

**ECOLOGICAL IMPACT  
ASSESSMENT SCOPING  
REPORT**

**at**

**Richardsons Arms  
688 Bradford Road  
Oakenshaw  
Bradford  
BD12 7EN**

**Client:  
AGC Design & Management**

**Client Address:  
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Bolton Road  
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LS29 0RF**

**JCA Ref:  
22142/JF**

**Date of Report:  
17/06/2024**



## Quality Assurance

| Version  | Desktop Survey Completed: |              | Site Surveyed: |              | Report Completed: |              | Reviewed: |                  |
|----------|---------------------------|--------------|----------------|--------------|-------------------|--------------|-----------|------------------|
|          | Date                      | Name         | Date           | Name         | Date              | Name         | Date      | Name             |
| Planning | 27/09/24                  | James Foster | 20/08/24       | James Foster | 06/12/24          | James Foster | 09/12/24  | Richard Westwood |
|          |                           |              |                |              |                   |              | 15/12/24  | Adam West        |

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development 2018* and the *CIEEM's Code of Professional Conduct*.

|                                  |                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------|
| Risk Assessment Completed        |  |
| Bio-security Procedure Completed |                                                                                     |
| Lone Worker Procedure Completed  |                                                                                     |



## Summary

JCA Limited has been commissioned by **AGC Design & Management** to undertake an Ecological Impact Assessment (EclA) scoping of a site located at **Richardson Arms, 688 Bradford Road, Oakenshaw**. The site is located at Ordnance Survey (OS) National Grid Reference **SE 17482 27825** with nearby postcode **BD12 76EN**.

A desk study and field survey were undertaken in order to assess the potential of the site to support protected habitats and species and species of conservation concern. Recommendations for further survey, avoidance, mitigation and enhancement – where appropriate - have been made and are summarised in Table 1 on the following page and are detailed in full in Chapter 7 of this report.



Table 1: Summary of ecological receptors at the site and recommended mitigation.

| Receptor                      | Potential Risk to Project if No Action Taken | Cause of Impact<br>Description of Effect                                                                                                            | Further Survey Required       | Mitigation Required                                                                                                                                                                                                                                                                     |
|-------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Designated sites</b>       |                                              |                                                                                                                                                     |                               |                                                                                                                                                                                                                                                                                         |
| Statutorily protected         | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| Non-statutorily protected     | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| S41 habitat                   | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| Other habitats                | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| <b>Protected species</b>      |                                              |                                                                                                                                                     |                               |                                                                                                                                                                                                                                                                                         |
| Flora (WCA Sch 8, CHSR Sch 5) | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| Invertebrates                 | Low                                          | Removal of the habitats present on-site could adversely impact a range of generalist invertebrates, as well as species which feed on invertebrates. | No                            | Native scrub and wildflower planting and the addition of insect refuge is recommended to compensate for any loss.                                                                                                                                                                       |
| White-clawed crayfish         | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| Fish                          | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| Great crested newt            | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| Reptiles                      | None                                         | None                                                                                                                                                | No                            | No                                                                                                                                                                                                                                                                                      |
| Birds                         | High                                         | Potential breach of legislation from destruction of nests or disturbance of nesting birds.                                                          | Dependent on timing of works. | A preconstruction site walkover is required prior to any vegetation or tree removal or building demolition commencing. If removal/demolition occurs outside of the breeding bird period (1st February until 31st August) and birds are found, the removal must cease immediately, and a |



|                                |      |                                                                                                                                                                                                                                                       |                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                |      |                                                                                                                                                                                                                                                       |                                                                                                                                                                        | suitably competent ecologist contacted.                                                                                                                                                                                                                                                                                                                             |
| Bats                           | High | There is one building on-site planned to be renovated that has 'Moderate' bat roosting potential, The overall site has low potential for commuting and foraging bats. Any disturbance to bats or a bat roost would result in a breach of legislation. | Yes – two emergence surveys for the building with 'Moderate' bat roosting potential between May and September inclusive, with at least one survey during May - August. | Dependent on the results of the surveys.<br><br>If a roost is confirmed, a Mitigation Licence would need to be applied for from Natural England. Artificial lighting within the Development should follow guidance from Institution of Lighting Professionals (2023).                                                                                               |
| Badgers                        | Low  | Potential breach of legislation from killing and injury of individual badgers.                                                                                                                                                                        | No                                                                                                                                                                     | Any excavation of the site should be covered overnight, or if not possible, a safe exit route provided for badgers to leave the site, such as an artificial ramp to aid their exit. Any open pipes must also be capped if left open overnight. A pre-construction walkover of the bramble scrub is required prior to removal to ensure no badger setts are present. |
| Otters                         | None | None                                                                                                                                                                                                                                                  | No                                                                                                                                                                     | No                                                                                                                                                                                                                                                                                                                                                                  |
| Water voles                    | None | None                                                                                                                                                                                                                                                  | No                                                                                                                                                                     | No                                                                                                                                                                                                                                                                                                                                                                  |
| Other Species e.g. S41 species | Low  | Hedgehogs are a mobile species and may potentially be utilising the site for dispersal, any                                                                                                                                                           | No                                                                                                                                                                     | A precautionary approach should be adopted to include an <b>Ecological Clerk of Works (ECOW)</b>                                                                                                                                                                                                                                                                    |



|                                                                                                                                                                                                                                                                                                                                                          |      |                                                                          |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                          |      | construction works has the potential to disturb, harm or kill hedgehogs. |    | <p>being present. Scrub and brash piles to be removed should be hand searched by a suitably qualified and experienced ecologist prior to removal, to ensure no hedgehogs are currently nesting or hibernating in vegetation</p> <p>Any excavations created during the development stage must be covered or appropriate escape routes implemented. Planks are to be placed at a 45-degree angle for hedgehogs to escape safely. Any open pipes must also be capped if left open overnight.</p> |
| Invasive Species (WCA Sch 9) Injurious Weeds (Weeds Act, 1959)                                                                                                                                                                                                                                                                                           |      |                                                                          |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| No invasive species were identified on-site.                                                                                                                                                                                                                                                                                                             | None | None                                                                     | No | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>Key: S41 habitat/species – habitats and species listed as priority for conservation importance under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006.</p> <p>WCA Sch – Wildlife and Countryside Act 1981 (as amended) Schedule</p> <p>CHSR Sch – Conservation of Habitats and Species Regulations 2017 Schedule</p> |      |                                                                          |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



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## 1. Introduction

### 1.1 Background

1.1.1 In August 2024, JCA Limited was instructed by **AGC Design & Management** to undertake an Ecological Impact Assessment (EclA) scoping of a site located at **Richardson Arms, 688 Bradford Road, Oakenshaw, Bradford, BD12 7EN** hereafter referred to as 'the site'. The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed works, hereafter referred to as 'the scheme', have the potential to adversely affect any protected or notable habitats or species.

### 1.2 Scheme Description and Location

1.2.1 The site is located at Ordnance Survey (OS) National Grid Reference **SE 17482 27825**, with nearby postcode **BD12 7EN**. The site is bordered to the north by Mill Carr Hill Road, a small woodland and agricultural grasslands. To the east by the M606, scattered trees and agricultural grasslands and to the south and west by residential properties with associated gardens and trees.

1.2.2 The scheme is to renovate the existing pub building into 4 x 1 bedroom apartments, with new car parking spaces and the construction 4 x new build 2 bedroom terrace houses, with vegetated gardens.

### 1.3 Aims and Objectives

1.3.1 The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed development activities have the potential to adversely affect any protected or notable habitats or species. The following tasks have been undertaken:

- Desktop study – a review of environmental records for the surrounding area to obtain existing information on statutory and non-statutory designated sites of nature conservation interest, and the presence of protected and notable habitats and species within the site and its environs.
- Field surveys – an UKHab Habitat survey involving a site visit to record habitat types and dominant vegetation, including any invasive species. During this survey evidence of protected or



notable fauna and habitats or habitat capable of supporting protected or notable fauna was recorded.

- Ecological report – an assessment of the potential ecological constraints to the proposed works at the site and recommendations for further survey, avoidance, mitigation, and enhancement where appropriate. Locations of any features constituting ecological constraints or of other ecological interest and vegetation recorded on and around the development are included in an accompanying UKHab Habitat Map (**Appendix 1**). This report and the maps are supported by photographs (**Appendix 6**) and information regarding current legislation (**Appendix 9**).



## 2. Methodology

### 2.1 Desktop Study

2.1.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites and European Protected Species (EPS) licensing applications within a 2km radius of the site. The baseline conditions are based on a review of existing available information including:

- MAGIC (Multi-Agency Geographical Information for the Countryside) website (to identify statutory designated sites and EPS licences).
- Ordnance Survey mapping (to identify potentially notable habitats including ponds).
- Aerial photography (to identify potentially notable habitats).
- Data search for records of protected/notable species on and within 2km of the site within the last ten years (exempting bat roosts, of which all records are included) obtained from West Yorkshire Ecology Service (WYES), the local environmental records centre for West Yorkshire, along with information for non-statutory wildlife sites.

2.1.2 The records were checked against species listed as priority species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the Bradford Biodiversity Action Plan to assess national and regional habitat and species status.

### 2.2 Field Surveys

2.2.1 A UKHab habitat survey of the site was conducted on 20/08/2024. All areas of the site were investigated and areas around the site where access permitted.

2.2.2 The vegetation and habitat types within the site were noted during the survey in accordance with the categories specified for a UKHab Habitat survey (The UK Habitat Classification, Habitat Definitions Version 2.01, UKHab, 2023). Dominant and abundant plant species were recorded for each habitat present.

2.2.3 The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the



Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, the Wildlife & Countryside Act (WCA) 1981 (as amended), including those given a higher level of legal protection under the NERC Act 2006 and Countryside & Rights of Way (CROW) Act 2000, and those listed on the Local Biodiversity Action Plan. The following species were considered:

- Invertebrates (including white-clawed crayfish *Austropotamobius pallipes*).
- Great crested newt *Triturus cristatus* freshwater habitat potential within 500m of the site.
- Reptile habitat within the site.
- Nesting and foraging habitat for birds within the site.
- Bat roost potential and foraging habitat within the site.
- Badger *Meles meles* setts within 30m of the site, where accessible.
- Otters *Lutra lutra* and suitable habitat within 30m of the site, where accessible.
- Water vole *Arvicola amphibius* habitat within 20m of the site, where accessible.
- Other notable species.
- Invasive species.

## 2.3 Survey Constraints

2.3.1 To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. As a result, the survey undertaken focused on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to the National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2023), especially those given protection under UK wildlife legislation.

2.3.2 The optimum time of year for completing a UKHab habitat survey is between April and September, as many plant species have a seasonal expression in spring and summer only. The survey was undertaken on 20/08/2024.

2.3.3 The weather conditions during the survey are given in Table 2 below:

Table 2: Weather Conditions during the surveys.



| Date     | Temperature (°C) | Wind speed (Mph) | Cloud cover (%) | Precipitation | Humidity | Visibility |
|----------|------------------|------------------|-----------------|---------------|----------|------------|
| 20/08/24 | 16               | 21               | 25              | None          | 55       | Very good  |

2.3.4 The weather on the day of the survey was dry, clear, warm and calm. The weather leading up to the survey was similar but with scattered showers. This is unlikely to cause a constraint to the survey.

2.3.5 The details of this report will remain valid for a period of 18 months. If works have not commenced within this period or land use on-site changes, it is recommended that a new review of the ecological conditions is undertaken.



## 3. Biodiversity Accounting Assessment

### 3.1 Introduction

- 3.1.1 Biodiversity is complex and so it is impossible to measure in its entirety. Therefore, metrics, which incorporate measures of different biodiversity attributes, are used to provide surrogate measures of overall biodiversity. This report uses the Statutory Biodiversity Metric, which was designed by DEFRA (2023) to define the biodiversity impacts and compensation requirements associated with development proposals. The metric works by providing a comparative measure of each habitat on-site in biodiversity units (BU) by multiplying its area (square meters), distinctiveness (habitat type) and current condition (quality). The relative impacts (habitat loss) of the development, taking into account any additional on-site habitat creation or enhancement, can then be calculated to determine if a measurable biodiversity net gain will be achieved on-site. If a measurable net gain is unable to be achieved on-site, then the process of biodiversity offsetting must be undertaken.
- 3.1.2 Biodiversity offsets are conservation activities designed to deliver biodiversity benefits in compensation for residual losses, in a measurable way. Biodiversity offsetting is distinguished from other forms of compensation by the requirement for measurable outcomes. This is achieved by quantifying net biodiversity impacts caused by development; using the same metric to assess direct and indirect negative impacts to habitats and the value of any on-site compensation, to set the framework of offsite compensation (offset) requirements and the biodiversity net gain generated by these offsets. Biodiversity offsetting ensures that offsite compensation proposed is both proportionate to the development concerned and that a measurable net gain for biodiversity can be achieved.
- 3.1.3 Biodiversity offsetting, like other forms of compensation, is the last step of the mitigation hierarchy (first avoid, then reduce, and finally, compensate) and is applied as a last resort to otherwise policy-compliant development proposals. 'Offsetting' – i.e. creating or restoring new wildlife habitat in a measurable way and in a different place to where it was lost.
- 3.1.4 In addition to providing a mechanism for quantifiable compensation and net gain, biodiversity offsets provide reliable biodiversity outcomes as they are long-term (30 years), monitored and enforceable with adaptable management plans for optimised success.



## **3.2 Biodiversity Net Gain Principles**

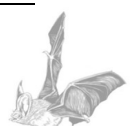
3.2.1 Biodiversity Net Gain: Good Practice Principles for Development published by CIRIA et. al (2016) states that delivering biodiversity net gain goes beyond balancing relative gains and losses. It also involves doing everything to avoid biodiversity losses in the first instance. The application of the DEFRA metric detailed in this report supports developments to adopt this approach by:

- a. Providing a habitat balance sheet which can be used to identify those habitats with the greatest value and subsequently those with the greatest impacts if lost;
- b. Supporting and incentivising the mitigation hierarchy by quantifying the benefits of avoiding and mitigating impacts on high value features;
- c. Promoting the value of biodiversity enhancements and demonstrating the potential for additionality on retained habitats;
- d. Providing a balance of losses, enhancements or on-site compensation to determine if a measure net gain contribution can be achieved;
- e. Providing transparent, robust and credible evidence to help inform the best possible Site options for biodiversity; and,
- f. Ensuring that any residual off site compensation required (e.g. through biodiversity offsetting) is proportionate to the impacts and can secure a measurable net gain contribution for biodiversity overall.

## **3.3 Biodiversity Offsetting Standards**

3.3.1 Good practice standards for biodiversity offsetting are set out by the Business and Biodiversity Offsets Programme (BBOP, 2012). These standards inform the approach for selection and development of suitable Offset Sites and projects. Of these standards, the following provide the most relevant UK framework for the preliminary offset site search:

- a. The proposed offset site should be identified as suitable for the creation and/or enhancement of a target habitat within the vicinity of where the impact occurs;
- b. The site must be available and managed for a minimum specified term (30 years in this instance).
- c. The landowner must agree to an enforceable delivery mechanism to



secure the long-term management.

- d. The site must be available for monitoring to ensure appropriate management is being undertaken and to report biodiversity progress back to the local planning authority.

3.3.2 Further standards, with regards to offset site surveys and ensuring that appropriate target habitats and units can be achieved, will form part of the detailed site search that will proceed the preliminary site search.

3.3.3 In addition to biodiversity net gains achieved on-site, off site enhancements can also achieve positive outcomes for nature in the local area.

### 3.4 National Policy and Guidance

3.4.1 Specific habitats and species of relevance to the Site receive legal protection in the United Kingdom under various pieces of policy and legislation, including:

- The Environment Act 2021 mandates that all planning applications will be required to demonstrate how a development will enhance biodiversity and protect habitats from November 2023. This is to be achieved through a measurable 10% Biodiversity Net Gain (BNG), in association with development through the use of the most up to date Defra Metric (currently Statutory Biodiversity Metric);
- National Planning Policy Framework (NPPF, as revised 2023) sets out how planning policies and decisions should contribute to and enhance the natural and local environment through amongst other things, ensuring BNG through development and protect ecological important sites and networks;
- The Conservation of Habitats and Species Regulations 2017 (as amended) (retained in UK law by CHSR (Amendment) (EU Exit) 2019) details the regulations for the protection of European Protected Habitat and Species. Such European Protected Species (EPS) of animals (Schedule 2) and plants (Schedule 5) include all species of bats, great crested newt *Triturus cristatus*, dormouse *Muscardinus avellanarius*, and European otter *Lutra lutra*, amongst others;
- The Wildlife and Countryside Act (WCA) 1981 (as amended) covers the legislation for endangered species in England and the framework for the designation of Sites of Special Scientific Interest (SSSIs);



- The Countryside and Rights of Way (CROW) Act 2000 reinforces the wildlife legislation listed in the WCA and places a duty of government departments to consider biodiversity, and provides governmental department powers for the protection and maintenance of SSSIs;
- The Natural Environment and Rural Communities Act (NERC) 2006 places a duty upon local authorities to promote and enhance biodiversity in all their functions. Specifically, habitats and species of principal importance to the conservation of biodiversity in regards to the planning process;
- The Management of Hedgerows (England) Regulations 2024 provides protection by prohibiting the destruction or damage to important countryside hedges; and
- The Protection of Badgers Act 1992 includes the protected of badgers under the act and that it is unlawful to wilfully kill, injure, take, possess or cruelly ill-treat badgers or attempt to do so.

3.4.2 Where relevant, this appraisal takes account of the legislative protection afforded to specific habitats and species.

### 3.5 Regional Policy and Guidance

#### Biodiversity Action Plan (BAP) for Bradford Council.

3.5.1 The BAP for Bradford (2010) concentrates on species and habitats that had national action plans produced or are of local conservation concern. The species and habitats listed within the Calderdale Habitat are summarised below:

#### The species listed within the Bradford Council BAP are:

- Water vole
- Otter
- Fish - grayling
- Pipistrelle
- Brown hare
- White-clawed crayfish
- White letter hairstreak
- Green hairstreak
- Blue butterflies blade
- Marsh fern
- Twite
- Yellowhammer



- Lapwing
- Lesser tway

The habitats listed within the Bradford Council BAP are:

- Upland oak woodland
- River corridors
- In by pasture
- Hedgerows

### **3.6 Local Policy and Guidance**

#### **3.6.1 Bradford Council Core Strategy Development Plan (Bradford Metropolitan District Council, Adopted July 2017).**

The Bradford Core Strategy Development Plan Document was adopted in 2017 and sets out the council's policies and proposals for land use within the district to 2030. The plan was reviewed and is in the process of being replaced by the emerging Bradford Local Plan. Policy EN2 of the Core Strategy Development Plan is therefore relevant in the determination of the planning application.

Policy EN2: Protect biodiversity and geodiversity within the District and to identify principles for enhancing the overall biodiversity resource and stemming losses and consists of five distinct sections:

Part A - The North and South Pennine Moors Special Protection Area (SPA) and Special Area of Conservation (SAC). Any development that would be likely to have a significant effect on a European Site either alone or in combination with other plans or projects will be subject to assessment under the Habitat Regulations at project application stage. If it cannot be ascertained that there will be no adverse effects on-site integrity then the project will have to be refused unless the derogation tests of Article 6(4) Habitats Directive can be met.

Part B - Proposed development on land within or outside a Site of Special Scientific Interest (SSSI) likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSI.



Part C - Development likely to have direct or indirect adverse effect on a site of ecological/ geological importance (SEGIs) and Regionally Important Geological/Geomorphological Sites (RIGS) or a site of local nature conservation value (Bradford Wildlife Areas) will not be permitted unless it can be clearly demonstrated that there are reasons for the proposal which outweigh the need to safeguard the substantive nature conservation value of the site.

Part D - Proposals that may have an adverse impact on important habitats and species outside designated sites.

Part E - Plans, policies and proposals should contribute positively towards the overall enhancement of the District's biodiversity resource. They should seek to protect and enhance species of local, national, and international importance and to reverse the decline in these species

### **3.7 Baseline Data**

3.7.1 A baseline analysis of the existing habitats on-site was carried out from the information gathered during the site's survey and condition assessment.

3.7.2 To undertake the Statutory Biodiversity Metric calculations, the following information was recorded for each habitat parcel and/or linear feature:

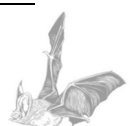
- Habitat type;
- Area/Length (ha/km);
- Habitat condition;
- Strategic significance; and
- Whether that habitat will be lost, retained, enhanced, succeeded and/or created, and at what scale.

3.7.3 The habitat map for the Site was digitised and interpreted using QGIS Version 3.23.3 to calculate habitat area.

### **3.8 Impact Assessment**

3.8.1 The existing baseline habitat plan for the site was overlain with the Proposed Site Plan (Dwg No: AGC/11/408 – 020 - D) of the Proposed Development using GIS software to provide an area (hectares) of temporary and permanent habitat loss.

3.8.2 The area of any retained/enhanced or created habitats proposed as part of the development was also mapped to provide an area (hectares) (or



length (Km) for linear features) of the on-site compensation proposals being provided. An estimate of future condition, time until establishment and the likelihood of success was then calculated using landscaping data provided by the client and professional judgement).

### **3.9 Habitat Creation and Enhancement**

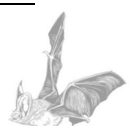
- 3.9.1 The area of any retained/enhanced or created habitats proposed on-site as part of the Proposed Development was mapped using Proposed Site Layout (Dwg No: AGC/11/408 – 020 – D) of the final development, to provide an area (hectares) (or length (km) for linear features) estimate of on-site compensation provided. This includes areas of developed land, which are assigned a very low (or null) value, notably, areas of buildings and/or roads.
- 3.9.2 Condition and strategic significance for each habitat or linear feature were projected using available ecological data or professional opinion about the likely value.

### **3.10 Residual Effects**

- 3.10.1 The residual effects of the Proposed Development scheme were calculated using the Statutory Biodiversity Metric Calculator Tool. This subtracts the pre-development baseline values from that of the post-development values to determine the change in overall habitat value for the Site, taking into account any habitat trading.
- 3.10.2 Habitat trading is where the loss of a habitat must be compensated for through the creation or restoration of areas of equivalent or greater distinctiveness value. Guidance by DEFRA is that the loss of high distinctiveness areas, such as Habitats of Principal Importance (HPI, NERC Act, S.41), require compensation in a like-for-like manner (creation or restoration of habitat of the same habitat classification as that impacted). Within the Biodiversity Metric 'trading up' (where compensation through creation of a higher distinctiveness habitat) can occur, however, 'trading down' (compensation through creation of lower distinctiveness habitats) is not permitted. Therefore, if present, despite gains in lower distinctiveness habitats, these will not reduce the net gain requirement for the development. This also applies to the different habitat features i.e. habitats, hedgerows and rivers and streams. Hedgerow creation gains will not reduce net gain requirements for either rivers and streams or habitats.
- 3.10.3 Where the resulting biodiversity balance is negative, a residual net loss



of biodiversity is recorded. Where the balance is positive a residual net gain of biodiversity is recorded.



## 4. Baseline Ecological Conditions

### 4.1 Statutory Designated Sites

- 4.1.1 The MAGIC website revealed no internationally designated site within 2km of the site.
- 4.1.2 The MAGIC website revealed one nationally designated site within 2km of the site. Railway Terrace is designated as a Local Nature Reserve (LNR) for its locally important lowland heath and wildflower meadow habitats. Railway Terrace is located 1100m northwest of the site and is also designated as a Local Wildlife Site.
- 4.1.3 The site does not fall into the Site of Special Scientific Interest (SSSI) Impact Risk Zone.

### 4.2 Non-statutory Designated Sites

- 4.2.1 The Local Wildlife Habitat Network is within 50m to the north of the site.
- 4.2.2 Records received from WYES revealed seven non-statutory designated sites within 2km of the site, detailed in table 3 below.

**Table 3:** Non-statutory designated sites within 2km of the site, returned from WYES.

| Site Name and Designation        | Distance from Site | Reasons for Designation                                                                                                                                                                                                            |
|----------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cockleshaw Wood LWS              | 680m East          | Semi-natural woodland with running water habitats that supports waterfowl and English bluebells. Included in the Local Wildlife Habitat Network.                                                                                   |
| Hanging Wood LWS                 | 730m Southeast     | Semi-natural woodland that supports English bluebells. Included in the Local Wildlife Habitat Network.                                                                                                                             |
| Toad Holes Beck LWS              | 810m Northwest     | Acid woodland, ponds and neutral grasslands, which in some areas are species-rich. Supports English bluebells, invertebrates and amphibian species (excluding great crested newt). Included in the Local Wildlife Habitat Network. |
| Railway Terrace and Raw Nook LWS | 1100m Northwest    | Neutral grasslands, mixed planted woodland, semi natural woodland, pond and heath habitats that supports common blue butterflies. Included in the Local Wildlife Habitat Network.                                                  |
| Hunsworth Little Wood LWS        | 1250m Southeast    | Ancient woodland that supports English bluebells. Included in the Local Wildlife Habitat Network.                                                                                                                                  |
| Bierly Wood LWS                  | 1400m North        | Broadleaved planted, wet, beech and semi-natural woodland, and neutral and acidic grasslands with several ponds that supports English bluebells and song thrush. Included in the Local Wildlife Habitat Network.                   |



|                                   |                |                                                                                                                                |
|-----------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------|
| Odsal Wood<br>LWS                 | 1750m<br>North | Ancient semi-natural woodland that supports English bluebells and mature oaks. Included in the Local Wildlife Habitat Network. |
| Key:<br>LWS – Local Wildlife Site |                |                                                                                                                                |

### 4.3 Habitats

#### 4.3.1 h3d – Bramble scrub: 32 – Scattered trees, 81 – Ruderal or ephemeral, 202 – Young trees – self-set, 523 – Non-native, 532 – Scattered grass.

The majority of the vegetation on the site is bramble scrub, which is located to the northeast of the site. The scrub contained self-set young trees, tall ruderal and ephemeral species and scattered grass on the edge of the scrub forming a small ecotone with non-native ornamental species (see **Appendix 2 and Appendix 5 photo 1 & 2**). Species found here include sycamore *Acer pseudoplatanus*, false oat-grass *Arrhenatherum elatius*, silver birch *Betula pendula*, buddleja *Buddleja davidii*, hedge bindweed *Calystegia sepium*, red valerian *Centranthus ruber*, snow-in-summer *Cerastium tomentosum*, rosebay willowherb *Chamerion angustifolium*, hawthorn *Crataegus monogyna*, foxglove *Digitalis purpurea*, fringed willowherb *Epilobium ciliatum*, hairy willowherb *Epilobium hirsutum*, ash *Fraxinus excelsior*, wood avens *Geum urbanum*, ivy *Hedera helix*, holly *Ilex aquifolium*, purple toadflax *Linaria purpurea*, honeysuckle *Lonicera periclymenum*, forget-me-not *Myosotis latifolia*, oregano *Origanum vulgare*, coltsfoot species *Petasites* sp., common fleabane *Pulicaria dysenterica*, bramble *Rubus fruticosus*, broad-leaved dock *Rumex obtusifolius*, goat willow *Salix caprea*, autumn hawkbit *Scorzoneroides autumnalis*, stonecrop species *Sedum* sp., ragwort *Senecio jacobaea*, rowan *Sorbus aucuparia*, dandelion *Taraxacum officinale*, lesser trefoil *Trifolium dubium*, red clover *Trifolium pratense* and stinging nettle *Urtica dioica*.

#### 4.3.2 u1b – Developed land sealed surface: 207 – Forest brash

The majority of the centre of the site is developed land; sealed surface in the form of a tarmac to the north and south and a cobbled section on the south of the building. Forest brash has been left on the south of the site (see **Appendix 2 target note and Appendix 5 photo 5**).

#### 4.3.3 u1b5 – Buildings

There is a single building on the centre of the site. The building is two stories constructed of traditional stone with a cross hipped roof on the western aspect and gable ends on the eastern aspect with roof tiles made of slate. There is a single storey extension on the eastern aspect made of traditional stone with a



single pitched roof made of bitumen, with a flat roof storage shed to the east. Potential roosting features were observed on all aspects of the building. the building was therefore judged to have potential to support roosting bats (**see Appendix 2 and Appendix 5 photo 3 & 4**).

#### 4.4 Section 41 of the NERC Act 2006 Priority Habitat Inventory

4.4.1 The MAGIC website revealed deciduous woodland within 50m of the site.

#### 4.5 Protected and Notable Species

##### 4.5.1 European Protected Species (EPS) Licence Applications

The MAGIC website revealed no EPS licence applications within 2km of the site.

##### 4.5.2 Flora

The following flora records were returned from WYES:

Table 4: Flora records received from WYES.

| Scientific name                  | Common name        | Designation | Latest Date | Number of records | Distance from site (m) |
|----------------------------------|--------------------|-------------|-------------|-------------------|------------------------|
| <i>Hyacinthoides non-scripta</i> | English bluebell   | WCA*        | 2015        | 11                | 638                    |
| <i>Hypopitys monotropa</i>       | Yellow bird's-nest | S41         | 2022        | 3                 | 1096                   |

Key:

WCA: Schedule 8 of the Wildlife and Countryside Act 1981 (as amended).

\* In respect of Section 13(2) only - offence to buy, sell, advertise, transport or be in possession for the purpose of sale.

S41: Section 41 of the NERC Act 2006.

14 records of two notable flora species were returned by WYES. There is no potentially suitable habitat on the site to support English bluebells, yellow bird's nest or any other protected or notable flora species. Flora, therefore, will not be mentioned further in this report.

##### 4.5.3 Invertebrates (including white-clawed crayfish)

The following invertebrate records were returned from WYES:

Table 5: Invertebrate records received from WYES.



| Scientific name                 | Common name               | Designation  | Latest Date | Number of records | Distance from site (m) |
|---------------------------------|---------------------------|--------------|-------------|-------------------|------------------------|
| <i>Acronicta rumicis</i>        | Knot grass                | S41<br>WYBAP | 2021        | 4                 | 1096                   |
| <i>Allophyes oxyacanthae</i>    | Green-brindled crescent   | S41<br>WYBAP | 2021        | 1                 | 1245                   |
| <i>Agrochola lychnidis</i>      | Beaded chestnut           | S41<br>WYBAP | 2021        | 1                 | 1245                   |
| <i>Amphipyra tragopoginis</i>   | Mouse moth                | S41<br>WYBAP | 2021        | 2                 | 1245                   |
| <i>Caradrina morpheus</i>       | Mottled rustic            | S41<br>WYBAP | 2021        | 1                 | 1245                   |
| <i>Celastrina argiolus</i>      | Holly blue                | BBAP         | 2022        | 21                | 1029                   |
| <i>Chiasmia clathrata</i>       | Latticed heath            | S41<br>WYBAP | 2022        | 2                 | 1194                   |
| <i>Cirrhia icteritia</i>        | Sallow                    | S41          | 2021        | 3                 | 1245                   |
| <i>Coenonympha pamphilus</i>    | Small heath               | S41<br>WYBAP | 2022        | 15                | 1096                   |
| <i>Diarsia rubi</i>             | Small square-spot         | S41<br>WYBAP | 2021        | 16                | 1245                   |
| <i>Ecliptopera silaceata</i>    | Small phoenix             | S41<br>WYBAP | 2021        | 3                 | 1245                   |
| <i>Eugnorisma glareosa</i>      | Autumnal rustic           | S41<br>WYBAP | 2021        | 2                 | 1245                   |
| <i>Helotropha leucostigma</i>   | Crescent                  | S41          | 2021        | 1                 | 1245                   |
| <i>Hepialus humuli</i>          | Ghost moth                | S41<br>WYBAP | 2021        | 3                 | 1245                   |
| <i>Hydraecia micacea</i>        | Rosy rustic               | S41          | 2021        | 6                 | 1245                   |
| <i>Leucania comma</i>           | Shoulder-striped wainscot | S41          | 2021        | 6                 | 1245                   |
| <i>Polyommatus icarus</i>       | Common blue               | BBAP         | 2022        | 22                | 1029                   |
| <i>Scotopteryx chenopodiata</i> | Shaded broad bar          | S41<br>WYBAP | 2022        | 3                 | 1194                   |
| <i>Spilosoma lubricipeda</i>    | White ermine              | S41<br>WYBAP | 2021        | 5                 | 1245                   |
| <i>Spilosoma lutea</i>          | Buff ermine               | S41          | 2021        | 3                 | 1245                   |
| <i>Tyria jacobaeae</i>          | Cinnabar                  | S41<br>WYBAP | 2021        | 4                 | 1245                   |
| <i>Xestia agathina</i>          | Heath rustic              | S41<br>WYBAP | 2021        | 2                 | 1245                   |

Key:

S41: Section 41 of the NERC Act 2006.

BBAP: Bradford Biodiversity Action Plan.

WYBAP: West Yorkshire Biodiversity Action Plan

126 records of 22 species of notable invertebrate species (excluding white-clawed crayfish) were returned by WYES. There is potentially suitable habitat on-site to support notable invertebrate species. The bramble scrub on-site has



the potential to support notable invertebrate species such as cinnabar, due to the presence of ragwort, which is the sole food plant for cinnabar caterpillars.

There is no potentially suitable habitat on or adjacent to the site to support white-clawed crayfish and limited to no potentially suitable habitat connectivity between the site and potentially suitable habitats further afield. White-clawed crayfish, therefore, will not be mentioned further in this report.

#### 4.5.4 Fish

No records of protected or notable fish species were returned by WYES and there is potentially suitable habitat adjacent to the site to support protected or notable fish species. Fish, therefore, will not be mentioned further in this report.

#### 4.5.5 Amphibians

The following amphibian records were returned from WYES:

Table 6: Amphibian records received from WYES.

| Scientific name        | Common name | Designation          | Latest Date | Number of records | Distance from site (m) |
|------------------------|-------------|----------------------|-------------|-------------------|------------------------|
| <i>Bufo bufo</i>       | Common toad | WCA*<br>S41<br>WYBAP | 2022        | 7                 | 1096                   |
| <i>Rana temporaria</i> | Common frog | WCA*<br>WYBAP        | 2021        | 9                 | 1096                   |

Key:

WCA: Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

\* In respect to Section 9(5) only - offence to buy, sell, advertise, transport or be in possession for the purpose of sale

S41: Section 41 of the NERC Act 2006.

WYBAP: West Yorkshire Biodiversity Action Plan.

16 records of two amphibian species (excluding records of great crested newt) were returned by WYES. No amphibians were identified on the site. There is potentially suitable habitat on-site to support amphibians. The bramble scrub and brash pile on-site has the potential to support hibernating amphibians. There is potentially suitable habitat for breeding amphibians within the zone of influence. The closest water body is 480m northeast of the site.

#### 4.5.6 Reptiles

No records of reptiles were returned by WYES and no reptiles were identified on-site. There is potentially suitable habitat on-site to support reptiles. The bramble scrub and brash pile on-site has the potential to support hibernating reptiles.



#### 4.5.7 Birds

The following bird records were returned from WYES:

Table 7: Birds records received from WYES.

| Scientific name                      | Common name         | Designation          | Latest Date | Number of records | Distance from site (m) |
|--------------------------------------|---------------------|----------------------|-------------|-------------------|------------------------|
| <i>Acanthis cabaret</i>              | Lesser redpoll      | S41                  | 2022        | 8                 | 1096                   |
| <i>Alauda arvensis</i>               | Skylark             | S41<br>WYBAP<br>CBAP | 2022        | 4                 | 1169                   |
| <i>Alcedo atthis</i>                 | Kingfisher          | WCA                  | 2019        | 7                 | 1029                   |
| <i>Apus apus</i>                     | Swift               | WYBAP                | 2022        | 13                | 1169                   |
| <i>Coccothraustes coccothraustes</i> | Hawfinch            | S41<br>WYBAP         | 2021        | 3                 | 1169                   |
| <i>Emberiza citrinella</i>           | Yellowhammer        | S41<br>WYBAP<br>BBAP | 2018        | 2                 | 1169                   |
| <i>Falco tinnunculus</i>             | Kestrel             | WYBAP                | 2022        | 9                 | 1029                   |
| <i>Fringilla montifringilla</i>      | Brambling           | WCA                  | 2022        | 4                 | 1169                   |
| <i>Hirundo rustica</i>               | Swallow             | WYBAP                | 2022        | 13                | 1169                   |
| <i>Limosa limosa</i>                 | Black-tailed godwit | WCA                  | 2017        | 1                 | 1338                   |
| <i>Linaria cannabina</i>             | Linnet              | S41                  | 2022        | 21                | 1029                   |
| <i>Linaria flavirostris</i>          | Twite               | S41<br>BBAP          | 2022        | 1                 | 1238                   |
| <i>Loxia curvirostra</i>             | Crossbill           | WCA                  | 2022        | 5                 | 1169                   |
| <i>Motacilla flava</i>               | Yellow wagtail      | S41<br>WYBAP         | 2022        | 1                 | 1238                   |
| <i>Milvus milvus</i>                 | Red kite            | WCA                  | 2022        | 3                 | 1029                   |
| <i>Prunella modularis</i>            | Dunnock             | S41<br>WYBAP         | 2022        | 9                 | 686                    |
| <i>Pyrrhula pyrrhula</i>             | Bullfinch           | S41<br>WYBAP         | 2022        | 20                | 1029                   |
| <i>Passer domesticus</i>             | House sparrow       | S41<br>WYBAP         | 2022        | 10                | 1169                   |
| <i>Sturnus vulgaris</i>              | Starling            | S41<br>WYBAP         | 2022        | 6                 | 1169                   |
| <i>Turdus iliacus</i>                | Redwing             | WCA                  | 2019        | 10                | 1169                   |
| <i>Turdus philomelos</i>             | Song thrush         | S41<br>WYBAP         | 2022        | 22                | 686                    |
| <i>Turdus pilaris</i>                | Fieldfare           | WCA                  | 2021        | 3                 | 1169                   |
| <i>Vanellus vanellus</i>             | Lapwing             | S41<br>WYBAP         | 2018        | 8                 | 1169                   |



|  |  |      |  |  |  |
|--|--|------|--|--|--|
|  |  | BBAP |  |  |  |
|--|--|------|--|--|--|

Key:

WCA: Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

S41: Section 41 of the NERC Act 2006.

WYBAP: West Yorkshire Biodiversity Action Plan.

BBAP: Bradford Biodiversity Action Plan.

183 records of 23 protected or notable bird species including 33 records of seven Schedule 1 WCA (as amended) designated species, within 2km of the site were returned by WYES. No notable or protected bird species were identified on the site. There is potentially suitable habitat on the site to support nesting birds. The bramble scrub and scattered trees on the site have the potential to support a wide range of nesting birds.

#### 4.5.8 Bats

The following bat records were returned from WYES:

Table 8: Bat records received from WYES.

| Scientific name                  | Common name             | Designation                        | Latest Date | Number of records | Distance from site (m) |
|----------------------------------|-------------------------|------------------------------------|-------------|-------------------|------------------------|
| <i>Nyctalus leisleri</i>         | Leiser's bat            | EPS<br>WCA<br>WYBAP                | 2015        | 3                 | 716                    |
| <i>Nyctalus noctula</i>          | Noctule                 | EPS<br>WCA<br>S41<br>WYBAP         | 2022        | 1                 | 226                    |
| <i>Pipistrellus nathusii</i>     | Nathusius's pipistrelle | EPS<br>WCA<br>WYBAP                | 2015        | 2                 | 716                    |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle      | EPS<br>WCA<br>WYBAP<br>BBAP        | 2023        | 6                 | 226                    |
| <i>Pipistrellus pygmaeus</i>     | Soprano pipistrelle     | EPS<br>WCA<br>S41<br>WYBAP<br>BBAP | 2021        | 2                 | 1096                   |

Key:

EPS: European Protected Species: Species listed under the Conservation of Habitats and Species Regulations 2017.

WCA: Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

S41: Section 41 of the NERC Act 2006.

WYBAP: West Yorkshire Biodiversity Action Plan.

BBAP: Bradford Biodiversity Action Plan.

#### 4.5.9 Bat Roosts



The following bat roost records were returned from WYES:

Table 9: Bat roost records received from WYES.

| Scientific Name                  | Common Name         | Roost type                              | Date | Distance from Site (m) |
|----------------------------------|---------------------|-----------------------------------------|------|------------------------|
| <i>Nyctalus noctula</i>          | Noctule Bat         | Maternity roost                         | 2022 | 1245                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 3 individuals | 2018 | 1169                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Unspecified roost: 2 individuals        | 2022 | 1547                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 4 individuals | 2018 | 1169                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 3 individuals | 2019 | 1169                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 3 individuals | 2020 | 1169                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 2 individuals | 2019 | 1169                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 4 individuals | 2018 | 1096                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 3 individuals | 2019 | 1096                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 2 individuals | 2018 | 1029                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 4 individuals | 2018 | 1029                   |
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle  | Possible maternity roost: 3 individuals | 2019 | 1029                   |
| <i>Pipistrellus pygmaeus</i>     | Soprano Pipistrelle | Possible maternity roost: 2 individuals | 2018 | 1096                   |
| <i>Pipistrellus pygmaeus</i>     | Soprano Pipistrelle | Possible maternity roost: 2 individuals | 2018 | 1029                   |



14 field records of five confirmed species and 14 records of three species of roost was returned by WYES. There is potentially suitable habitat on the site to support commuting, foraging and roosting bats. The building on the site -on the site have the potential to support commuting and foraging bats. No trees on the site contained any potential roosting features.

### Preliminary Roost Assessment

The guidance for the determination of bat roost potential is present in **Appendix 7**.

### Building 1

The building is two stories constructed of traditional stone with a cross hipped roof on the western aspect and gable ends on the eastern aspect with roof tiles made of slate. There is a single storey extension on the eastern aspect made of traditional stone with a single pitched roof made of bitumen, with a flat roof storage shed to the east.

**Potential Roosting Features PRESENT:** Gaps are present in at least 16 locations.

There are air vents, missing bricks and gaps in the eaves on the northern aspect, air vents, missing mortar and gaps in the eave on the eastern aspect, gaps in the eaves on the southern aspect and missing mortar and gaps in the eaves on the western aspect (**see Appendix 4 and Appendix 5 photo 6 – 13**).

### **Bat Roost Potential: Moderate**

#### 4.5.10 Badgers

Records of badger *Meles meles*, a Schedule 6 WCA (as amended) designated species and also protected under the Protection of Badgers Act 1992 were returned by WYES and the site falls outside the area of increased probability of badger activity. No field sign for badger or badger setts were identified during the survey. The bramble scrub habitat on-site has the potential to support foraging badgers and badger setts.

#### 4.5.11 Otters

Two records of otter *Lutra lutra* an EPS, WCA, S41, WYBAP and BBAP designated species within 2km were returned by WYES. The closest record is located 860m from the site and the most recent record was made in 2019. No field signs of otter were identified on-site. There is no potentially suitable habitat on or adjacent to the site to support otter and limited to no potentially suitable



habitat connectivity between the site and potentially suitable habitats further afield. Otter, therefore, will not be mentioned further in this report.

#### 4.5.12 Water Voles

No records of water vole *Arvicola amphibius*, a Schedule 5 WCA (as amended), S41 and BBAP designated species, were returned by WYES. No field signs of water vole or water vole burrows were identified during the survey. There is no potentially suitable habitat on or adjacent to the site to support water vole and limited to no potentially suitable habitat connectivity between the site and potentially suitable habitats further afield. Water vole, therefore, will not be mentioned further in this report.

#### 4.5.13 Other Notable Species

Three records of hedgehog *Erinaceus europaeus*, a Schedule 6 WCA (as amended) and S41 designated species were returned by WYES. The closest record is located 1029m from the site and the most recent record was made in 2018. No hedgehogs were identified during the survey. However, there is potentially suitable habitat on-site to support hedgehogs. The bramble scrub on-site has the potential to support foraging, resting, breeding and hibernating hedgehogs.

#### 4.5.14 Invasive Species

The following records were returned from WYES:

Table 10: Other notable species records received from WYES.

| Scientific name                  | Common name               | Latest Date | Number of records | Distance from site (m) |
|----------------------------------|---------------------------|-------------|-------------------|------------------------|
| <i>Branta canadensis</i>         | Canada goose              | 2022        | 10                | 686                    |
| <i>Cotoneaster integrifolius</i> | Entire-leaved cotoneaster | 2016        | 1                 | 1338                   |
| <i>Fallopia japonica</i>         | Japanese knotweed         | 2021        | 4                 | 792                    |
| <i>Heracleum mantegazzianum</i>  | Giant hogweed             | 2016        | 1                 | 1358                   |
| <i>Impatiens glandulifera</i>    | Himalayan balsam          | 2015        | 1                 | 696                    |
| <i>Psittacula krameri</i>        | Ring-necked parakeet      | 2022        | 6                 | 1029                   |
| <i>Sciurus carolinensis</i>      | Grey squirrel             | 2020        | 3                 | 1169                   |



26 records of seven invasive species were returned by WYES. No invasive species were identified on-site. Invasive species, therefore, will not be mentioned further in this report.

Table 11 below summarises all important or legally protected ecological features identified within their respective zones of influence, along with their geographic context of importance and/or protection status.

Table 11: Summary of important ecological features and their geographic/legal context

| Ecological Feature       | Geographic Context of Importance and/or Protection Status                                                                                                                                                                |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAC, SPA                 | International – none present within 2km                                                                                                                                                                                  |
| LNR                      | National – one present within 2km                                                                                                                                                                                        |
| LWS / LGS                | County – seven present within 2km of the site.                                                                                                                                                                           |
| Invertebrates            | White-clawed crayfish is a Protected Species (The Wildlife and Countryside Act 1981 (as amended)). Cinnabar moth and other notable species are included in the Species of principle important under the NERC act (S41).  |
| Fish                     | Brown trout and other species are included in the Species of principle important under the NERC act (S41).                                                                                                               |
| Great crested newt       | Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.                                                                  |
| Reptiles                 | Protected Species (The Wildlife and Countryside Act 1981 (as amended); sand lizard and smooth snake receive additional protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. |
| Birds                    | Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.                                                                  |
| Bats                     | Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.                                                                  |
| Badgers                  | Protected Species (Protection of Badgers Act 1992); Protected Species (The Wildlife and Countryside Act 1981 (as amended) and the Protection of Badgers Act 1992.                                                        |
| Otters                   | Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.                                                                  |
| Water voles              | Protected Species (The Wildlife and Countryside Act 1981 (as amended).                                                                                                                                                   |
| Hedgehogs and Brown hare | Wild Mammals Protection Act (1996); Species of principle important under the NERC act (S41); (The Wildlife and Countryside Act 1981 (as amended).                                                                        |

## 4.6 Biodiversity Metric Calculation

4.6.1 The assessment was carried out by JCA Limited using the ecological data gathered during the Site's ecological assessment survey carried out on 20/08/24.

## 4.7 Existing Site Value



4.7.1 The existing biodiversity value for each habitat, together with the cumulative value of all habitats is provided in Table 12. Existing on-site habitats can be found in **Appendix 2**.

4.7.2 No irreplaceable habitats have been identified on-site.

**Table 12:** Baseline habitats on-site and their ecological value as categorised by the Statutory Biodiversity Metric calculator.

| Biodiversity Metric Reference Number | Biodiversity Metric Habitat Type            | Total Area on-site (Ha) | Distinctiveness | Condition                | Strategic Significance                                     | Ecological Baseline Habitat Unit |
|--------------------------------------|---------------------------------------------|-------------------------|-----------------|--------------------------|------------------------------------------------------------|----------------------------------|
| 1                                    | Bramble scrub                               | 0.0508                  | Medium          | Condition Assessment N/A | Area/compensation not in local strategy/ no local strategy | 0.20                             |
| 2                                    | Bramble scrub                               | 0.0255                  | Medium          | Condition Assessment N/A | Area/compensation not in local strategy/ no local strategy | 0.10                             |
| 3                                    | Developed land; sealed surface              | 0.1026                  | V.Low           | N/A – Other              | Area/compensation not in local strategy/ no local strategy | 0.00                             |
| 4                                    | Urban tree                                  | 0.0448                  | Medium          | Moderate                 | Area/compensation not in local strategy/ no local strategy | 0.36                             |
|                                      | <b>Total excluding areas of urban trees</b> | <b>0.18</b>             | -               | -                        | -                                                          | <b>0.66</b>                      |

4.7.3 The urban trees on-site were judged to be of 'Moderate' condition as the trees failed the following condition assessment criteria.

- Criteria C: The tree is mature (or more than 50% within the block are mature).
- Criteria E: Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.



- 4.7.4 Detailed assessments of the condition of each habitat can be found within the accompanying habitat condition spreadsheet.
- 4.7.5 The other habitats on-site are not included within the Local Wildlife Habitat Network or the Local Biodiversity Action Plan and are therefore listed as 'Area/compensation not in local strategy/ no local strategy' within the strategic significance section.
- 4.7.6 To ensure a 10% net gain in biodiversity is achieved as part of the Proposed Development the following measures can be employed:
- Habitat retention; and/or
  - Habitat enhancement; and/or
  - Habitat creation.



## 5. Proposed Development Impact Assessment

### 5.1 Description of the Proposed Development

5.1.1 The scheme is to renovate the existing pub building into 4 x 1 bedroom apartments, with new car parking spaces and the construction 4 x new build 2 bedroom terrace houses, with vegetated gardens.

5.1.2 The scheme will impact areas of bramble scrub and scattered trees.

### 5.2 Habitats to be Retained

5.2.1 Any development should apply the Mitigation Hierarchy (British Standards Institution (BSI), 2013; shown below in Figure 1).

5.2.2 Development proposals should first seek to **avoid** impacts by retaining habitats. Second, development proposals should look to **minimise** the impact by producing plans that are designed to limit habitat disturbance, damage, and loss, thereby mitigating against any unavoidable impacts. Third, proposals should look to **restore** any damaged or degraded habitats. Then, only as a last resort should proposals **compensate** for unavoidable residual impacts to damaged or lost habitats that remain after avoidance and mitigation measures.



Figure 1: The mitigation hierarchy (BSI, 2013)

5.2.3 The Proposed Development will not see the retention of the habitats on the site (other than null value habitats).



### 5.3 Habitats to be Lost

5.3.1 It is anticipated that the Proposed Development will include the removal of the on-site habitats to facilitate the development.

5.3.2 The bramble scrub on-site is classified as 'Medium Distinctiveness'. Under the current development plans, this habitat is anticipated to be lost, to facilitate the development and for habitat enhancement. The adequate enhancement and creation of habitats on-site will mitigate for this loss. With mitigation the loss of this habitat is considered to be minor.

5.3.3 The 11 urban trees on-site are judged to be 'Moderate' condition and are classified as 'Medium Distinctiveness'. Under the current development plans, five trees are anticipated to be lost, to facilitate the development. Tree planting post-development will mitigate for this loss. With mitigation the loss of this habitat is considered to be minor.

### 5.4 Overall Impacts

5.4.1 The retention, enhancement and loss of habitats as a result of the Proposed Development are quantified in Table 13.

5.4.2 The result of the metric calculation indicates that a total of 0.37 BU for habitats are to be lost as a result of the Proposed Development, with 0.20 BU retained and 0.10 BU generated through habitat enhancement (Table 13).

**Table 13:** Summary value of baseline habitat biodiversity value through retention, loss and enhancement

| Biodiversity Metric<br>Habitat                  | Retained    |             | Enhanced    |             | Lost        |             |
|-------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                                 | Area (Ha)   | Unit        | Area (Ha)   | Unit        | Area (Ha)   | Unit        |
| Bramble scrub                                   | 0.00        | 0.00        | 0.00        | 0.00        | 0.05        | 0.20        |
| Bramble scrub                                   | 0.00        | 0.00        | 0.0255      | 0.10        | 0.00        | 0.00        |
| Developed land;<br>sealed surface               | 0.0801      | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
| Urban tree                                      | 0.0244      | 0.20        | 0.00        | 0.00        | 0.02        | 0.16        |
| <b>Total excluding<br/>areas of urban trees</b> | <b>0.10</b> | <b>0.20</b> | <b>0.03</b> | <b>0.10</b> | <b>0.09</b> | <b>0.37</b> |



## 5.5 Proposed Habitat Creation

5.5.1 It is proposed to create mixed scrub of 'Moderate' condition, developed land; sealed surface, vegetated gardens and plant seven urban trees of 'Moderate' condition (**Appendix 3**).

5.5.2 In total, 035 BU for habitats are to be created within the Proposed Development. Table 14 below summarises the value of all habitats that are to be created as part of the Proposed Development.

**Table 14:** Summary value of on-site habitat proposals.

| Biodiversity Metric Reference Number | Biodiversity Metric Target Habitat Type     | Total Area on-site (Ha) | Distinctiveness | Target Condition         | Strategic Significance                                     | Biodiversity Unit Value |
|--------------------------------------|---------------------------------------------|-------------------------|-----------------|--------------------------|------------------------------------------------------------|-------------------------|
| 1                                    | Mixed scrub                                 | 0.0183                  | Medium          | Moderate                 | Area/compensation not in local strategy/ no local strategy | 0.12                    |
| 2                                    | Developed land; sealed surface              | 0.0384                  | V.Low           | N/A – Other              | Area/compensation not in local strategy/ no local strategy | 0.00                    |
| 3                                    | Vegetated garden                            | 0.0166                  | Low             | Condition Assessment N/A | Area/compensation not in local strategy/ no local strategy | 0.03                    |
| 4                                    | Urban tree                                  | 0.0651                  | Medium          | Moderate                 | Area/compensation not in local strategy/ no local strategy | 0.20                    |
|                                      | <b>Total excluding areas of urban trees</b> | <b>0.07</b>             | <b>–</b>        | <b>–</b>                 | <b>–</b>                                                   | <b>0.35</b>             |

## 5.6 Habitats to be Enhanced

5.6.1 The Proposed Development will see the enhancement of the bramble scrub into mixed scrub of 'Moderate' condition, delivering 0.19 BU. The enhancement of these habitat will restore any indirect impacts as a result of the Proposed Development.



5.6.2 The urban trees to be created on-site have a target condition of 'Moderate'. At least three of the following condition assessment criteria must be achieved.

- Criteria A: The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). At least 80% of scrub is native, there are at least three native woody species and no single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).
- Criteria B: Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.
- Criteria C: There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 5% of ground cover.
- Criteria D: The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.
- Criteria E: There are clearings, glades or rides present within the scrub, providing sheltered edges.

5.6.3 The habitats to be created on-site are not included within the Local Wildlife Habitat Network or the Local Biodiversity Action Plan and are therefore listed as 'Area/compensation not in local strategy/ no local strategy' within the strategic significance section.

## 5.7 Proposed Development Summary of Net Impacts

5.7.1 Table 15 below summarises the BU value of the Proposed Development together with the unit value of any biodiversity impacts or on-site habitat creation/enhancement proposals.

5.7.2 This shows that on balance, the Proposed Development would result in a net gain of +0.07 habitat BU, equivalent to a net gain of +10.93%.

5.7.3 The Proposed Development does satisfy the Trading Rules.



**Table 15:** Summary of Biodiversity Metric results for habitats

| Biodiversity Units (BU)                                                 |       |
|-------------------------------------------------------------------------|-------|
| Existing Site habitat biodiversity value                                | 0.66  |
| Value of gross habitat biodiversity loss                                | 0.37  |
| Value of retained and proposed on-site habitat creation and enhancement | 0.74  |
| Net habitat biodiversity balance                                        | +0.07 |



## 6. Assessment of Effects

### 6.1 Statutory Designated Sites

6.1.1. The MAGIC website revealed no internationally designated sites within 2km of the site.

6.1.2. The MAGIC website revealed one nationally designated site within 2km of the site. The closest is Railway Terrace Local Nature Reserve (LNR), which is located 1100m northwest of the site. However, due to the small-scale nature of the development, the lack of habitat connectivity and the distance from the LNR and the other nationally designated sites, any indirect impacts caused by the construction of the development is not likely to have a detrimental impact on the LNR or any other nationally designated site.

### 6.2 Non-statutory Designated Sites

#### 6.2.1. Local Wildlife Site (LWS) & Local Geological Site (LGS)

Records received from WYES revealed seven non-statutory designated sites within 2km of the site. The closest is Cockleshaw Wood Local Wildlife Site (LWS), which is located approximately 680m east of the site. However, due to the nature of the development, the lack of habitat connectivity and the distance from the LWS and the other non-statutory sites, any direct impacts caused by the construction of the development are not likely to have a detrimental impact on the LWS or any other non-statutory sites.

#### 6.2.2. Local Wildlife Habitat Network

The site is located 50m south from the Local Wildlife Habitat Network. Due to the lack of habitat connectivity between the site and the Local Wildlife Habitat Network, any direct impacts caused by the construction of the development are not likely to have a detrimental impact on the Local Wildlife Habitat Network.

### 6.3 Habitats

6.3.1. h3d – Bramble scrub: 32 Scattered trees, 81 – Ruderal or ephemeral, 202 – Young trees – self-set, 523 – Non-native, 532 – Scattered grass.



The site contains bramble scrub which is located on the northwest of the site. Under current development plans the scrub is to be partially lost to facilitate the development.

#### 6.3.2. u1b5 – Buildings

There is a single building on the centre of the site. The majority of the building it is to be retained and renovated into apartments with the single storey extensions to be lost..

#### 6.3.3. u1b – Developed land; sealed surface

The existing hardstanding on the site will be removed and replaced in areas to facilitate the development.

### 6.4 Protected and Notable Species

#### 6.4.1. Invertebrates

126 records of 22 species of notable invertebrate species (excluding white-clawed crayfish) were returned by WYES. The bramble scrub on-site has the potential to support notable invertebrate species such as cinnabar, due to the presence of ragwort, which is the sole food plant for cinnabar caterpillars. Under current development plans the existing building is to be renovated, the extensions demolished and the removal of the bramble scrub to facilitate the proposed development. The proposed development does involve the partial removal of the habitats in which ragwort was identified. Further recommendations are therefore provided in **Section 7.1.2**.

#### 6.4.2. Amphibians

16 records of two amphibian species (excluding records of great crested newt) were returned by WYES. The bramble scrub and brash pile on-site has the potential to support hibernating amphibians and the waterbody located within 500m to the northeast of the site has the potential to support breeding amphibians. However, there is no habitat connectivity between the site and the waterbody due to the M606 running immediately east of the site and there is limited to no potentially suitable habitat connectivity between the site and potentially suitable habitats further afield. Amphibians, therefore, will not be mentioned further in this report.

#### 6.4.3. Reptiles



No records of reptiles were returned by WYES. The bramble scrub and brash pile on-site has the potential to support hibernating reptiles. However, there is limited to no habitat connectivity between the site and potentially suitable habitats further afield. Reptiles, therefore, will not be mentioned further in this report.

#### 6.4.4. Birds

183 records of 23 protected or notable bird species was returned by WYES. The bramble scrub and scattered trees on the site have the potential to support a wide range of nesting birds. Under current development plans the existing building is to be renovated, the extensions demolished and the removal of the bramble scrub to facilitate the proposed development. Any vegetation clearance or building demolition has the potential to adversely affect nesting birds. Further recommendations are therefore provided in **Section 7.1.3**.

#### 6.4.5. Bats

14 field records of five confirmed species and 14 records of three species of roost was returned by WYES. The building on the site contains potential roosting features and was judged to have 'Moderate' potential to support roosting bats. The bramble scrub and scattered trees on the site have the potential to support commuting and foraging bats and were judged to be of 'Low' potential to support commuting and foraging bats. Under current development plans the existing building is to be renovated, the extensions demolished and the removal of the bramble scrub to facilitate the proposed development. Bats, therefore, may be negatively impacted by the proposed development. Further recommendations are therefore provided in **Section 7.1.4**.

#### 6.4.6. Badgers

Records of badger were returned by WYES and the site falls outside the area of increased probability of badger activity. The bramble scrub habitat on-site has the potential to support foraging badgers and badger setts. Under current development plans the existing building is to be renovated, the extensions demolished and the removal of the bramble scrub to facilitate the proposed development. Badgers, therefore, may be negatively impacted by the proposed development. Further recommendations are therefore provided in **Section 7.1.5**.

#### 6.4.7. Other Notable Species



Three records of hedgehog were returned by WYES. The bramble scrub on-site has the potential to support foraging, resting, breeding and hibernating hedgehogs. Under current development plans the existing building is to be renovated, the extensions demolished and the removal of the bramble scrub to facilitate the proposed development. Hedgehog, therefore, may be negatively impacted by the proposed development. Further recommendations are therefore provided in **Section 7.1.6**.

#### 6.4.8. Summary of Impacts

Table 16 below summarises the assessment of effects, including any mitigation and subsequent residual effects.

Table 16: Summary of important ecological features and their geographic/legal context

| Receptor                           | Likely Significant Effect and/or Legal Implication                                           | Avoidance and Mitigation Measures                                                                                           | Residual Impacts After Mitigation |
|------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Statutory designated site: LNR     | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |
| Non-statutory designated site: LWS | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |
| Flora                              | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |
| Invertebrates                      | Degradation of potentially suitable habitat, leading to a loss of suitable foraging habitat. | Native species planting and the addition of insect refuges.                                                                 | No significant effects            |
| Fish                               | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |
| Amphibians                         | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |
| Reptiles                           | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |
| Birds                              | Potential breach of legislation from destruction of nests or disturbance of nesting birds    | Precautionary Working methods under ecological supervision.                                                                 | No significant effect             |
| Bats                               | Low adverse impact at the local level.                                                       | Works to be carried out via appropriate lighting schemes as per Institute of Lighting Professionals' guidance (ILP, 08/23). | No significant effect             |
| Badgers                            | Potential breach of legislation from killing and injury of individual badgers.               | Precautionary Working methods under ecological supervision.                                                                 | No significant effect             |
| Otters                             | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |
| Water voles                        | No significant effects                                                                       | N/A                                                                                                                         | No significant effects            |



|                       |                                                                                  |                                                                             |                       |
|-----------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------|
| Other notable species | Potential breach of legislation from killing and injury of individual hedgehogs. | Precautionary Working methods under ecological supervision ( <b>EcOW</b> ). | No significant effect |
|-----------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------|



## 7. Recommendations

### 7.1.1 Biodiversity Loss Offsetting

It was identified that the Proposed Development would have a net gain of +0.07 habitat BU, equivalent to a net gain of +10.93%. The Proposed Development does satisfy Trading Rules,

The Proposed Development has achieved a biodiversity net gain in habitat BU and hedgerow BU. Therefore, no off site compensatory habitat creation and/or enhancement measures are required.

Further details of the Statutory Biodiversity Metric calculations and associated condition assessments can be found within the Statutory Biodiversity Metric Calculator Tool excel spreadsheet and the Statutory Biodiversity Metric Habitat Condition Assessment Sheets accompanying this report.

Should the Proposed Development be subject to future change, the conclusions and recommendations in this report will need to be revised. This is to be undertaken via the recalculation of the impact assessment element through the most up-to-date biodiversity metric

### 7.1.2 Invertebrates

The proposed works provide an opportunity to institute enhancement for biodiversity through planting of native species of wildflowers (such as ragwort), shrubs and trees and the addition of faunal boxes, such as bird boxes, bat boxes, hedgehog hotels and insect refuges.

### 7.1.3 Birds

Any site clearance must take place between September and January (inclusive) to avoid destruction of bird nests or disturbing active bird nests. If site clearance cannot take place in this period, a nesting bird survey must take place no more than 24 hours before clearance works. Any active nests must remain in situ, surrounded by a buffer of undisturbed vegetation, until any young have fledged.

### 7.1.4 Bats

The building on the site contains potential roosting features and was judged to have 'Moderate' potential to support roosting bats. The following must be undertaken:

- Two bat emergence surveys are required on the building on-site which has been judged to be of 'Moderate' potential for roosting bats. The bat surveys must be carried out between May and September in suitable weather conditions, with at

least one survey between May and August, and with a minimum of 3 weeks between each survey.

All lighting must consider wildlife and be in accordance with the ILP Guidance GN01 and GN09 (2023). A key point is the avoidance of internal and external light spill. Where possible, lighting should be timed, or on sensors and avoid the hours between sunset and sunrise, when bats are out foraging.

It is important to avoid:

- Uniform levels of luminance across the site.
- Metal halide and florescent lighting.
- Upward tilting lighting that increases skyline luminance.

Instead, the following should be installed:

- Dark buffer zones.
- Screening in the form of vegetation, fences and structures.
- Appropriately designated darkened areas.
- Luminaries absent of UV elements.
- LED luminaries with a sharp cut-off, low intensity and good rendition.
- A warm white spectrum (<2700 kelvin) to reduce blue light.
- Peak luminaire wavelength at a minimum of 550nm.
- Downward directional luminaires with upward light ratios of 0%.
- Lower light columns to limit light spill.
- Recessed internal light fixtures.
- Window glazing treatments or automated blind systems.

#### 7.1.5 Badgers

Any excavations made during construction must be covered at night to prevent badgers becoming trapped within. If covering excavations is not feasible, a means of escape for badgers is to be provided. This could be ensuring one of the sides of the excavation is angled at around 45 degrees so that badgers can climb out or providing a plank to serve as a ramp for badgers to climb. Any open pipes must be capped. A pre-construction walkover to check the bramble scrub for badger setts is required prior to clearance.

#### 7.1.6 Other notable species

It is advised that a precautionary approach is adopted to include an Ecological Clerk of Works (**ECoW**) being present prior to works commencing. The **ECoW** would give a toolbox talk to on-site contractors in order to relate applicable



legislation, what signs to look for, and what to do should hedgehogs be encountered on-site. Should a hedgehog be found during site clearance, halt all works immediately, and the advising ecologist would move it to a place of safety.

Any excavations made during construction must be covered at night to prevent hedgehogs, hares or any other species becoming trapped within. If covering excavations is not feasible, a means of escape for hedgehogs, hares and other species is to be provided. This could be ensuring one of the sides of the excavation is angled at around 45 degrees so that hedgehogs can climb out or providing a plank to serve as a ramp. Any open pipes must be capped.

In the absence of any mitigation measures, the proposed development would be anticipated to have adverse significant impacts at the Local level. However, with the implementation of the mitigation and precautionary measures as specified above, the proposed development is not anticipated to result in any significant adverse residual effects to important ecological features.



## 8. References

### Guidelines for surveys and report writing:

British Standards Institute (BSI), (2013) *BS 42020:2013, Biodiversity - Code of practice for planning and development*. London.

Chartered Institute of Ecology and Environmental Management (CIEEM), (2015) *Guidelines for Ecological Report Writing*. Winchester.

UKHab. *UKHab Habitat Classification System 2.01* (2023)

### Websites:

Advice on protected species is consolidated at:

*Environmental management: Wildlife and habitat conservation - GOV.UK* (2016) *Gov.uk*. Available at: <https://www.gov.uk/topic/environmental-management/wildlife-habitat-conservation> (Accessed: 21 September 2016).

*Magic Map Application* (2016) *Magic.defra.gov.uk*. Available at: <http://magic.defra.gov.uk/MagicMap.aspx> (Accessed: 21 September 2016).

*The RSPB* (2016). Available at: <http://www.rspb.org.uk/> (Accessed: 21 September 2016).

*Surveys and mitigation plans: protected species - Detailed guidance* (2015) *Gov.uk*. Available at: <https://www.gov.uk/guidance/surveys-and-mitigation-plans-protected-species> (Accessed: 21 September 2016).

Within this detailed guidance on surveys and mitigation information is available on the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

*Wildlife licences: when you need to apply - Detailed guidance* (2014) *Gov.uk*. Available at: <https://www.gov.uk/guidance/wildlife-licences> (Accessed: 21 September 2016).

Within this detailed guidance on licensing information is available on licences for the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

As well as:

- Non-native Bumblebee species
- Deer
- Freshwater fish
- Invertebrates
- Mink, coypu, muskrat and grey squirrel
- Plants

### Species Specific Information:



### **Badgers:**

*Natural England, (2007) Badgers and Development: A Guide to Best Practice and Licensing.*

Competencies for Species Survey: Badger, Chartered Institute of Ecology and Environmental Management CIEEM, 2013. Accessed 2018-06-21

### **Bats:**

*Bat Conservation Trust, (2007) Bats, Development & Planning in England. London.*

*Mitchell-Jones, A. and McLeish, A. (ed.). (2004) Bat Workers' Manual. 3rd ed. JNCC.*

*The Bat Worker's Manual, Anthony J. Mitchell-Jones, 2015*

Bats: surveys and mitigation for development projects, <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects> Accessed 2018-06-21

Guidance note 8: bats and artificial lighting in the UK, bats and the built environment series, Bat Conservation Trust and ILP, produced 08/2023. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition, Bat Conservation Trust, written 2023

### **Dormice:**

*Bright, P., Morris, P. and Mitchell-Jones, A. (1996) The dormouse conservation handbook. Peterborough: English Nature.*

### **Great Crested Newts:**

*Langton, T., Beckett, C. and Foster, J. (2001) Great Crested Newt Conservation Handbook. Halesworth: Froglife. pdf*

*Advice note 4 (revised) - Amphibian Disease Precautions, A Guide for UK Fieldworkers, Amphibian and Reptile Conservation trust, 2017. Accessed 2018-06-21*

**Otters:** *Natural England, (2007) Species Information Note SIN006, Otter: European protected species.*

### **Reptiles and Amphibians:**

*Baker, J., Beebee, T., Buckley, J., Gent, T. and Orchard, D. (2011) Amphibian Habitat Management Handbook. 1st ed. Bournemouth: Amphibian and Reptile Conservation.*

*Edgar, P., Foster, J. and Baker, J. (2010) Reptile Habitat Management Handbook. 1st ed. Bournemouth: Amphibian and Reptile Conservation.*

*English Nature, (2004). Reptiles: guidelines for developers. Peterborough.*

*Gent, T. and Gibson, S. (ed.) (2003) Herpetofauna Workers Manual. Bournemouth: JNCC.*



### **Water Voles:**

*Natural England, (2008) Water voles - the law in practice. Guidance for planners and developers.*

*Water Vole Conservation and Management: Lessons From Four Case Studies, Jemma Louise Gaskin, 2016*

*Stoddart, D.M. (1970), Individual range, dispersal in a population of water voles (Arvicola terrestris (L.)). Journal of Animal Ecology 39, 403-425.*

*Water Vole Conservation Handbook, 2nd Edn. Wildlife Conservation Research Unit, University of Oxford, Oxford.*

*Strachan, R. (2009), Populations and Persistence – Developing a Strategy for Conserving Water Voles in the UK, Presentation to Warwickshire Wildlife Trust, 2nd April 2009, Environment Agency, Wales*

*Strachan, R. and Holmes-Ling, P (2003), Restoring water voles and other biodiversity to the wider countryside. Wildlife Conservation Research Unit, Oxford.*

*Strachan, R., Moorehouse, T. and Gelling, M. (2011), Water Vole Conservation Handbook, 3rd Edn, WILDCRU*

### **White-clawed Crayfish:**

*Peay, S. (2002) Guidance on Habitat for White-clawed Crayfish and its Restoration. Kendal: English Nature*

### **Relevant Legislation:**

*Wildlife and Countryside Act 1981, (c. 69) (as amended). Available at:*

<http://www.legislation.gov.uk/ukpga/1981/69>

*Countryside and Rights of Way Act 2000 (c.37). Available at:*

<http://www.legislation.gov.uk/ukpga/2000/37/contents>

*The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at:*

<https://www.legislation.gov.uk/ukdsi/2019/9780111176573>

*Conservation of natural habitats and of wild fauna and flora Council Directive (92/43/EEC) (The Habitats Directive) (as amended) Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043> (Accessed: 21 September 2016)*

*Protection of Badgers Act 1992 (c. 51). Available at: <http://www.legislation.gov.uk/ukpga/1992/51/contents>*

*(Accessed: 21 September 2016)*

*The Hedgerow Regulations 1997 (No. 1160). Available at:*

<http://www.legislation.gov.uk/uksi/1997/1160/contents/made>

### **Biodiversity Metric Guidance:**

*Business and Biodiversity Offsets Programme (BBOP). (2012). Standard on Biodiversity Offsets. Available at: [https://www.forest-trends.org/wp-content/uploads/bbop/bbop\\_standard\\_on\\_biodiversity\\_offsets\\_1\\_feb\\_2013-pdf.pdf](https://www.forest-trends.org/wp-content/uploads/bbop/bbop_standard_on_biodiversity_offsets_1_feb_2013-pdf.pdf).*

*The British Standards Institution (BSI). (2013). Biodiversity — Code of practice for planning and development. Available at:*

<https://www.omegawestdocuments.com/media/documents/43/43.35%20BSI%20Biodiveristy%20Code%20of%20Practice.pdf>.

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Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Heydon, M., Mayhew, E., Alvarex, M., Russel, T., Cashion, Clare., Goddard, F., Scott, S.J., Heaven, M., Scott, S.H., Treweek, J., Butcher, B. and Stone, D. (2022) *The Biodiversity Metric 3.1: Auditing and accounting for biodiversity –Technical Supplement*. Available at: <http://publications.naturalengland.org.uk/publication/6049804846366720>.

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# Appendices

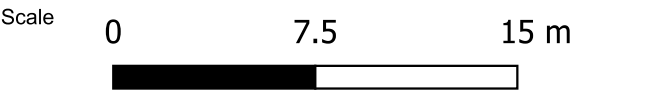
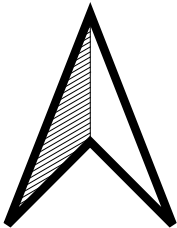
## Appendix 1: UKHab Habitat Map





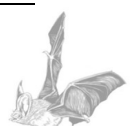
Site name & address  
**Richardsons Arms, 688  
Bradford Road, Oakenshaw,  
Bradford, BD12 7EN**

- Key**
- Red Line Boundary
  - Target Note: Forest brash
- Habitats
- h3d – Bramble scrub
  - 32 – Scattered trees
  - 81 – Ruderal or ephemeral
  - 202 – Young trees – self-set
  - 523 – Non-native
  - 532 – Scattered grass.
  - u1b – Developed land sealed surface
  - 207 – Forest brash
  - u1b5 – Buildings
  - Tree



|                                                        |                                   |
|--------------------------------------------------------|-----------------------------------|
| Site<br>Richardsons Arms                               | Client<br>AGC Design & Management |
| Project<br>Ecological Impact Assessment Scoping Report | Author<br>JF                      |
| Plan ref<br>22142/JF                                   | Revision<br>0                     |

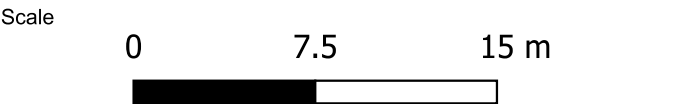
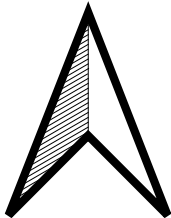
## **Appendix 2: Baseline UKHab Map**





Site name & address  
**Richardsons Arms, 688  
Bradford Road, Oakenshaw,  
Bradford, BD12 7EN**

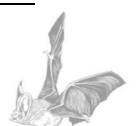
- Key**
-  Red Line Boundary
  - Individual tree Baseline
    -  Existing Small Urban Tree
  - Habitats Baseline
    -  Bramble scrub
    -  Developed land; sealed surface



|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Site<br>Richardsons Arms                | Client<br>AGC Design & Management |
| Project<br>Ecological Impact Assessment | Author<br>JF                      |
| Plan ref<br>22142/JF                    | Revision<br>0                     |

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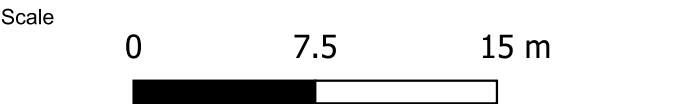
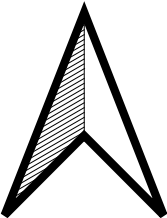
## **Appendix 3: Proposed Development UKHab Map**





Site name & address  
**Richardsons Arms, 688  
Bradford Road, Oakenshaw,  
Bradford, BD12 7EN**

- Key**
- Red Line Boundary
  - Individual tree Proposed
    - Proposed Medium Urban Tree
    - Proposed Small Urban Tree
    - Retained Small Urban Tree
    - Lost Urban Tree
  - Habitats Proposed
    - Developed land; sealed surface
    - Mixed scrub
    - Vegetated garden

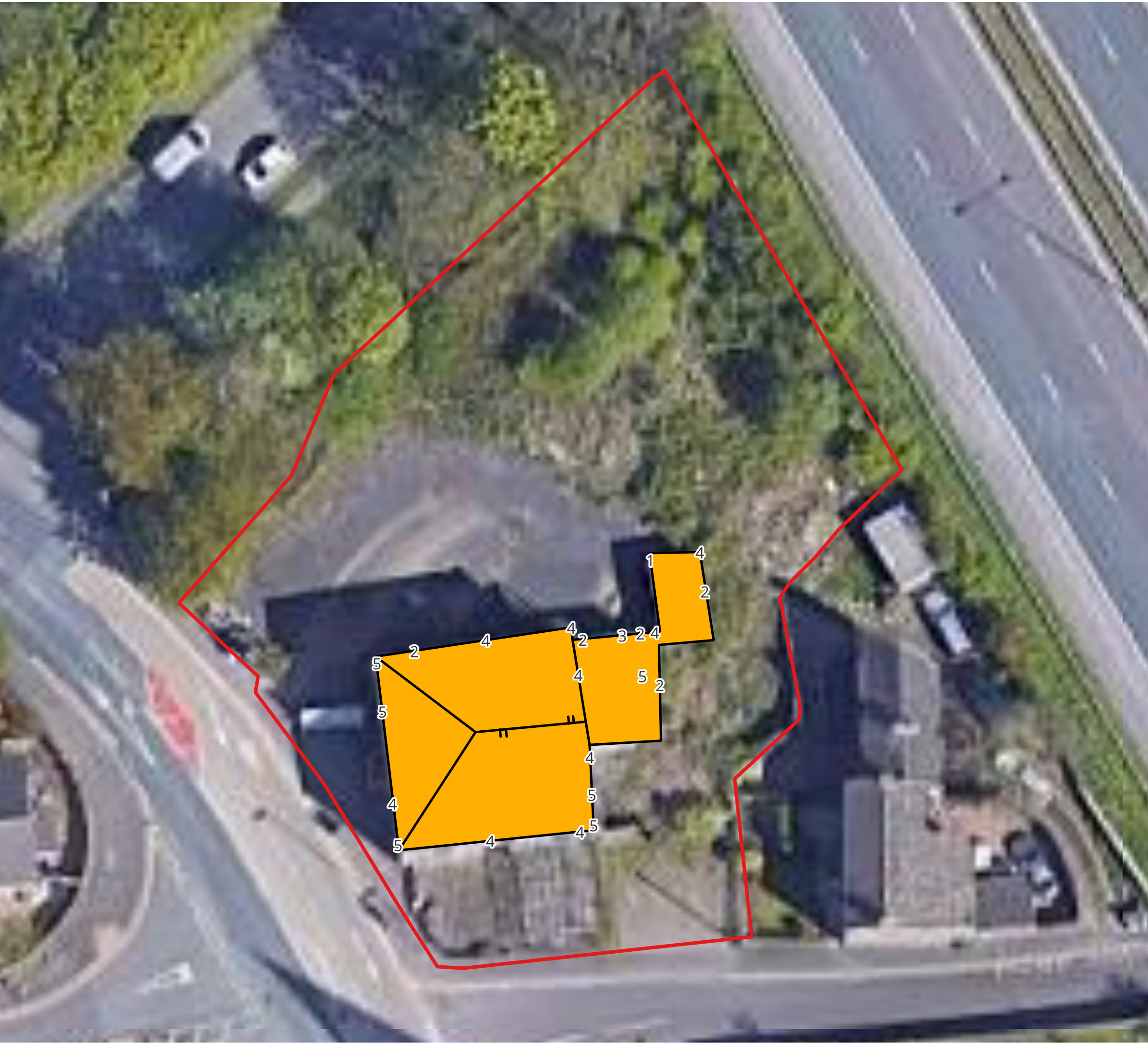


|                                            |                                      |
|--------------------------------------------|--------------------------------------|
| Site<br>Richardsons Arms                   | Client<br>AGC Design &<br>Management |
| Project<br>Ecological Impact<br>Assessment | Author<br>JF                         |
| Plan ref<br>22142/JF                       | Revision<br>0                        |

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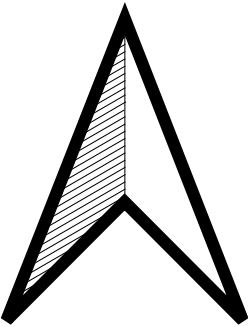
## **Appendix 4: Bat Roost Potential Map**





Site name & address  
**Richardsons Arms, 688  
Bradford Road, Oakenshaw,  
Bradford, BD12 7EN**

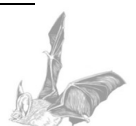
- Key**
- Red Line Boundary
  - Building: Moderate Bat Roosting Potential
  - Potential Roosting Feature
    - 1 - Missing barge board
    - 2 - Air vent
    - 3 - Missing bricks
    - 4 - Gap in the eaves
    - 5 - Missing mortar

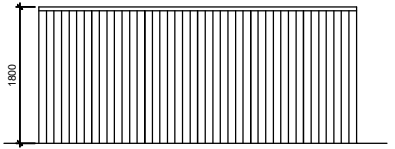
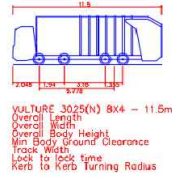
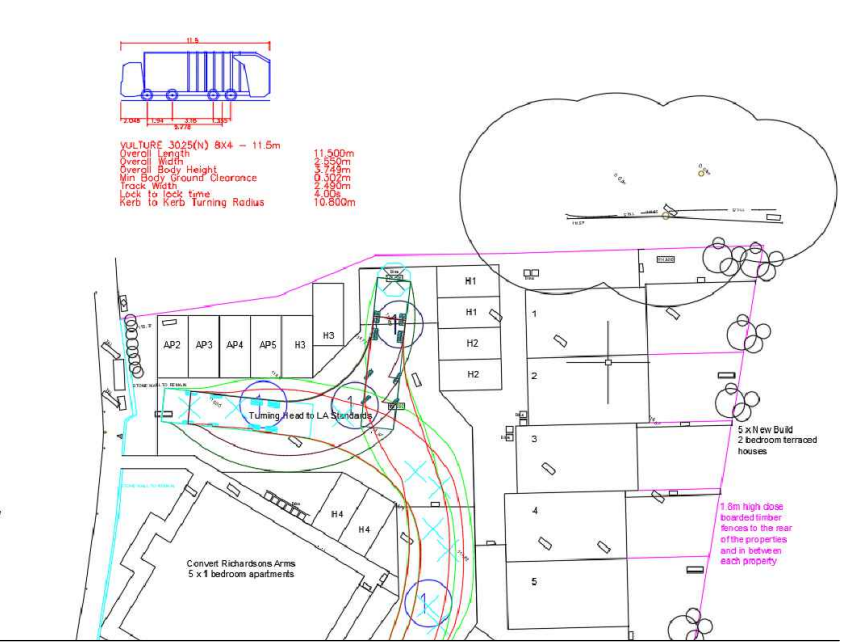
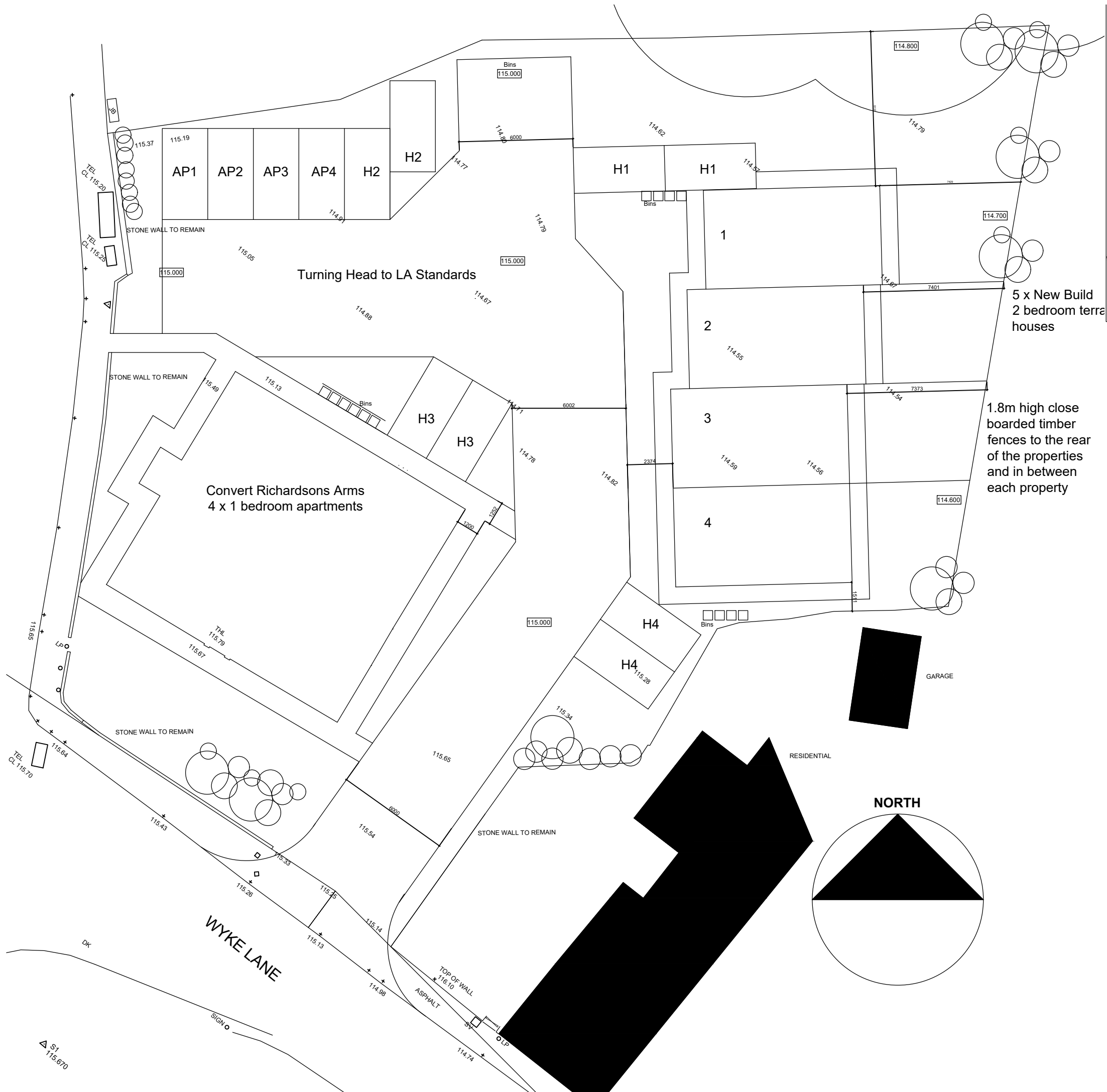


|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Site<br>Richardsons Arms                | Client<br>AGC Design & Management |
| Project<br>Ecological Impact Assessment | Author<br>JF                      |
| Plan ref<br>22142/JF                    | Revision<br>0                     |

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## **Appendix 5: Proposed Development Plan**





1.8m high close boarded timber fence

5 x New Build  
2 bedroom terraced  
houses

1.8m high close  
boarded timber  
fences to the rear  
of the properties  
and in between  
each property

| Revision | Date |
|----------|------|
|----------|------|

|         |                                                                                                |
|---------|------------------------------------------------------------------------------------------------|
| Client  | L Morrell                                                                                      |
| Job     | Covert former Public House into 5 Apartments<br>and build 5 new houses with parking and access |
|         | Richardsons Arms,<br>684 Bradford Rd, Oakenshaw, Bradford , BD12 7EN                           |
| Drawing | Planning<br>Proposed Site Plan                                                                 |
| Date    | May 2022                                                                                       |
| Scale   | 1:200                                                                                          |



Springfield Meadows  
Bolton Road  
Addingham  
Ilkley  
LS29 0RF  
t: 07986 463653

|                |             |      |
|----------------|-------------|------|
| Job No.        | Drawing No. | Rev. |
| AGC / 11 / 408 | 020         | D    |

## Appendix 6: Photographic Evidence



Photo 1: Bramble scrub and trees in the east of the site, viewed from the west.

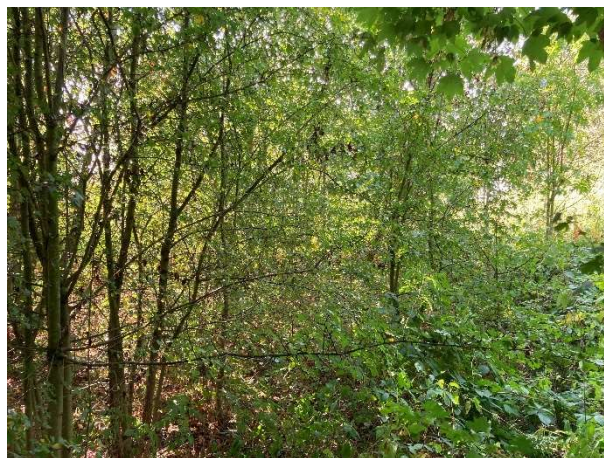


Photo 2: Bramble scrub and trees on the west of the site, viewed from the west.



Photo 3: Developed land; sealed surface on the north of the site, viewed from the east.



Photo 4: Developed land; sealed surface on the south of the site, viewed from the south.



Photo 5: Forest brash on the south of the site.



Photo 6: Gap in the eave in the northern aspect of the building.





Photo 7: Missing bricks and air vent on the northern aspect of the extension.



Photo 8: Gap in the eaves on the eastern aspect of the building.



Photo 9: Air vent on the eastern aspect of extension.



Photo 10: Gap in the eaves on the southern aspect of the building.



Photo 11: Missing mortar on the southern aspect of the building.

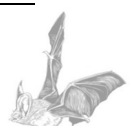


Photo 12: Gap in the eaves and missing mortar on the western aspect of the building.





Photo 13: Missing barge board on the western aspect of the most eastern flat roofed extension.



## Appendix 7: Bat Survey Guidelines

**Figure 1:** Guidelines used for assessing the bat roosting suitability of a site (taken from Collins, 2023, Tables 4.1, 4.2, 6.2)

| Roosting Suitability | Potential Roosting Features (PRFs) Present                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>None</b>          | No habitat features on-site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices/suitable shelter at all ground/underground levels).<br><br>Trees: Either no PRFs in the tree or highly unlikely to be any.                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Negligible</b>    | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Low</b>           | A structure with one or more potential roosting opportunities that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitats, to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation-site but could be used by individual hibernating bats).<br><br>Trees: PRF-I (Individual) – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats. |
| <b>Moderate</b>      | A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).                                                                                                                                                                                                                                       |
| <b>High</b>          | A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g., maternity or classic cool/stable hibernation-site.<br><br>Trees: PRF-M (Multiple) – PRF is suitable for multiple bats may therefore be used by a maternity colony.                                                                                                                                                           |

**Figure 2:** Recommended minimum number of survey visits for presence/likely absence surveys (taken from Collins, 2023, Tables 7.1 and 7.2).

| Negligible roost suitability                                                                                                                                                                                   | Low roost suitability or PRF-I                                                                                       | Moderate roost suitability                                                                                           | High roost suitability or PRF-M                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| No further survey required                                                                                                                                                                                     | One survey visit. One dusk emergence survey, May to August (structures).<br><br>No further surveys required (trees). | Two separate dusk emergence survey visits.<br><br>May to September, with at least one survey between May and August. | Three separate dusk emergence survey visits.<br><br>May to September, with at least two surveys between May and August |
| September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. |                                                                                                                      |                                                                                                                      |                                                                                                                        |



September surveys are likely to miss maternity roosts due to dispersal before this time but may pick up mating roosts.

Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced out at **least three weeks apart**, preferably more. Survey timings **should consider the prevailing conditions in the year of survey, which will vary geographically**. In years with a cold spring, the surveys should not be started in early May, or all completed in May. The surveys should maximise the possibility of detecting maternity roosts, which can switch roosts between pregnancy and lactation, and the **optimum coverage includes the pre-parturition, post-parturition, and mating periods**.

Structures that have been categorised as low potential can be problematic, and the number of surveys required should be judged on a case-by-case basis. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

**Figure 4:** Survey timings calendar (taken from BCT: Bat Surveys for Professional Ecologists: Good Practice Guidelines; 4<sup>th</sup> Edition).

| Survey type                                                                         | Month |   |   |   |   |   |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------|-------|---|---|---|---|---|---|---|---|---|---|---|
|                                                                                     | J     | F | M | A | M | J | J | A | S | O | N | D |
| Daytime Bat Walkover (DBW)                                                          |       |   |   |   |   |   |   |   |   |   |   |   |
| PRA – structures <sup>a</sup>                                                       |       |   |   |   |   |   |   |   |   |   |   |   |
| Emergence survey for maternity or summer roosts <sup>b</sup>                        |       |   |   |   |   |   |   |   |   |   |   |   |
| Emergence survey for transitional/occasional roosts <sup>b</sup>                    |       |   |   |   |   |   |   |   |   |   |   |   |
| Re-entry surveys <sup>c</sup>                                                       |       |   |   |   |   |   |   |   |   |   |   |   |
| Emergence survey for mating roosts <sup>b</sup>                                     |       |   |   |   |   |   |   |   |   |   |   |   |
| Hibernation survey – structures <sup>a</sup>                                        |       |   |   |   |   |   |   |   |   |   |   |   |
| GLTA <sup>d</sup>                                                                   |       |   |   |   |   |   |   |   |   |   |   |   |
| PRF inspection survey – trees                                                       |       |   |   |   |   |   |   |   |   |   |   |   |
| Ground-level bat activity survey – night-time walkover surveys and automated/static |       |   |   |   |   |   |   |   |   |   |   |   |
| Pre-, during and post-hibernation – automated/static bat activity survey            |       |   |   |   |   |   |   |   |   |   |   |   |
| Swarming survey <sup>e</sup>                                                        |       |   |   |   |   |   |   |   |   |   |   |   |
| Back-tracking survey                                                                |       |   |   |   |   |   |   |   |   |   |   |   |
| Trapping and radio-tagging survey <sup>f</sup>                                      |       |   |   |   |   |   |   |   |   |   |   |   |

= optimal period     = sub-optimal period

= weather or location dependent (i.e. may not be suitable due to spring and autumn conditions in any one year or in more northerly latitudes). Note that October emergence surveys are not acceptable in Scotland.

= it is not acceptable to trap bats when they are heavily pregnant and have dependent pups. Mothers need to optimise foraging due to the physiological demands of pregnancy and lactation, and pups need to be regularly fed. Interrupting these activities could potentially have an impact on breeding success in the year in question. The timing of birth can vary between years – it may be as early as the end of May or as late as the start of August, therefore caution should be exercised and local information gained on birth dates before trapping activities are carried out during the summer months. Any information gained and decisions made should be kept as a record.



## Appendix 8: Glossary

**Activity surveys** - are used to assess the level of bat activity at a site. This can be done either by using equipment such as an AnaBat device, or manually walking around a site with a heterodyne detector, documenting the number of bat passes and interceptions.

**Dawn surveys** - begin around 2 hours before and up to sunrise when bats are returning to their roosts from foraging, and swarming behaviour can be seen close to roost entrances.

**Dusk surveys** - begin around 30 minutes before sunset and up to 2 hours afterwards. These are done in order to see bats emerging from their roost sites at night.

**Echolocation** – is a system similar to sonar that allows bats to travel and forage even in total darkness. Bats make a call and then listen to the returning echoes in order to build up a map of their surrounding area. This allows bats to gauge the identity and distance of an object by how long the echo takes to return to them.

**Habitat** - the ecological or environmental area that is inhabited by a particular species of animal, plant or other type of organism.

**Hibernation** - is a state of inactivity and metabolic depression characterized by lower body temperature, slower breathing, and lower metabolic rate. Hibernating animals conserve energy, especially during winter when food is short, tapping energy reserves, i.e. body fat, at a slow rate.

**Hibernacula** - typically consist of underground sites, such as caves and cellars, which remain relatively cold and humid. Bats will hibernate to conserve energy over the winter months when falling temperatures cause a drop in the abundance of insects. These will typically be colonised around November to around March.

**Insectivorous** – is when an organism feeds exclusively on insects.

**Nocturnal** - a behaviour characterized by being active during the night and sleeping during the day.

**Maternity roosts** – colonised around late May early June and consist of mature females and their young. These roosts need to be warm and quiet, and are used up until around August, with females typically leaving first and then the young.

**Mating roosts** – mating begins around late October to November. Males of most species use special mating calls to attract females. These can include purrs, clicks and buzzing.

**Roost** – a site where bats live during the day, rear young and hibernate. These can be in man made structures, such as buildings, bridges, tunnels, cellars and mines, or natural features such as mature trees and caves.

**Roosts in buildings** – many types of buildings will be used by bats. The most likely sites are agricultural buildings (e.g. farmhouses and barns), buildings with exposed wooden beams (greater than 20cm thick), buildings with weather boarding and/or hanging tiles, and buildings close to woodland and/or water.

**Roosts in trees** – these are typically in mature trees with deep sheltered cracks, under loose sections of bark, or in woodpecker holes.

**Species** – a group of organisms in which all members can interbreed and produce viable offspring.

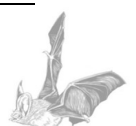
**Summer roosts (non-breeding)** - these are generally occupied by groups of males and immature females during the summer, and are usually only occupied for a short period before the group moves to another location.

**Swarming** – a behaviour exhibited by bats returning to their roost sites at dawn. Bats can be seen repeatedly flying to and from the roost entrance, making it much easier for consultants to identify where roosts are on a building or structure.



**Temporary/Transitory roosts** – These are used after hibernation (March – April) before mature females disperse to maternity roosts and male/immature females colonise summer (non-breeding) roosts. Similarly, temporary roosts form before hibernation (August -October).

**Underground Roosts** – these are typically used during the winter and can be mines, caves, tunnels or cellars.



## Appendix 9: Protected Species Information

The following species are fully protected in UK law, under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019:

- All UK bat species
- Dormouse
- Great Crested Newt and Natterjack Toad
- Large Blue Butterfly
- Otter
- Pine Marten
- Polecat
- Scottish Wild Cat
- Smooth Snake and Sand Lizard
- Various aquatic and plant species

These species are afforded the highest protection in the UK. Under this protection it is an offence to; deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animal of any such species; deliberately take or destroy the eggs of such an animal, or damage or destroy a breeding site or resting place of such an animal.

In addition to this it is an offence to be in possession of, or to control, transport, sell or exchange, or to offer for sale or exchange, a European Protected species.

The following species are protected under UK law, such as the Wildlife and Countryside Act 1981 (as amended):

- Badger
- Nesting birds
- Red Squirrel
- Reptiles (Adder, Common lizard, Grass snake, Slow worm)
- Water Vole
- White Clawed Crayfish
- Various bird species i.e. Barn Owl
- Various plant species

Therefore under this protection it is an offence to; kill, injure or take any of the above species.

Nesting birds are only protected during the breeding season whilst on their nest. In addition to the adults being protected, the eggs, young and nest itself whilst in use are protected.

The Wildlife and Countryside Act 1981 also contains measures to prevent the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of

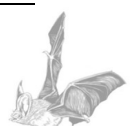


animals and planting of plants listed in Schedule 9 in England and Wales (e.g. Japanese Knotweed and Himalayan Balsam).

Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

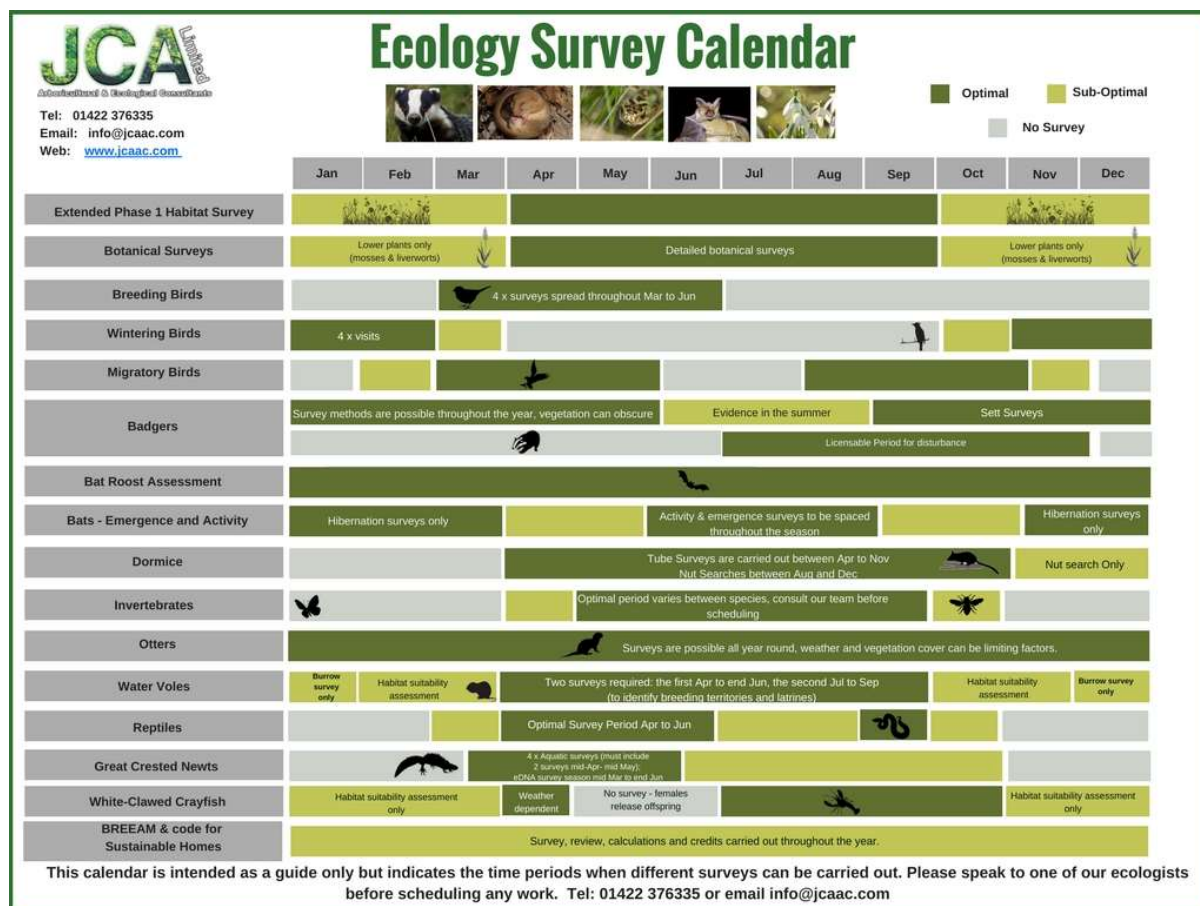
The following habitat types are protected under UK Law:

- Habitats that are used by protected species
- Habitats that fall within designated sites
- Hedgerows
- Individual trees/woods can be protected under Tree Preservation Orders



## Appendix 10: Survey Calendar

Figure 4: Survey calendar for protected species and habitat surveys.



## Appendix 11: Author Qualifications

### **Adam West, Principal Ecologist**

*BSc (Hons) Animal and Wildlife Management.*

Adam joined JCA to lead the expanding ecology department. Having returned to education as a mature student, Adam studied Countryside Management for two years before undertaking a Bachelor's degree, for which he was awarded First Class Honours. Adam has many years' experience in ecological consultancy, working on projects ranging from individual planning applications to national infrastructure projects. Adam holds a Natural England Level 1 great crested newt survey class licence and a Natural England Level 2 bat survey class licence.

### **James Foster, Assistant Ecologist**

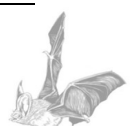
*BSc (Hons) Biology.*

James gained his undergraduate degree in biology in 2012 from University of Leeds. James has plenty of experience in ecology, having worked countless projects of different scales all over the north and midlands. James has 9 years of experience surveying anything from reptiles to hedgerows and holds a Great crested newt licence level 1 and is working towards his bat licence and barn owl licence.

### **Richard Westwood, Graduate Ecologist**

*BA (Hons) History and Politics*

Rick gained his undergraduate degree in History and Politics in 2001 from Leeds Metropolitan University before going on to complete a PGCE in History at the University of Leeds in 2003. After 18 years in secondary education and the NHS, Rick began assisting on bat emergence surveys in 2023, after which, he gained employment as a Graduate Ecologist at JCA Ltd.



The Information and advice which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed



.....  
James Foster *BSc (Hons)*

06/12/2024

Reviewed by



.....  
Richard Westwood *BA (Hons)*

09/12/2024

Approved by



.....  
Adam West *BSc (Hons), ACIEEM*

15/06/2024



For and on behalf of **JCA Ltd**

**Registered Office:**

**Unit 80**

**Bowers Mill**

**Branch Road**

**Barkisland**

**Halifax**

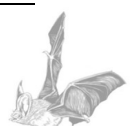
**HX4 OAD**

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## ECOLOGICAL SERVICES

### Ecological Pre-Planning Services

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- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

### Ecological Post-Planning Services

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- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

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## ARBORICULTURAL SERVICES

### Guidance for Architects & Developers

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- British Standard 5837 Surveys
- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

### Advice for Engineers, Loss Adjusters and Insurers

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- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

### Advice for Local Authorities and Social Housing

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- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

### Tree Advice for the Legal Profession

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- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

### Veteran Tree Management

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- Ancient Woodland Management
- Veteran Tree Management

### Tree Health and Pest and Disease Management

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- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control



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## HEAD QUARTERS

Unit 80 Bowers Mill,  
Branch Road,  
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Halifax, HX4 0AD

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VAT No: 686 4674 78

