

Bat Survey and  
Assessment

Dingly Dell, Furneux Pelham, Hertfordshire

September 2023

Report ref.:  
KHA101/R001V1

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## 1. Summary

- 1.1.1** Planning consent has been granted for the demolition of a property known as Dingley Dell and the construction of a replacement dwelling. Planning consent also allows for the demolition of associated outbuildings and the construction of a new outbuilding, together with a new entrance driveway.
- 1.1.2** A Preliminary Bat Roost Assessment (PBRA) was undertaken of Dingley Dell by ELMAW Consulting in January 2017<sup>1</sup>. During the PBRA, a number of mixed aged brown long-eared bat droppings were recorded within the loft void, confirming the property as a brown long-eared roost. Further bat surveys were recommended to characterise the type of roost present.
- 1.1.3** Planning consent for the development was granted by East Herts District Council in December 2020 (ref. 30/20/2017/FUL), subject to a condition that prior to the commencement of the development, three emergence surveys should be undertaken and be submitted to the local planning authority for their approval, together with appropriate mitigation measures for roosting bats.
- 1.1.4** [REDACTED] commissioned Babec Ecological Consultants in June 2023 to conduct an updated preliminary bat roost assessment of Dingley Dell and all outbuildings, a suite of emergence surveys of Dingley Dell and a detached garage and provide a report detailing the findings. The aim of the surveys was to characterise the bat roost present within Dingley Dell and determine the presence or likely absence of further bat roosts within this property or outbuildings. The objective was to provide appropriate recommendations for mitigation and licensing to minimise the impact of the development on roosting bats and allow the development to proceed in accordance with the relevant legislation.
- 1.1.5** Babec Ecological Consultants undertook a desk study and inspection of Dingley Dell and outbuildings in June 2023, and a suite of emergence surveys of Dingley Dell and a detached garage in July and August 2023. The surveys followed the methods set out in the Bat Conservation Trust's good practice guidelines<sup>2</sup> and interim night vision aid guidance note<sup>3</sup>. All surveys were undertaken by appropriately experienced and licensed ecologists in optimal weather conditions at an optimal time of year. No significant limitations to the surveys were noted.
- 1.1.6** The results of the surveys indicate the likely absence bat roosts from the garage, shed and greenhouse, but confirm the presence of an infrequently used brown long-eared day or transitional roost within the loft void of Dingley Dell (Roost 1). Brown long-eared day/transitional roosts are considered to be of low conservation value<sup>4</sup>. The results of the survey indicate the likely absence of a brown long-eared maternity roost within the property; however, as brown long-eared bats are known to use buildings year-round, the presence of a brown long-eared hibernation roost cannot be ruled out.
- 1.1.7** All species of bat and their roosts are strictly protected by legislation, principally through the Conservation of Habitats and Species Regulations 2017 (as amended). Development affecting bats and their roosts is also subject to a licensing procedure administered by Natural England.
- 1.1.8** Without mitigation and licensing the development would contravene the legislation set out above. This is because the development would result in the destruction of the brown long-eared

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1 ELMAW Consulting (2017). *Preliminary Bat Roosting Assessment (PBRA) – Dingley Dell, The Street, Furneux Pelham, Hertfordshire*. Issued 13<sup>th</sup> February 2017.

2 Collins (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

3 Bat Conservation Trust (2022). *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys*. Available at [www.bats.org.uk](http://www.bats.org.uk).

4 Mitchell -Jones (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.

day/ transitional roost (Roost 1) within the loft void of Dingley Dell and could harm individual bats. However, by using established mitigation techniques<sup>5</sup> it should be possible to avoid harm to individual bats and maintain the population of brown long-eared bats at a favourable conservation status.

- 1.1.9 Appropriate mitigation measures have been provided in Section 6 of this report. This includes gaining a Natural England protected species licence prior to the demolition of Dingley Dell, providing an alternative roosting opportunity for brown long-eared bats, and soft-stripping roosting features from Dingley Dell under ecological supervision outside of the bat hibernation period. The mitigation measures also include the provision of two new permanent replacement roosting opportunities within the fabric of the new property. Providing these measures are fully adopted, the development should be compliant with the relevant legislation relating to roosting bats.

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<sup>5</sup> Mitchell-Jones (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

## 2. Introduction

2.1.1 East Herts District Council have granted planning consent for the demolition of a property known as Dingley Dell and the construction of a replacement dwelling. The development also allows for the demolition of associated outbuildings, and the construction of a new outbuilding, together with a new entrance driveway.

2.1.2 The Dingley Dell is located in Furneux Pelham in the East Hertfordshire District of Hertfordshire (OSgrid reference TL 43360 27927), see Figure 1 in Appendix A.

### 2.2 Planning and ecology background

2.2.1 A Preliminary Bat Roost Assessment (PBRA) was undertaken of Dingley Dell by ELMAW Consulting in January 2017<sup>6</sup>. Several potential bat roosting features and access points were identified on Dingley Dell during the PBRA, as well as a number of mixed aged bat droppings within the loft void. The droppings were later confirmed by way of eDNA analysis as belonging to brown long-eared bats, confirming the property as a brown long-eared roost. Further bat surveys were recommended to characterise the type of roost present and outline mitigation measures were suggested. This included obtaining a protected species licence for bats prior to demolition taking place, carefully timing the demolition of the property, and (for non-breeding roosts) providing access for bats to the ridge tiles of the replacement property.

2.2.2 A planning application, informed by the PBRA, was submitted to East Herts District Council on 15 October 2020 (ref. 30/ 20/ 2017/ FUL). Planning consent for the development was granted in December 2020, subject to a number of conditions. Condition 3 of which states that that:

‘Prior to the commencement of development, including any demolition, 3 dusk emergence/dawn re-entry surveys should be undertaken during May-August (inclusive) to determine whether bats are roosting and will be affected by the proposals; and should this be the case, the outline mitigation measures should be modified as appropriate based on the results and then submitted to and approved in writing by the local planning authority. Thereafter, the development shall be carried out in accordance with these approved details....’

### 2.3 The brief and objectives

2.3.1 As the results of the PBRA carried out by ELMAW Consulting are now over six years old, Mr Harwood commissioned Babec Ecological Consultants on 7 June 2023 to conduct an updated PBRA of Dingley Dell and all outbuildings, and a suite of emergence surveys of Dingley Dell and a detached garage and provide a report detailing the findings.

2.3.2 The aim of the surveys was to characterise the bat roost present within Dingley Dell and determine the presence or likely absence of further bat roosts within this property or outbuildings. The objective was to provide appropriate recommendations for mitigation and licensing to minimise the impact of the development on roosting bats and allow the development to proceed in accordance with the relevant legislation and policy.

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<sup>6</sup> ELMAW Consulting (2017). Preliminary Bat Roosting Assessment (PBRA) – Dingley Dell, The Street, Furneux Pelham, Hertfordshire. Issued 13<sup>th</sup> February 2017.

## 3. Methods

### 3.1 Personnel

3.1.1 The building inspection for bats was undertaken by Jon Bannon BSc MSc MCIEEM. Jon holds a Natural England level 2 class licence for bats (registration number 2015-11543-CLS-CLS), is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has over 13 years' commercial experience in conducting building inspections.

3.1.1 Emergence surveys were undertaken by Jon Bannon BSc MSc MCIEEM with assistance from Jasmine Whitmore BSc. Jon has over 13 years' commercial experience in conducting emergence surveys, while Jasmine has one season of experience in undertaking this type of survey.

### 3.2 Desk study

3.2.1 In the first instance, aerial photographs were examined to assist in understanding the local context of the development site, in particular, to identify connectivity with the surrounding habitat.

3.2.2 The Multi-Agency Geographical Information for the Countryside (MAGIC)<sup>7</sup> interactive map tool was then used to search for Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs) designated for bat species within 5km of the development site.

3.2.3 Records of bat roosts within a 2km radius of Dingley Dell were obtained from Herts Environmental Records Centre and records of granted Natural England Protected Species licences for bats within 2km of the property were also sought using the MAGIC interactive map tool.

### 3.3 Building inspection for bats

3.3.1 An internal and external inspection was undertaken of Dingley Dell and associated outbuildings to look for bats or secondary evidence of bats, and to record the presence of potential roosting features. Dingley Dell and outbuildings were then assessed and placed into a category (negligible, low, moderate, high or confirmed roost) for their level of potential to support bat roosts. The inspection was undertaken in accordance with good practice guidelines<sup>8</sup>.

3.3.2 The inspection was undertaken on 9 June 2023. Weather conditions during the inspection were mild (16°C), clear (1/8 Oktas) and dry with a slight breeze (BF2).

### 3.4 Emergence surveys

3.4.1 In the first instance, appropriate surveyor locations were selected to allow a good view of all potential access points for bats. During emergence surveys, surveyors watched potential access points for bats throughout.

3.4.2 All surveyors were equipped with full-spectrum Elekon Batlogger Mbat detectors to detect and record bat echolocation calls, as well as night vision aids (NVAs) to aid in the detection of roosts. NVAs comprised Canon XA series video cameras equipped with infrared lamps, as detailed in Appendix B. Echolocation calls were subsequently analysed using Elekon Batexplorer software and night vision footage was reviewed, where considered necessary.

3.4.3 All emergence surveys commenced 15 minutes before sunset and ended 90 minutes after sunset. Weather conditions during each survey were recorded, including rain, wind strength, cloud cover

<sup>7</sup> MAGIC (2021). Map and Geographic Information Centre Interactive Map Tool. <http://magic.gov.uk>. Accessed 4 July 2022.

<sup>8</sup> Collins (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

and maximum and minimum temperatures. The dates and weather conditions recorded during each of the surveys are provided in Table 1.

Table 1. Dates of emergence surveys and weather conditions.

Visit No.	Surveyor locations	Date	Temp (°C)		Cloud cover (oktas)	Rain	Wind* (start – end)	Overall suitability for survey
			Min	Max				
Dingley Dell								
1	1, 2	03/07/2023	11.7	12.8	5	None	1-1	Optimal
2	1, 2	17/07/2023	13.1	14.7	2	None	0-0	Optimal
3	1, 2	29/08/2023	14.6	17.1	8	None	1-2	Optimal
Detached garage								
1	1, 2	05/07/2023	13.1	13.8	2	None	0-0	Optimal

\* Measured on the Beaufort scale

### 3.5 Limitations of survey methods

- 3.5.1 Species data collated during the desk study are mainly derived from records submitted by consultants, members of the public and ad hoc surveys undertaken by volunteers. Therefore, it should not be taken as a definitive list of bat species that may occur in the local area.
- 3.5.2 There was no access to a small loft void above the garage during the building inspection. However, due to the small size of this loft void, this is not considered to have been a significant limitation. No further limitations were noted during the building inspection, which was undertaken at an optimal time of year.
- 3.5.3 The emergence surveys were undertaken in optimal weather conditions in July and August, which are optimal months for undertaking this type of survey and incorporate the bat maternity period. There were no limitations to the emergence surveys.
- 3.5.4 It should be noted that whilst every effort has been made to provide a comprehensive assessment of the use of Dingley Dell and outbuildings by roosting bats, no investigation can ensure the complete characterisation and prediction of the natural environment. The results of the surveys will also become less reliable as time progresses. As a general rule, the results of the surveys should not be relied upon after 18 months from the date of the final emergence survey visit.



## 4. Results and interpretation

### 4.1 Desk study

- 4.1.1 Dingley Dell is situated within the rural surrounds of the village of Furneux Pelham in East Hertfordshire. The land immediately adjacent to the property comprises residential gardens and arable bordered by hedgerows with trees. The surrounding landscape is a mosaic of predominantly arable farmland with blocks of broadleaved woodland. Overall, the habitat surrounding Dingley Dell is of moderate quality for foraging and commuting bats.
- 4.1.2 No SACs or SSSIs designated for bat species were identified within 5km of Dingley Dell. A single record of a granted protected species licence for bats was identified within 2km of the property. This comprises a licence to permit the destruction of common pipistrelle and brown long-eared roosts approximately 200m to the west of the property in 2010 (Natural England Ref. EPSM2009-1357).
- 4.1.3 While Herts Environmental Records Centre hold no record of bat roosts within Dingley Dell, they do hold records of roosts of three bat species within 2km of the property within the last 10 years<sup>9</sup>. The bat roost records are provided in Table 2. Note that only records from within the last 10 years have been included and where multiple records for the same location exist, these have been combined into a single entry.

Table 2. Bat roost records within 2km of Dingley Dell.

Species	Detail	Minimum distance to development (km)	Year
Common pipistrelle	Unspecified roost	0.46	2013
	Unspecified roost	1.64	2013
Natterer's bats (Myotis nattereri)	Maternity roost	0.46	2013
	Unspecified roost	1.64	2013
Brown long-eared bat (Plecotus auritus)	Unspecified roost	1.64	2013

### 4.2 Building inspection for bats

- 4.2.1 A total of four buildings are present within the development site, comprising a small timber framed bungalow (Dingley Dell), a detached single garage, a shed and a greenhouse.
- 4.2.2 No bats were recorded within Dingley Dell; however, approximately 500 mixed age droppings (characteristic of those produced by brown long-eared bats) were recorded throughout the loft void, indicating the presence of a brown long-eared day or transitional roost (Roost 1). Several high-quality access points and potential roosting features were also recorded during the inspection, including gaps under waney edge boarding, gaps under lead flashing and gaps under roof tiles. As well as being confirmed as a day / transitional roost, the property was assessed as having high potential to support further day/ transitional roosts and moderate potential to support a maternity roost and/ or hibernation roost.
- 4.2.3 No bats or evidence of bats was recorded within the detached garage. However, gaps were recorded under the ridge, eaves and the barge board which may provide access to suitable roosting crevices. The detached garage was assessed as having low potential to support roosting bats. The shed and

<sup>9</sup> Herts Environmental Records Centre (2023). Request for bat records in areas around Dingley Dell, dated 12 June 2023.

greenhouse were assessed as having negligible potential to support roosting bats as they do not incorporate any potential roosting features.

- 4.2.4 The full results of the building inspection are provided in Table 3 below and are illustrated in Figure 2 in Appendix A. Photographs are presented in Figure 3 in Appendix A.

Table 3. Results of the building inspection for bats.

Building	Description	Evidence of bats	Potential access points and roosting features	Potential to support bat roosts				
				Trans. / day	Mat.	Hib.	Night / feed.	Overall
Dingley Dell	Dingley Dell comprises a small timber framed bungalow with a pitched roof clad with clay tiles. The walls are clad with close-fitting tongue and groove boarding, except for the apex of the gable ends of the property, which are clad with waney edge boards which incorporate some large gaps. There is a small lean-to on the rear elevation of the property with a single pitched roof clad with composite tiles.  Dingley Dell incorporates a single large open roof void. The roof is unlined, and the loft floor is insulated with fiberglass insulation and boarded. There is open access to the ridge tiles from within the loft.	Approx. 500 mixed age droppings throughout loft, considered to comprise brown long-eared droppings.	Gaps under waney edge boarding provide access to loft void, where bats could roost along ridge beam, beneath ridge tiles or around chimneys.  Gaps under lead flashing Gaps under roof tiles	C	M	M	L	C
Detached garage	Small, detached timber framed garage with a pitched roof clad with corrugated asbestos. Walls clad with tongue and groove. No access to roof void.	None	Gaps under ridge Gaps under eaves Gaps under barge board	L	N	L	N	L
Shed	Small wooden shed with a pitched roof clad in bitumen felt.	None	None	N	N	N	N	N
Greenhouse	Small greenhouse	None	None	N	N	N	N	N

Trans. / day = transitional / day roost | Mat. = maternity roost | Hib. = hibernation roost | Night / feed. = night / feeding roost  
C= confirmed roost | H = high potential | M= moderate potential | L = low potential | N = negligible potential

### 4.3 Emergence surveys

4.3.1 No bats emerged from Dingley Dell or the detached garage during the emergence surveys.

4.3.2 Surveyor locations are shown in Figure 4 in Appendix A and incidental records of bat activity are provided in Table 4.

Table 4. Incidental records of bat activity recorded during emergence surveys.

Visit No.	Surveyor locations	Date	Incidental records of bat activity
Main property			
1	1, 2	03/07/2023	High levels of activity, predominantly from foraging common pipistrelles. Some activity from soprano pipistrelle, and a single pass of a commuting serotine were also recorded.
2	1, 2	17/07/2023	Overall moderate levels of activity from foraging and commuting common and soprano pipistrelles.
3	1, 2	29/08/2023	Moderate levels of activity from foraging and commuting common and soprano pipistrelle. A few passes of long-eared were also recorded, as well as a single pass of a commuting noctule.
Detached garage			
1	1, 2	05/07/2023	Low levels of activity, predominantly from foraging and commuting common pipistrelles. A single pass of a commuting Myotis bat was also recorded.

### 4.4 Interpretation

4.4.1 The number and age of brown long-eared droppings recorded during the building inspection confirm the presence of brown long-eared day or transitional roost within the loft void of Dingley Dell (Roost 1). The fact that no brown long-eared bats emerged during any of the emergence surveys indicates that the roost is used infrequently, most likely by a low number (<5) of bats. Brown long-eared day/ transitional roosts are considered to be of low conservation value<sup>10</sup>. The results of the survey indicate the likely absence of a brown long-eared maternity roost within the property. However, as brown long-eared bats are known to use buildings year-round, the presence of a brown long-eared hibernation roost cannot be ruled out.

4.4.2 The results of the surveys indicate the likely absence bat roosts from the garage, shed and greenhouse.

<sup>10</sup> Mitchell -Jones (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

## 5. Assessment

5.1.1 All species of bat and their roosts are strictly protected by the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). Taken together, these make it an offence to:

Deliberately capture, injure, kill or disturb a bat.

Deliberately disturb a bat in such a way as to be likely to:

Impair its ability to survive, to breed or reproduce, or to rear or nurture its young.

Impair its ability to hibernate or migrate.

Affect significantly the local distribution or abundance of the species to which they belong.

Damage or destroy a breeding site or resting place of a bat.

Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

Disturb a roosting bat or obstruct access to a roost or place of shelter.

5.1.2 Development affecting bats and their roosts is subject to a licensing procedure administered by Natural England.

5.1.3 Without mitigation and licensing the development would contravene the legislation set out above. This is because the development would result in the destruction of the brown long-eared day/ transitional roost (Roost 1) within the loft void of Dingley Dell and could harm individual bats.

5.1.4 However, by using established mitigation techniques<sup>11</sup> it should be possible to avoid harm to individual bats and maintain the population of brown long-eared bats at a favourable conservation status. The recommendations outlined in Section 6 set out how the proposed development may proceed in accordance with the relevant legislation with respect to roosting bats. Providing these measures are fully adopted, the development should be compliant with the relevant legislation relating to roosting bats.

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<sup>11</sup> Mitchell-Jones (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

## 6. Recommendations

### 6.1 Works that can be undertaken outside of a Natural England bat licence

- 6.1.1 It should be possible to undertake elements of the development without the need for licensing. This includes the demolition of the detached garage, shed and greenhouse, and the construction of the new entrance driveway.
- 6.1.2 In the unlikely event that a bat is discovered during these works, then works should cease until a licensed bat worker can be consulted to determine an appropriate course of action.

### 6.2 Works to be undertaken under a Natural England bat licence

- 6.2.1 Given that Dingley Dell incorporates a brown long-eared day/ transitional roost (Roost 1), once Condition 3 of planning consent ref. 30/ 20/ 2017/ FUL has been discharged, it will be necessary to obtain a protected species licence from Natural England to allow Dingley Dell to be lawfully demolished. Licence applications for developments affecting bats are subject to close scrutiny and must satisfy regulations set out in the Conservation of Habitats and Species Regulations 2017 (as amended) that:

The actions are essential for ‘imperative reasons of overriding public interest’,

‘There is no satisfactory alternative’, and

‘The action authorised will not be detrimental to the maintenance of the population of the species conserved at a favourable conservation status in their natural range’.

- 6.2.2 The protected species licence application must demonstrate compliance with these regulations.
- 6.2.3 Given the bat species and type of roost that will be affected by the development, the demolition of Dingley Dell should qualify for registration under Natural England’s Bat Mitigation Class Licence (BMCL)<sup>12</sup>. In order to ensure that the proposed development will not be detrimental to the favourable conservation status of brown long-eared bats, the BMCL will need to be undertaken in accordance with the following mitigation measures.

#### Demolition of Dingley Dell

- 6.2.4 The following mitigation measures will be adopted during the demolition of Dingley Dell:

One improved cavity bat box (or a bat box of a similar specification) should be installed on a suitable nearby tree or structure prior to the demolition of Dingley Dell, to provide a alternative roost for brown long-eared bats. The bat box will be installed at least 3m from ground level (where possible) with the entrance free from obstruction and not lit by external lighting.

All contractors involved in the demolition of Dingley Dell are to be given a toolbox talk by the ecologist registered under the BMCL, or an accredited agent prior to demolition commencing. The toolbox talk will include a discussion of the presence of bat roosts, the location of roosts, the protection afforded to bats, what to do if a bat is found and a suitable working approach.

Following the toolbox talk, the ecologist registered under the BMCL, or an accredited agent will check the loft void of Dingley Dell for the presence of brown long-eared bats. If a brown

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<sup>12</sup> Natural England (2023). Guide to using bat mitigation class licence CL21: registration criteria, how to apply and if you need to pay. Accessed via the gov.uk website on 30 August 2023.

long-eared bat is present and can be captured safely then it will be moved to the newly installed bat box.

The ecologist registered under the BMCL, or an accredited agent will then supervise the careful removal of all roosting features from Dingley Dell. The supervision must continue until all known and suitable roosting features, including (but not limited to) roof tiles, ridge tiles, lead flashing and waney edge boards have been carefully removed by hand. If possible, any bats encountered during this 'soft-strip' will be captured and placed into the newly installed bat box.

As a precautionary measure, roosting features will be removed from Dingley Dell outside of the bat hibernation period, when bats are most vulnerable to harm and disturbance.

Therefore, roosting features will only be removed from Dingley Dell between 1 April and 31 October. Roosting features will only be removed in suitable weather conditions (no heavy rain or high winds) and once overnight temperatures have been above 8°C for at least three consecutive nights.

#### Construction of new property

- 6.2.5 Non-bitumen coated membranes (formerly known as breathable roofing membranes) will not be used to line the roof or weatherboarding on the new property or outbuilding, as bats can get tangled in these and die. Only hessian-backed bituminous Type 1F felt that is a non-woven short fibre construction will be used.
- 6.2.6 As shown on Figure 5 in Appendix A, a total of 2 permanent replacement roosting opportunities capable of supporting the types of roost currently present within the existing property will be incorporated into the fabric of the new property. These will comprise two gaps (each at least 20mm x 40mm) which will be created under the ridge tiles to allow brown long-eared bats to access cavities within the ridge tiles. Note that this requires a 'wet' ridge to be installed. The permanent replacement roosting opportunities should be installed under the supervision of a licenced bat worker.
- 6.2.7 Any external lighting that is required in the proximity of the new property must be located below roof level and should point away from any newly created access points for bats.
- 6.2.8 The bat box should be retained after completion of the proposed development to provide a further replacement roosting opportunity for brown long-eared bats.

#### Monitoring

- 6.2.9 Given that the works will only result in the loss of a brown long-eared day roost (Roost 1), post-development monitoring is not considered necessary.





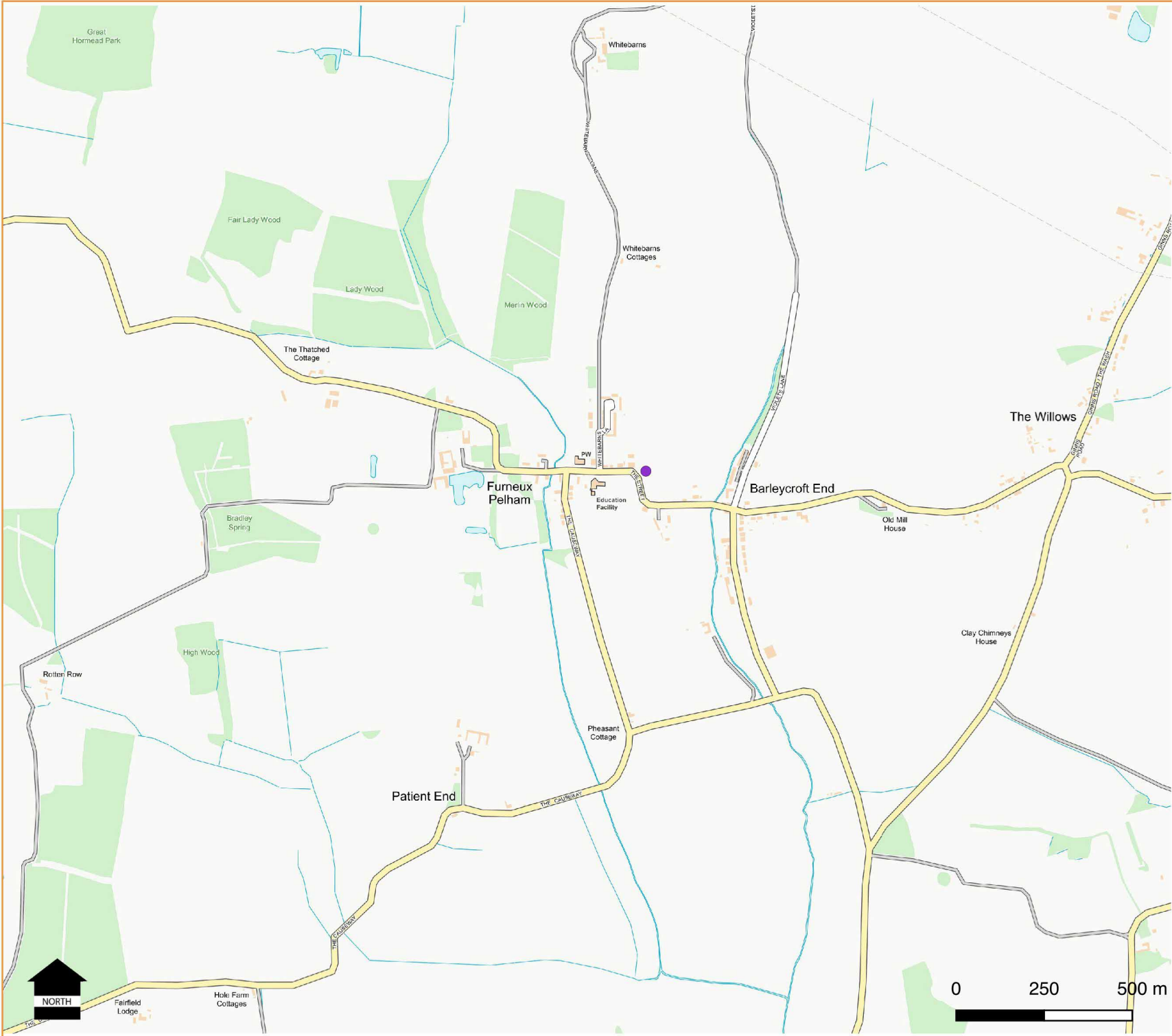


Figure 1.  
Location of the property

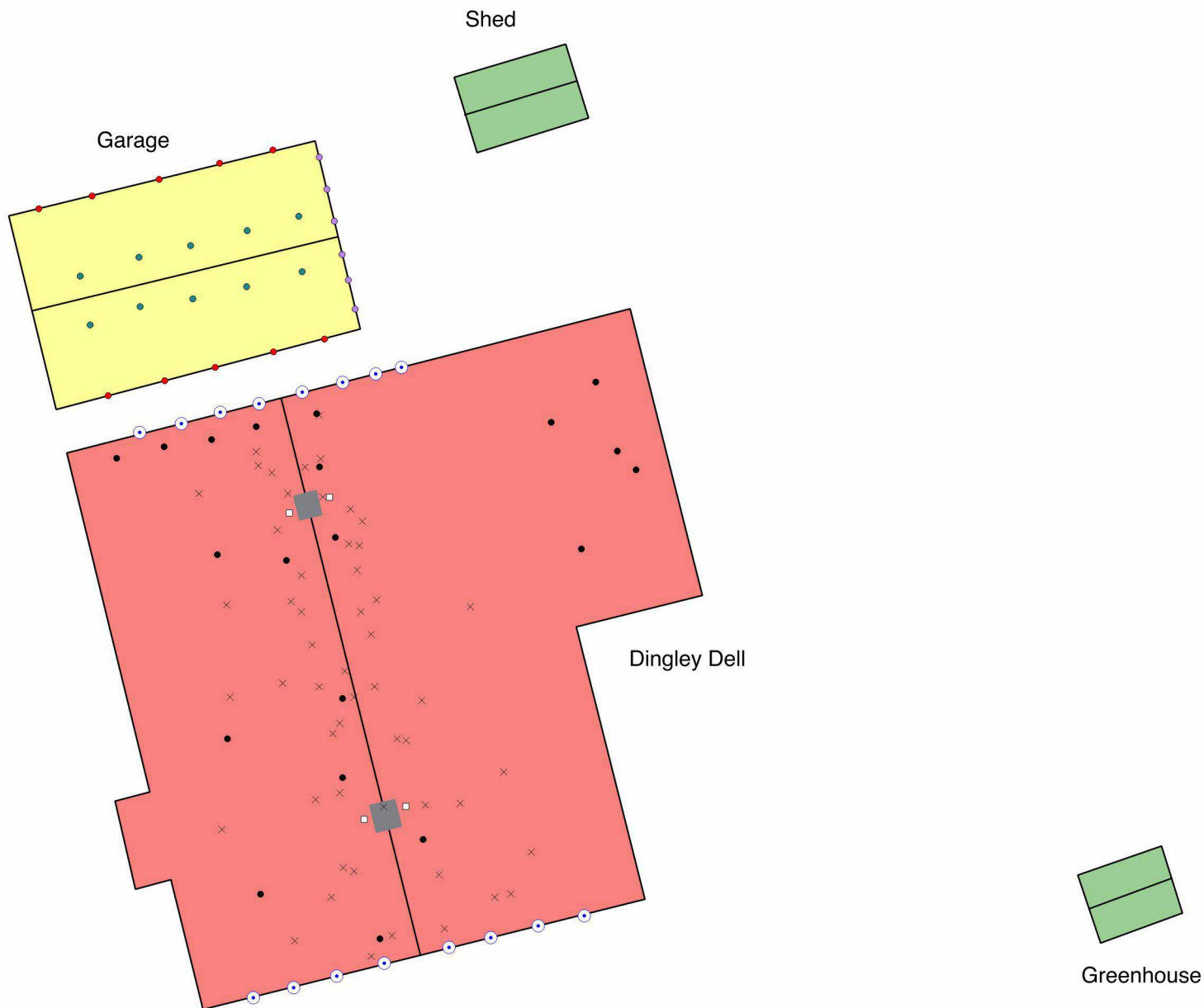
**Legend**

- Location of Dingley Dell

Date of survey	N/A	
Date of issue	6 September 2023	
Job reference	KHA101	
Drawn by	JB	Checked by TB
Status	Final	



Figure 2.  
Results of the building inspection for bats



**Legend**

**Results of the inspection**

- × Bat droppings
- Gaps under ridge
- Gaps under barge board
- Gaps under eaves
- Gaps under waney edge boarding
- Gaps under lead flashing
- Gaps under roof tiles

**Overall potential of buildings to support roosting bats**

- Confirmed roost
- Low
- Negligible

Date of survey 9 June 2023

Date of issue 6 September 2023

Job reference KHA101

Drawn by JB Checked by TB

Status Final





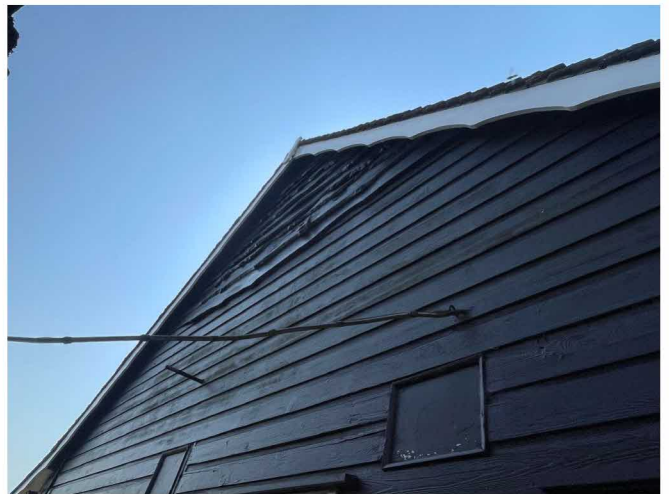
Photograph 1: Front elevation of Dingley Dell



Photograph 2: Rear elevation of Dingley Dell



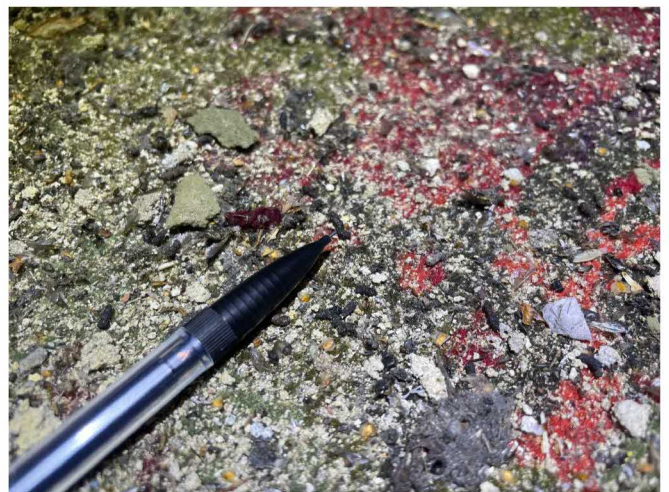
Photograph 3: Detached garage



Photograph 4: Wane edge boards on Dingley Dell



Photograph 5: Loft void within Dingley Dell



Photograph 6: Bat droppings within loft void of Dingley Dell

Figure 3.  
Photographs

Date of survey	9 June 2023	
Date of issue	6 September 2023	
Job reference	KHA101	
Drawn by	JB	Checked by TB
Status	FINAL	

**babec** Ltd  
Ecological Consultants

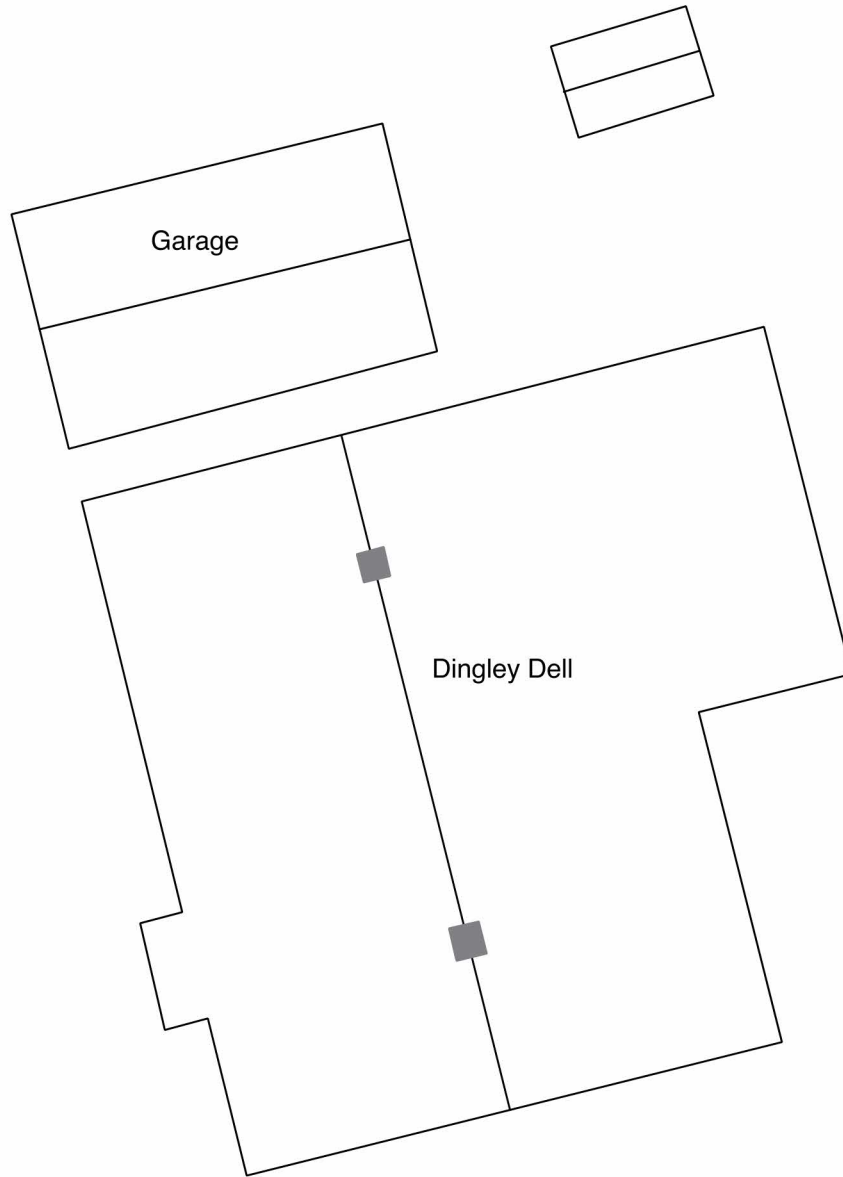


Figure 4.  
Surveyor locations during emergence surveys

**Legend**

- Surveyor location (Dingley Dell)
- Surveyor location (garage)

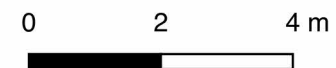
Date of survey 3 July - 29 Aug 2023

Date of issue 6 September 2023

Job reference KHA101

Drawn by JB Checked by TB

Status Final



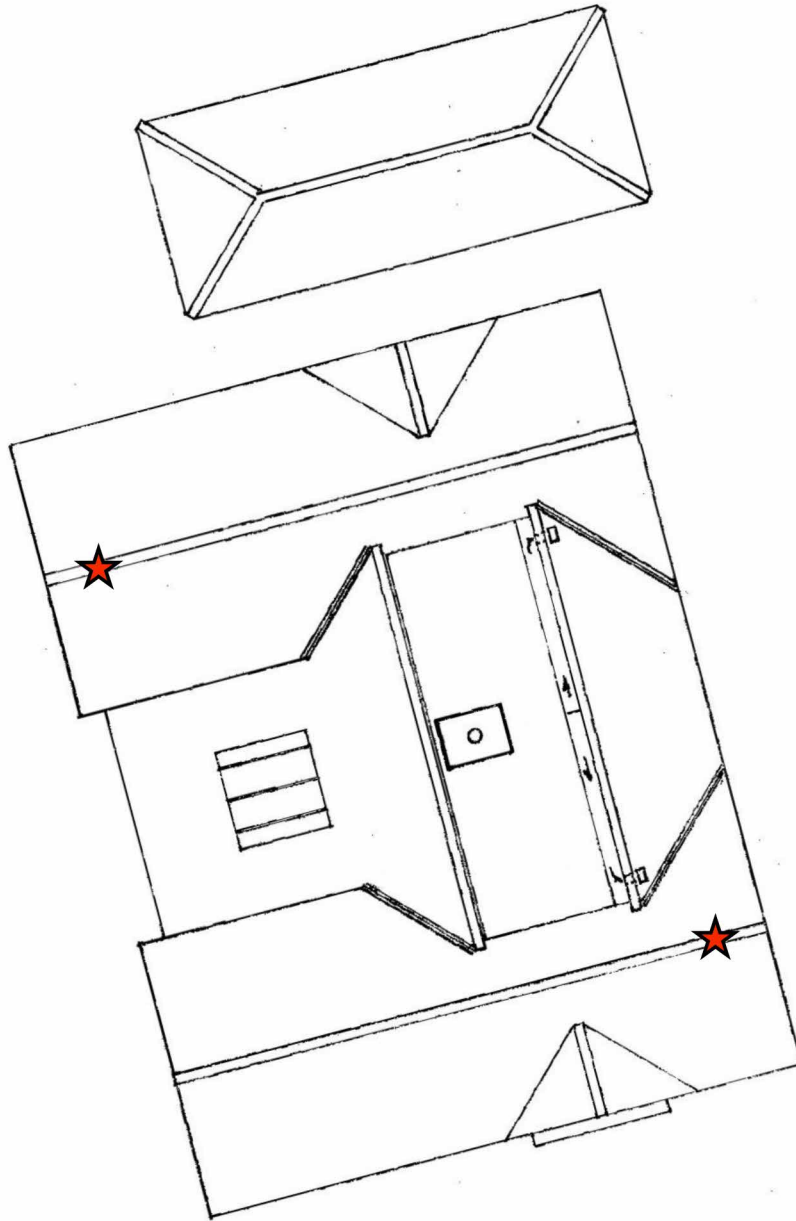


Figure 5.  
Mitigation measures

**Legend**

★ Gap under ridge tile

Date of survey	N/A	
Date of issue	6 September 2023	
Job reference	KHA101	
Drawn by	JB	Checked by TB
Status	Final	



Non-bitumen coated membranes (breathable roofing membranes) will not be used to line the roof or weatherboarding on the new property or outbuilding, as bats can get tangled in these and die. Only hessian-backed bituminous Type 1F felt will be used.

NOT TO SCALE



## Appendix B | Use of Night Vision Aids (NVAs)

In accordance with Bat Conservation Trust's interim guidance note<sup>13</sup> on the use of night vision aids (NVAs), NVAs were used at each surveyor location on each survey visit. NVAs comprised a Canon XA series video camera equipped with infrared lamps. Surveyors were also equipped with a full-spectrum Elekon Batlogger M bat detector. An example of the equipment used by Babec Ecological Consultants during emergence surveys is provided below:



1. Canon XA series camcorder 2. Screen 3. Infrared floodlamp 4. Batlogger-M 5. Thermometer

Surveyors watched potential roost features directly from the start of the survey until ambient light levels were too low for the potential roost features to be clearly visible, which was typically approximately 20 minutes after sunset. Surveyors then watched potential roost features using their NVAs for the remainder of the survey.

Video footage was recorded for the full extent of each survey. NVA screenshots taken at the start and end of a survey (i.e., the lightest and darkest points of the survey, respectively) are presented in Tables 5 and 6, below. Recorded footage was analysed following the survey when considered appropriate, such as when a bat roost was recorded, when the surveyor suspected the presence of a roost or when a bat was seen but not heard. Where a bat roost was confirmed during video analysis, bat calls recorded during the survey on the Batlogger M detector were analysed using Elekon BatExplorer software to identify the species of roosting bat.

<sup>13</sup> Bat Conservation Trust (2022). *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys*. Available at [www.bats.org.uk](http://www.bats.org.uk).

Table 5. Screenshots taken from NVAs at each surveyor location (Dingley Dell).

Surveyor location	Start of survey screenshot	End of survey screenshot
Visit 1		
1		
2		
Visit 2		
1		
2		

Surveyor location	Start of survey screenshot	End of survey screenshot
Visit 3		
1		
2		

Table 6. Screenshots taken from NVAs at each surveyor location (garage).

Surveyor location	Start of survey screenshot	End of survey screenshot
Visit 1		
1		
2		