PRELIMINARY ECOLOGICAL APPRAISAL

at

Forget Me Not Childrens Hospice
Russell House
Huddersfield
West Yorkshire
HD2 1NH

Client:
Brightline Design

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JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

Version	**Desktop Survey Completed:**		**Site Surveyed:**		**Report Completed:**		**Reviewed:**	
	Date	Name	Date	Name	Date	Name	Date	Name
Planning	03/01/24	Eleanor Clark	03/01/24	Eleanor Clark Rick Westwood	05/01/24	Eleanor Clark	05/01/24	Alex Donnovan
							07/01/24	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 **Brightline Design** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Forget Me Not Childrens Hospice, Russell House**. The site is located at Ordnance Survey (OS) National Grid Reference SE 15002 20040 with nearby postcode HD2 1NH.

A desk study and field survey were undertaken 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	None	N/A	N/A	N/A
Non-statutorily protected	None	N/A	N/A	N/A
S41 habitat	None	N/A	N/A	N/A
Other habitats	Moderate	Disturbance to the ancient woodland west of the site during the construction phase of the development.	None	An Ecological Design Strategy (EDS) is to be produced addressing the mitigation and enhancement on site post development. A Construction and Environment Management Plan (CEMP) is required to outline the prevention of adverse impacts to the ancient woodland.
Protected species				
Flora (WCA Sch 8, CHSR Sch 5)	Low	Disturbance of bluebells in the adjacent woodland during the construction phase of the development.	None	An Ecological Design Strategy (EDS) is to be produced addressing the mitigation and enhancement on site post development.
Invertebrates	None	N/A	N/A	N/A
White-clawed crayfish	None	N/A	N/A	N/A
Fish	None	N/A	N/A	N/A
Great crested newt	Moderate	Removal of vegetation on site has the potential to disturb, injure, or kill common amphibians.	None	A precautionary approach should be adopted to include an Ecological Clerk of Works (ECoW).

Reptiles	Moderate	Removal of vegetation on site has the potential to disturb, injure, or kill reptiles.	None	A precautionary approach should be adopted to include an Ecological Clerk of Works (ECoW).
Birds	Moderate	The removal of scrub onsite has the potential to cause disturbance to breeding birds, resulting in a breach of legislation.	None	A preconstruction site walkover is required prior to any vegetation or building 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	Moderate	Lighting in hedgerows and woodland edge habitats used by foraging and commuting bats.	None	No night working and no additional lighting. Any new lighting to be approved by a suitably experienced ecologist and to follow guidance by the Institution of Lighting Professionals (08/23).
Badgers	Moderate	Animals becoming trapped in excavation on site.	None.	Excavations to be covered at night or a means of escape provided.
Otters	None	N/A	N/A	N/A
Water voles	None	N/A	N/A	N/A
Beaver	None	N/A	N/A	N/A
Other Species e.g. S41 species	Moderate	Prevention of the free movement of hedgehogs.	None	The boundary treatments must contain holes at ground level to allow

				hedgehogs to pass through the site.
Invasive Species (WCA Sch 9) Injurious Weeds (Weeds Act, 1959)				
Invasive species	None	N/A	N/A	N/A
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 – Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019				

Contents

1. Introduction

1.1 Background

1.1.1 In December 2023, JCA Limited was instructed by **Brightline Design** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Forget Me Not Childrens Hospice**, **Russell House** 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 15002 20040, with nearby postcode HD2 1NH. The site is bordered to the north by Fell Greave Road, hedgerows, and a school. Forget Me Not Childrens Hospice borders the site to the east and south. Upper Fell Greave Woods, an ancient, replanted woodland, is located on the western boundary of the site.

1.2.2 The scheme is the extension of the car park for Forget Me Not Children's Hospice.

1.3 Previous Studies

1.3.1 An Ecological Assessment was completed in April 2010 by Brooks Ecological (Report ref: BE-R-0623-01) for the construction of the children's hospice south of the site.

1.4 Aims and Objectives

1.4.1 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 UK Hab 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 UK Hab Habitat Map (**Appendix 1**). This report and the maps are supported by photographs (**Appendix 3**) and information regarding current legislation (**Appendix 5**).

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. In addition, international sites designated for bats within 30km of the site were searched for. 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, the Calderdale Biodiversity Action Plan (CBAP) and Kirklees Biodiversity Action Plan (KBAP) to assess national and regional habitat and species status.

2.2 Field Survey

2.2.1 A UK Hab survey of the site was conducted on 03/01/2024. 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 Vegetation and Habitat Survey (The UK Habitat Classification, Habitat Definitions Version 2.0, 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 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* habitat within 30m 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 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.

2.3.2 The optimum time of year for completing the survey is between April and September, as many plant species have a seasonal expression in spring and summer only. The survey was undertaken on 03/01/2024.

2.3.3 The timing of the survey was not considered to be a significant constraint on the validity of the survey, as the habitats present were identifiable and a robust assessment of their potential to support protected species could be made.

2.3.4 The weather on the day of the survey was cool, cloudy with scattered showers. There was heavy rain in the days leading up to the survey and is considered sufficient to have obscure any field signs which may have been present. Therefore, a precautionary approach has been applied.

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. Desk Study Results

3.1 Statutory Designated Sites

3.1.1 The MAGIC website revealed no internationally designated sites within 2km of the site. The closest internationally designated site is the South Pennine Moors Special Area of Conservation (SAC), located approximately 12,307m west of the site.

3.1.2 The MAGIC website revealed no nationally designated sites within 2km of the site. The closest nationally designated site is Dalton Bank Local Nature Reserve (LNR), location approximately 2,444m southeast of the site.

3.2 Non-statutory Designated Sites

3.2.1 Records received from WYES revealed three 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) from Site	Reasons for Designation
Bradley Park Woods LWS	986	Bradley Park Golf Course with pockets of broadleaved plantation, small waterbodies, strip of ancient semi-natural woodland and a large open area of semi-improved neutral grassland. Two small areas of woodland within the site are designated for their bluebell coverage. Trees in these areas are mature with a good amount of standing and fallen deadwood.
Sir John Ramsden Canal LWS	1536	Designated for the presence of standing water and its value for appreciation of nature.
Grimescar Wood LWS	1800	Replanted ancient woodland designated for its dense bluebell cover.
Key: LWS – Local Wildlife Site		

3.3 Section 41 of the NERC Act 2006 Priority Habitat Inventory

3.3.1 The MAGIC website revealed no priority habitats within the site.

3.4 Protected and Notable Species

3.4.1 European Protected Species (EPS) Licence Applications

The MAGIC website revealed one EPS licence application within 2km of the site;

- A licence granted on 26/01/2016 and ending on 26/01/2021 to allow for the impact on a breeding site, damage of a resting place and destruction of a breeding site used by common pipistrelles. Licence reference: 2015-18632-EPS-MIT.

3.4.2 Records of Protected and Notable Species

3.4.3 Flora

Three records of bluebell *Hyacinthoides non-scripta*, a Calderdale BAP, Kirklees BAP and WCA Schedule 8 species, was received from WYES. The most recent record is from 2018, located 1802m northwest of the site. The closest record is from 2015, located 399m east of the site.

3.4.4 Invertebrates (including white-clawed crayfish)

No records of protected of notable invertebrate species were received from WYES.

3.4.5 Fish

No records of protected or notable fish species were received from WYES.

3.4.6 Amphibians

One record of common frog *Rana temporaria* and one record of common toad *Bufo bufo* was received from WYES, both being CBAP and WYBAP species. The common toad is also listed under KBAP. Both records are from 2018, located approximately 1392m northwest of the site.

3.4.7 Reptiles

No records of reptiles were received from WYES.

3.4.8 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)
Apus apus	Swift	WYBAP	2019	2	1612
Carduelis carduelis	Goldfinch	CBAP KBAP	2019	9	673
Columba oenas	Stock dove	CBAP	2019	3	1612
Linaria cannabina	Linnet	S41 CBAP	2019	3	1480
Motacilla cinerea	Grey wagtail	CBAP	2018	1	1519
Motacilla flava	Yellow wagtail	S41 CBAP WYBAP	2019	1	1728
Passer domesticus	House sparrow	S41 CBAP KBAP WYBAP	2019	10	725
Passer montanus	Tree sparrow	S41 CBAP WYBAP	2019	1	1682
Phylloscopus trochilus	Willow warbler	CBAP	2018	1	1160
Prunella modularis	Dunnock	S41 CBAP KBAP WYBAP	2019	10	592
Pyrrhula pyrrhula	Bullfinch	S41 KBAP WYBAP	2018	2	603
Riparia riparia	Sand martin	CBAP	2018	1	1930
Sturnus vulgaris	Starling	S41 CBAP WYBAP	2019	5	1612
Turdus philomelos	Song thrush	S41 CBAP KBAP WYBAP	2019	9	527
Turdus viscivorus	Mistle thrush	CBAP	2019	2	1828
Tyto alba	Barn owl	WCA CBAP WYBAP	2021	1	1868

Key:
WCA: Schedule 1 of the Wildlife & Countryside Act 1981 (as amended)
S41: Section 41 of the NERC Act 2006
CBAP: Calderdale Biodiversity Action Plan

KBAP: Kirklees Biodiversity Action Plan
WYBAP: West Yorkshire Priority Species List

3.4.9 Bats

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
Myotis	Unidentified *Myotis* spp	EPS WCA	2019	13	610
Myotis nattereri	Natterer's	EPS WCA KBAP WYBAP	2018	1	1959
Nyctalus	Unidentified *Nyctalus* spp	EPS WCA	2019	15	1077
Nyctalus leisleri	Leisler's bat	EPS WCA CBAP KBAP WYBAP	2017	2	610
Nyctalus noctula	Noctule bat	EPS WCA S41 CBAP KBAP WYBAP	2022	34	610
Pipistrellus	Pipistrelle bat	EPS WCA	2021	2	1411
Pipistrellus pipistrellus	Common pipistrelle	EPS WCA CBAP KBAP WYBAP	2019	60	440
Pipistrellus pygmaeus	Soprano pipistrelle	EPS WCA S41 CBAP KBAP	2019	17	440

		WYBAP			
Plecotus auritus	Brown long-eared bat	EPS WCA S41 CBAP KBAP WYBAP	2018	9	666
Vespertilionidae	Unidentified bat	EPS WCA	2018	1	1942

Key:
EPS: European Protected Species: Species listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
WCA: Schedule 5 & 6 of the Wildlife & Countryside Act 1981 (as amended)
S41: Section 41 of the NERC Act 2006
CBAP: Calderdale Biodiversity Action Plan
KBAP: Kirklees Biodiversity Action Plan
WYBAP: West Yorkshire Priority Species List

3.4.10 Bat Roosts

The following records were received from WYES.

Table 5: Bat Records Received from WYES.

Scientific Name	**Common Name**	**Roost type**	**Date**	**Distance from Site (m)**
Nyctalus noctula	Noctule bat	Hibernation	2012	262
Pipistrellus	Pipistrelle bat	Maternity	2021	752
Pipistrellus pipistrellus	Common pipistrelle	Two adults	2017	351
Pipistrellus pipistrellus	Common pipistrelle	Five adults	2018	1941
Pipistrellus pipistrellus	Common pipistrelle	Two adults	2018	1944
Pipistrellus pipistrellus	Common pipistrelle	15 adults	2018	1928
Pipistrellus pipistrellus	Common pipistrelle	Single adult	2018	1919
Pipistrellus pipistrellus	Common pipistrelle	6 adults	2018	1918
Pipistrellus pipistrellus	Common pipistrelle	Single adults	2015	1908

Pipistrellus pipistrellus	Common pipistrelle	Single adult	2015	907
Pipistrellus pipistrellus	Common pipistrelle	Single adult	2017	1619
Pipistrellus pipistrellus	Common pipistrelle	Three adults	2018	1619
Pipistrellus pipistrellus	Common pipistrelle	Single adult	2013	360
Vespertilionidae	Unidentified bat	One juvenile & three adults	2007	1948
Vespertilionidae	Unidentified bat	Not recorded	2001	1868
Vespertilionidae	Unidentified bat	Single adult	2003	773
Vespertilionidae	Unidentified bat	52 adults	2005	658
Vespertilionidae	Unidentified bat	Three adults	2005	809
Vespertilionidae	Unidentified bat	Not recorded	2005	426
Vespertilionidae	Unidentified bat	Not recorded	2004	1986
Vespertilionidae	Unidentified bat	Single adult	2004	1445
Vespertilionidae	Unidentified bat	Tree roost	2012	1644

3.4.11 Badgers

The site falls within the area of increased probability of badger activity, however there are no badger records within 200m of the site. The nearest badger sett is greater than 1500m from the site.

3.4.12 Otters

No records of otter were received from WYES.

3.4.13 Water Voles

No records of water vole were received from WYES.

3.4.14 Beaver

No records of beaver were received from WYES.

3.4.15 Other Notable Species

No records of other notable species, including hedgehog, were received from WYES.

3.4.16 Invasive Species

Records of Monbretia *Crocosmia* x *crocosmiiflora*, Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera*, variegated yellow archangel *Lamiastrum galeobdolon* subsp. *argentatum*, and rhododendron *Rhododendron ponticum*, all species listed on WCA Schedule 9. The most recent record is of rhododendron from 2018, located approximately 700m from the site. The closest record is of Himalayan balsam from 2015, located approximately 538m from the site.

4. Field Survey Results

4.1 Habitats

4.1.1 g3c - Other neutral grassland, 510 bare ground

Other neutral grassland is located on a steep slope between the area of modified grassland and the car park west of the site. The sward height was varied at the time of the survey. A bare ground footpath allowing access the modified grassland playground is present on the northern boundary of the grassland.

The grassland is comprised of nettle *Urtica dioica,* creeping buttercup *Ranunculus repens,* rush *Juncus sp.,* meadow buttercup *Ranunculus acris,* bitter dock *Rumex obtusifolious,* dandelion *Taraxacum officinale,* ribwort plantain *Plantago lanceolata,* bramble *Rubus fruticosus,* and cock's-foot *Dactylis glomerata*.

4.1.2 g4 – modified grassland, 14 scattered rush, 32 scattered trees, 510 bare ground, 824 adventure playground

Modified grassland dominates the site. The area has previously been used as a playground, however at the time of the survey it appeared to not be in use due to the presence of piles of bricks, and piles of wood from old playground equipment. The grassland is wet with rushes present in the southeast corner of the grassland. Five planted oak *Quercus* sp. trees are present in the playground and a large area of bare ground is present at its centre. Young self-set ash is present on the western boundary of the site, along with a semi-mature goat willow.

The grassland is comprised of bramble, nettle, creeping buttercup, rush, ribwort plantain, cock's-foot, ragwort *Jacobaea vulgaris,* wood avens *Geum urbanum,* yarrow *Achillea millefolium,* cow parsley *Anthriscus sylvestris,* cleavers *Galium aparine,* common hogweed *Heracleum sphondylium*, rose species *Rosa sp.*, blackthorn *Prunus spinosa,* sycamore sapling *Acer pseudoplatanus,* salad burnet *Sanguisorba minor,* and orange hawkbit *Pilosella aurantiaca.*

4.1.3 h3d – bramble scrub

Dense, low-lying bramble scrub is located between the ancient woodland off site to the west and the other neutral grassland present on site.

4.1.4 h3h – mixed scrub, 202 young trees – self-set, 847 introduced shrub

A thin strip of mixed scrub is located south and east of the fence bordering the modified grassland playground. Young self-set oak and ash are present within the scrub. The scrub is comprised of redclaws *Escallonia rubra*, David's viburnum *Viburnum davidii*, quince *Cydonia oblonga*, and hawthorn *Crataegus monogyna.*

4.1.5 u1e – built liner feature

A fence is present along the boundary of the modified grassland playground.

4.2 Protected and Notable Species

4.2.1 Flora

No signs of bluebell or other protected and notable plant species were identified on site. The habitats on site are not typical of those favoured by bluebell, however, the site is bordered by replanted ancient woodland to the west. Bluebells are an ancient woodland indicator and therefore may be present within the woodland.

4.2.2 Invertebrates (including white-clawed crayfish)

No records of protected or notable species were received from WYES. The habitats present on site are common and widespread, therefore, are not likely to support important assemblages of invertebrates. As such, invertebrates will not be mentioned further in this report.

4.2.3 Fish

No records of fish were received from WYES. There are no habitats on site or adjacent to the site suitable for supporting fish. As such, fish will not be mentioned further in the report.

4.2.4 Amphibians

Records of common toad and common frog were received from WYES. The other neutral grassland and scrub habitats are considered suitable terrestrial habitats for common amphibians and great crested newt. The piles of wood on site have the potential to provide hibernacula for amphibians. There is one pond present 442m west of the site. The pond is well connected to the site through woodland, grassland, hedgerows, and lines of tree. The ancient woodland directly bordering the site to the west is also considered suitable terrestrial habitat for amphibians.

4.2.5 Reptiles

No records of reptiles were received from WYES. The other neutral grassland and scrub present on site have the potential to support foraging reptiles. The on-site scrub and off-site woodland have the potential to support sheltering reptiles. The piles of wood on site also provide sheltering opportunities for reptiles.

4.2.6 Birds

The bramble scrub, mixed scrub and trees on site have the potential to support foraging and nesting birds.

4.2.7 Bats

There are no buildings and trees on site considered suitable for roosting bats. However, the site is directly bordered by ancient woodland to the east which could provide roosting opportunities in the form of mature trees. The woodland edge and associated scrub on site are considered suitable for foraging and commuting bats.

4.2.8 Badgers

No records of badger were received from WYES. The modified grassland on site provides suitable foraging habitat for badgers. The ancient woodland west of the site provides suitable habitats for badgers. Badgers are a highly mobile species, as it is considered that badgers could use the site intermittently for foraging and commuting.

4.2.9 Otters

No records of otter were received from WYES. There are no habitats on site, or adjacent to the site suitable for supporting otter. As such, otter will not be mentioned further in this report.

4.2.10 Water Voles

No records of water vole were received from WYES. There are no habitats on site, or adjacent to the site suitable for supporting water vole. As such, water vole will not be mentioned further in this report.

4.2.11 Beaver

No records of beaver were received from WYES. There are no habitats on site, or adjacent to the site suitable for supporting beaver. As such, beaver will not be mentioned further in this report.

4.2.12 Other Notable Species

No records of other notable species were received from WYES. However, the habitats on site are suitable for foraging and sheltering hedgehogs. Hedgehogs can travel several kilometres in a night and therefore the site may be used by foraging and commuting hedgehogs.

4.2.13 Invasive Species

No invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 were identified during the site survey.

5. Assessment

5.1 Designated Sites

5.1.1 Statutory designated sites

There are no internationally or nationally designated sites within 2km of the site. Due to the small scale of the development and the distance of designated sites from the site itself, sites under these designations are not considered vulnerable to adverse impacts from the proposed scheme.

5.1.2 Non-statutory designated sites

Three non-statutory designated sites are located within 2km of the site, with the closest being Bradley Park Woods LWS located 986m northeast of the site. There is some connectivity between the site and the LWS in the form of residential gardens, hedgerows, trees, and grassland. However, due to the small scale of the works and the distance between the LWS and the site, sites under this designation are not considered vulnerable to adverse impacts from the proposed scheme.

5.2 Habitats

5.2.1 The most valuable habitats for biodiversity within the development site boundary are scrub, other neutral grassland, and scattered trees. The proposed works will impact a small section of the other neutral grassland and mixed scrub, 9 young, scattered trees and the modified grassland through the construction of a carpark and access road.

5.2.2 The ancient woodland on the western boundary of the site may be impacted during the construction phase of the development and through it's intended use as a car park. As such, recommendations regarding the woodland have been made in Section 6.1.

5.2.3 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 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 Flora

There is the potential for bluebells to be present within the ancient woodland west of the site. Recommendations regarding the ancient woodland and potential for bluebells have been made in Section 6.1.

5.3.2 Amphibians

The provides suitable terrestrial habitat for amphibians. The clearance of vegetation and removal of piles of wood on site could lead to the killing or injury of amphibians. Recommendations regarding amphibians have been made in paragraph 6.2.1.

5.3.3 Reptiles

There is the potential for sheltering and basking reptiles on site within the grassland and scrub habitats on site as well as the piles of wood. Therefore, the clearance of vegetation and removal of wood piles could lead to the killing and injury of reptiles. Recommendations regarding reptiles have been made in paragraph 6.2.2.

5.3.4 Birds

The scrub and trees in site have the potential to support nesting and foraging birds. A small section of scrub and some trees are to be removed from the site. Destruction of an active bird's nest is an offence under the Wildlife and Countryside Act 1981. Recommendations regarding birds on site have been made in paragraph 6.2.3.

5.3.5 Bats

There are no buildings on site providing roosting opportunities on site. The trees on site are of negligible value to roosting bats. The scrub, other neutral grassland and woodland edge habitats offer suitable foraging and commuting habitats for bats. A small section of scrub and other neutral grassland is to be removed to facilitate the development. Recommendation regarding commuting and foraging bats will be made in paragraph 6.2.4.

5.3.6 Badgers

While no evidence of badgers was found on site, suitable foraging habitat is present on site. The site is also located within the area of increased probability of badger activity. Badgers may become entrapped in excavations during the

proposed development. To prevent this, recommendations have been made in paragraph 6.2.5.

5.3.7 Other Notable Species

The habitats on site are suitable for foraging, commuting and nesting hedgehogs. The proposed development will see the removal of modified grassland, other neutral grassland and scrub which could lead to hedgehogs being killed or injured. Recommendations regarding hedgehogs will be made in paragraph 6.2.6.

6. Recommendations

6.1 Habitats

6.1.1 A Construction and Environment Management Plan (CEMP) is recommended relating to the ancient woodland west of the site. This is to ensure that the woodland is not adversely impacted during the works.

6.1.2 It is advised that a buffer is created between the development and the ancient woodland bordering the site to the west. This area should be planted with native species to create an ecotone between the edge of the woodland and the car park. Specifications regarding the implementation of the buffer zone should be detailed within an Ecological Design Scheme (EDS).

6.1.3 On completion of works, the number of felled trees removed must be replaced with native species of local provenance on a three-for one-basis. Specifications regarding the implementation of the buffer zone should be detailed within the EDS.

6.1.4 The proposed works provide an opportunity to institute enhancement for biodiversity, such as the inclusion of native planting. A landscaping plan should be devised which incorporates, as far as practicable, native species with known benefits to wildlife common in the area.

6.2 Protected and Notable Species

6.2.1 Amphibians

It is advised that a precautionary approach is adopted to include the presence of an Ecological Clerk of Works (ECoW) during the construction phase of the development. The ECoW is to give a toolbox talk to onsite contractor to relay applicable legislation, signs of amphibians, and what to do should amphibians be encountered on site. Should an amphibian be found during the site clearance, the advising ecologist would move it to a place of safety.

6.2.2 Reptiles

It is advised that a precautionary approach is adopted to include the presence of an Ecological Clerk of Works (ECoW) during the construction phase of the development. The ECoW is to give a toolbox talk to onsite contractor to relay applicable legislation, signs of reptiles, and what to do should reptiles be

encountered on site. Should a reptile be found during the site clearance, the advising ecologist would move it to a place of safety.

6.2.3 Birds

The clearance of scrub and trees should take place between 1st September and 31st January to minimise the risk of destroying an active bird nest. If clearance within this time frame is not feasible and is to take place within bird nesting season, the vegetation must be surveyed for birds' nests by a suitably experienced ecologist. The survey must take place no more than 24 hours prior to clearance work beginning.

6.2.4 Bats

It is recommended that no night working is to take place and not additional lighting to be used at the site to avoid disturbance to commuting and foraging bats.

If it is necessary to install additional lighting, all lighting must consider wildlife and be in accordance with the ILP Guidance GN08/23 (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.

Lighting Scheme: The development will likely increase lighting levels. All lighting must consider wildlife and be in accordance with the ILP Guidance GN08/23. 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.

Artificial light is known to deter bats from entering lit areas. The development must incorporate a wildlife sensitive lighting scheme. 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 (08/23) 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.

6.2.5 Badgers

As badgers are a highly mobile species, precautions must be taken to avoid harm to badgers during the construction phase of the development. Any excavations are to be covered at night, when badgers are active to present them from becoming trapped. If excavations cannot be covered a means of escape, such as a plank placed from the bottom of the excavation to the rim at a 45 degree angle, must be provided.

6.2.6 Other Notable Species

Vegetation clearance must be carried out under the supervision of an ECoW. The ECoW will hand search any area where hedgehogs might be present before they are cleared. They will be captured by the ECoW and relocated to a safe place with suitable habitat. To prevent the free movement of hedgehogs from becoming obstructed, the boundary treatments of the proposed development must contain holes at ground level measuring 13 x 13cm to allow hedgehogs to pass through the site.

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.

Joint Nature Conservation Committee (JNCC), (2010) *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

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 gr squirrel
- Plants

UK Hab (2022) The UK Habitat Classification System. Available at: http:// https://ukhab.org/

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.

Bat Conservation Trust and Institute of Lighting Professionals (2023) Guidance Note 08/23: Bats and artificial lighting in the UK. ILP, Rugby

Collins, J. (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines. 4th 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

Biodiversity Metric Guidance:

STEPHEN PANKS[A], NICK WHITE[A], AMANDA NEWSOME[A], MUNGO NASH[A], JACK POTTER[A], MATT HEYDON[A], EDWARD MAYHEW[A], MARIA ALVAREZ[A], TRUDY RUSSELL[A], CLARE CASHON[A], FINN GODDARD[A], SARAH J. SCOTT[B], MAX HEAVER[C], SARAH H. SCOTT[C], JO TREWEEK[D], BILL BUTCHER[E] and DAVE STONE[A] (2022) *Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide*.

Natural England. A – Natural England, B – Environment Agency, C – Department for Environment, Food and Rural Affairs, D – Treweek Environmental Consultants Ltd, E – eCountability Ltd

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

Site name & address

Forget Me Not Children's Hospice
Russel House
Fell Greave Road
Huddersfield
HD2 1NH

Key

Site boundary

Primary habitats

- g3c - other neutral grassland
- g4 - modified grassland
- h3d - bramble scrub
- h3h - mixed scrub

Secondary codes

14 scattered rushes
32 scattered trees
202 yound trees - self-set
510 bare ground
824 adventure playground
847 introduced shrub

Scale 0 5 10 m

Site Forget Me Not Children's Hospice	Client Brightline Design
Project 21560a Preliminary Ecological Appraisal	Author EIC
Plan ref 21560a/EIC	Revision Planning

Appendix 2: Proposed Development Plan

North

Two permanent bat roosting feature constructed of concrete, woodcrete, ecostyrocrete or similar material shall be erected on poles to the north of the site. The bat roosting feature shall be installed in accordance with these details and retained thereafter. The bat boxes should face on a south-easterly to south-westerly aspect.

WOODLAND

Hedgerows to be planted round the perimeter of grasses areas

T-xii
84,98
85,23
T-xiii
84,91
T-08
83,52
FELL GREAVE ROA
85,91
85,66
85,58
2.4m High Metal Fence
83,16
A
MAST
83,37
83,13
83,00
TREE AND HABITAT PROTECTION AREA
TION OF EXISTING PATH
8000
81,60
Log Piles
GRASSED
83,06
EXISTING ROAD
85,23
84,40
TARMAC @ 1:15
TAINING WALL
1
2
3
4
5
40 gradient to ar park
A-100
GRASSED
Log Piles
81,39
RETAINING WALL
BLOCK PAVING
15 SPACES
TARMAC
BLOCK PAVING
Log Piles
EXISTING SLOPE AND PLANTING
E
82,41
GRASSED
1:40 gradient to car park and parking spaces
8
9
10
11
12
13
14
15
16
17
18
Log Piles
82,18
D
81,99
82,02
81,53
81,74
82,22
83,07
83,33
83,39
Existing 2.4m High Metal Fence
32
31
30
29
28
33
27

One permanent swift nesting feature constructed of concrete, woodcrete, ecostyrocrete or similar material shall be erected on pole. To the South of the new carpark. The swift nesting feature shall be installed in accordance with these details and shall be so retained thereafter.

BOUNDARY

Landscape Plan

Scale 1:100@A1

Appendix 3: Photographic Evidence

Photo 1: Other neutral grassland with mixed scrub.

Photo 2: Modified grassland with playground equipment.

Photo 3: Modified grassland with scattered rushes.

Photo 4: Piles of wood and scattered oak trees within modified grassland.

Photo 5: Goat willow present on western edge of modified grassland.

Photo 6: Modified grassland sharing boundary with ancient woodland to the west.

Photo 7: Bramble scrub and footpath on western boundary.

Appendix 4: 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 5: 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).

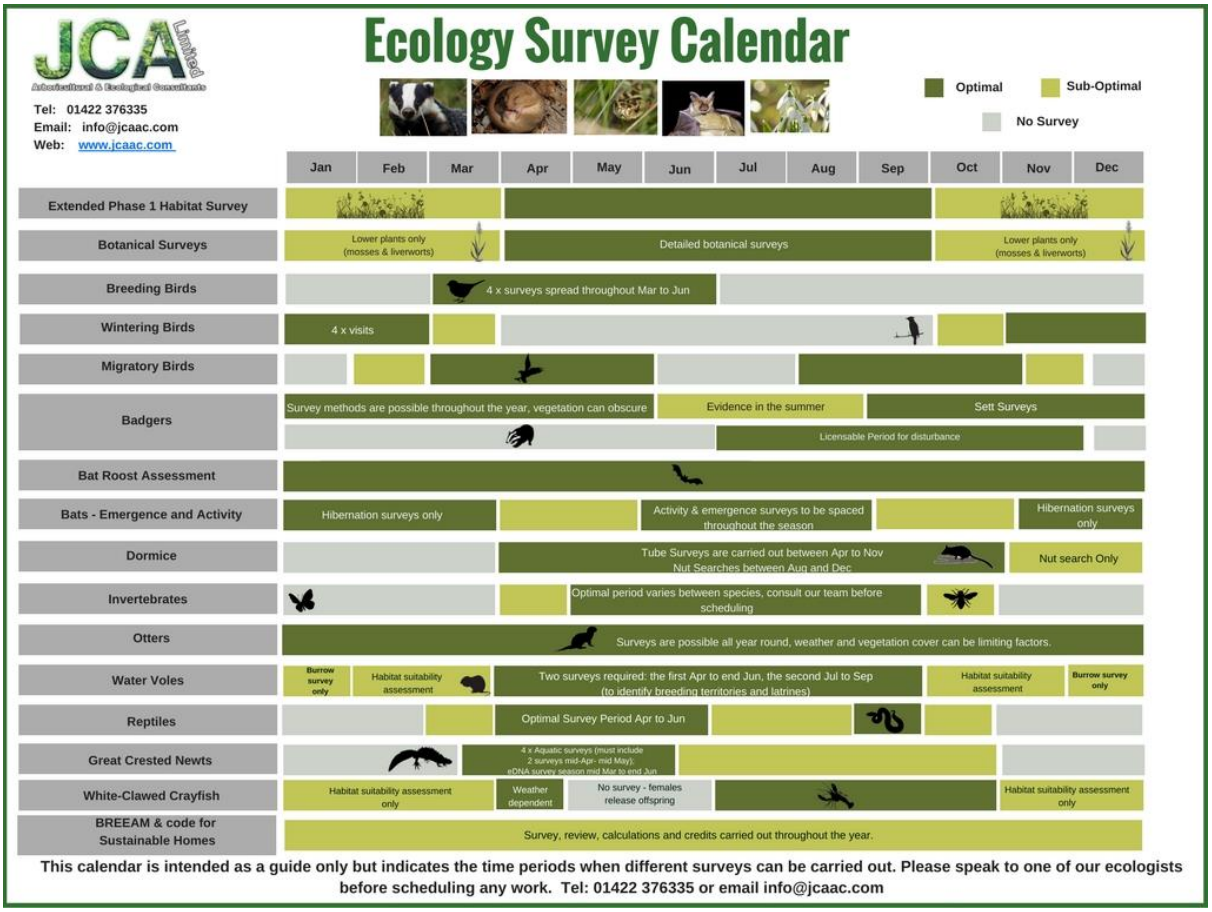
Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

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 6: Survey Calendar

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



Appendix 7: Author Qualifications

Adam West, Principal Ecologist

BSc (Hons) Animal and Wildlife Management, ACIEEM.

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 Batchelor'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.

Eleanor Clark, Assistant Ecologist

BSc (Hons) Biology, MSc Biodiversity, Ecology & Ecosystems, MRSB.

Eleanor gained her undergraduate degree in biology in 2017 from the University of Portsmouth before going on to complete an MSc in Biodiversity, Ecology & Ecosystems at the University of York in 2019. Eleanor has 3 years of experience in ecological consultancy with experience surveying for a range of protected species. Eleanor holds a Natural England Level 1 great crested newt licence and is working towards her bat licence.

Eleanor Clark, who holds an NE Level 1 great crested newt survey class licence (registration number 2022-10608-CL08-GCN)

Rick 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.

Alex Donovan, Graduate Ecologist

MBIOL, BSc Biology (Industrial).

Alex joined JCA in 2023 after graduating from the University of Leeds with a First Class Honours Integrated Master's degree in Biology. As part of his degree programme, Alex spent an industrial placement year working in the Uplands Research Department of the Game and Wildlife Conservation Trust, assisting on various ecological surveys and projects. Alex is a registered Trainee Bird Ringer, licensed through the BTO, and has previously conducted seasonal bat emergence and transect surveys.

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

.....

Eleanor Clark *BSc (Hons) MSc MRSB*

05/01/2023

Reviewed by

.....

Alex Donovan *MBIOL BSc (Industrial)*

05/01/2024

Approved by

.....

Adam West *BSc (Hons) ACIEEM*

07/01/2024

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

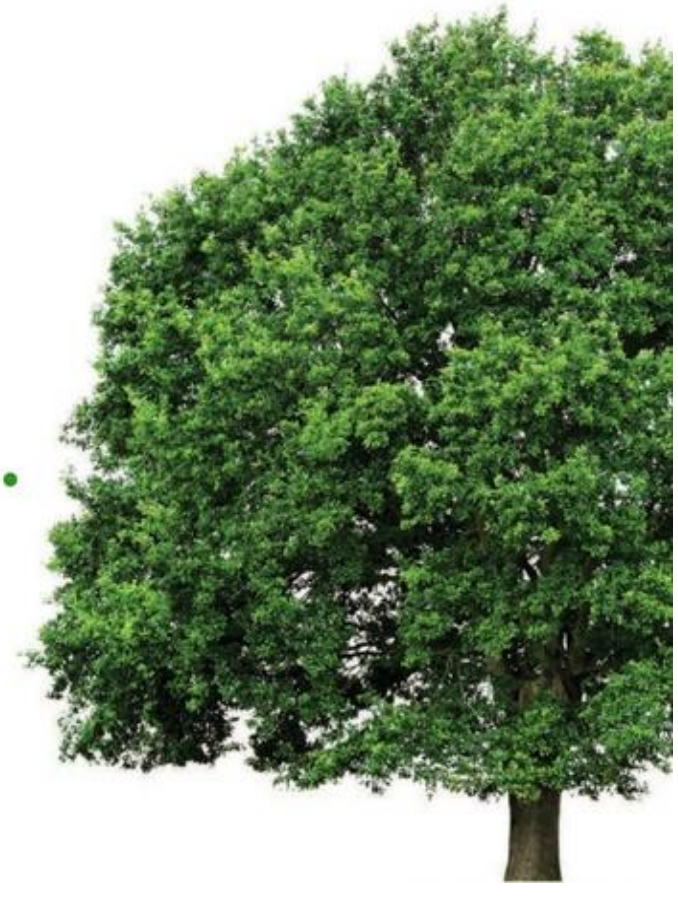
- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

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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