

**PORTSDOWN HILL ROAD ECOLOGY
BAT SURVEY REPORT**

Prepared for James Laurence Group

by

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HDA Document Control and Quality Assurance Record

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A Bat roost survey summary plan

1 INTRODUCTION

1.1 Site location and summary description

- 1.1.1 This report describes a Phase 1 bat survey and subsequent Phase 2 survey of a single building within approximately 0.65ha of land off Portsdown Hill Road, Havant, Hampshire hereinafter referred to as 'the site'. The site centre is located by National Grid Reference SU 6922 0629. The study was commissioned by the James Laurence Group in April 2014.
- 1.1.2 The site is situated within a line of detached properties on the southern side of Portsdown Hill Road (B2177). The site is bordered to the north by Portsdown Hill Road and agricultural land beyond; to the east and west by the gardens of residential properties; and to the south by agricultural land. In general terms, the site comprises a large garden incorporating the site of a former quarry now dominated by naturally regenerating scrub and trees.
- 1.1.3 Further information on the distribution of habitats across each area of the site is provided in the Ecological Appraisal report (HDA, 2014).

1.2 Legislative context

- 1.2.1 All UK bat species are protected under The Conservation of Habitats and Species Regulations 2010 (as amended), which implements the EC Habitats Directive 92/43/EEC in the United Kingdom. In relation to European Protected Species (EPS), the 2010 Regulations make it an offence to:
- Deliberately capture, injure or kill any wild animal of an EPS.
 - Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong.
 - Damage or destroy a breeding site or resting place of such an animal.
 - To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.
- 1.2.2 In addition, all UK bats are protected under the Wildlife and Countryside Act 1981 (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection.
 - Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.
- 1.2.3 If works are planned that are likely to constitute an offence under the current legislation, an application for a derogation licence should be made to Natural England.

1.3 Development proposals

- 1.3.1 The proposals for the site include the development of three detached residential dwellings on the northern slope of the former quarry pit with access provided onto Portsdown Hill Road via an existing driveway (Randell Design Group, dwg. no. P053/0.120). The majority of the site to the south of the proposed dwellings is proposed as a communal garden area. The demolition of a single-car garage located in the north-west of the site is required to facilitate the proposed development.

1.4 Scope and purpose of the report

- 1.4.1 The Ecological Appraisal included a Phase 1 bat survey which identified potential for the single-car garage situated in the north-west of the site to support roosting bats.
- 1.4.2 In recognition of the identification of the garage (B1) which had been assessed as having 'low' (BCT, 2012) potential to support roosting bats during the Phase 1 Bat Scoping survey, and within the legislative context set out in *Section 1.2*, this building was subject to a single Phase 2 dusk emergence surveys in order to identify any roost sites present and to identify the need for any avoidance, mitigation or licensing measures in relation to bats.
- 1.4.3 This report describes the results of the Phase 1 bat scoping carried out in conjunction with the Ecological Appraisal of the site in February 2014 and the subsequent Phase 2 bat survey and provides an assessment of the likely effects of the proposed development on roosting bats. Specifically, the aims of the study are:
- i) To identify potential bat roost sites provided by buildings and trees within the site;
 - ii) To determine the presence/likely absence of bats within potential roosts and identify species and numbers;
 - iii) To determine the requirement, if any, for licensing in respect of bats; and
 - iv) To provide outline recommendations for any mitigation and/or enhancement required to ensure that the development avoids adverse impacts on bats, and, where possible, provides enhancements to support the long-term favourable conservation status of bats in accordance with nature conservation legislation, planning policy and the 2006 NERC Act.

2 METHODOLOGY

2.1 Introduction

- 2.1.1 Where possible, the methodology followed in relation to the bat survey work undertaken at the site accorded with current legislation and good practice guidelines set out by the Bat Conservation Trust (BCT, 2012). The following sections detail the suite of specific bat surveys undertaken to inform the proposed development.

2.2 Phase 1 scoping survey

2.2.1 A phase 1 bat survey of the site was conducted on 26th February 2014 by Alex Leishman GradCIEEM of Hankinson Duckett Associates. All buildings and trees within the site were assessed for their potential to support roosting and/or hibernating bats and classified according to their potential. The methodology for each has been outlined in the following sections.

Phase 1 building survey

2.2.2 Buildings were inspected both externally and internally where possible to assess their suitability for occupancy by roosting and/or hibernating bats, and to locate any evidence of current or former bat roosts in the form of bats, droppings, staining, scratch marks, feeding signs and/or remains of bats.

2.2.3 Externally, binoculars and a powerful torch were used to identify and investigate, from the ground, any potential entry and exit points such as lifted/missing roof tiles, loose fascias and lifted lead flashing, and to look for evidence of entry/exit in the form of staining, discolouration and/or scratch marks.

2.2.4 Internally, buildings were searched exhaustively where possible, to look for evidence of current or former occupation by bats. A powerful torch was used to investigate any accessible cavities, crevices and recesses in each building.

2.2.5 In view of the findings of the inspections, the potential of the building to support roosting bats ('confirmed roost', 'high', 'medium', 'low' or 'negligible') was assessed. Assessment of bat roosting potential requires consideration and synthesis of a number of criteria, including the design and construction of the building or structure, the size and location of potential features and access points, the position of the building or structure, aspect, geographical location, surrounding land use and adjacent landscape linkages. The results of the Phase 1 building survey determine the need for further surveys in relation to buildings.

Phase 1 tree survey

2.2.6 All trees within and immediately adjacent to the site were inspected from ground-level, with the aid of binoculars and a powerful torch, to identify potential features suitable for use by roosting and/or hibernating bats. Potential features include splits, cracks and cavities, peeling bark, woodpecker holes, broken branches and a covering of Ivy *Hedera helix* where this is of a sufficient age to provide a suitable micro-climate between the tree and Ivy stem(s).

2.2.7 In accordance with current best practice guidelines (BCT, 2012), trees were categorised into one of five categories. Categorisation was based on the nature, size, location and quality of features present in each tree:

- confirmed bat roosts;
- trees with multiple, highly suitable features capable of supporting larger roosts (BCT Category 1*);
- trees with definite bat potential, supporting fewer suitable features than Category 1* trees or with potential for use by single bats (BCT Category 1);
- trees with no obvious potential although the tree is of size and age that elevated surveys may result in cracks or crevices being found, or the tree supports some features that have some limited potential to support bats (BCT Category 2);
- trees with no potential to support bats (BCT Category 3).

2.3 Phase 2 building survey

2.3.1 Phase 2 building surveys, comprising dusk emergence surveys, were conducted wherever either; (i) buildings contained evidence of current or former occupation by bats, or (ii) buildings could not be exhaustively searched and had potential to contain roosting and/or hibernating bats. Emergence surveys were conducted to determine presence/ probable absence and, where present, identify species and numbers. The level of survey effort conducted has been determined with reference to the identified bat roosting potential of the building in accordance with best practice guidelines (BCT, 2012).

2.3.2 Surveyors with electronic bat detectors¹ were positioned outside buildings to record bats emerging from or entering the building. Surveyors were positioned to provide adequate coverage of all potential emergence points on each building surveyed. Surveys generally began 15 minutes before sunset, ending approximately 2 hours after sunset. Records were made of any emergences and entries, and incidental records were also made of bat commuting and foraging activity in the vicinity of each surveyor.

2.3.3 Details of the date and timing of the emergence surveys are provided, along with the results of these surveys, in *Section 3*.

2.4 Phase 2 tree survey

2.4.1 No trees within the site were identified as having potential to support roosting bats and subsequently, no Phase 2 surveys were conducted in relation to trees.

¹ Pettersson D240x heterodyne and time-expansion detector with MP3 recorder, Anabat SD1 with 'Analook' recording software.

2.5 Limitations of surveys

- 2.5.1 All surveys followed current best practice guidelines (BCT, 2012) and were conducted at an appropriate time of year, under favourable weather conditions and with an appropriate level of survey effort both in terms of the number of surveyors used and number of survey visits undertaken. The surveys are therefore considered to allow a robust indication of the likely importance of the site for roosting bats.

3 RESULTS

3.1 Desk study

- 3.1.1 HBIC provided 71 records of bats within 2km of the site. These include records for Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, unspecified Pipistrelle species *Pipistrellus* sp., Brown Long-eared *Plecotus auritus*, Daubenton's *Myotis daubentonii*, unspecified *Myotis* species and Serotine *Eptesicus serotinus*. Potentially the closest records to the site relate to Serotine and *Myotis* bats pertaining to the 1km grid square containing the site. The next closest records to the site pertain to residential properties along Beverly Grove, located approximately 400m west of the site, which relate to unspecified species of Pipistrelle bats.

3.2 Phase 1 Bat Survey

- 3.2.1 The full findings of the Phase 1 Bat survey to identify trees and buildings with potential to support roosting bats, together with survey methodologies and descriptions of the buildings and trees surveyed, are given in the Ecological Appraisal report (HDA, 2014). The locations of surveyed buildings are shown on the 'Bat roost survey summary plan' in *Appendix A*.
- 3.2.2 All trees within the site were assessed as having 'negligible' (BCT Category 3) potential to support roosting bats. Most trees present were early mature and larger specimens were in good condition with no potential roosting features visible. It is therefore considered that no further survey is required in relation to roosting bats in trees at the site.
- 3.2.3 The Phase 1 building inspection identified one building with 'low' or above potential to support roosting bats within the site; a single-car garage (B1) located in the north-west of the site. A small wooden gazebo (B2) was identified as having 'negligible' roost potential. Numbers in brackets refer to the references shown in *Appendix A*. Descriptions of these buildings and subsequent findings of the Phase 1 inspection are given in *Table 1* below.

Table 1: Results of Phase 1 building survey

Building Ref	Description	Findings	Bat Roost Potential
B1 (Garage)	Modern single-car garage with single skinned brick walls and a pitched clay tile roof with bitumen underlay. Hanging wall tiles above door on eastern gable end. No separate roof void present. Generally in a good state of repair, however potential opportunities for roosting bats include a small number of partially lifted roof tiles on the northern elevation and a gap under the eaves at the south-western corner of the roof which could provide access between roof tiles and bitumen underfelt. Hanging wall tiles were generally tightly fitting and any crevices were shallow when checked and often contained cobwebs. No evidence of bats was found internally or externally, although a few potential roosting opportunities for low numbers of crevice dwelling bats were identified.	No internal or external evidence of bats. Some limited opportunities for roosting bats identified.	'Low' bat roost potential
B2 (Gazebo)	A small wooden gazebo with open sides and roof comprising wooden shingles. No roof sarking or underlay. No evidence of bats identified and no suitable roosting features present.	No internal or external evidence of bats.	'Negligible' bat roost potential

3.3 Phase 2 Bat Surveys

3.3.1 Following the identification of bat roosting potential within B1, which could not be exhaustively searched for bats or evidence of roosting bats, this building was subject to a single dusk emergence survey using an appropriate number of surveyors to ensure comprehensive coverage.

3.3.2 In accordance with best practice guidance (BCT, 2012), B1 which was considered to have 'low' potential to support roosting bats was subject to one emergence survey. Details of this survey and the subsequent findings are given below in *Table 2*.

Table 2: Results of 2013 Phase 2 Bat Emergence surveys

Building/ Group	Date / Type	Sunrise/ sunset	Conditions	Results	Updated Roost Status
B1	15/05/13 Dusk	20:46	10% cloud cover, very light breeze, dry, 14-13°C	No bats emerged	No roosting bat activity recorded No bat roost expected

3.3.4 The locations of surveyed buildings and trees within the site are shown on the '*Bat roost survey summary plan*' in *Appendix A*.

3.3.5 No emergences or re-entries were observed during the Phase 2 bat survey. The first bat recorded during the survey was a Common Pipistrelle bat at 21:25 commuting from the north-west of the site then heading eastwards along the driveway. The majority of activity recorded during the survey was associated with a small number of Common Pipistrelles commuting along the driveway to the north of the garage and occasionally travelling down

into the former quarry pit to the south. A single pass from a Serotine bat was also recorded at 21:57. Overall, the level of foraging and commuting activity in the vicinity of B1 was considered low.

- 3.3.6 As detailed in *Table 2*, weather conditions during the survey were favourable and the survey was conducted at an appropriate time of year to detect any active bat roosts. Although views of the northern roof elevation were partially obscured by tall hedging along the driveway, the surveyors were well positioned to record any bats passing away from or adjacent to the building. Furthermore, only Common Pipistrelle and Serotine were recorded during the survey and the first bat recorded was at approximately 40 minutes after sunset which is much later than the typical emergence times for these species under the favourable weather conditions experienced. This resulted in a very high confidence level in the presence/absence of roosting activity during the survey.

4 SUMMARY AND IMPACT ASSESSMENT

- 4.1 During the Phase 1 bat survey, Building 1 was identified as having 'low' potential to support roosting bats. However, a follow-up dusk emergence survey conducted in accordance with good practice guidelines (BCT, 2012) did not observe any bat emergence or re-entries from B1 and it is considered highly unlikely that roosting bats were present at the time of survey.
- 4.2 In view of the survey findings, it is considered highly unlikely that B1 supports roosting bats and the demolition of this building is unlikely to have any adverse effect on roosting bats.
- 4.3 Notwithstanding the above, due to the opportunities for roosting bats that exist within B1, it is conceivable that they could be colonised by bats in the future and a precautionary approach to demolition is recommended in *Section 5*.
- 4.4 Overall the level of bat foraging and commuting activity recorded in the vicinity of the building during the emergence survey was considered low. Notwithstanding this, in addition to implementing precautionary measures to avoid any negative effects on roosting bats during construction in accordance with nature conservation legislation, where possible development proposals should also seek to maintain and enhance opportunities for roosting, foraging and commuting bats within the site in accordance with planning policy and the 2006 NERC Act. These measures are further discussed in *Section 5.3* below.

5 RECOMMENDATIONS

- 5.1 This section recommends precautionary measures to be implemented during development of the site in order to avoid potential effects of the development on bats should roosting opportunities be occupied prior to development commencing. In addition, measures for long-term maintenance and enhancement of opportunities at the site for roosting, foraging

and commuting bats are also recommended in accordance with NPPF (2012) and the NERC Act (2006).

5.2 Building 1

- 5.2.1 Current knowledge suggests that there are no bat roosts associated with B1 and so a licence will not be required for the demolition of this building. In view of the 'low' potential of this building to support roosting bats however it is recommended that a precautionous approach to demolition is followed as set out below.

Approach

- 5.2.2 All demolition or stripping works involving the removal of features with the potential to conceal roosting or hibernating bats should be overseen by a licensed bat worker under an Ecological Watching Brief. Potential features may include: roof and ridge tiles, hanging wall tiles, roof timbers, and barge boards, weather-boarding, lintels, window/door frames and cracks in brickwork etc. Suitable features should be inspected prior to demolition and a cautious approach should be employed, with features removed by hand, where appropriate.

Replacement of lost roosting opportunities

- 5.2.3 It is recommended that a minimum of three bat boxes (2 Schwegler 2F and 1 Schwegler 1FF box) should be mounted in south to west-facing locations on mature trees in order to off-set any loss of potential roosting habitat and provide new long-term provision for roosting bats at the site in accordance with NPPF (2012) and the NERC Act (2006). Ideally, these bat boxes should be provided prior to demolition of B1 in order to maintain current roosting opportunities at the site throughout the construction phase.
- 5.2.4 In the event that a bat is discovered during demolition at the site, works must cease and Natural England contacted to agree an appropriate course of action. A licence may need to be applied for, and approved, before works can continue.

5.3 Protection of roosting, foraging and commuting opportunities

- 5.3.1 The integrity of retained and replacement roosting opportunities should be secured through the maintenance of connections to commuting and foraging habitat and sensitive use of lighting throughout the construction and operational phases.
- 5.3.2 The former quarry pit in the central and southern areas of the site, which are dominated by scattered trees, scrub and grassland, provides a small area of good quality foraging habitat for bats in the local area. The proposed development should seek to maintain the current levels of opportunity for foraging and commuting bats provided by the site and adjacent habitats through appropriate landscape planting (see *Section 5.4* below) and avoidance of

excessive light spill from the development. In order to maximise the value of landscape planting for the local bat population, consideration should also be given to the use of nectar- and pollen-rich plant species in boundaries and gardens, to encourage invertebrate prey for foraging bats.

5.3.3 It is recommended that all detailed external lighting proposals are reviewed at appropriate design stages by a suitably qualified ecologist. Consideration should be given to the use of low UV, narrow spectrum and hooded, directional or low-level lighting as appropriate.

5.3.4 Additional measures by which development proposals can further enhance the value of the site for bats in accordance with NPPF (2012) and the NERC Act (2006) is provided in the enhancements section below.

5.4 Enhancement measures

5.4.1 Development of the site would provide considerable opportunities to enhance the value of the site for roosting bats in the long-term in accordance with NPPF (2012) and the NERC Act (2006) through the provision of a range of bat roosting features. The detailed design and location of such features would be determined at an appropriate stage prior to construction, but in addition to the measures for replacement of lost roosting opportunities described in *Section 5.2*, consideration could be given to inclusion of a selection of the following:

- Creation of additional bat roosting opportunities within new dwellings e.g. through the use of bat bricks to allow access into cavity walls; installation of Schwegler 1FR Bat Tubes or 'Habibat' type bat boxes; bat access tiles to allow access below the roof tiles; and/or use of waney edge boarding for wall cladding (incorporating strategic gaps);
- Provision of additional bat boxes on new buildings or retained mature trees to those described in *Section 5.2* suitable for a range of bat species including Pipistrelle, *Myotis* and Long-eared bats (e.g. Schwegler 2F and 1FF).

6 CONCLUSION

6.1 Evidence gathered during the Phase 2 emergence survey suggests that there are no bat roosts associated with B1, which was identified as having 'low' and bat roosting potential during the Phase 1 survey. It should be noted however that roosting bats can move roosts frequently and it is therefore recommended that the precautionary measures proposed in *Section 5.2* and *5.3* are fully implemented to avoid any unexpected impacts on bats and/or contravention of relevant UK and EU legislation.

6.2 Development proposals should also seek to maintain and, where possible, enhance the future value of the site for roosting, foraging and commuting bats by the inclusion and implementation of the measures outlined in *Section 5*.

- 6.3 Subject to the implementation of the measures described in *Section 5*, it is considered that the favourable conservation status of local bat populations would be maintained and, through long-term provision of higher quality roosting and foraging habitat, enhanced. This would ensure compliance with the nature conservation objectives of the EU Habitats Directive, the NERC Act (2006) and the guidance underpinning the National Planning Policy Framework (2012).

7 REFERENCES

Bat Conservation Trust (2012) *Bat Surveys: Good Practice Guidelines*. Bat Conservation Trust, London.

Battersby, J (2005) *UK Mammals: Species Status and Population Trends*. JNCC, Peterborough. Available from:
http://jncc.defra.gov.uk/pdf/pub05_ukmammals_speciesstatusText_final.pdf.

HDA (2014) *Portsmouth Hill Road Ecology: Ecological Appraisal*. Hankinson Duckett Associates, Wallingford.

Mitchell-Jones, A. J. and McLeish, A. P. (eds) (2004) *Bat Workers' Manual (3rd Edition)*. Joint Nature Conservation Committee.

UKBP (2007) *UK Biodiversity Action Plan*. UK Biodiversity Partnership. Available from:
<http://jncc.defra.gov.uk/page-5155> [Accessed May 2014]

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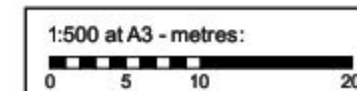
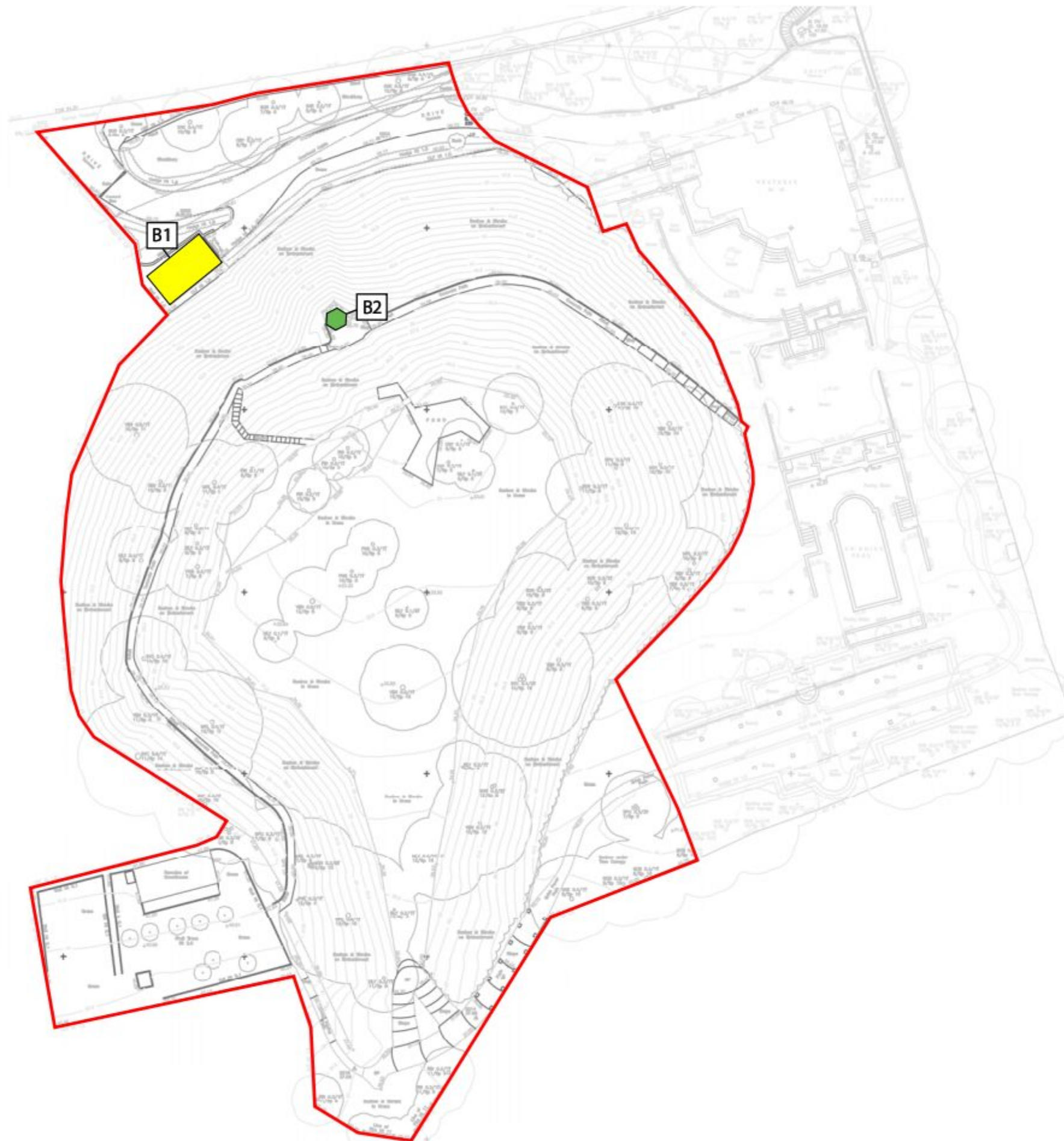
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APPENDIX A

Bat roost survey summary plan

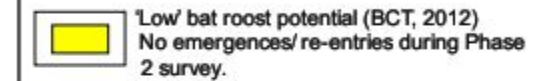


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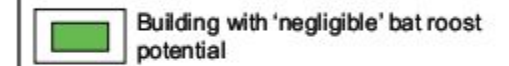


Site boundary

Bat Roost Survey Results



'Low' bat roost potential (BCT, 2012)
No emergences/ re-entries during Phase
2 survey.



Building with 'negligible' bat roost
potential

All trees within and bordering the site have been
assessed as having 'Category 3' (negligible) bat
roost potential.

CLIENT:
James Laurence Group
PROJECT:
Portsmouth Hill Road Ecology
TITLE:
Bat Roost Survey Summary Plan
SCALE AT A3: 1:500
DATE: May 2014

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