.4.2 We conclude that the integrity of the local dormouse population is unlikely to be significantly adversely impacted by the development as the woodland that surrounds the site (including the existing canopy cover and connectivity) will be maintained and protected by the provision of a woodland edge buffer of dormouse friendly habitat within the perimeter of the development site, by

Robsack A Site, Church Wood Drive, St Leonards-on-Sea
Figure 7: Location of dormouse nest tubes

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maintaining a continuous woodland canopy over the new access road, and through enhanced off-site woodland management, which should include the erection, maintenance and monitoring of dormouse nest boxes.

8.4.3 We note that tree removal to enable access road construction will result in a small break in the canopy over the road for a period of approximately two years until the canopy has regrown. This is a minor short-term negative effect that will not have a significant adverse impact on the integrity of the local dormouse population in our professional opinion.

9 BATS

9.1 BACKGROUND

Legislation

9.1.1 All UK bat species are protected by two separate legislative frameworks: the Conservation (Natural Habitats, &c.) Regulations 1997 and the Wildlife and Countryside Act 1981, as amended. Under Section 39 (part 1) of the amended Regulations a person commits an offence if he:

"(b) deliberately disturbs wild animals of any such species [i.e. a European Protected Species] in such a way as to be likely significantly to affect:

I. the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young; or

II. the local distribution or abundance of that species."

9.1.2 Although the term a 'significant group' cannot easily be defined, and may vary between species, the construction of this limb of the offence clearly excludes individual animals from its scope.

9.1.3 A person would also commit an offence under Section 39 if he:

"(d) damages or destroys a breeding site or resting place of such an animal [European Protected Species]."

9.1.4 Destruction or damage to a bat roost, whether a bat is present or not, would constitute an offence as bats return to the same places year after year, and there are no qualifications, exemptions or defences for this apart from a licence (see below). Any degree of damage could qualify as an offence and there is no threshold of 'significant' as for the deliberate disturbance offence. Section 39 (part 11) goes on to state that a person guilty of an offence "*is liable on summary conviction to imprisonment for a term not exceeding six months or a fine not exceeding level 5 on the standard scale, or to both.*"

Licences

9.1.5 In England, such offences can be licensed by Natural England for a number of

purposes set out in regulation 44. These include 'imperative reasons of over-riding public interest', which could cover the deliberate significant disturbance or destruction of a bat roost during development operations. Licences can only be issued where there is no satisfactory alternative and where the action authorised will not adversely affect the conservation status of the species involved. Section 9 of The Wildlife & Countryside Act, 1981 (as amended) make a person guilty of an offence if intentionally or recklessly he:

a) *Damages or destroys any structure or place which any wild animal on Schedule 5 [all bat species] uses for shelter or protection;*

b) *Disturbs any such animal while it is occupying a structure or place which it uses for shelter or protection; or*

c) *Obstructs access to any structure or place which any such animal uses for shelter or protection.*

9.1.6 The existence of two separate disturbance offences in two separate legislative frameworks presents a challenge of interpretation and application. Neither can be dismissed as they both operate in rather different ways. The offence in the Regulations does not apply to non-significant disturbance and seems unlikely to apply to individual bats, but is licensable for development purposes, particularly with respect to damage or destruction of a bats breeding site or resting place. The offence in the WCA applies to individual animals, but only in places of shelter or protection, is not licensable for development, but is subject to two important defences. These are:

(a) *That the action took place within a dwelling-house; or*

(b) *That the act was the incidental result of a lawful operation and could not reasonably have been avoided.*

9.1.7 For bats, these defences cannot be relied upon, except in the living-area of a dwelling–house, unless Natural England have been notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the method to be used.

Ecology

9.1.8 The distribution and conservation status of the 17 species known to occur in

mainland UK are shown in **Table 3**.

Table 3: Distribution and conservation status of the 17 bat species known to occur in mainland UK (Status from Hutson[14] and the Bat Conservation Trust[15])

Common name	Species name	Distribution/status	IUCN status
Natterer's bat	*Myotis nattereri*	Widespread/Frequent	Vulnerable
Daubenton's bat	*M. daubentonii*	Widespread/Common	Not threatened
Whiskered bat	*M. mystacinus*	Widespread/Scarce	Vulnerable
Brandt's bat	*M. brandti*	Widespread/Scarce	Vulnerable
Bechstein's bat	*M. bechsteinii*	Restricted/Rare	Vulnerable
Greater mouse-eared bat	*M. myotis*	Classified as extinct within U.K.	Vulnerable
Soprano pipistrelle bat	*Pipistrellus pygmaeus*	Widespread/Common	Not threatened
Common pipistrelle bat	*P. pipistrellus*	Widespread/Common	Not threatened
Nathusius' pipistrelle bat	*P. nathusii*	Unknown	Not threatened
Brown long-eared bat	*Plecotus auritus*	Widespread/Common	Not threatened
Leisler's bat	*Nyctalus leisleri*	Widespread/Scarce	Vulnerable
Noctule bat	*N. noctula*	Widespread/Common	Not threatened
Serotine bat	*Eptesicus serotinus*	Restricted/ Frequent	Vulnerable
Barbastelle bat	*Barbastella barbastellus*	Restricted/Rare	Endangered
Greater horseshoe bat	*Rhinolophus ferrumequinum*	Restricted/Rare	Vulnerable
Lesser horseshoe bat	*R. hipposideros*	Restricted/Rare	Vulnerable
Grey long-eared bat	*Plecotus austriacus*	Restricted/Rare	Not threatened

9.1.9 The Bat Conservation Trust (BCT) website lists six of the 17 species that have been identified by the UK Government as needing special conservation help due to their rarity or significant decline. All six species have Species Action Plans (SAPs)[16]. These plans have the objective of increasing their existing population levels through protecting and enhancing the quality of their roosting and foraging habitats. Plans exist for the following species:

- Greater horseshoe bat (*Rhinolophus ferrumequinum*);
- Lesser horseshoe bat (*R. hipposideros*);
- Bechstein's bat (*Myotis bechsteinii*);
- Barbastelle bat (*Barbastella barbastellus*);

[14] Hutson, A.M. (1993) Action Plan for the Conservation of bats in the United Kingdom,
[15] The Bat Conservation Trust.
[16] http://www.ukbap.org.uk/UKPlans.aspx? Followed by the ID number for the relevant species given in the list above.

- Soprano pipistrelle bat (*Pipistrellus pygmaeus*);
- Brown long-eared bat (*Plecotus auritus*); and
- Noctule (*Nyctalus noctula*).

9.1.10 The majority of the bats found in mainland UK all belong to the family Vespertilionidae. Although each species may have its own specific preferences for the structures it uses for roosting and different dietary and foraging habitat needs, all of these bats show a common life history and annual cycle of behaviour. These include the following characteristics and/or events.

9.1.11 All bats use torpor to save energy whenever food supplies are scarce. Torpid bats use less than 1% of the energy used by active bats, even when resting. Winter torpor, or hibernation, involves extended torpor for many days. It generally occurs between November and April. Winter roosts must provide cool, damp conditions. Such conditions occur in underground structures such as caves, disused mines and tunnels.

9.1.12 When fully active, bats must have access to large amounts of insect food supplies. Individuals may need to eat over 50% of their body weight per day. This particularly applies to females nursing young. Summer roosts must provide bats with warm conditions to reduce the costs of regulating their body temperature. Normally bats congregate in colonies in summer to share the costs of keeping warm. Maternity colonies are the largest. They may use holes and crevices in trees or building attics as summer roosts, especially those warmed by the sun.

9.1.13 Some bat summer roosts contain only a few, or even a single bat. Mature males often occupy such roosts as mating sites.

9.1.14 Bats normally use the same summer and winter roosts, especially maternity roosts and hibernation sites, on an annual cycle over long time periods. Species that use trees for roosting are most likely to use a number of different summer roosts. Some bat populations have been shown to occupy 19 different roosts in a single summer.

9.1.15 Bat reproduction is unique among mammals. Bats usually mate in the autumn and early winter, but sometimes also in spring. Males may advertise for females from their roosts using social calls (Pipistrelles, Noctules, Leisler's), or visit underground swarming sites and wait for females to arrive (*Myotis* bats, Brown

long-eared, Serotines). Sperm is stored until the spring by both sexes.

9.1.16 Fertilization occurs in spring, and pregnancy proceeds up to June, when single births occur. Poor weather (cold, or wet and windy) prevents bats from feeding at any time of the summer. The use of torpor to survive poor weather may prolong a female's pregnancy and/or reduce her milk supplies during lactation. Hence climatic conditions affect reproductive performance survival and ultimately population levels over time.

9.1.17 Numbers at maternity colonies peak between June and mid-August, when climate and insect availability are normally most favourable. The single young are large (about 20% or more of the mother's body weight) at birth and grow rapidly. They are fully grown and weaned by about 45 days after birth. By late August large maternity colonies have dispersed; the bats moving to alternative summer roosts. In September and October, bats mate and store fat for winter hibernation.

9.2 SURVEY APPROACH

Tree Inspections

9.2.1 The removal of mature trees within the site would be restricted to the route of the proposed access road. All trees in this area were inspected on the 6 July 2010 from ground-level using binoculars and a high powered torch (1m candle power), as necessary. Features recognised as being attractive to roosting bats, such as holes and splits, lifted bark and thick ivy stems forming potential roosting niches against tree trunks, were searched for and recorded.

Bat Activity Survey

9.2.2 In order to assess general levels of bat activity within the site, an after-dark bat activity survey was completed on 6-7 July 2010 by two AEL ecologists each equipped with an Anabat SD1 electronic bat detector. The survey was completed in weather conditions suitable for bats to be active (very gentle wind, dry, 10% cloud cover and an air temperature at start of the survey of 19.0 degrees celsius). Sun set on 6 July was at 21.12 hrs and sun rise on the 7 July was at 04.52 hrs.

9.2.3 Surveyor 1 was positioned at the southern entrance to the site with views of residential houses located on Robsack Avenue, and Surveyor 2 was positioned close to the northeast boundary of the site with views of residential houses on Whittlewood Close and more general views over the site itself. A short transect

route across accessible parts of the site was repeat walked by each surveyor (**Figure 8**).

9.2.4 The survey commenced 15 minutes before sun set (20.57 hrs) and continued for 90 minutes after sunset. The two Anabat detectors were then fixed to suitable tree limbs with their microphones positioned 2 metres off the ground pointing skywards to record automatically all bat calls throughout the night (**Figure 8**). Both detectors were programmed to switch off 30 minutes after sun-rise and were collected the following morning.

9.2.5 All bat calls recorded were subsequently analysed using Analook computer software.

9.3 SURVEY RESULTS

Tree Inspections

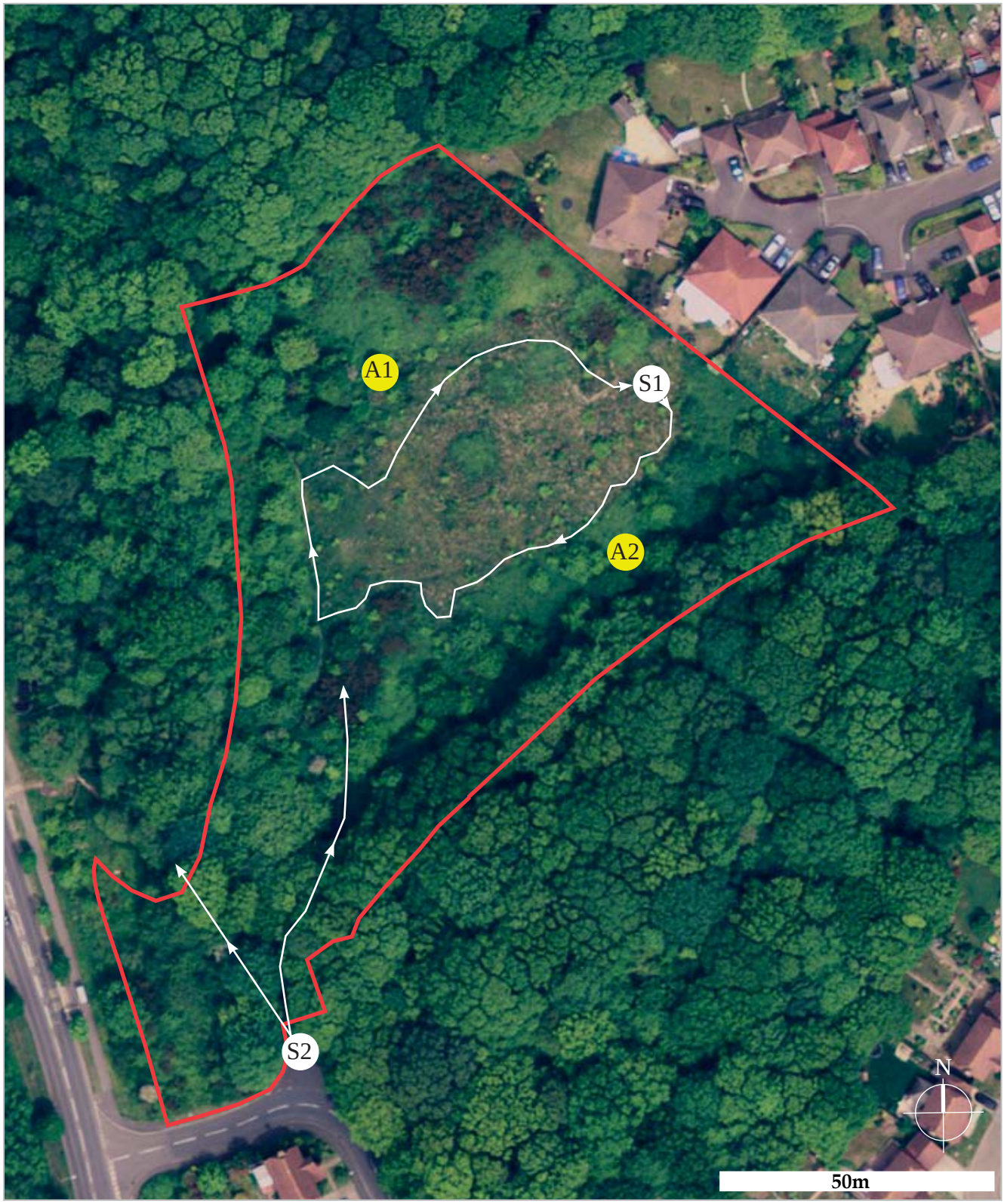
9.3.1 None of the trees considered necessary to be removed to enable access road construction possessed any features that were of value to roosting bats. All of the tree saplings and scrub within the development site that would need to be removed also possessed no features that would be of value to tree roosting bats.

Bat Activity Survey

9.3.2 The first bat recorded during the activity survey was a soprano pipistrelle at 21.24 hrs (12 minutes after sun set) flying close to the residential houses on Robsack Avenue – the bat was heard but not seen. On average this bat species tends to leave its roosting site around 15-30 minutes after sunset, and therefore this early emergence suggests that the bat had been roosting in a relatively nearby location, probably either tree roosting within Robsack Wood, or perhaps more likely, within a residential house along Robsack Avenue.

9.3.3 Thereafter regular bat activity was recorded within the site throughout the night with the bulk of all calls recorded being common and soprano pipistrelle bats. Very occasional calls of brown-long eared bat (first recorded 21.59) and a *Nyctalus* bat (first recorded 01.52 hrs) either (noctule or Leisler's) were also recorded by the two static detectors during the night. The last bat recorded was a common pipistrelle at 04.15 hrs - 37 minutes before sunrise.

9.3.4 Woodland areas are important locations for bats as they provide a source of insects on which bats can feed and trees in which bats can roost. The current



Key

S1 Surveyor locations

S1 Repeat transect walk routes

A1 Overnight static Anabat locations

Robsack A Site, Church Wood Drive, St Leonards-on-Sea
Figure 8: Bat survey

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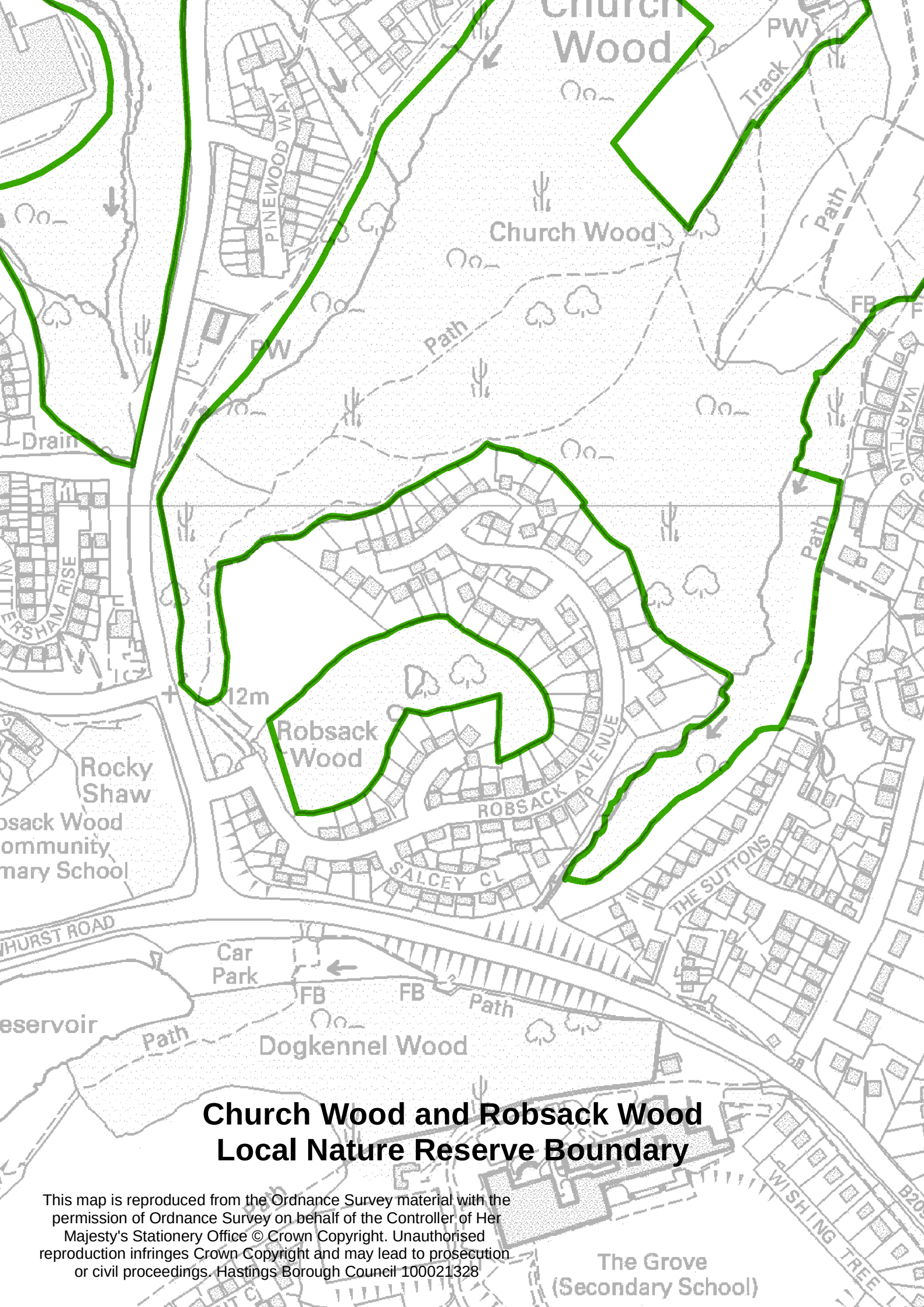
survey has verified that the woodland that borders the site is of local foraging and commuting importance to at least four common species of bat, and that a roost of soprano pipistrelle may exist somewhere close to the site.

9.4 DEVELOPMENT IMPLICATIONS

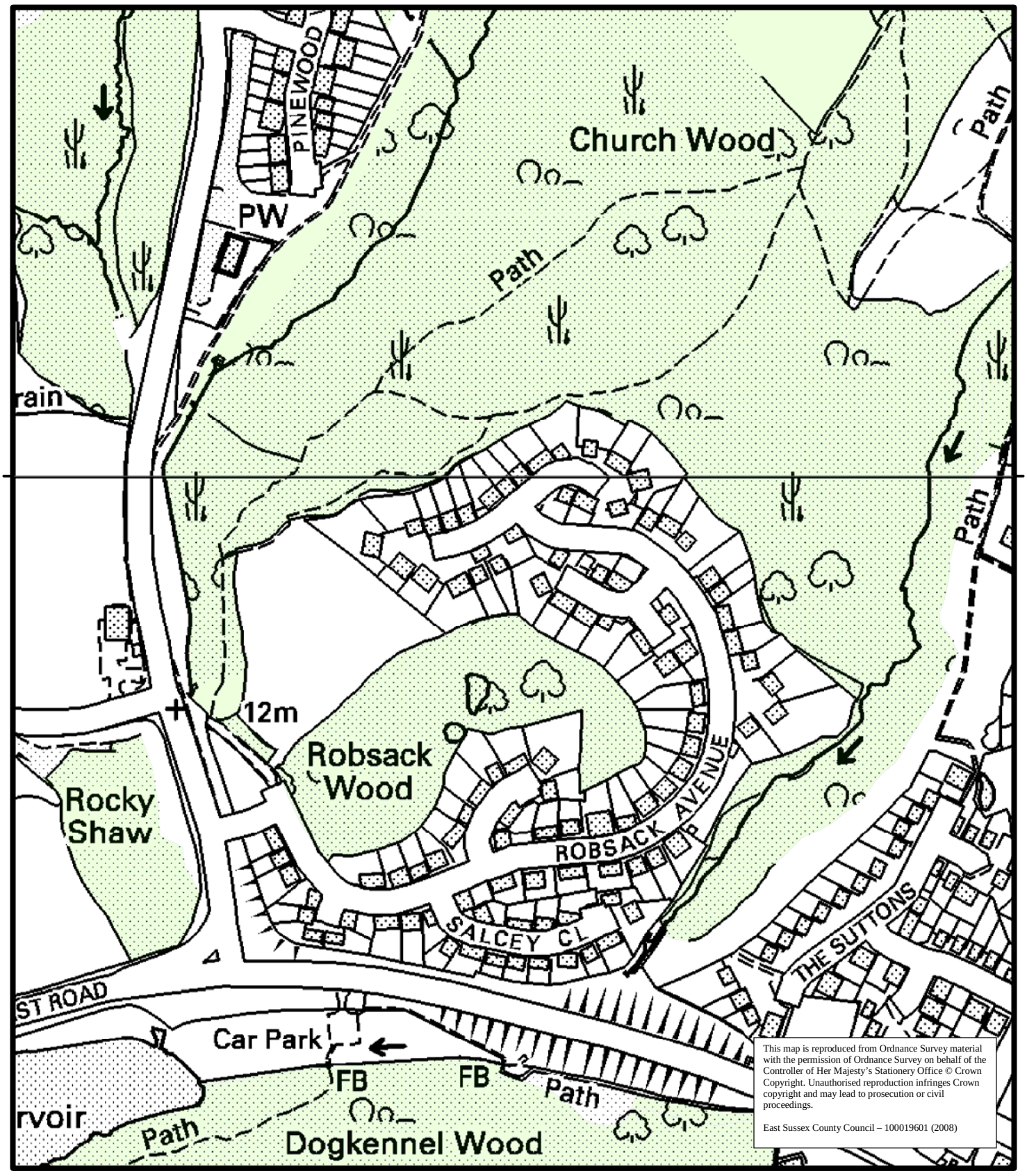
9.4.1 None of the trees that will require felling to enable the access road to be constructed, or any of the trees remaining on site, provide suitable habitat for roosting bats. The loss of the grassland and scrub is of no great significance to the local bat population. We therefore conclude that the development will not have an adverse impact on bats, provided that there is a bat friendly lighting strategy in place and the enhancement to the management of the surrounding woodland includes provision for bats and other wildlife.

Appendix 1



Church Wood and Robsack Wood Local Nature Reserve Boundary

Appendix 2



Hastings Borough Revised Ancient Woodland Inventory

Interim map showing revised boundaries (in green shading) at Church Wood/Robsack Wood - 12th August 2009.

P. Sansum, Ancient Woodland Survey and Mapping Officer, Weald & Downs Ancient Woodland Survey, High weald AONB Unit.

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HIGH WEALD AREA of OUTSTANDING NATURAL BEAUTY

WEALD AND DOWNS
ANCIENT WOODLAND SURVEY

Appendix 3

Quadrat and plant data for grassland at the Robsack A Site

Species	Quadrat Number					Frequency	Range
	1	**2**	**3**	**4**	**5**		
Agrostis capillaris	4	6	5	5	6	V	(4-6)
Stellaria graminea	5	3	3	4	3	V	(3-5)
Lotus corniculatus	7	3	2	5	5	V	(2-7)
Centaurea nigra	2	4	4	5	4	V	(2-5)
Plantago lanceolata	3	1	5	5	5	V	(1-5)
Agrimonia eupatoria	4	-	2	1	1	IV	(1-4)
Senecio jacobaea	1	-	3	3	1	IV	(1-3)
Rumex acetosa	1	-	1	1	2	IV	(1-2)
Festuca rubra	1	2	1	-	1	IV	(1-2)
Ranunculus acris	1	-	1	1	1	IV	(1)
Holcus lanatus	6	4	8	-	-	III	(4-8)
Ranunculus repens	5	8	3	-	-	III	(3-8)
Hypochoeris radicata	-	-	2	4	5	III	(2-5)
Trisetum flavescens	2	3	1	-	-	III	(1-3)
Lathyrus pratensis	-	5	2	-	-	II	(2-5)
Anthoxanthum odoratum	-	3	2	-	-	II	(2-3)
Crepis capillaris	-	-	2	3	-	II	(2-3)
Achillea millefolium	-	-	1	-	4	II	(1-4)
Fraxinus excelsior	-	-	1	-	3	II	(1-3)
Trifolium repens	-	-	-	1	1	II	(1-2)
Luzula campestris	-	-	1	-	1	II	(1)
Veronica chamaedrys	-	-	-	4	-	I	(4)
Dactylis glomerata	-	-	-	4	-	I	(4)
Cirsium arvense	3	-	-	-	-	I	(3)
Poa trivialis	3	-	-	-	-	I	(3)
Phleum bertolonii	3	-	-	-	-	I	(3)
Senecio erucifolius	-	3	-	-	-	I	(3)
Leucanthemun vulgaris	-	-	-	-	3	I	(3)
Trifolium pratensis	-	-	-	-	2	I	(2)
Carex flacca	-	-	-	-	2	I	(2)
Agrostis gigantea	1	-	-	-	-	I	(1)
Quercus robur	-	-	1	-	-	I	(1)
Average veg height (cm)	25	30	20	25	15		
Bare ground	1	0	0	4	4		
Other species recorded outside of quadrats							
Potentilla reptans	-	-	-	-	-	LA	
Cerastium fontanum	-	-	-	-	-	R	
Viola riviniana	-	-	-	-	-	R	
Centaurium erythraea	-	-	-	-	-	R	
Potentilla x mixta	-	-	-	-	-	R	
Prunella vulgaris	-	-	-	-	-	O	
Carex hirta	-	-	-	-	-	LA	

Vicia cracca	-	-	-	-	-	R
Lotus pedunculatus	-	-	-	-	-	R
Festuca ovina	-	-	-	-	-	R
Rumex crispus	-	-	-	-	-	R
Galium aparine	-	-	-	-	-	R
Rubus fruticosus agg	-	-	-	-	-	R
Phleum pratense	-	-	-	-	-	R
Genista tinctoria	-	-	-	-	-	R
Carpnius betulus	-	-	-	-	-	R
Convolvulus arvensis	-	-	-	-	-	R
Trifolium dubium	-	-	-	-	-	R
Hordeum secalinum	-	-	-	-	-	R