

# Preliminary Roost Assessment

Buxton Museum and Hardwick Hall,  
Terrace Road, Buxton, SK17 6DY

*March 2026*

|              |                                                                 |
|--------------|-----------------------------------------------------------------|
| Project      | Buxton Museum and Hardwick Hall, Terrace Road, Buxton, SK17 6DY |
| Client       | Vanguard Group Developments UK1 Limited                         |
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| Authored | Kate Williams  | 21/03/2026 |          |
| Reviewed | Hazel Crossley | 23/03/2026 |          |
| Approved | Hazel Crossley | 23/03/2026 |          |

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Registered address C/O West Accountants, Suite K, Priest House, 1624 High Street,  
Knowle, B93 0PU | Company registration number 12452646

# Executive Summary

## Background

CW Ecology Ltd was commissioned by Vanguard Group Limited to undertake a preliminary roost assessment (PRA) of a collection of buildings, namely the Peak Buildings, which relate to Buxton Museum and Hardwick Hall in respect to a planning application to:

- Convert the existing buildings into residential dwellings.
- This may include, but is not limited to removal and replacement of the roof above Hardwick Hall, making good and undertaking repairs associated with Buxton Museum.
- Windows are to be repaired/replaced along with barge boards, guttering's and so forth.

## Findings Summary

|                                 | Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Impacts                               | Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Buildings</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Buxton Museum and Hardwick Hall | <p>No bat droppings have been found throughout the buildings.</p> <p>Both buildings are affected by water ingress, with Hardwick Hall suffering substantially. Small "attic" spaces are present within Hardwick Hall, these were not entered due to the extensive damage present, in most cases these could be viewed for the floor below.</p> <p>A single long attic is present in Buxton Museum, again this was not entered due to concerns regarding safety.</p> <p>Externally the buildings appear in good condition, when viewed from opposing sides of the courtyard from within the building itself. Some features are present including missing tiles and lifted weather boards around several dormer windows.</p> <p>As the building cannot be fully inspected further surveys and/or supervision is required.</p> | Potential to impact on roosting bats. | <p>Due to the constraints relating to the complexity and height of the building, a hybrid approach is suggested, whereby surveyors undertake surveys from within the building, which provides elevation for the rear aspects. Following this and where roofing works are completed, an ecologist should oversee such works.</p> <p>At least two, and up to three emergence surveys are recommended, following current best practice, as defined by (Collins, 2023).</p> <p>Lighting schemes must also be taken into consideration. Where new lighting is to be installed as part of the design, it must not be directed towards habitats in or outside the site boundary, "upward" light spill is to be avoided which can be detrimental towards many animals. Advice should be sought from a qualified engineer who is a member of the "Institution of Lighting Professionals" who can advise on how to avoid the above scenarios, as detailed in Note 8, as written by ILP.</p> |

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# 1. Introduction

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## 1.1 Background

- 1.1.1 CW Ecology was commissioned by Vanguard Group Ltd, to undertake a preliminary roost assessment at Buxton Museum and Hardwick Hall, Terrace Road, Buxton, SK17 6DY, henceforth referred to as 'the site'.
- 1.1.2 The site has a central grid reference of SK 05913 73327.
- 1.1.3 The site, shown in Figure 1, is located centrally within the town of Buxton. Surrounding the buildings on all sides are residential dwellings and shops. The closest area of green space is within 70 metres to the north west of the site, namely a small park. A large parkland area with ponds is present to the west of the site, within 250 metres. Open countryside can be found within 900 metres to the south and 880 metres to the east, the two closest points. The River Wye is found to the north and east of the site, within the closest point being to the north, within 360 metres. A more substantial stretch, not enclosed by concrete can be found to the east within 550 metres.
- 1.1.4 The site, a whole is known as Peak Buildings, which covers Buxton Museum and Hardwick Hall.

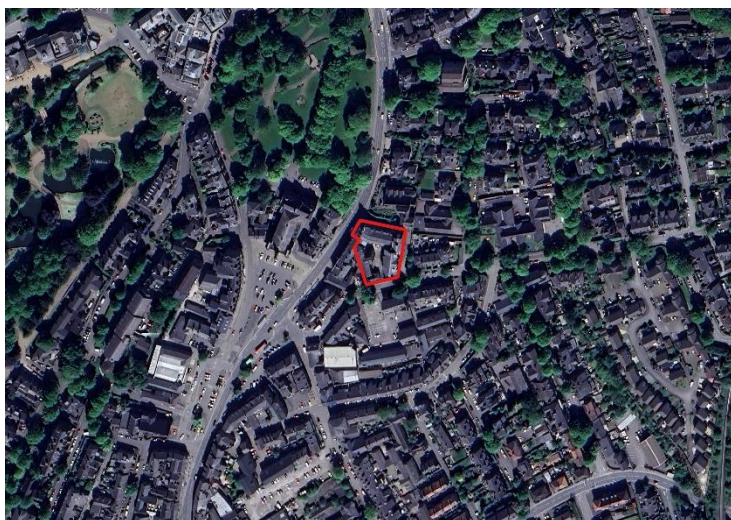


Figure 1- Red line boundary.

## 1.2 Proposed Works

- 1.2.1 The proposals are extensive and cover four storeys and both buildings. A full list and scale of works is not fully known, but this will involve the complete renovation of both buildings to make them habitable. This is likely to include a full roofline renovation on Hardwick Hall, including removing the roof and reinstatement. This may also be required on the building associated with Buxton Museum. If full roofing works are not required on Buxton Museum then making good repairs are likely to be required. New windows, fixture/fittings and new barge/weather boards around existing dormer windows and other windows are highly likely to be required.
- 1.2.2 The required works to renovate these two buildings are extensive in nature due to the extent of the water damage.

## 1.3 Aims

- 1.3.1 The authors are not aware of any previous ecological survey for the site in relation to the proposals. The objectives of the assessment were, therefore, to:
- identify signs of bat usage;
  - ascertain the potential of each building/structure/tree; and
  - determine the need for further surveys.

# 2. Legislation

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## 2.1 Wildlife and Countryside Act

- 2.1.1 All bat species are fully protected under section 9 (5) of the Wildlife and Countryside Act 1981 (as amended). According to this act, it is an offence to:
- Intentionally capture, kill or injure one of these animals
  - Intentionally or recklessly damage, destroy or obstruct access to any structure or place used by one of these animals for shelter or protection
  - Intentionally or recklessly disturb an animal whilst it is using this place sell, offer for sale or advertise for one of these animals live or dead

## 2.2 Conservation of Habitats and Species Regulations

- 2.2.1 Designated as European Protected Species' **all bat species** receive additional protection from the Conservation of Habitats and Species Regulations 2017 (as amended), under Schedule 2. In accordance with this act, it is an offence to:
- Deliberately capture or kill a European Protected Species
  - Deliberately disturb a European Protected Species
  - Damage or destroy the breeding site or resting place of a European Protected Species

- 2.2.2 The **greater and lesser horseshoe bats, barbastelle** and **Bechstein's bats**, are also listed in Schedule 2 of the Conservation of Habitats and Species Regulations. Areas which support populations of these species can, therefore, be considered for designation as a Special Areas of Conservation (**SACs**).

## 3. Method

### 3.1 Desk Study

- 3.1.1 A data search was requested from the local environmental records centre. Request details are displayed in Table 1.
- 3.1.2 A desk study was completed on Magic Maps to identify previously granted European protected species licences within 2km of the site.

Table 1 – Data Request

| Data Source                                                     | Information Requested                                                         | Search buffer               |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------|
| Multi-Agency Geographic Information for the Countryside (MAGIC) | EPS Licence applications<br>International and national statutory designations | 2km                         |
| Derbyshire Biological Records Centre                            | Bat records (all species)                                                     | 1km buffer of site boundary |

### 3.2 Preliminary Roost Assessment

- 3.2.1 A preliminary assessment was undertaken on the 19<sup>th</sup> March 2026 of the buildings being affected by the proposed works using current best practice guidance (Collins, 2023). Please see appendix one for images of the buildings surveyed and potential roosting features.
- 3.2.2 The exterior of all buildings affected by the proposed works were inspected to identify potential access locations or features that may offer roosting potential. This could be missing or lifted tiles; gaps around lead flashing, fascia boards or soffit boxes; or cracked mortar. Where practical, an internal inspection of the roof space was also undertaken. Surveyors recorded indications of use by bats including but is not limited to, staining, discoloration, droppings and feeding remains. Where present, samples of droppings were taken with a note on size, shape, texture and predicted age recorded. Each building was then assigned a potential to support bats using the rationales detailed in Table 2.

Table 2 – Classification of Roosting Habitats in structures<sup>1</sup>

| Suitability      | Rationale                                                                                                                                                                                                                                                          |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Buildings</b> |                                                                                                                                                                                                                                                                    |
| High             | A structure with more than one obviously suitable roosting feature. The feature is suitable for large numbers of bats, to be used for longer periods of time and at any time of year including hibernation. The features would present a high conservation status. |
| Moderate         | A structure with more than one potential roosting feature (PRF) which is likely to offer roosting potential for bats, but not hibernation features or for large numbers of bats. The features would not present a high conservation status.                        |
| Low              | A structure with one or more potential features, used opportunistically at any time of the year. However, it is unlikely to support bats, e.g., the feature is open to the elements or too small. May offer hibernation for singular opportunistic bats.           |
| Negligible       | No obvious habitat features on site likely to be used by roosting bats: however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.                                                                      |
| None             | No habitat features on site likely to be used by any roosting bats at any time of the year – i.e., complete absence of crevices/suitable shelter at ground/underground levels.                                                                                     |

### 3.3 Surveyors

3.3.1 The survey was undertaken by Kate Williams, who holds a class 2 bat survey licence (2025-84906-CL18-BAT).

### 3.4 Weather Conditions

3.4.1 The starting temperature was 13°C, and it was dry and bright.

### 3.5 Constraints

3.5.1 It should be noted that the buildings are very tall, some five storeys to the roofline. Due to this height it has not been possible to survey and visually inspect the entirety of the roofline to the, north, east and west. The inner courtyard facings have been assessed, from within the upper levels of the building which gave very good access and visibility. None of the small, crawl space, attic voids have been entered or inspected due to extensive water damage and visibly lost floors/boards/rafters. This was considered a health and safety risk.

<sup>1</sup> Collins, J. (ed.) (2023), see Table 4.1, guidelines for assessing the potential suitability of proposed development sites for bats.

## 4. Results

### 4.1 Desk Study

#### *Protected Species*

- 4.1.1 Two protected species licences for bats have been returned. The first covers, Common pipistrelle and brown long eared bats, covering destruction to a resting place, dated 2013. The second licence also covers common pipistrelle and brown long eared bats, for damage and destruction to a resting place, dated 2019. The licences are within 160 metres and 930 metres respectively.
- 4.1.2 The results of the biological records search are displayed in table 3.

Table 3 – Species Records

| Species/ Species Group     | Protection | Distance      | Number                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bats ( <i>Chiroptera</i> ) | CHS2, WCA5 | 0.31m – 1.3km | 69 records returned for five species within 1 km from the site: Common Pipistrelle, Soprano Pipistrelle, Brown Long-Eared, Noctule and Daubenton's, with other instances relating to "bats" or "myotis"<br>The closest records relate to aural recordings, relating to common pipistrelles, dated 2017 and 2025 respectively. A total of 13 bat roosts have been returned, with the closest located within 280 metres of the site, dated 2019. |

**CHS2** - The Conservation of Habitats and Species Regulations 2017 (as amended), Schedule 2 - European Protected Species of Animals; **WCA5** - Wildlife & Countryside Act 1981 Schedule 5 - Animals which are protected;

## Buildings

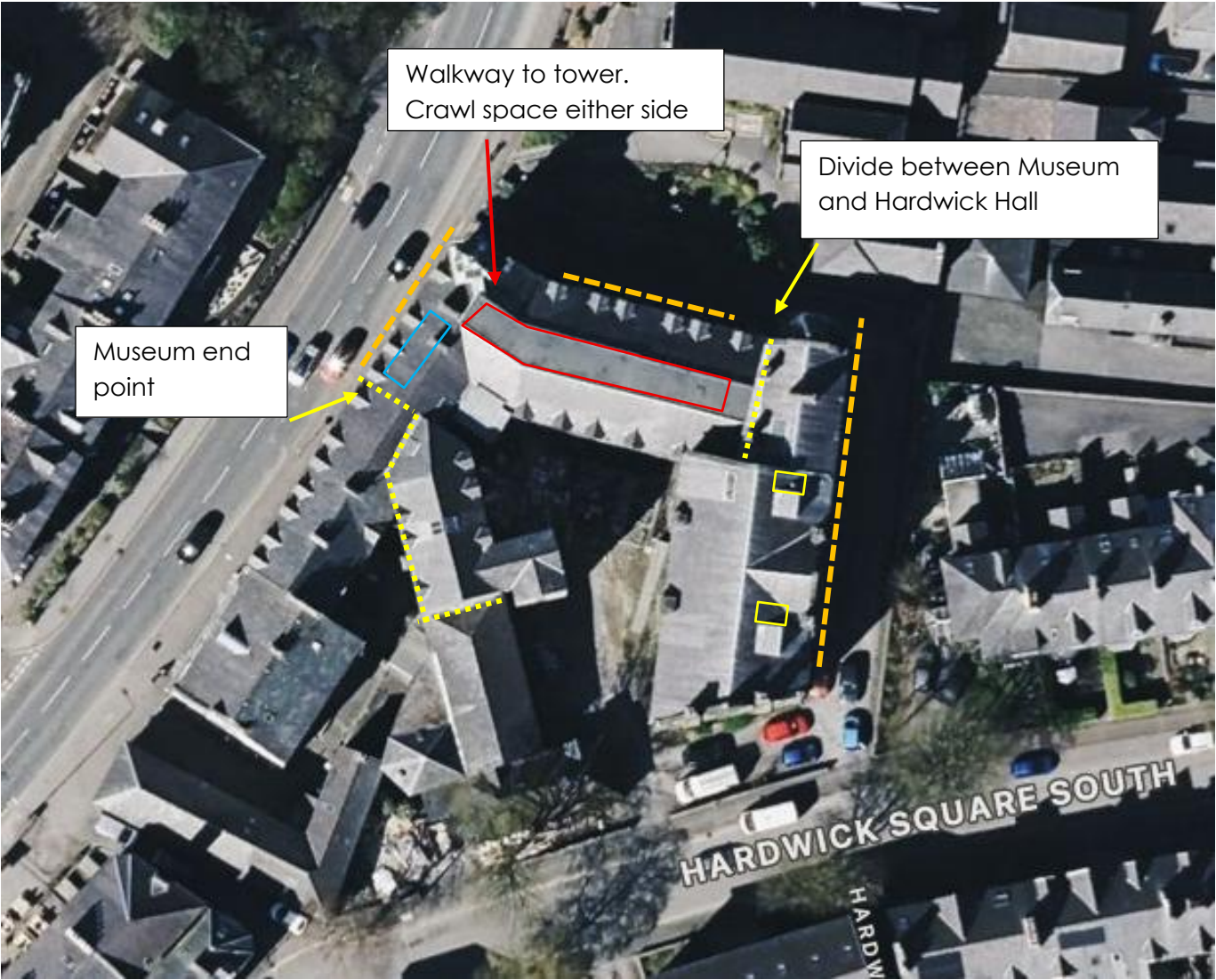
### Roost Potential

|                    | Building/Tree and PRF Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Suitability |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| B1 – Main Building | <p>The buildings were built roughly in the 1880's and have served multiple purposes over this time. Since approximately 2016 the buildings have been emptied and have become significantly derelict, with extensive water damage throughout. The Hardwick Hall side of the buildings are in a substantially worse state than those related to Buxton Museum.</p> <p>The buildings are solid stone, with stone all the way to the roofline edge, the stone walls lead into a solid wooden eaves surround. The eaves are closed in their entirety.</p> <p>The roofline is comprised of slate tiles with a significant amount of lead panelling around chimney joins, buildings joins and some capping points.</p> <p>Multiple rooflights and dormer windows are present. The majority of the rooflights have significant water ingress present. The southern gable end of the Hardwick building is extensively damaged by water ingress. Throughout the Hardwick building significant and extensive damage is present internally.</p> <p>Less damage is present within the museum half of the property, however, damage is present in almost every room, relating to either floors or ceilings.</p> <p>A walkway in the upper limits of the museum is present which leads into the wooden tower on the north western corner of the building. This tower was inspected as thoroughly as possible with access limitations present due to a collapsed ceiling. No bats were present here, thick matted cobwebs and large numbers of cluster flies were however present.</p> <p>The buildings pose a significant constraint in undertaking emergence surveys. Due to their heights, around five storeys, undertaking traditional surveys is not considered feasible. Surveyors would have to be some distance from the property to see the roofline, which would negate any positive identification of a bat, due to the distance, height and lack of lighting as the sunsets.</p> <p>It is possible that a thermal drone survey could work, however at least two drones would be required, and as the area is extensively residential in nature the potential for incidents and noise complaints is high. Therefore, on this occasion thermal drones are not considered suitable.</p> <p>Potentially undertaking the surveys from within the building, and viewing the rear courtyard of all buildings is a possibility, however, it is highly unlikely that the "front" and "sides" of the buildings will be suitability surveyed. Due to this a hybrid approach is suggested, whereby, surveys are undertaken from within the building on specific areas of concern. Following this, and due to the inability to survey the rest of the roofline, an ecologist must be present when works are undertaken on the roofline.</p> | Moderate    |

### Hibernation Potential

|                    | Building and PRF Descriptions                                                                                                                                                                                                                                                                                    | Suitability |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| B1 - Main Building | It is possible that the rooflines as a whole offers suitability for hibernating bats, however, thermal requirements are unlikely to be met due to the heat retained by slate tiles. Temperature fluctuations are also likely based on the tile type and current deterioration of the building and water ingress. | Negligible  |

Figure 2: Building layout and survey constraints.



Key

- = Attic
- = External roofline, not surveyed/accessible
- = Crawl space

## 4.2 Limitations

- 4.2.1 Magic Map data does not offer accurate locations for European protected species licences, this may mean that the application is closer or further than those licences detailed.

## 5. Evaluation

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- 5.1.1 Based on the constraints posed by the height of the building and visual inaccessibility of the roofline to surveyors from the ground, it is proposed that the building is surveyed from the upper floors, from within the building. This approach is only feasible if the windows can be opened/closed, to allow use of the infra red light panels and associated cameras. This approach will only allow for the internal courtyard rooflines to be assessed.
- 5.1.2 Following on from this ecological supervision will be required where roofline works take place, due to the inability to survey the entire roofline.
- 5.1.3 Where required a protected species licence may also need to be applied for depending on the outcome of the surveys. Where surveys are inconclusive but potential remains, it may be feasible to use either earned recognition or low impact licences as a last resort. However strong justification would be required, especially where no resulting evidence is provided following the surveys.
- 5.1.4 At least two and up to three emergence surveys for bats are required on the residential dwelling. These must follow the guidelines as set out in the most recent bat survey guidelines (Collins, 2023).
- 5.1.5 The results of the emergence surveys will inform the next steps, this may for example include applying for a protected species licence and ecological supervision during demolition.
- 5.1.6 Where new lighting is to be installed as part of the design, it must not be directed towards and of the residential/commercial buildings. Upward light spill is to be avoided as this can be detrimental to many species not only bats. Advice should be sought from a qualified engineer who is a member of the Institution of Lighting Professionals who can advise specifically on guidance within note 8, as produced by ILP, on lighting and bats.
- 5.1.7 This report is valid for two years from date of production.

## 6. References

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Collins, J. (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. London: The Bat Conservation Trust.

Reason, P., & Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Ampfield: Chartered Institute of Ecology and Environmental Management.

Appendix 1 – Supporting photographs.



Image 1: Northern aspect of Buxton Museum.



Image 2: Internal view looking along the northern aspect of Buxton museum.



Image 3: North western corner with tower above, Buxton Museum,

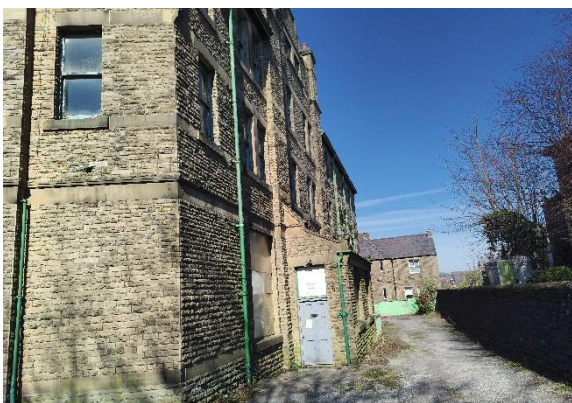


Image 4: Eastern aspect of Hardwick Hall.



Image 5: Southern end of Hardwick Hall



Image 6: Southern roofline. Missing tile at the far eastern edge of the roofline, just above the eastern gable end.



Image 7: Indication of one of three small crawl spaces on the western aspect of Hardwick Hall



Image 8: Internal view of crawl space and significant deterioration.



Image 9: An indication of the deterioration within Hardwick Hall.



Image 10: Walkway view within the museum to the tower. Crawl spaces either side.



Image 11: Crawl space view with Kingspan present



Image 12: View up and into the tower associated with the museum



Image 13: Internal view looking towards the museum and fire escape, looking from Hardwick Hall top floor. Inner western aspect looking to the eastern aspect of the museum.



Image 14: Looking into the inner courtyard again from Hardwick Hall



Image 15: Upper view of the internal supports.



Image 16: Area below the upper dwelling space.

## Appendix 2 – Protected Species Licences

