

**PRELIMINARY ECOLOGICAL
APPRAISAL**

**at
Land off Carr Hill Road
Upper Cumberworth
Huddersfield
West Yorkshire
HD8 8XN**

**Client:
Acumen Designers & Architects**

**Client Address:
Old Leeds Road
Huddersfield
HD1 1SG**

**JCA Ref:
19246/AD**

Date of Report: 28/10/22



Quality Assurance

Version	Desktop Survey Completed:		Site Surveyed:		Report Completed:		Reviewed:	
	Date	Name	Date	Name	Date	Name	Date	Name
Planning	26/20/22	Amy Donaldson	26/10/22	Amy Donaldson Audrey Bourdais Paul	28/10/22	Amy Donaldson	01/11/22	Helen Chambers
							02/11/22	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 **Acumen Designers & Architects** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Land off Carr Hill Road, Upper Cumberworth**. The site is located at Ordnance Survey (OS) National Grid Reference **SE 20150 08743** with nearby postcode **HD8 8XN**.

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 6 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 Description of Effect	Further Survey Required	Mitigation Required
Designated sites				
Statutorily protected	Negligible	None	No	N/A
Non-statutorily protected	Low	The Lower Jane Well LWS is within 250m of the site and is ecologically well connected.	No	Kirklees council must be consulted.
S41 habitat	Negligible	None	No	N/A
Other habitats	Negligible	None	No	N/A
Protected species				
Flora (WCA Sch 8, CHSR Sch 5)	Negligible	None	No	N/A
Invertebrates	Low	Ragwort, the food plant for the priority species the cinnabar moth caterpillars, was identified on site.	No	Native scrub and wildflower planting is recommended to mitigate for any loss of invertebrates.
White-clawed crayfish	Negligible	None	No	N/A
Fish	Negligible	None	No	N/A
Great crested newt	Negligible	None	No	N/A
Reptiles	Negligible	None	No	N/A
Birds	Low	The removal of bramble scrub onsite has the potential to cause disturbance to breeding birds, resulting in a breach of legislation.	No	A preconstruction site walkover is required prior to any vegetation removal commencing. If removal 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	Low	The buildings on site are deemed to hold negligible bat roosting potential. The overall site was deemed to hold low foraging and commuting potential. Any disturbance to bats results in a breach of legislation.	No	Artificial lighting within the Development should follow guidance from Institution of Lighting Professionals (2018).
Badgers	Low	The development has potential to disturb foraging and commuting badgers which may be utilising the site.	No	A Construction Environment Management Plan (CEMP) is recommended. 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.
Otters	Negligible	None	No	N/A
Water voles	Negligible	None	No	N/A
Other Species e.g. S41 species	Moderate	The bramble scrub on site provides nesting potential for hibernating hedgehogs. Hedgehogs are legally protected during their hibernation period and while raising their young.	No	A precautionary approach should be adopted to include an Ecological Clerk of Works (ECoW) being present during removal of scrub. Should a hedgehog be found during site clearance, the ecologist would move it to a place of safety.



				The constructions of walls or fencing within the development should include hedgehog holes measuring a minimum of 13cm x 13cm, to facilitate migration.
Invasive Species (WCA Sch 9) Injurious Weeds (Weeds Act, 1959)				
Rockspray cotoneaster	High	Rockspray cotoneaster is present in the immediate vicinity of the site. The spread of a Schedule 9 species under the WCA due to inappropriate management and handling would result in a breach of legislation.	No	Care should be taken to ensure the rockspray cotoneaster is not transferred onto site during development.
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. WCA Sch – Wildlife and Countryside Act 1981 (as amended) Schedule CHSR Sch – Conservation of Habitats and Species Regulations 2017 Schedule				



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1. Introduction

1.1 Background

1.1.1 In October 2022, JCA Limited was instructed by **Acumen Designers & Architects** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Land off Carr Hill Road, Upper Cumberworth** 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 20150 08743**, with nearby postcode **HD8 8XN**. The site is bordered to the north and west by agricultural fields, and to the east and south by residential properties. A woodland is present to the north of the site.

1.2.2 The scheme is for the demolition of the store and stable block on site, and the erection of a single-storey residential dwelling.

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 – a 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 3**) and information regarding current legislation (**Appendix 6**).

- Biodiversity Metric Baseline Assessment – condition scoring the habitats onsite and assigning each habitat a numerical value. This calculation is done in an excel worksheet.



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 Services (WYES), the local environmental records centre for Huddersfield, 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 Kirklees Biodiversity Action Plan (LBAP) to assess national and regional habitat and species status.

2.2 Field Survey

2.2.1 A UKHab survey of the site was conducted on 26/10/22. 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 Phase 1 Vegetation and Habitat Survey (The UK Habitat Classification, Habitat Definitions Version 1.1, UKHab, 2020). 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 LBAP. 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.
- Eurasian beaver *Castor fiber* and suitable habitat within 30m of the site, where accessible.
- Other notable species.
- Invasive species.

2.3 Baseline Biodiversity Metric

2.3.1 A baseline biodiversity metric was carried out during the field survey on 26/10/22.

2.3.2 To comply with Kirklees Council Planning policy, developments will be required to ensure a biodiversity net gain of at least 10% from November 2023, which will be determined from the baseline biodiversity units. Should the development fall short of the required 10% biodiversity net gain, further enhancement and mitigative measures will be necessary.

2.3.3 The Biodiversity Metric 3.1 provides a way of measuring and accounting for biodiversity losses and gains resulting from development or land management change. The first calculation of the metric (included in this report) assigns a baseline numeric value for biodiversity units present



onsite pre-development, assessed whilst onsite. A full metric would then determine whether the proposed development meets the target increase in biodiversity units.

- 2.3.4 The metric uses habitat features as a proxy measure for capturing the value and importance of nature, which are recorded during the survey. It uses a calculation that takes into account the importance of these features for nature: their size, ecological condition, location and proximity to nearby 'connecting' features. The metric enables assessments to be made of the present and forecast future biodiversity value of a site (Natural England, 2019).

2.4 Survey Constraints

- 2.4.1 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, 2018), especially those given protection under UK wildlife legislation.
- 2.4.2 The optimum time of year for completing the survey is between April and October, as many plant species have a seasonal expression in spring and summer only. The survey was undertaken on 26/10/22.
- 2.4.3 The weather during the survey was cloudy with light rain, however this was not considered to be a significant constraint to the findings of the survey, as field signs could still be identified.
- 2.4.4 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. Desk Study Results

3.1 Statutory Designated Sites

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

3.1.2 The MAGIC website revealed no nationally designated sites within 2km of the site.

3.2 Non-statutory Designated Sites

3.2.1 Records received from WYES revealed five non-statutory designated sites within 2km of the site, detailed in Table 2 below.

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

Site Name	Distance (m) and Direction from Site	Reasons for Designation
Lower Jane Well LWS	244m NE	Gr1 - MG5 grassland Gr3 - Species rich grassland (part)
Yew Tree Wood LWS	810m NE	Wd3 - Species rich acid woodland Vp3 - County rare species (<i>Galium uliginosum</i>)
Turpin Hill LWS	1273m SE	Gr1 - Rare grassland habitat (MG5) Gr4 - Species rich acid to neutral grassland
Denby Delf LWS	1952m SE	Gr3 - Species rich neutral grassland Mh2 - Mosaic habitat
Gelder Wood LWS	1990m NW	Wd3 - Species rich acid woodland
Key: LWS – Local Wildlife Site		

3.3 Section 41 of the NERC Act 2006 Priority Habitat Inventory

3.3.1 The MAGIC website revealed the following habitats within 2km of the site:

- Good quality semi-improved grassland – seven parcels, with the nearest being 1150m from the site.



- Lowland dry acid grassland – six parcels, with the nearest being 1704m from the site.
- Lowland meadows – four parcels, with the nearest being 1149m from the site.
- Purple moor grass and rush pastures – four parcels, with the nearest being 732m from the site.
- Lowland heathland – one parcel, found 1350m from the site.
- Deciduous woodland – 110 parcels, with the nearest being 178m from the site.
- Ancient woodland – five parcels, with the nearest being 719m from the site.

3.4 Other Protected Habitats

3.4.1 The site is within the Liverpool, Manchester and West Yorkshire Green Belt.

3.5 Protected and Notable Species

3.5.1 European Protected Species (EPS) Licence Applications

- The MAGIC website revealed two EPS licence applications within 2km of the site;
 1. A licence granted in January 2015 and ending in September 2020 to allow for the destruction of a resting place used by common pipistrelle bats. Licence reference: 2014-5044-EPS-MIT.
 2. A licence granted in December 2011 and ending in December 2013 to allow for the destruction of a resting place used by common pipistrelle bats. Licence reference: EPSM2011-3782.

3.5.2 Records of Protected and Notable Species

3.5.3 Flora

Two records of Dyer's greenweed *Genista tinctoria*, a Kirklees BAP designated species, were returned from WYES. The latest record was made in 2015, and the nearest record was 1301m from the site.



Seven records of bluebell *Hyacinthoides non-scripta*, a Schedule 8 (WCA, as amended) and Kirklees BAP designated species, were returned from WYES. The latest record was made in 2015, and the nearest record was 873m from the site.

One record of common twayblade *Listera ovata*, a Kirklees BAP designated species, was returned from WYES. This was made in 2013 and was 313m from the site.

3.5.4 Invertebrates (including white-clawed crayfish)

No records of protected or notable invertebrates were returned from WYES.

3.5.5 Fish

Two records of sea trout *Salmo trutta*, a UKBAP, WYBAP and Kirklees BAP designated species, were returned from WYES. Both records were made in 2012 and were 1739m from the site.

3.5.6 Amphibians

Four records of common toad *Bufo bufo*, a Schedule 5 (WCA, as amended), UKBAP, WYBAP and Kirklees BAP designated species, were returned from WYES. The latest record was made in 2019, and the nearest record was 878m from the site.

Four records of common frog *Rana temporaria*, a Schedule 5 (WCA, as amended) and WYBAP designated species, were returned from WYES. The latest record was made in 2019, and the nearest record was 878m from the site.

One record of smooth newt *Triturus vulgaris*, a Schedule 5 (WCA, as amended) and WYBAP designated species, was returned from WYES. The record was made in 2014 and was 1833m from the site.

3.5.7 Reptiles

Two records of grass snake *Natrix natrix*, a Schedule 5 (WCA, as amended), UKBAP, WYBAP and Kirklees BAP designated species, were returned from WYES. The latest record was made in 2014, and the nearest record was 1833m from the site.

3.5.8 Birds

The following records were received from WYES:

Table 3: Bird Records Received from WYES.



Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
<i>Carduelis carduelis</i>	Goldfinch	LBAP	2019	2	878
<i>Delichon urbica</i>	House martin	WYBAP	2019	1	878
<i>Emberiza citrinella</i>	Yellowhammer	UKBAP WYABP	2019	2	878
<i>Emberiza schoeniclus</i>	Reed bunting	UKBAP WYBAP LBAP	2019	1	878
<i>Falco tinnunculus</i>	Kestrel	WYABP LBAP	2019	1	878
<i>Fringilla montifringilla</i>	Brambling	WCA Sch 1	2019	1	878
<i>Hirundo rustica</i>	Swallow	WYBAP LBAP	2019	1	878
<i>Numenius arquata</i>	Curlew	UKBAP WYBAP LBAP	2019	1	878
<i>Passer domesticus</i>	House sparrow	UKBAP WYBAP LBAP	2019	1	878
<i>Passer montanus</i>	Tree sparrow	UKBAP WYBAP LBAP	2019	1	878
<i>Prunella modularis</i>	Dunnock	UKBAP WYBAP LBAP	2019	1	878
<i>Pyrrhula pyrrhula</i>	Bullfinch	UKBAP WYBAP LBAP	2013	1	974
<i>Sturnus vulgaris</i>	Starling	UKBAP WYBAP LBAP	2019	1	878
<i>Turdus iliacus</i>	Redwing	WCA Sch 1	2019	1	878
<i>Turdus philomelos</i>	Song thrush	UKBAP WYBAP LBAP	2019	2	878
<i>Turdus pilaris</i>	Fieldfare	WCA Sch 1	2019	1	878
<i>Tyto alba</i>	Barn owl	WCA Sch 1 WYBAP LBAP	2020	1	1743

Key:

WCA Sch 1: Schedule 1 of the Wildlife & Countryside Act 1981 (as amended)

UKBAP: United Kingdom Biodiversity Action Plan

WYBAP: West Yorkshire Biodiversity Action Plan

LBAP: Local Biodiversity Action Plan

3.5.9 Bats



The site falls within the Bat Alert Zone. The following records were received from WYES:

Table 4: Bat Records Received from WYES.

Scientific Name	Common Name	Designation	Latest Date	Number of records	Distance from site (m)
<i>Myotis daubentonii</i>	Daubenton's bat	EPS WCA Sch 5 LBAP	2018	1	1977
<i>Nyctalus noctula</i>	Noctule bat	EPS WCA Sch 5 S41 UKBAP WYBAP LBAP	2020	4	1095
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	EPS WCA Sch 5 LBAP	2019	7	745
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	EPS WCA Sch 5 S41 LBAP	2019	3	878

Key:

EPS: European Protected Species: Species listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

WCA Sch 5: Wildlife & Countryside Act 1981 (as amended)

S41: Section 41 of the NERC Act 2006

LBAP: Local Biodiversity Action Plan

3.5.10 Bat Roosts

The following records were received from WYES:

Table 5: Bat Records Received from WYES.

Scientific Name	Common Name	Roost type	Date	Location and Distance from Site (m)
<i>Myotis mystacinus</i>	Whiskered bat	Single adult	2020	1722
<i>Myotis mystacinus</i>	Whiskered bat	Single adult	2020	1743
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Two adults	2012	1006



<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Two adults	2011	1006
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Single adult	2011	1508
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Two adults	2014	779
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Single adult	2011	662
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Transitional	2011	1924
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Single adult	2006	1274
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2006	1276
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Maternity	2003	1018
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Maternity	2003	1018
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Two adults	2014	1158
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Three adults	2020	1722
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2020	1743
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	Two adults	2020	1722
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	Single adult	2020	1743
<i>Plecotus auritus</i>	Brown long-eared bat	Three adults	2006	1274
<i>Plecotus auritus</i>	Brown long-eared bat	Not recorded	2006	1276
<i>Plecotus auritus</i>	Brown long-eared bat	Single adult	2020	1743

3.5.12 Otters



No records of otter were returned from WYES.

3.5.13 Water Voles

One record of water vole *Arvicola amphibius*, a Schedule 5 (WCA, as amended), UKBAP, WYBAP and Kirklees BAP designated species, was returned from WYES. The record was made in 2013 and was 1278m from the site.

One record of water vole *Arvicola terrestris*, a Schedule 5 (WCA, as amended), UKBAP, WYBAP and Kirklees BAP designated species, was returned from WYES. The record was made in 2019 and was 878m from the site.

3.5.14 Other Notable Species

One record of west European hedgehog *Erinaceus europaeus*, a UKBAP, WYBAP and Kirklees BAP designated species, was returned from WYES. This was made in 2019 and was 878m from the site.

One record of brown hare *Lepus europaeus*, a UKBAP, WYBAP and Kirklees BAP designated species, was returned from WYES. This was made in 2019 and was 878m from the site.

3.5.15 Invasive Species

The following species are designated under Schedule 9 (WCA, as amended). Records were received from WYES:

Table 6: Invasive species records received from WYES.

Scientific Name	Common Name	Latest Date	Number of records	Distance from site (m)
<i>Branta canadensis</i>	Canada goose	2019	1	878
<i>Fallopia japonica</i>	Japanese knotweed	2020	4	236
<i>Impatiens glandulifera</i>	Himalayan balsam	2020	7	236
<i>Sciurus carolinensis</i>	Eastern grey squirrel	2019	3	878



4. Field Survey Results

4.1 Habitats

4.1.1 Other neutral grassland – g3c

The vast majority of the site is comprised of other neutral grassland. Species include orchard grass *Dactylis glomerata*, bentgrass *Agrostis stolonifera*, perennial rye grass *Lolium perenne*, dandelion *Taraxacum officinale*, common plantain *Plantago major*, white clover *Trifolium repens*, red clover *Trifolium pratense*, stinging nettle *Urtica dioica*, common chickweed *Stellaria media*, creeping buttercup *Ranunculus repens*, male fern *Dryopteris filix-mas*, bush vetch *Vicia sepium*, cow parsley *Anthriscus sylvestris*, cow vetch *Vicia cracca*, early dog violet *Viola reichenbachiana*, common lungwort *Pulmonaria officinalis*, ribwort plantain *Plantago lanceolata*, ragwort *Jacobaea vulgaris*, bitter dock *Rumex obtusifolius*, common selfheal *Prunella vulgaris*, silvergreen bryum moss *Bryum argenteum* and red stemmed feathermoss *Pleurozium schreberi*.

Tall herb – 16

Within the grassland there are two parcels of tall herb, dominated by stinging nettle.

4.1.2 Bramble scrub – h3d

A small parcel of bramble scrub is present to the west of the buildings on site. The scrub is almost exclusively bramble *Rubus subg. Rubus.*, with small amounts of creeping thistle *Cirsium arvense* and male fern.

4.1.3 Developed land; sealed surface – u1b

There is a small parcel of tarmac hard standing to the very south of the site.

4.1.4 Buildings/structures – u1b5

There are two buildings on site (see **Appendix 1**). Table 7 below details building descriptions.

Table 7: Descriptions of the buildings on site.

Building Number	Location and Description	Potential Roosting Features	Roosting Potential
Building 1 – Stable	A wood-built stable with five compartments, to	Gaps are visible within the wooden walls which could	Negligible – The building is considered to be too open to



	the northwest of the site. The building has a pitched wooden roof, covered in bitumen.	afford access into the building (see Appendix 3, Photo 8).	support roosting bats, and no space is present between the roofing materials to provide roosting space.
Building 2 - Store	A small metal-lorry trailer to the south of Building 1. The building has flat plastic roofing.	The roller shutter is heavily corroded, which allows access into the building (see Appendix 3, Photo 3).	Negligible – As above, despite access being permitted, the building is too open to support roosting bats.

4.2 Protected and Notable Species

4.2.1 Flora

No protected or notable flora was identified on site. Flora will, therefore, not be mentioned further in this report.

4.2.2 Invertebrates (including white-clawed crayfish)

A range of generalist invertebrates were noted on site, however no protected or notable species were identified. Ragwort, the food plant of the priority species the cinnabar moth caterpillars, was identified on site.

4.2.3 Fish

No habitat suitable to support fish was identified on site. Fish will, therefore, not be mentioned further.

4.2.4 Amphibians

No habitat suitable to support amphibians was identified on site. Amphibians will, therefore, not be mentioned further.

4.2.5 Reptiles

No habitat suitable to support reptiles was identified on site. Reptiles will, therefore, not be mentioned further.

4.2.6 Birds

No trees were present on site to support nesting birds. However, the dense scrub and grassland on site may provide foraging opportunities for birds.

4.2.7 Bats



There were no trees present on site to support roosting bats. The buildings on site were deemed to have negligible bat roosting potential due to a lack of PRFs and roosting space. Furthermore, the woodland to the north of the site would likely be preferred by roosting bats. The long grassland strip present to the south of the site may act as a dark corridor for commuting bats, and the bramble scrub and grassland may provide foraging opportunities for bats.

4.2.9 Otters

No habitat suitable to support otters was identified on site. Otters will, therefore, not be mentioned further in this report.

4.2.10 Water Voles

No habitat suitable to support water voles was identified on site. Water voles will, therefore, not be mentioned further in this report.

4.2.11 Other Notable Species

The bramble scrub on site may provide nesting and hibernating opportunities for hedgehogs.

4.2.12 Invasive Species

No invasive species were identified on site. However, rockspray cotoneaster *Cotoneaster horizontalis* was present in the garden directly adjacent to the south of the site, which was hanging over the wall on to site (see **Appendix 3, Photo 9**).

4.3 Baseline Biodiversity Metric

4.3.1 A Biodiversity Metric 3.1 baseline calculation has been undertaken as to fully inform this assessment. The calculation has been processed in a Microsoft Excel workbook, which accompanies this report (see **Appendix 4**). However, a summary of the main findings is provided below.



4.3.2 The total habitat area of the site is **1964m²**, consisting of other neutral grassland, bramble scrub, buildings and developed land. The resulting ecological baseline is returned at **1.4908 habitat units**.



5. Assessment

5.1 Designated Sites

5.1.1 Statutory designated sites

There were no statutory sites within 2km of the proposed development, hence no adverse effects are expected.

5.1.2 Non-statutory designated sites

All of the non-statutory designated sites within 2km of the proposed development are ecologically well-connected by a mosaic of habitats including arable land and woodland, with the exception of the Gelder Wood LWS which is barriered by the A629. Turpin Hill LWS and Denby Delf LWS are over 1km away from the proposed development, however these sites are still within commuting distance for a range of species.

Due to the small scale nature of the proposed development the Yew Tree Wood LWS, Turpin LWS and Denby Delf LWS are not deemed to be vulnerable to adverse impacts from the proposed development.

However, as the Lower Jane Well LWS is within 250m of the site, adverse impacts may occur as a result of works.

5.1.3 Other protected habitats

The site falls within the Liverpool, Manchester and West Yorkshire Green Belt. However, as the development is to replace existing dwellings and is at a small-scale, no adverse impacts are expected to occur in relation to the functionality of the green belt.

5.2 Habitats

5.2.1 The most valuable habitats for biodiversity within the development site boundary are other neutral grassland and bramble scrub. The proposed works will see the disturbance of the grassland and removal of the bramble scrub.

5.2.2 The other habitats described in Chapter 4, Section 4.1 have lower biodiversity and provide less opportunity to support protected or notable species. The flora recorded in these habitats is considered to be locally common and widespread and they do not fall into any of the NERC S41 or Local BAP Priority Habitat descriptions.



5.3 Protected and Notable Species

5.3.1 Invertebrates (including white-clawed crayfish)

The proposal will see the disturbance of ragwort, the food plant of the cinnabar moth. In order to mitigate this, further recommendations are provided in **Section 6.2.1**.

5.3.2 Birds

The bramble scrub on site provides opportunities for foraging and nesting birds. As nesting birds could be injured during the removal of this habitat, further recommendations are provided in **Section 6.2.2**.

5.3.3 Bats

The data search revealed 15 field records of bats and 20 records of roosts within 2km of the site, from six different species. The site also falls within the bat alert zone. The nearest record was 745m from the site, and the nearest roost is 662m away from the site, however bats could be utilising the site for foraging and commuting purposes. Obstructive light from the development has potential to disturb these bats, as such, further recommendations regarding conte bats are provided in **Section 6.2.3**.

5.3.5 Other Notable Species

The bramble scrub provides moderate nesting and hibernating opportunities for hedgehogs. Removal of this habitat may reduce the amount of nesting habitat available locally to hedgehogs. Hedgehogs would also be killed or injured during this process, as such further recommendations are provided in **Section 6.2.5**.

5.3.6 Invasive Species

Rockspray cotoneaster is a Schedule 9 (WCA, as amended) species. Although the species was not identified directly on site, there is a risk of transporting and distributing this species during development. As such, the following guidance should be followed (see **Section 6.2.6**).



6 Recommendations

6.1 Habitats

- 6.1.1 The Lower Jane Well LWS is deemed to be vulnerable to adverse impacts from the proposed development, as such, Kirklees council should be consulted.
- 6.1.2 The proposed works provide an opportunity to institute enhancement for biodiversity through native plant species planting and the addition of faunal boxes. A landscaping plan should be devised which incorporates, as far as practicable, native species with known benefits to wildlife common in the area.
- 6.1.3 Biodiversity Enhancement Plan: A Biodiversity Enhancement Plan (BEP) must be designed pre-construction to be implemented post construction during the landscaping phase of the development. This would be performed alongside the Biometric 3.1 Calculation that is required by all developments to demonstrate a biodiversity net gain of at least 10% post development. The biodiversity enhancement plan will provide opportunities for local wildlife and aim to retain or enhance LBAP priority habitats, to ensure the development does not have a significant detrimental impact on local or national wildlife populations.

6.2 Protected and Notable Species

6.2.1 Invertebrates

Native scrub and wildflower planting is recommended to mitigate for the loss of habitat and floral variety which will affect many invertebrate species noted on site, and species which may forage on invertebrates such as bats and birds. A BEP (**See Section 6.1.5**) is suggested which would provide further details on such recommendations

6.2.2 Birds

The bramble scrub on site provides nesting potential for breeding bird species. In the UK, the key breeding period for birds is from 1st February until 31st August (depending on species and behaviour). A preconstruction site walkover no more than 24 hours prior to any vegetation removal is required, and if removal occurs outside of the breeding bird period and birds are found, the removal must cease immediately, and a suitably competent ecologist contacted.



6.2.3 Bats

Artificial light is known to deter bats from entering lit areas. Therefore, the development must incorporate a wildlife sensitive lighting scheme. In particular, obtrusive light is to be prevented from reaching potential foraging and commuting routes, both from new exterior and interior lights. Guidance published by the Institution of Lighting Professionals (2018) is to be followed when designing the lighting scheme for the development.

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.

6.2.4 Badgers

A Construction Environment Management Plan (CEMP) is recommended, relating to badgers.

To permit safe badger passage and usage of the site, any excavations created during the development stage must be covered at night or appropriate escape routes implemented. Planks are to be placed at a 45-degree angle for badgers to escape safely.



6.2.5 Other notable species

The bramble scrub onsite provides nesting opportunities for hedgehogs, which are legally protected during hibernation and while raising their young. Any removal of this habitat must take place under the supervision of an Ecological Clerk of Works (ECoW). Should any hedgehogs be found, the ECoW will remove them to a place of safety with habitat suitable for this species. As nesting habitat will be removed from site, mitigation in the form of alternate nesting provision must be provided.

The construction of any walls or fences included within the proposed development will reduce the movements of hedgehogs locally. This through creating localised habitat fragmentation for the species. Hedgehog holes measuring a minimum of 13cm x 13cm must be installed within any newly created walls or fences. Hedgerows permitting hedgehog commuting can be used alternatively to artificial barriers within the development.

6.2.6 Invasive species

Before construction begins it must be ensured that the rockspray cotoneaster present directly adjacent to the south of the site is cut back to the site boundary, so that it does not hang over onto site. If possible, the land owner of the garden containing rockspray cotoneaster should be contacted and asked to remove the cotoneaster, as they are under a legal obligation to prevent its spread.

To prevent any invasive species being planted within the developed site, all soft planting should be of native provenance.



7 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, (2020) *The UK Habitat Classification, Habitat Definitions Version 1.1*

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>

Magic Map Application (2016) *Magic.defra.gov.uk*. Available at:

<http://magic.defra.gov.uk/MagicMap.aspx>

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

Surveys and mitigation plans: protected species - Detailed guidance (2015) *Gov.uk*. Available at:

<https://www.gov.uk/guidance/surveys-and-mitigation-plans-protected-species>

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>

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

Bats:

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

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Collins, J. (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd edition. Bat Conservation Trust, London.

Mitchell-Jones, A.J. & McLeish, A.P. (2012) *The Bat Workers' Manual*. Pelagic Publishing, Exeter.

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

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.

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>

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

The Hedgerow Regulations 1997 (No. 1160). Available at:
<http://www.legislation.gov.uk/uksi/1997/1160/contents/made>



Appendices

Appendix 1: UKHab Habitat Map



UKHabs Habitat Map: Land off Carr Hill Road

Key:

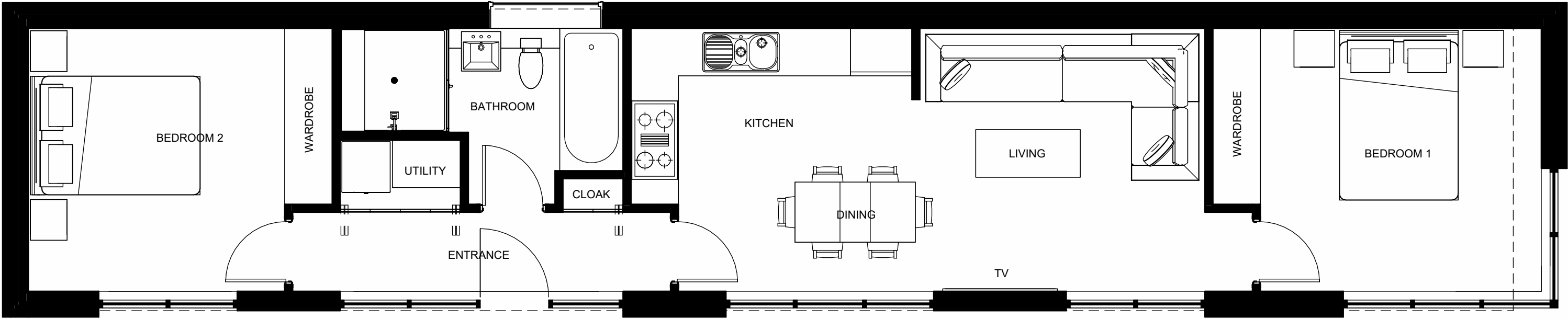
-  Bramble scrub - h3d
-  Other neutral grassland - g3c
Tall herb (16)
-  Buildings - u1b5
-  Developed land; sealed surface - u1b
-  Boundary

0 10 20 m

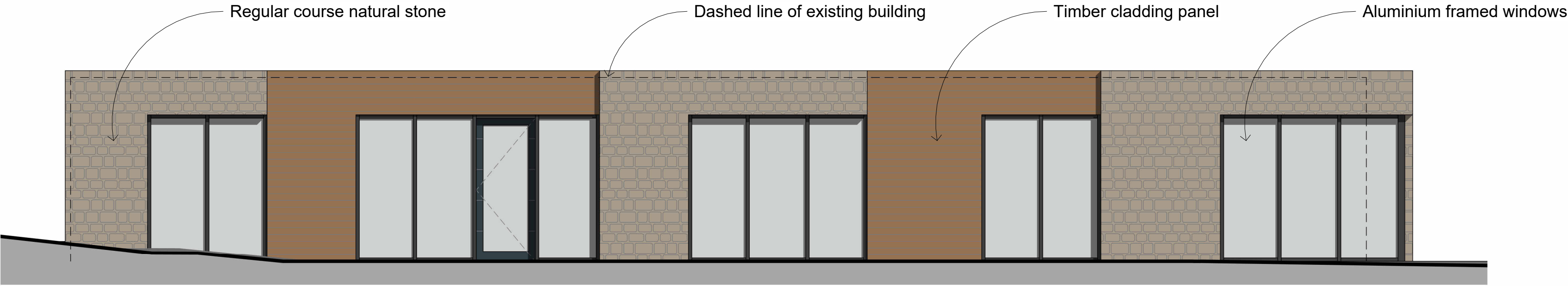



Appendix 2: Proposed Development Plan

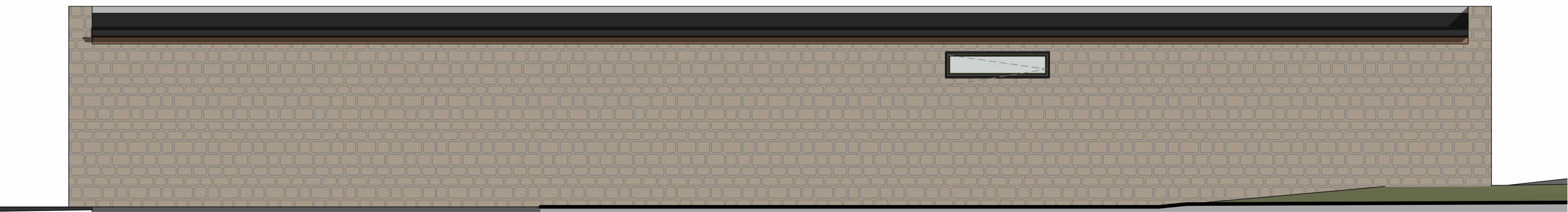




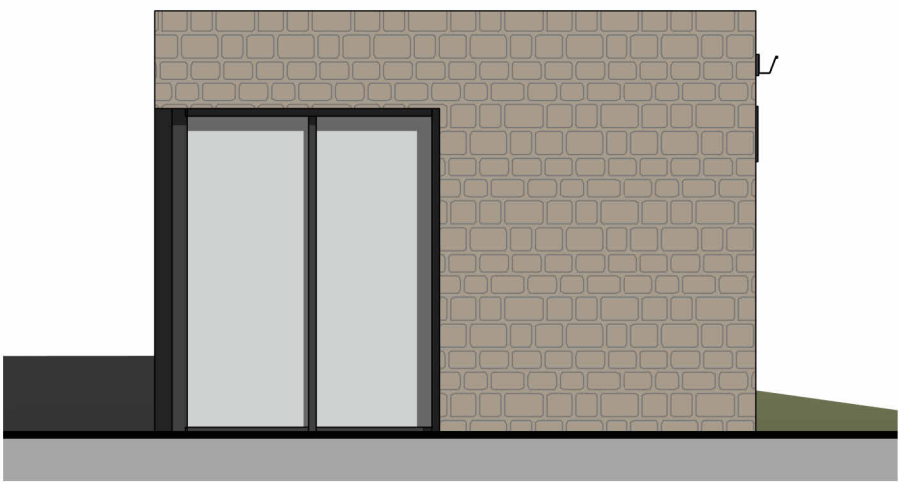
Prop. Ground Floor
1 : 50



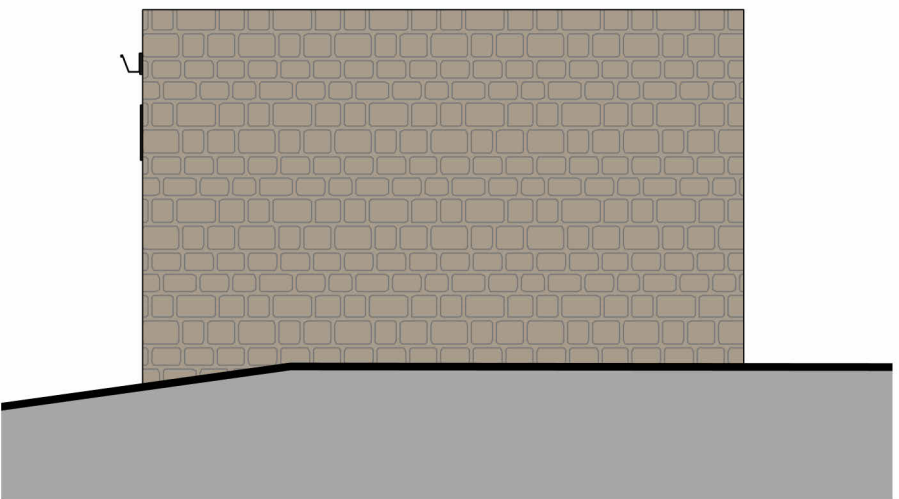
Prop. Front Elevation
1 : 50



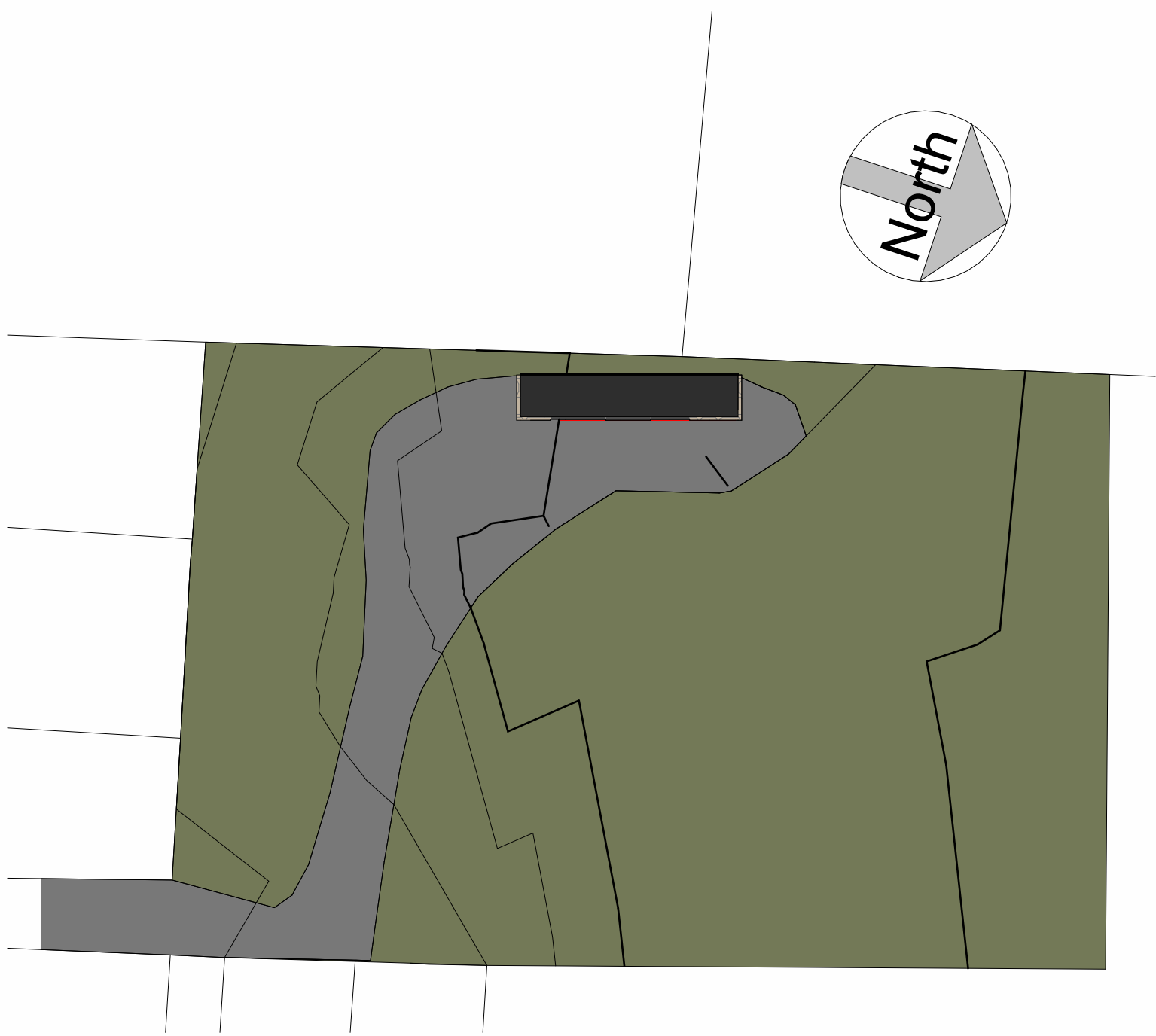
Prop. Rear Elevation
1 : 50



Prop. Side Elevation A
1 : 50



Prop. Side Elevation B
1 : 50



Prop. Site
1 : 500



Proposed 3D view

rev	description	drawn	auth	date
DO NOT SCALE OFF THIS DRAWING				
ACUMEN Designers & Architects acumenarchitects.co.uk01484 546 000 Headrow House, Old Leeds Road, Huddersfield, Huddersfield HD1 1SG				
Client MR G PHILLIPS				
Project STABLES AT LAND IN CUMBERWORTH				
Project No 2799	Drawing No (100)02	Rev		
Description PROPOSED PLANS, ELEVATIONS & 3D VIEW				
Scale As indicated @ A1	Date Drawn AUG 22	Drawn By HB	Authorised By JF	
Purpose of Issue Planning ☒ Building Regs ☐ Tender ☐ Construction ☐ Comment ☐ Info ☐				

Appendix 3: Photographic Evidence



Photo 1: An overall view of the north of the site. Other neutral grassland present.



Photo 2: The stable block (Building 1) present to the northeast of the site. The tree picture is not within the site boundary.



Photo 3: The store (Building 2) present to the northeast of the site. Corroded door visible, tall herb nettle surrounding the store also visible.



Photo 4: Other neutral grassland present to the south of the site.



Photo 5: Tarmac hard standing present to the south of the site. Rockspray cotoneaster present adjacent to site visible.



Photo 6: Bramble scrub present to the east of the site, behind Buildings 1 and 2.





Photo 7: The interior of Building 2, no PRFs visible.



Photo 8: The interior of Building 1. Small cracks in the wood visible.



Photo 9: Another view of the rockspray cotoneaster hanging onto site.



Appendix 4: Bat Survey Calendar

Figure 1: Survey timings calendar (taken from BCT: Bat surveys for professional Ecologists, Good Practice Guidelines; 3rd Edition).

Survey type	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Preliminary ecological appraisal - fieldwork												
Preliminary roost assessment - structures ^a												
Emergence/re-entry survey for maternity or summer roosts ^b												
Emergence/re-entry survey for transitional roosts ^b												
Emergence survey for mating roosts ^b												
Hibernation survey - structures ^a												
Preliminary ground level roost assessment - trees ^d												
Potential roost feature (PRF) inspection survey - trees												
Ground level bat activity survey - transects and automated/static												
Pre-, during and post-hibernation - automated/static bat activity survey												
Swarming survey												
Back-tracking survey												
Trapping survey ^e												
Radio tagging and tracking survey ^e												

= 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 surveys are not acceptable in Scotland.

^a Not including trees



Appendix 5: 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 6: 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.

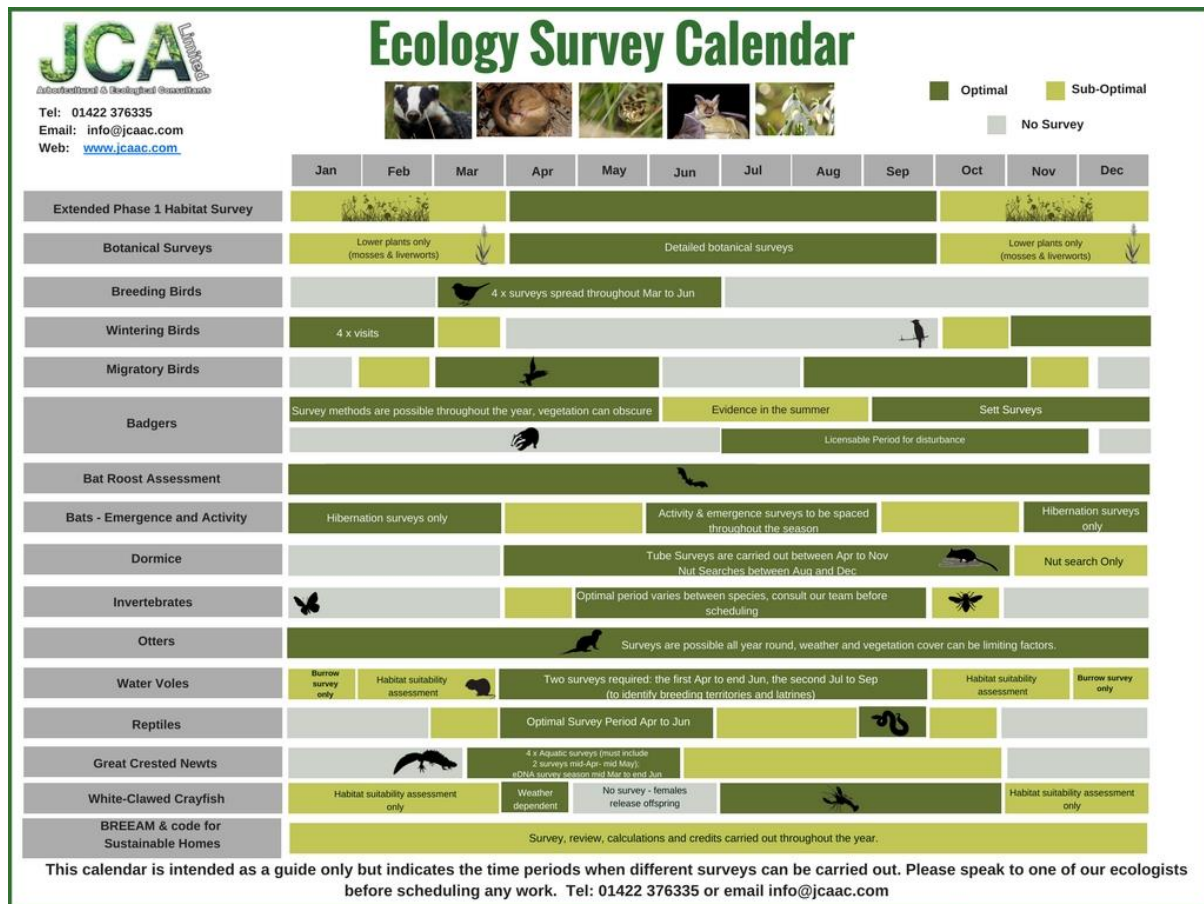
The following habitat types are protected under UK Law:

- 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 7: Survey Calendar

Figure 2: Survey calendar for protected species and habitat surveys.



Appendix 8: 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, a Natural England Level 2 bat survey class licence (and the Scottish and Welsh equivalents) and a CSCS card.

Audrey Bourdais Paull, Graduate Ecologist

BSc (Hons) Zoology

Audrey graduated in 2020 in Zoology at the University of Leeds and joined JCA in 2022. Audrey volunteered for many years with various wildlife conservation and rescue organisations, as well as working on various projects to develop a variety of field survey techniques, report writing and data analysis skills. Audrey is looking forward to developing her ecology consultancy experience with JCA, as well as combining her previous dog training and detection work with ecology to expand into ecology detection dogs..

Helen Chambers, Graduate Ecologist

MSc by Research in Environmental Studies, BSc (Hons) Wildlife Conservation with Zoo Biology

Helen joined JCA in 2022 after completing her master's by research degree at the University of Salford. In 2019 Helen graduated with First Class Honours BSc Wildlife Conservation with Zoo Biology, where she gained theoretical knowledge of, and practical experience with, wildlife monitoring and wildlife legislation. She is hoping to further develop her ecological surveying and report writing skills at JCA.

Amy Donaldson, Graduate Ecologist

BSc (Hons) Zoology (International).

Amy joined JCA in 2022 after graduating with a First Class Honours from the University of Leeds. Amy volunteered for numerous years with the Northumberland wildlife trust to develop a variety of field surveying skills. In 2020 Amy began bat surveying, where she gained practical knowledge and experience in the field. Amy is looking forward to developing her report writing and data analysis skills with JCA, and is working towards her Level 1 bat survey class licence.



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

.....
Amy Donaldson

27/10/22

Reviewed by

.....
01/11/22

Reviewed and authorised by

.....
Adam West *ACIEEM*

02/11/2022



For and on behalf of **JCA Ltd**

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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- 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

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

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

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

Advice for Engineers, Loss Adjusters and Insurers

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

Advice for Local Authorities and Social Housing

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

Tree Advice for the Legal Profession

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

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

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



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