



Appendix 7.13
Bat Roost Survey Report - 2021 Update

July 2021



THE
ENVIRONMENT
PARTNERSHIP



THE LANES PENWORTHAM BAT ROOST SURVEY REPORT - 2021 UPDATE

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G6900.03.006 Bat Tree Potential 2021 Survey

G6900.03.007 Bat Building Location Plan

1.0 Introduction

- 1.1 Taylor Wimpey and Homes England are seeking to obtain planning permission for residential-led mixed-use development and on land to the east of Penwortham Way known as 'The Lanes, Penwortham' (hereafter referred to as 'the site'). Within this report "the site" refers to land that falls within the application boundaries A and B as illustrated in Figure 1 below.
- 1.2 TEP was commissioned, in March 2018, to assess the suitability of buildings and trees within the site for roosting bats. The findings of this survey are set out at TEP Report Ref 6900.006. TEP were subsequently commissioned in 2021 to provide an updated survey of buildings and trees set out at Drawings G6900.03.006 and G6900.03.007.

Description of Site

- 1.3 The central grid reference of the site is SD 53329 25884 and the location of the site is shown in Figure 1 below.

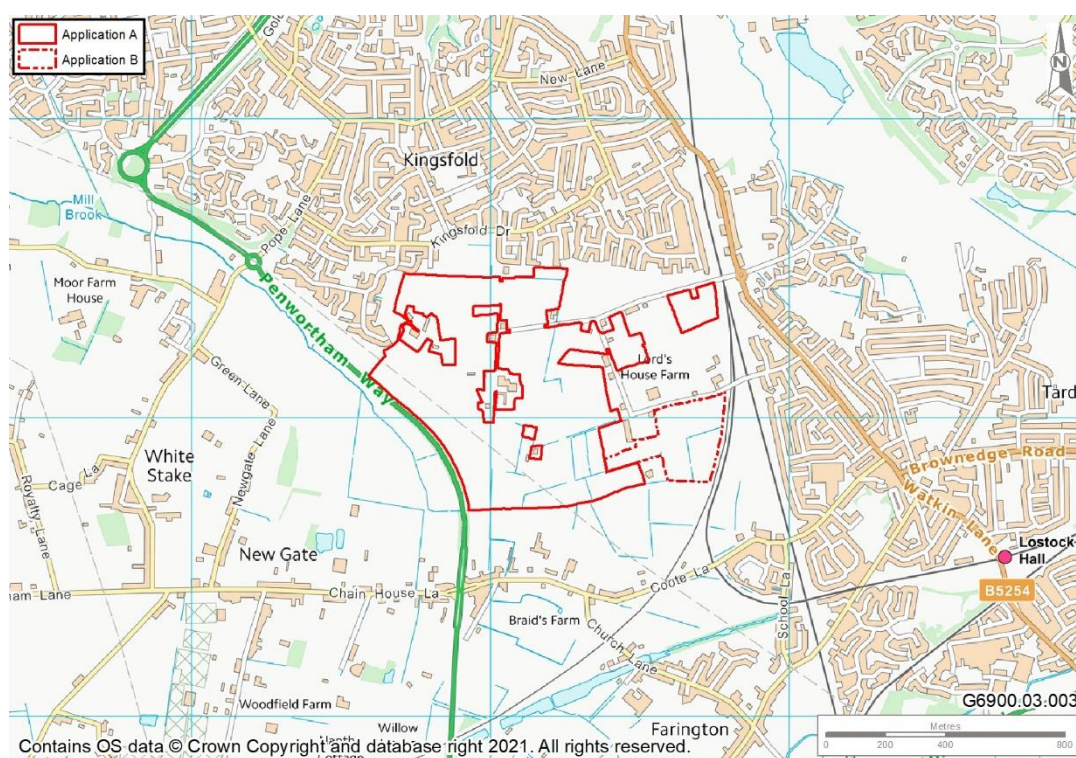


Figure 1 Site Location Plan

- 1.4 The site is irregular in shape and occupies approximately 51.86ha on land to the east of Penwortham Way to the south of the settlement of Penwortham.
- 1.5 The site is bound by Penwortham Way to the west, existing residential development south of Kingsfold Drive to the north, agricultural fields and the West Coast mainline railway to the east and agricultural fields to the south.
- 1.6 The site comprises a mix of land uses including:

- Agricultural land separated into a number of fields by fences, hedgerows and trees;
- Pylon accommodation land;
- Pylon corridor; and
- Roads.

1.7 The site surrounds a number of residential dwellings and light industrial buildings which do not lie within the application boundary.

Site Suitability for Roosting Bats

- 1.8 A separate report detailing bat foraging and commuting activity across the site has been produced based on findings in 2018 (TEP reference: 6900.003). No incidental roosting behaviour was noted during these surveys.
- 1.9 The site contains a large number of mature trees, particularly within field boundary hedgerows. There are also numerous buildings, largely associated with residential or agricultural use, which could be suitable for roosting bats.

2.0 Method

Buildings

Preliminary Roost Assessment

- 2.1 The buildings shown in Drawing G6900.03.007 are to be demolished under the proposed development. There are other buildings within the site but it is not anticipated that these will be impacted under the proposals.
- 2.2 These buildings were assessed in line with the Bat Conservation Trust (BCT) Guidelines (Collins, 2016¹) for their suitability to support roosting bats. The survey was undertaken by TEP bat licensed ecologist John Crowder (Natural England Class 2 Survey Licence number: 2015-10700-CLS-CLS) on the 19th to 21st April 2021.
- 2.3 The buildings were subject to an external assessment and where possible internal inspection for bat roost suitability, where accessible, to identify any suitable potential roost features (PRF's) for use by bats such as crevices, cracks, holes and any other potential access points into the structures. PRF's were inspected to assess their suitability for use by bats using a torch and binoculars. Inspection of features included determining presence of any signs of bats roosting within the buildings including; droppings, feeding remains and other indicative marks.
- 2.4 The buildings were then categorised in accordance with the criteria set out in the BCT Guidelines (Table 1).

Table 1: Bat Roosting Habitat Categories (BCT, 2016)

Category	Roosting Habitats
Negligible	No potential roost features are present that are likely to be used by bats.
Low	A structure or tree of sufficient size and age to contain potential roost features but none seen from the ground or features seen with only limited roosting potential.
Moderate	A structure or tree with one or more potential roost features that could be used by bats due to its size, shelter, protection, conditions and surrounding habitat, but which is unlikely to support a roost of high conservation status (maternity or hibernation).
High	A structure or tree possessing one or more potential roost features that are suitable for use by larger numbers of bats on a regular bases and potentially for longer periods of time, due to its size, shelter, protection, conditions and surrounding habitat.

Category	Roosting Habitats
Confirmed Roost	Evidence of roosting bats has been identified within the structure or tree.

Limitations

- 2.5 No internal building assessments could be undertaken on some of the buildings during the survey. However due to the structure of these buildings a confident assessment for bat roosting suitability could be made from external assessments.

Trees

Ground Based Tree Assessment

- 2.6 A number of trees identified for as being felled within the site were assessed in line with the BCT Guidelines for their potential to support roosting bats. The location of the trees is set out at Drawing G6900.03.006. The survey was undertaken by TEP bat licensed ecologist John Crowder (Natural England Class 2 Survey Licence number: 2015-10700-CLS-CLS) on the 19th to 21st April 2021.
- 2.7 The ground based assessment of the trees involved the surveyor searching from the ground for any PRF's which may be used by bats, using binoculars. Most tree roosts are created by one or a combination of the following:
- Old woodpecker holes;
 - Splits in trunk, bough or large branches;
 - Rot holes in trunk, bough or large branches;
 - Holes formed by two boughs or branches growing in contact;
 - Loose or lifting bark; and
 - Underneath a covering of dense latticed creeper, usually ivy (*Hedera helix*).
- 2.8 The trees were then categorised in accordance with the criteria set out in the BCT Guidelines (Table 1).

Limitations

- 2.9 Due to the time of year if foliage was thought to be hiding features a precautionary approach in terms of bat roosting suitability was undertaken.

Nocturnal Roost Surveys of Buildings and Trees

- 2.10 A single building was assessed as having high suitability to support roosting bats, building B3 (Drawing G6900.03.007). Seven trees were assessed as having moderate or high suitability to support roosting bats. In G24, four trees with high suitability and a single tree with moderate suitability. Trees T117, T137 and T151 were assessed as having high suitability to support roosting bats.

- 2.11 The surveys were carried out in line with the 2016 BCT Guidance. Three nocturnal surveys, two dusk and one dawn were carried out on buildings and trees assessed as having high suitability to support roosting bats. Two surveys, a dusk and a dawn survey of trees assessed as having moderate suitability to support roosting bats.
- 2.12 Dusk emergence surveys commenced 15 minutes prior to sunset and finished 90 minutes after sunset. Dawn re-entry surveys commenced 90 minutes prior to sunrise and finished 15 minutes after sunrise. Surveys were led by licensed bat ecologist John Crowder (license number 2015-10700-CLS-CLS), Lindsey Roberts (license number 2018-35038-CLS-CLS) and Stephanie Davies (license number 2020-44415-CLS-CLS) supported by an experienced team of ecologists. Surveyors used heterodyne detectors (Petterson) and frequency division (Anabat) and multi spectrum batloggers to record bat calls. Sonogram analysis was undertaken by John Crowder MSc Hons MCIEEM, trained to Advanced Level and experienced in kaleidoscope analysis.

Table 2 Nocturnal Survey Details

Date	Buildings/Trees Surveyed and Survey Visits	Sunset/Sunrise	Start Time	End Time	Temp	Rain	Cloud	Wind
10/6/21	Building B3	21:39	21:24	23:09	19	0	7	1
15/6/21	Building B3	21:43	21:28	23:13	18	0	0	1
24/6/21	Building B3	04:40	03:10	04:55	14	Light	8	0
16/6/21	Trees T117, T137, T151	21:43	21:28	23:13	16	0	8	0
23/6/21	Trees T117, T137, T151	04:40	03:10	04:55	10	0	0	0
14/6/21	G24-1, G24-2, G24-3, G24-4, G24-5	21:42	21:27	23:12	13.3	0	2	1
22/6/21	G24-1, G24-2, G24-3, G24-4, G24-5	04:40	03:10	04:55	7	0	0	1
12/7/21	G24-1, G24-2, G24-3, G24-4, G24-5	21:37	21:22	23:07	17	0	7	1
15/7/21	Trees T117, T137, T151	21:33	21:18	22:03	18	0	1	1

Limitations

- 2.13 Very light rain was recorded on 24th June and the temperature was below 10°C on the 22nd June, however bat activity was recorded and these conditions did not appear to have any effect on bat activity during the survey.

3.0 Results

3.1 Records of pipistrelle bats were returned within 1km of the site in the desk based assessment produced by TEP in June 2018 (Report Ref: 6900.007).

Preliminary Roost Assessments

Buildings

3.2 The results of the building inspection are discussed in Table 3 below.

Table 3: Results of PRA of Buildings to be Demolished

Building Ref	Grid Ref	Description	Roosting Category
1	SD 52935 26147	Red brick shed with curved corrugated metal roof.	No access points or roosting features which could be used by bats. Negligible suitability.
2	SD 53122 25861	Corrugated metal shed.	No access points or roosting features which could be used by bats. Negligible suitability.
3	SD 53465 25956	Red brick barn with pitched tile roof which has recently been repaired. Windows and door are securely boarded up but there is a large hole in the brick work on the west elevation. Scaffolding was erected internally and the underside of the roof tiles was lined with wooden sarking.	Large hole in the wall on the west elevation provides internal access. Numerous lifted and missing roof slates and gaps in brickwork. High suitability.
4	SD 53473 25930	Dilapidated corrugated metal barn that has partially collapsed.	No access points or roosting features which could be used by bats. Negligible suitability.

Building Ref	Grid Ref	Description	Roosting Category
5	SD 53401 26261	Barn with concrete block walls and a pitched corrugated metal roof and metal cladding on the west elevation. Metal sliding doors and corrugated plastic skylights.	No access points or roosting features which could be used by bats. Negligible suitability.
6 - 1 - 3	SD 53318 26283	Three metal sheds with metal roofs, two sheds is single storey and one shed is double storey.	No access points or roosting features which could be used by bats. Negligible suitability.
6 - 4	SD 53318 26283	One single storey brick building with wooden farmed windows, none smashed or boarded. Building has flat corrugated asbestos roof. Part of this building is constructed from metal and has no windows.	No access points or roosting features which could be used by bats. Negligible suitability.
7 - 1-3	SD 53062 26334	Collection of wooden horse stables access was not allowed by third party.	A collection of three single storey wooden horse stables and while viewed at a distance they are unlikely to provide suitability for roosting bats. Due to lack of roosting features externally and open nature of the sheds creating fluctuating temperatures that are unsuitable to support roosting bats. Negligible suitability.

Trees

- 3.3 Ground based inspections were undertaken of a number of trees identified for felling. The trees that have been assessed as having low, moderate and high suitability are set out in Table 4 below and illustrated on Drawing G6900.03.006.

Table 4: Trees with Roosting Suitability at the Lanes, Penwortham

Tree Ref	Description	Roosting Category
T117	Cherry, , ivy clad, ivy creates cavities suitable to support roosting bats	High
T137	English Oak, cavity in trunk	High
T151	Mature Ash, ivy clad, ivy creates cavities suitable to support roosting bats Hole on east limb at height of 4m	High
G53	A group of 21 trees (eleven of these trees are now outside of the site boundary), trees includes English Oak, sycamore, English elm, common lime, common alder, hybrid black poplar, common ash, hawthorn, wild cherry. All trees ivy clad, ivy could hide features suitable to support roosting bats	Low
G24 - 1	Mature Ash, ivy clad ivy creates cavities suitable to support roosting bats	High
G24 - 2	Mature Ash, ivy clad ivy creates cavities suitable to support roosting bats	High
G24 - 3	Mature Ash, hole in limb 4m east facing	High
G24 - 4	Mature Ash, cavity in stem 3m west facing	High
G24 - 5	Mature Ash, hole in limb 2.5m east facing	Moderate
G24 - 5	Ivy clad trunk ivy could be hiding features	Low

Nocturnal Roost Surveys

- 3.4 The results of the nocturnal roost surveys on buildings and trees are set out in Table 5 below.

Table 5: Nocturnal Survey Findings

Date	Building B3	Trees T117, T137, T151	Trees G24-1, G24-2, G24-3, G24-4 and G24-5
10/6/21	Day roost of common pipistrelle confirmed. Single bat emerged from hole in wall Foraging and commuting by low numbers of common and soprano pipistrelle and noctule	n/a	n/a
14/6/21	n/a	n/a	No roosting Foraging and commuting by low numbers of common and soprano pipistrelle and noctule
15/6/21	No roosting Foraging and commuting by low numbers of common pipistrelle	n/a	n/a
16/6/21	n/a	No roosting Foraging and commuting by low numbers of common and soprano pipistrelle and noctule	n/a
22/6/21	n/a	n/a	No roosting Foraging and commuting by low numbers of noctule

Date	Building B3	Trees T117, T137, T151	Trees G24-1, G24-2, G24-3, G24-4 and G24-5
23/6/21	n/a	No roosting Foraging and commuting by low numbers of common and soprano pipistrelle	n/a
24/6/21	No roosting Foraging and commuting by low numbers of common and soprano pipistrelle and noctule	n/a	n/a
12/7/21	n/a	n/a	No roosting Foraging and commuting by low numbers of common and soprano pipistrelle and noctule
15/7/21	n/a	No roosting Foraging and commuting by moderate numbers of common and soprano pipistrelle and noctule	n/a

4.0 Conclusions

- 4.1 Building B3 is now outside of the site but supports a day roost of common pipistrelle. The remaining ten buildings have negligible suitability for roosting bats.
- 4.2 Eighteen trees were identified to contain potential roost features ranging from low to high roost suitability. No confirmed roosts were identified during the nocturnal roost surveys.
- 4.3 Due to the low levels of bat activity across the site recorded during the previous surveys in 2018 and nocturnal roost surveys in 2021, it is not anticipated that any roosts of significant conservation status, such as maternity roosts, are currently present within the site or nearby. However there is the potential for smaller roosts to use the site throughout the year and some of the high suitability trees could also provide hibernation opportunities for bats.
- 4.4 Loss of these trees would result in a reduction in roosting habitat locally and could lead to the damage or destruction of bat roosts, if present.
- 4.5 Building B3 is currently retained however development will surround this building. There is potential for indirect impacts such as light spillage onto the building and loss of adjacent foraging and commuting habitats.

5.0 Recommendations

- 5.1 If proposals change and building B3 is to be demolished then a Natural England licence will be required prior to demolition. If any additional buildings, other than those surveyed, are to be impacted then further bat surveys will be required.
- 5.2 Trees with roosting suitability, particularly those with high and moderate suitability, should be retained and protected in line with recommendations made within the Arboriculture Impact Assessment (TEP Ref: 6900.03.010).
- 5.3 Reasonable Avoidance Measures will be implemented for any trees, with low to high roosting suitability, to be felled within the scheme. This may include sensitive work programming, pre-commencement inspections and soft felling under the supervision of a licensed bat ecologist.
- 5.4 Where trees with moderate or high suitability are lost, alternative roosting habitat, such as bat boxes, should be incorporated into the scheme. The number and specification of the boxes will be dependent on the scale of loss.
- 5.5 Measures should be taken where feasible within the development layout to retain foraging and commuting habitats around building B3 to enable bats roosting here to disperse to the wider locality.
- 5.6 A lighting strategy should be in place across the site to prevent lighting from impacting on potential roosts and foraging and commuting habitats.

DRAWING

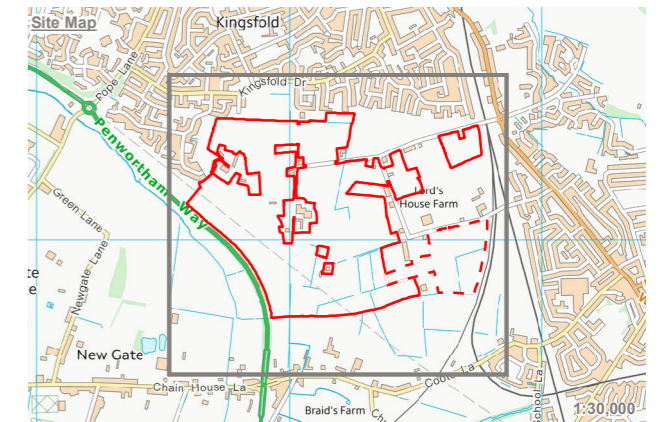
G6900.03.006 Bat Tree Potential 2021 Survey
G6900.03.007 Bat Building Location Plan



KEY

- Page and page number
- Application A
- Application B
- Broad-leaved tree with low bat suitability
- Broad-leaved tree with moderate bat suitability
- Broad-leaved tree with high bat suitability

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Rev	Description	Drawn	Approved	Date



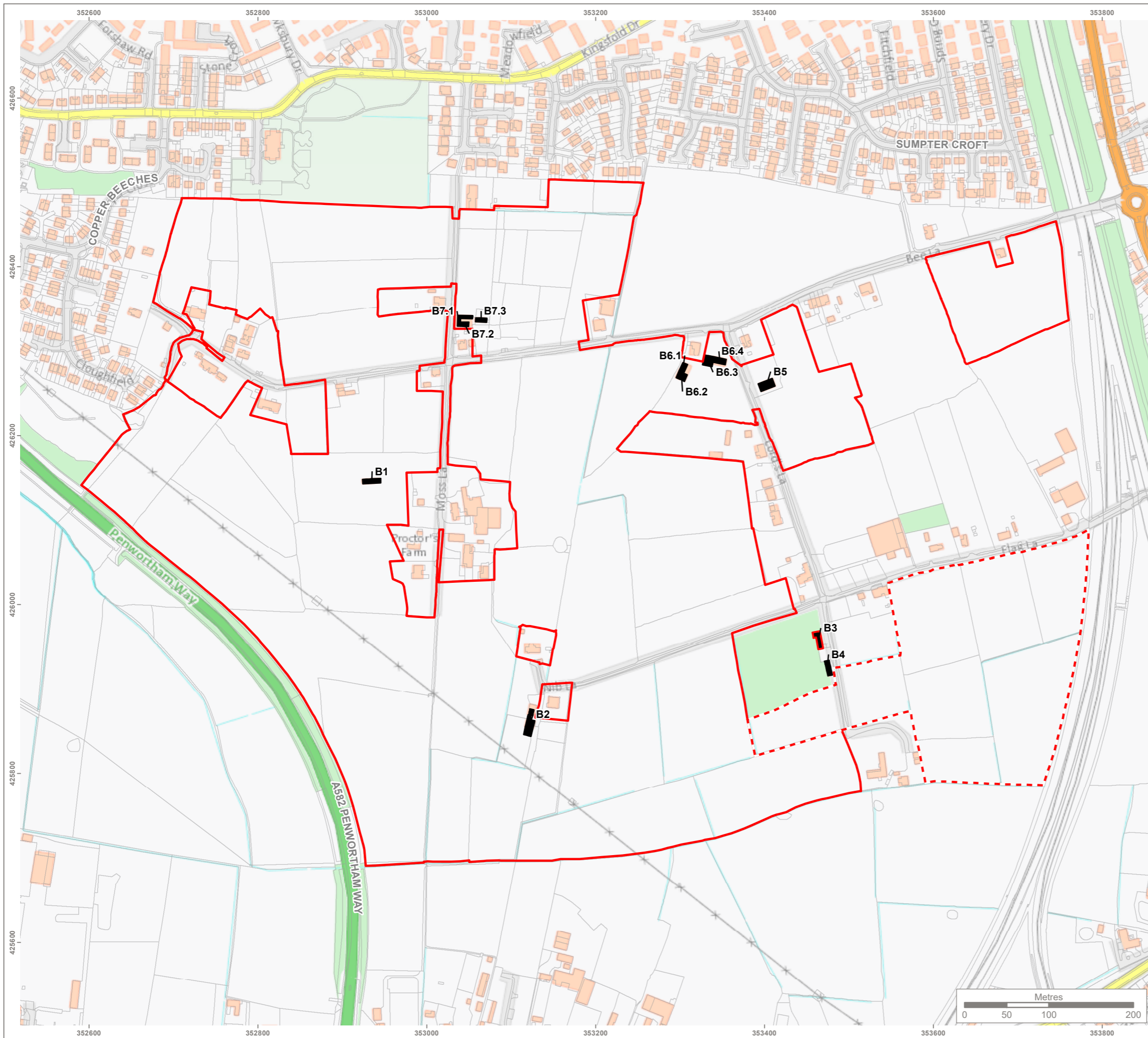
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Project
The Lanes

Title
Bat Tree Potential - 2021 Survey

Drawing Number
G6900.03.006.1 Sheet 1 of 3

Drawn	Checked	Approved	Scale	Date
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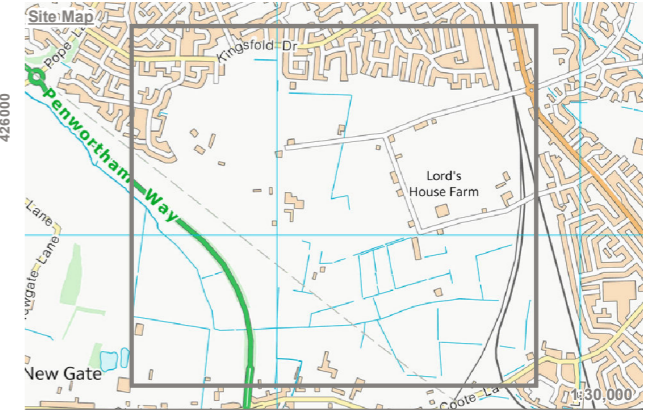
- Application A
- Application B
- Bat Building Assessment**
- Building with confirmed day roost of common pipistrelle
- Building with negligible bat roost

Note:

The locations of habitats and habitat features are indicative.



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Project
The Lanes, Penwortham

Title
Bat Building Location Plan

Drawing Number
G6900.03.007

Drawn	Checked	Approved	Scale	Date
CW	MK	JC	1:4,500 @ A3	23/07/2021



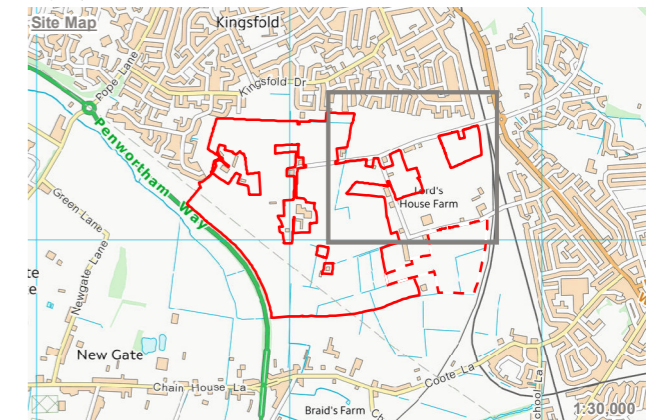
KEY

- Application A
- Application B
- Broad-leaved tree with high bat suitability



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Project
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Title
Bat Tree Potential - 2021 Survey

Drawing Number: **G6900.03.006.2** Sheet 2 of 3

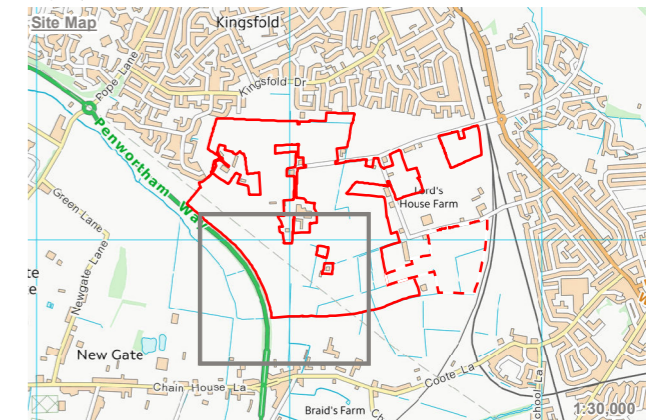
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CW	MK	JC	1:2,300 @ A3	23/07/2021



KEY

- Application A
- Broad-leaved tree with low bat suitability
- Broad-leaved tree with moderate bat suitability
- Broad-leaved tree with high bat suitability

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Title
Bat Tree Potential - 2021 Survey

Drawing Number
G6900.03.006.3 Sheet 3 of 3

Drawn	Checked	Approved	Scale	Date
CW	MK	JC	1:2,300 @ A3	23/07/2021



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