PRELIMINARY ECOLOGICAL APPRAISAL

at

Morrisons-Meltham
2 The Cobbles
Holmfirth
West Yorkshire
HD9 5QR

Client:
Peacock & Smith

Client Address:
53 King Street
Manchester
M2 4LQ

JCA Ref:
15676/AmB REV 1

Date of Report: 29/01/2020

JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

Version	**Desktop Survey Completed:**		**Site Surveyed:**		**Report Completed:**		**Checked:**	
	Date	Name	Date	Name	Date	Name	Date	Name
15676/AmB	2/1/2020	Amanda Beck	12/12/2019	Amanda Beck	3/1/2020	Amanda Beck	7/1/2020	Amy Reddick
15676/AmB REV 1	29/11/20	Amanda Beck	12/12/2019	Amanda Beck	29/1/2020	Joe Earnshaw	29/1/2020	Amy Reddick

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

A report is required for **Morrisons-Meltham, 2 The Cobbles** to assess the ecological value of the site by documenting the habitat types present and the site's potential for supporting rare and protected species. The development proposed on this site is to extend part of the current floor space of the store.

A desktop study was undertaken on the 2nd January 2020 in order to obtain any relevant ecological records that may be present within a 2km radius of the site, including protected and notable species records and nature conservation designations.

The site was surveyed on the 12th December 2019 by Amanda Beck Cert/HE in Field Ecology, Diploma in Field and Conservation Ecology, Qualifying CIEEM. A thorough site assessment was undertaken following the guidelines set out in the JNCC's *Handbook for Phase 1 habitat surveys*.

Recommendations:

- **Birds**: The trees to the side of the supermarket have potential to support nesting birds; any vegetation clearance must be conducted outside the bird breeding season if possible, which runs approximately from March to August. A nesting bird survey will be required prior to the removal of vegetation if this work is to be carried out during the bird breeding season. This survey must be carried out by a qualified ecologist. Surveys should be carried out **24 hours** prior to the vegetation being removed to check whether any birds are nesting and to ensure all young have fledged.

- Bird boxes must be installed onto the supermarket building to mitigate for the loss of bird nesting habitat.

- **A Biodiversity Enhancement Plan** should be designed pre-construction to be implemented post construction during the landscaping phase of the development. This plan will aim to ensure there is no net loss of habitats on site and to increase biodiversity and opportunities for wildlife on site, due to the result of the proposed development. The biodiversity enhancement plan will aim to provide opportunities for local wildlife to ensure the development does not have a significant detrimental impact on local or national wildlife populations. The Biodiversity Enhancement Plan should include:

© JCA Limited 2020

Contents

© JCA Limited 2020

© JCA Limited 2020

1. Introduction and Terms of Reference

1.1 Terms of Reference

1.1.1 I am instructed by **Peacock & Smith** to visit the site and prepare my findings in a report.

1.1.2 For this purpose, I have been supplied with a development map and brief details of the proposal.

1.2 Scope of the Report

1.2.1 This survey was carried out in accordance with the Joint Nature Conservation Committee's (JNCC's) *Handbook for Phase 1 habitat survey - A technique for environmental audit* (2010).

1.2.2 This report is compiled in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM's) *Guidelines for Ecological Report Writing* and to the British Standard Institution's *Biodiversity – Code of Practice for Planning and Development* (2018) by Amanda Beck Cert/HE in Field Ecology, Diploma in Field and Conservation Ecology, Qualifying CIEEM member.

1.2.3 The results and recommendations contained within this report are considered to be valid for a period of between 18 and 24 months. After this period, an update to the report and re-assessment of the site may be required in order to inform ecological constraints to any developments proposed, and/or to accompany a planning submission. If the proposed development changes significantly or land use alter substantially, updates may be required in advance of the expiry period of the report.

1.3 Purpose of the Report

1.3.1 This report aims to assess and classify all habitats present on site, and to determine the ecological value of these habitats. The report will determine the likely impact of the proposed development on the local environment and biodiversity as well as the potential impact of the proposed development on regional biodiversity and wildlife populations. The report will determine the extent of potential habitat fragmentation likely to be caused by the proposed development and provide recommendations, where necessary, to limit the impact of the proposed development on habitat connectivity and biodiversity locally.

© JCA Limited 2020

1.4 Details of Proposed Development

1.4.1 The development proposed on this site is to extend the floor space of the current Morrison store in Meltham.

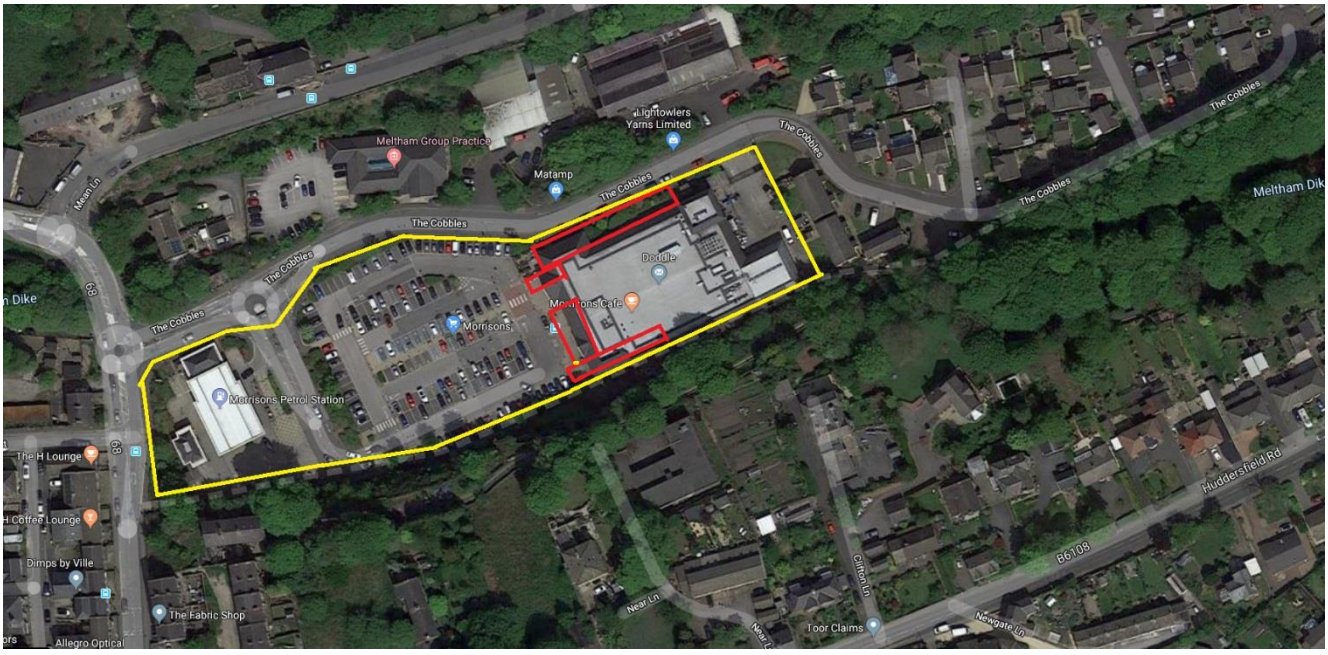
1.5 Site Description

1.5.1 **Morrisons-Meltham, 2 The Cobbles** is situated 6.86km south-west of Huddersfield, at grid reference: SE101108.

1.5.2 The site is primarily hard standing with small areas of vegetation, rocks, gravel and planted trees to the sides of the building. The site is commercially used and has high levels of pedestrian and vehicle activity on site. There are two main structures on site a supermarket with a 24-hour cash point and a fuel station with car parking spaces in front of the supermarket.

1.5.3 To the south and east are dense tree lines that follow Meltham Dike with residential houses and small businesses. To the north is a pharmacy, baptist church, residential housing and agricultural land, with residential housing to the east. A map of the site in relation to surrounding habitats can be seen below.

Figure 1: Google Maps image of **Morrisons-Meltham, 2 The Cobbles** showing the survey site in relation to the surrounding landscape and habitats. Yellow line indicates site boundary, red line indicates development area.



Google map image © 2020.

2. Methodology

2.1 Desktop Study Methodology

2.1.1 A desktop study was undertaken on 2nd January 2020 in order to obtain any relevant ecological records that may be present within a 2km radius of the site. This includes protected and notable species records, as well as nature conservation designations. For this information, the local ecological records centre was contacted: West Yorkshire Ecology Service.

2.1.2 The search buffer of 2km from the central site grid reference is considered to be sufficient in order to cover the potential zone of influence of the proposed development.

2.1.3 The Multi-Agency Geographic Information for the Countryside (MAGIC) website was used to locate any designated sites, both statutory and non-statutory, such as Local Nature Reserves (LNRs), Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Sites of Special Scientific Interest (SSSIs) that may be present within 2km of the survey site.

2.2 Site Assessment Methodology

2.2.1 A thorough site assessment was undertaken on 12th December 2019 by Amanda Beck Cert/HE in Field Ecology, Diploma in Field and Conservation Ecology, Qualifying CIEEM, following the guidelines set out in the JNCC's *Handbook for Phase 1 habitat surveys*.

2.2.2 The entire site was walked over by an experienced consultant who mapped and described each habitat type that was present. The dominant floral species of each habitat were noted as well as any faunal species that were encountered.

2.2.3 All habitats present with the potential to support protected or notable species were classified and noted. Signs of fauna were noted as target notes on the site, which can be seen in **Appendix 1, Phase 1 Map** (where signs were found).

2.2.4 In the context of this report, rare, protected or notable species are those listed under the following: UK or European legislation, UK Biodiversity Framework Priority Species (including, but not limited to LBAP species), nationally rare or scare flora/fauna/habitats, Species of Conservation Concern (JNCC Red List, RSPB/BTO Amber Lists).

2.2.5 Non-native, invasive species, as listed under Schedule 9 of the Wildlife and Countryside Act (1981) as amended have been noted and mapped, where

© JCA Limited 2020

present as under the Wildlife and Countryside Act (1981) as amended it is an offence to release or allow to escape into the wild any flora/fauna not ordinarily a resident of the UK, which has been categorised as potential harmful to the UK flora and/or fauna.

2.2.6 Whilst conducting the site walk-over, any features that may be of value to or have the potential to support protected species were noted and photographic evidence taken (please refer to **Appendix 3**). Such protected species include, but are not limited to, Badgers, Bats, Dormice, Great Crested Newts, Nesting Birds, Otters, Reptiles, Water Voles, White-Clawed Crayfish (please see **Appendix 6**).

Limitations:

2.2.7 There were no perceived limitations that would significantly impact on the conclusions and recommendations given within this report.

© JCA Limited 2020

3. Results

3.1 Desktop Study Results

3.1.1 Local Data Centre Records: West Yorkshire Ecology Service and West Yorkshire Bat Group have been commissioned to provide the records held for protected and notable species within a 2km radius of the survey site. The results have been summarised below. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area. Please see **Table 1** below for a summary of the protected and priority species records obtained from the West Yorkshire Ecology Service.

Table 1: Priority and protected species records obtained from the West Yorkshire Ecology Service within a 2km radius of the site boundary.

Taxonomic Group	Common Name	Scientific Name	On site	Within 500m	Within 1km	Within 2km	Notes
Amphibians	Common Frog	*Rana temporaria*	×	×	✓	✓	Two records one being historical, one being from 2012 of an observation of frog's spawn. A WYBAP species.
Bats	Common Pipistrelle	*Pipistrellus pipistrellus*	×	✓	✓	✓	Twenty-two records dating from 2006 to 2017 of nine bat roosts with one of the roosts being a maternity roost of 159 adults. One of droppings, one heard on a bat detector, the rest of the records are of field observations. The nearest record being 189m form site. UKBAP, WYBAP and Kirklees BAP species.
	Brown Long-Eared	*Plecotus auritus*	×	×	✓	✓	Two records from 2017 of a two bat roosts. UKBAP, WYBAP and Kirklees BAP species.
	Noctule	*Nyctalus noctula*	×	×	✓	✓	Three records dating from 2006 to 2011 of field observations. UKBAP, WYBAP and Kirklees BAP species.
	Natterer's Bat	*Myotis nattereri*	×	×	✓	✓	One record from 2015 of a single bat in a roost.
Other Mammals	Otter	*Lutra lutra*	×	×	✓	✓	Six records from 2006 to 2017 of adult observations and a spraint. UKBAP, WYBAP and Kirklees BAP species.
	Grey Squirrel	*Sciurus carolinensis*	×	×	✓	✓	Three records from 1997 to 2015 of adults. Schedule 9_part1 species.
	Brown Hare	*Lepus europaeus*	×	×	✓	✓	Six records dating from 1999 to 2017.of counts of adult hares. UKBAP, WYBAP and Kirklees BAP species.

© JCA Limited 2020

Birds Schedule 1	Barn Owl	*Tyto alba*	×	×	✓	✓	Three records two being historical records from 1968 to 1970. The one current record is from 2012 of 1 adult bird. WYBAP and Kirklees BAP species.
Birds (Other)	Golden Plover	*Pluvialis apricaria*	×	×	✓	✓	Nine records in total with six of these records being from 1968 to 1996. The other three records are from 2012 of counts of adult birds. Amber listed Bird of Conservation Concern, WYBAP and Kirklees BAP species.
	Dunnock	*Prunella modularis*	×	✓	✓	✓	Seven records, five of these are historical dating from 1968 to 1988. The two current field records date from 2004. Amber listed Bird of Conservation Concern, UKBAP, WYBAP and Kirklees BAP species.
	Whinchat	*Saxicola rubrtra*	×	×	✓	✓	Seven records, five of these are historical records from, two current field records are from 2012 of adult birds. Red listed Bird of Conservation Concern.
	Starlings	*Sturnus vulgaris*	×	×	✓	✓	Nine records, five are historical records from 1968 to 1988. Four records are from 2012 of counts of adult birds in groups with the highest number observed together being 700 birds. It is a Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Lapwing	*Vanellus vanellus*	×	×	✓	✓	Twenty-four records in total, seventeen of the records are from 2012 of counts of one to two adult birds. The rest of the records are historical. Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Black-headed Gull	*Larus ridbundus*	×	×	✓	✓	Six records, four being historical, with two current records being from 2012 of counts of adults with the largest number observed of 50 birds. Amber listed Bird of Conservation Concern.
	Grey Wagtail	*Motacilla cinerea*	×	×	✓	✓	Six records with only one record from 2012 being current of a count of one adult bird. Red listed Bird of Conservation Concern.
	Curlew	*Numenius arquata*	×	×	✓	✓	Thirty-three records, twenty-three of these records are from 2012 of counts of adult birds. Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.

© JCA Limited 2020

	Wheatear	*Oenanthe oenanthe*	✖	✖	✓	✓	Nine records with four of these records being from 2012 of counts of adult birds. Red listed Bird of Conservation Concern.
	House Sparrow	*Passer domesticus*	✖	✓	✓	✓	Eight records in total, seven are historical, one is recent from 2016. It is a Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Grey Partridge	*Perdix perdix*	✖	✖	✓	✓	Seven records four being current records from 2012 of single adult birds observed. It is a Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Mallard	*Anas platyrhynchos*	✖	✖	✓	✓	Seven records, one being a current record from 2015. Amber listed Bird of Conservation Concern.
	Meadow Pipit	*Anthus pratensis*	✖	✖	✓	✓	Twelve records, seven records are current from 2012 of counts of adult birds. Amber listed Bird of Conservation Concern.
	Skylark	*Alauda arvensis*	✖	✖	✓	✓	Twenty records with ten of these records being from 2012 of adult bird counts. Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Tufted Duck	*Aythya fuligula*	✖	✖	✓	✓	Seven records dating from 1968 to 2012 of counts of adult birds. Amber listed Bird of Conservation Concern.
	Canada Goose	*Branta canadensis*	✖	✖	✓	✓	Five records from 1968 to 2012 of counts of adult birds. Schedule 9_part 1 species.
	Linnet	*Carduelis cannabina*	✖	✖	✓	✓	Fourteen records from 1968 to 2012, with eleven of these records being from 2012 of counts of birds. Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Goldfinch	*Carduelis carduelis*	✖	✓	✓	✓	Seven records dating from1968 to 2012, with two records being from 2012 of field observations. Kirklees BAP species.
	Twite	*Carduelis flavirostris*	✖	✖	✓	✓	Nine records dating from 1968 to 2012, three of these records being from 2012 of filed observations and counts of adult birds. Red listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Dipper	*Cinclus cinclus*	✖	✖	✓	✓	Seven records from 1968 to 2015 of bird counts. Amber listed bird species.
	Cuckoo	*Cuculus canorus*	✖	✖	✓	✓	Eleven records dating from 1968 to 2012, with two records from 2012 of

© JCA Limited 2020

							single count of adult birds. Red listed Bird of Conservation Concern. UKBAP and WYBAP species.
	Reed Bunting	*Emberiza schoeniclus*	×	×	✓	✓	Eight records dating from 1968 to 2012. Three of these records are from 2012 of single adult bird counts Amber listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Kestrel	*Falco tinnuculus*	×	×	✓	✓	Nine records from 1968 to 2012, with four records from 2012 of counts of adult birds. Amber listed Bird of Conservation Concern. WYBAP and Kirklees BAP species.
	Snipe	*Gallinago gallinago*	×	×	✓	✓	Six records dating from 1968 to 2012 of adult bird counts. Amber listed Bird of Conservation Concern and a Kirklees BAP species.
	Red Grouse	*Lagopus lagopus*	×	×	✓	✓	Eight records from 1968 to 2012, with five records being current of single individuals and pairs of birds. Amber listed Bird of Conservation Concern. UKBAP, WYBAP and Kirklees BAP species.
	Herring Gull	*Larus argentatus*	×	×	✓	✓	Twelve records dating from 1968 to 2016, with three records from 2016 of field observations. Red listed Bird of Conservation Concern and a UKBAP species.
	Lesser Black-backed Gull	*Larus fuscus*	×	×	✓	✓	Six records dating from 1968 to 2012, with two records being recent of counts of groups of birds. Amber listed Bird of Conservation Concern.
	Black-headed Gull	*Larus ridibundus*	×	×	✓	✓	Eight records dating from 1968 to 2015 with three records being current of bird observations. Amber listed Bird of Conservation Concern.
Fish	Sea Trout	*Salmo trutta*	×	✓	✓	✓	Six records dating from 2006 to 2015. UKBAP, WYBAP and Kirklees BAP species.
Plants	Bluebell	*Hyacinthoides non-scripta*	×	×	✓	✓	Fourteen records dating from 1986 to 2015 with two of these records being historical. Schedule 8_sect 13.2; Kirklees BAP species.
Plants (Schedule 9)	Himalayan Balsam	*Impatiens glandulifera*	×	×	✓	✓	Seventeen records dating from 1986 to 2016.
	Japanese Knotweed	*Fallopia japonica*	×	×	✓	✓	Five records from 2009 to 2013 of field observations.

© JCA Limited 2020

	Rhododendron	*Rhododendron ponticum*	✖	✖	✓	✓	Five records dating from 1986 to 2016.

3.2 Nature Conservation Designations

Statutory Nature Conservation Sites

3.2.1 There are no statutory nature conservation sites within the boundary or within 2km of the site.

Non-Statutory Nature Conservation Sites

3.2.2 There are no non-statutory nature conservation sites within the boundary of the site.

3.2.3 The search revealed five non-statutory conservation sites within 2km of the site, which can be seen in **Table 2** below.

Table 2: Non-statutory designated sites with 2km of the site.

Name	Designation	Description	Distance from Site
Bank Wood	Local Wildlife Site (LWS)	W20 acid woodland with a canopy of different ages, the woodland is hummocky with steep slopes. Much of the woodland is self-seeded after quarrying finished. It has botanical diversity with an understory of Common Holly (*Ilex aquifolium*) and native Bluebells (*Hyacinthoides non-scripta*) present in dense patches. bumble bees, hoverflies and butterflies have been observed here.	1.7km north-east
Hall Heys Wood	Local Wildlife Site (LWS)	A woodland that is steeply sloped with stone walls on the boundaries to the south and east with fencing to the northeast and southwest corners. It is a W10 acid woodland and an ancient semi-natural woodland meeting Criteria Wd1. It has botanical diversity with a large quantity of native bluebells and holly.	1.2km north-east

© JCA Limited 2020

Honley Wood	Local Wildlife Site (LWS)	A large ancient woodland with semi-natural and replanted acid trees. It has hummocky ground that was once quarried with some areas being steeply sloped. To the south is W10 woodland with occasional common holly. There is an area of W15 plantation to the south with European beech (*Fagus sylvatica)* dominanting the canopy. There are areas of wet woodland with ground flora along a wet ditch and around the pond. There are springs to the west of the site and areas of native bluebells. A range of bird species and grey squirrels (*Sciurus carolinensis*) have been observed.	1.1km west
Bannister Edge	Local Geological Site (LGS)	An abandoned moorland quarry the site illustrates the relationship between Huddersfield White Rock and the overlying Rough Rock forming West Nab. Fallen blocks of rocks contain plant fossils. White rock lies at the top of the quarry face with mudstone and a coal seam below, which lie above the Beacon Hill Flags.	2km south-west
Folly Dolly Falls	Local Geological Site (LGS) & Local Wildlife Site (LWS)	A sandstone waterfall in a shaded valley, with exposed rock of the Upper Carboniferous Huddersfield White Rock with cross bedding. There is a marine band of fossils with a fault plane running in a small gully between the face of the waterfall and the shales which have been dragged upwards as rocks moved. The falls are covered with moss and vegetation, there is a disused railway cutting to the west. The site has historical value supplying local brick and fireclay business. It use to be used as a stop off for Victorians on their railway journey. Local geologist use the site for guided walks.	782m north-east

3.2.4 The proposed development is within the Kirklees Bat Alert Zone.

© JCA Limited 2020

3.3 Site Assessment Results

3.3.1 The site was surveyed on 12th December 2019 by Amanda Beck Cert/HE in Field Ecology, Diploma in Field and Conservation Ecology, Qualifying CIEEM. Survey conditions are summarised in **Table 3**.

Table 3: Survey times and weather conditions.

Survey date	Lead surveyor	Temp	Humidity	Wind speed/Direction		Cloud Cover	Precipitation
12/12/2019	Amanda Beck	1.0°C	96%	11mph	S	80%	Light drizzle

Habitats Present

1.3.2 The following habitat types are present at **Morrisons-Meltham, 2 The Cobbles**: bare ground, buildings, fencing, hard standing, introduced shrubs, other habitats, rocks, scattered mixed trees and walls. Please see **Table 4** below for detailed descriptions of each habitat present on site and the species recorded during the time of the survey.

Table 4: Habitats present on site (classified in accordance with the JNCC guidelines)

Habitat Type/Feature	Species Present	Other Observations	Target Notes
Bare ground	Annual bluegrass *(Poa annua*), bramble *(Rubus fruitcosus), n*ettle *(Urtica dioica).*	To the west and among introduced shrub beds. Only a single strand of bramble and one small area of nettles.	N/A
Buildings	None	Two buildings, one a supermarket the other a fuel station, both have pitched roofs with slate tiles. The fuel station forecourt has a flat roof. To the front of the roofs and underneath the overhang of the roofs are covered with a mixture of metal and plastic trim and cladding. Guttering and down pipes are painted green. Walls are brick and well-sealed with no gaps or crevices. Windows and doors are PVC.	N/A
Fencing	None	Around the site's boundary a mixture of wooden and metal fencing.	N/A
Hard standing	None	The site is primarily hard standing being of concrete and tarmac with	N/A

© JCA Limited 2020

		paving slabs for walkways, car parking. With hard standing surrounding the supermarket and fuel station.	
Introduced Shrubs	Butterfly bush (*Buddleja), w*allflowers *(Ersimum Sp.), c*ommon ivy *(Hendera helix),* St John's Wort *(Hypericum perforatum),* Boxed leaved honeysuckle *(Lonicera ligustrina var. pileate), c*herry laurel *(Prunus laurocerasus), p*yracanths *(Pyracantha coccinea), r*ose Sp. *(Rosacea Sp,)*	Introduced shrubs are to the western side of the supermarket building, to the front of the fuel station and to the south and east of the car parking areas. .	N/A
Other Habitat	Common dandelion *(Taraxcum officinale)*	Gravel is to the western side of the supermarket building, small plants protruding through the gravel.	N/A
Rocks	None	To the western side of the supermarket building among introduced shrubs.	N/A
Scattered Mixed trees	Sycamore (*Acer pseudoplatanus*), silver birch (*Betula pendula*), cotoneaster tree (*Cotoneaster x waterrei*),beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*).	Along the western side of the supermarket and along eastern edge of the car park and in front of the fuel station.	Target Note 1. bird nest in tree.
Walls	None	Low wall to the western side of the carpark.	N/A

Fauna Species Encountered

1.3.3 The following species were either seen, heard or evidence of their presence was found during the site investigation:

- Dunnock (*Prunella modularis*).
- Blackbird (*Turdus merula*).
- Bird nest in a tree, see **Target Note 1** on Phase 1 Map **Appendix 1**.

© JCA Limited 2020

Invasive Plant Species

1.3.4 No invasive plant species were found at this site whilst conducting the site investigation.

© JCA Limited 2020

4. Discussion and Interpretation of Results

4.1 Nature Conservation Designations

4.1.1 No designated nature conservation sites are located within the boundary or within 2km of the site.

4.1.2 There are five non-statutory designated sites within 2km of the site. Bank Wood, Hall Heys Wood, Folly Dolly Falls and Honley Wood are all Local Wildlife Sites (LWS). Bannister Edge and Folly Dolly Falls being Local Geological Sites (LGS). The nearest non-statutorily designated site is Folly Dolly Falls which is 782m. The proposed development will not have an effect on these sites due to the distance and habitat fragmentation by road. It will be difficult for flora and wildlife species to translocate on their own accord unless they can fly. The proposed development will therefore not have an impact on any of the non-statutorily designated sites.

4.2 Priority and Protected Habitats

4.2.1 The site contains the following habitats of moderate ecological value: introduced shrubs and scattered mixed trees.

4.2.2 There are no Kirklees BAP habitats on site. The site contains scattered mixed trees and introduced shrubs, the removal of these habitats will result in the loss of shelter, food and nesting habitat for birds and foraging habitat for bats.

4.3 Priority and Protected Species

4.3.1 Amphibians: There are two records of Common Frog (*Rana temporaria*) within 1km of the site boundary. The site does not contain the required aquatic habitats suitable for breeding amphibians such as toads, frogs or newts. The site does not contain any terrestrial habitats suitable for supporting over-wintering amphibians. The site is unlikely to support amphibians.

4.3.2 Badgers: There are no records of Badgers (*Meles meles*) within 2km of the site. The site does not contain the required steep embankments or hedgerows to support badger sett creation. The site has continual vehicle and pedestrian activity with roads and roundabouts fragmenting the site from surrounding habitats. It is bordered by residential and commercial properties and is likely to suffer high levels of human noise and light disturbance. It is unlikely badgers are present on the site or rely on the site as a key foraging habitat.

4.3.3 Barn Owls: There is one record of a Barn Owls (*Tyto alba*) within 1km of the site. Barn Owls require a mixed habitat including rough grassland, field margin strips, set aside and ditches/watercourses for hunting. Barn Owls require between 1 and 47 hectares of suitable roosting and hunting habitats, as stated by the Barn Owl

© JCA Limited 2020

Conservation Trust, barnowltrust.org.uk, accessed April 2018. The proposed development site is hard standing with two buildings it does not contain the required open grassland habitats for foraging, or barn style buildings for roosting. The site is unlikely to support Barn Owls.

4.3.4 Bats: There are twenty-eight records of four bat species within 2km. Species included: Common Pipistrelle (*Pipistrellus pipistrellus*), Brown Long-Eared bat (*Plectous auritus*), Noctule (*Nyctalus noctula*) and a Natterer's bat (*Myotis nattereri*). One record is within 500m of the site and is of a bat roost which is 198m away of a Common Pipistrelle bat. Twelve records are of bat roosts with other records of bat droppings, field observations and bats heard on bat detectors. There is little opportunity for roosting bats within the buildings on site due to their construction. The scattered mixed trees on site all have narrow trunks that cannot support roosting bats. However, there is potential for bats to commute and forage over the small amount of vegetation on site. It is unlikely that the site supports roosting bats but may support commuting and foraging bats.

4.3.5 Dormice: The data search did not reveal any records of Hazel Dormice (*Muscardinus avellanarius*) within 2km of the site. Dormice are usually found in deciduous broadleaved woodland habitats and are vulnerable to habitat fragmentation and disturbance. Dormice are found primarily in the south of England. Dormice populations have plummeted in recent years, with their range in the UK shrinking rapidly and population numbers continuing to decline. West Yorkshire is outside of their known habitat range, as stated in the *Dormouse Conservation Handbook, second edition, written by Paul Bright, Pat Morris and Tony Mitchell-Jones, 2006.* There are no known Dormouse reintroduction sites within 5km of the proposed development site. It is unlikely that the proposed development site supports Dormice.

4.3.6 Invertebrates: There are no records of invertebrate species within 2km. During the survey no invertebrate species were observed but when trees and shrubs are in flower, they are likely to support butterflies, moths, bees and wasps due to the nectar and pollen from the site's vegetation.

4.3.7 Nesting Birds: There are two hundred and eighty-one records within 1km of site boundary of twenty-eight bird species. There is one Schedule 1 bird species within 1km of the site a Barn Owl (*Tyto alba*). There are thirteen red listed bird species and sixty amber listed bird species within 1km of the site. There are two bird species within 500m of the site of a Goldfinch (*Carduelis carduelis*) and Dunnock (*Prunella modularis*). A bird's nest was observed in one of the trees on site and a Blackbird (*Turdus merula*) and Dunnock were seen on site during the survey. It is highly likely that the site will support nesting and feeding birds.

4.3.8 Otters: The data search found six records of Otter (*Lutra lutra*) within 1km of the site boundary. Otters have been recorded as exploiting virtually all types of water

© JCA Limited 2020

and waterway in the UK. Although populations in England and Wales are confined mainly to fresh water. Otters require vegetation along bank sides, and prefer tree lined/wooded bank areas *(Ecology of the European Otter, Conserving Natura 2000 Rivers 2010).* The site does not contain the water bodies and riparian habitats required to support breeding or hunting Otters. It is unlikely Otters are using the site.

4.3.9 Plants: There were twenty-seven records of invasive plants species within 1km. species include: Himalayan Balsam (*Impatiens glandulifera*), Japanese Knotweed (*Fallopia japonica*) and Rhododendron (*Rhododendron ponticum*). There are fourteen records of native Bluebells (*Hyacinthoides non-scripta*) within 1km of the site. The site is unlikely to support rare plants and no invasive plants were observed during the survey.

4.3.10 Reptiles: There are no records of reptiles within 2km of the site boundary. Reptiles rely on conditions that allow them to maintain their body temperature. They need to be able to bask and also to be able to avoid extremes of temperature. Reptiles require a mosaic of habitat, including grassland, bare ground and refugia piles/areas, preferring habitats where Bracken is sparse and tree numbers are low *(Habitat Management for Reptiles, Amphibian and Reptile Trust ARC, accessed 2018).* The site is mainly hard standing and does not contain the range of habitats and interconnectivity required to support reptiles. It is unlikely reptiles are present on site.

4.3.11 Water Voles: There are no records of Water Voles (*Arvicola amphibus*) within 2km of the site. Water Voles generally prefer channels with slow flowing water and steep sided banks, ideally around 45-60 degrees, to enable them to burrow successfully into them. They burrow up to two meters into the banks, and usually have more than one entrance. One entrance is often at the water level to give access to the burrow quickly for refuge, with a second often located higher up to allow access should the water level increase. Water Voles are very sensitive to changes in water levels and the need to escape when they rise. Water voles generally prefer watercourses with swards of dense vegetation along the banks and within the channel, to provide both refuge and food. Although they are omnivorous, the diet of water voles is almost completely vegetarian, and comprises a wide range of grasses, reeds, tall ruderal, marginal and emergent vegetation *(Water Vole Conservation and Management, 2016)*. The site does not contain the required aquatic habitats and riparian corridors of vegetation to support Water Vole. It is unlikely that Water Vole are present on site.

4.3.12 West European Hedgehog: There are no records of Hedgehogs (*Erinaceus europaeus*) within 2km of the site. The site is unlikely to support nesting and breeding hedgehogs, as the habitats on site offer little opportunity for hedgehogs to shelter or feed. It is unlikely that the site supports hedgehogs but maybe used as a commuting route to residential gardens in the surrounding area.

© JCA Limited 2020

4.3.13 White-clawed Crayfish: There are no records of White-clawed Crayfish (*Austropotamobius pallipes*) within 2km of the site boundary. White-clawed Crayfish require slow flowing waterbodies, high quality water of pH 6.8-8.6, rocks, debris, rubble or submerged vegetation for breeding purposes. White-clawed Crayfish are limited in their range as they are unable to travel significant distances over terrestrial habitats as stated in Guidance on Habitat for White-clawed Crayfish and its Restoration by Stephanie Peay, July 2002. The site does not contain the required waterbody to support White-clawed Crayfish; therefore, it is unlikely the site supports this species.

*The absence of any signs of or features considered valuable for supporting protected species, **cannot** be considered evidence that these species are absent from a site, or that these species will not occupy the site in the future. It must therefore always be recommended that work be conducted with care and vigilance. Should any protected species be encountered during work (please see **Appendix 6**), work should stop immediately and JCA or Natural England contacted.*

4.4 Invasive Species

4.4.1 Invasive plant species are those plants listed under Schedule 9, Part II of the Wildlife and Countryside Act 1981 (as amended) or described on the Non-Native Species Secretariat (NNSS) website. Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to plant or cause the spread of Invasive Plant Species in the wild and therefore it is a legal obligation to remove them. No invasive plant species were observed during the survey.

4.5 Impacts of Proposed Development

4.5.1 **Table 5** below summarizes the likely impacts the proposed development will have on protected species present/likely present on site:

Table 5: The indicative potential impacts of the proposed development on protected species likely and/or found to be present on site.

Species	Negative Impact (includes scale and nature of impact)
Amphibians	None perceived
Barn Owls	None perceived
Bats	The buildings on site offer no roosting habitats for bats. However, the small amount of vegetation surrounding the site might offer some foraging opportunities for commuting bats. Any newly created vegetation on site must be rich in pollen and nectar to attract insects for bats to feed on and any new lighting to be installed must follow the Institute of Lighting Professionals (ILP, 2018) for wildlife.
Badgers	None perceived
Dormice	None perceived
Invertebrates	The loss of trees and introduced shrubs will have a significant loss of habitats for feeding insects, which are food for birds and bats. It is

© JCA Limited 2020

	important that the proposed development plans incorporate flora with high nectar and pollen to attract insects to feed.
Nesting Birds	Scattered mixed trees and introduced shrubs that are to be removed will have a negative impact if removed during the breeding bird season. If vegetation removal takes place between February to August, then a nesting bird survey will be required to ensure there is no loss of nesting opportunities. If trees and introduced shrubs are to be removed, then newly planted vegetation with seeds and berries are to be planted on site to enable birds to continue feeding. Bird nest boxes must be installed on the supermarket building to mitigate for the loss of nesting habitat.
Otter	None perceived
Plants	None perceived
Reptiles	None perceived
Water Vole	None perceived
White-clawed Crayfish	None perceived
Other Species	Hedgehogs are likely to be negatively impacted by the development if using the site to commute through. Hedgehog holes are to be incorporated into the development plans if fencing or walls are to be installed around the boundaries. These holes enable hedgehogs to commute from site to site without being restricted.

*NB: The overall impact of the proposed development is based upon plans provided by Peacock & Smith, see drawings included in **Appendix 2.** This report has been compiled and produced by JCA Ltd, and accounts for and assesses the likely impacts on local wildlife populations and biodiversity that is to occur as a result of the development given in **Appendix 2.** Should these plans change then this report will need revising and the potential impacts re-evaluating.*

© JCA Limited 2020

5. Conclusions

5.1 JCA Ltd were commissioned to carry out a Preliminary Ecological Appraisal Survey and related report by Peacock & Smith in order to determine the potential impacts of the proposed development on on-site habitats, species and local priority habitats at **Morrisons-Meltham, 2 The Cobbles**

5.2 The site was surveyed on the 12th December 2019 by Amanda Beck.

5.3 After conducting a thorough site investigation and a detailed Desktop Study, we consider **Morrisons-Meltham, 2 The Cobbles** to contain habitats of low to moderate ecological value (please see **Section 3.5**).

5.4 The site is not situated within influencing distance of any nature conservation sites of either statutory or non-statutory designation.

5.5 The site contains the following habitats of negligible ecological value: bare ground, buildings, fencing, hard standing, rocks, other habitat and walls.

5.6 The site contains the following habitats of moderate ecological value: introduced shrubs and scattered mixed trees.

5.7 After conducting a through survey and detailed desktop study, we consider Morrisons, Meltham to have negligible potential for supporting roosting bats.

5.8 The site has moderate potential to support nesting birds and any vegetation removal must take place outside the nesting bird period where possible.

5.9 No invasive species were found on site.

Summary: The site has moderate potential for nesting birds and if vegetation is to be removed during bird breeding period, then a nesting bird survey will be required.

To enhance the proposed extension to the Morrisons supermarket vegetation must be planted with high nectar, pollen, seed and berries to enable birds to feed and bats to continue foraging. Nest boxes must be installed on the building to mitigate for the loss of nesting habitat in the trees. Any new lighting to be installed on site must be in line with the Institute of Lighting Professionals (ILP, 2018) for wildlife.

© JCA Limited 2020

6. Recommendations

6.1 Based on the findings outlined in this report the following recommendations are made:

- Any vegetation clearance must be conducted outside the bird breeding season if possible, which runs approximately from March to August. A nesting bird survey will be required prior to the removal of vegetation if this work is to be carried out during the bird breeding season. This survey must be carried out by a qualified ecologist. Surveys should be carried out **24 hours** prior to the vegetation being removed to check whether any birds are nesting and to ensure all young have fledged.

- Nest boxes must be installed onto the supermarket building to mitigate for the loss of bird nesting habitat due to the removal of the scattered mixed trees and introduced shrubs.

- A Biodiversity Enhancement Plan should be designed pre-construction to be implemented post construction during the landscaping phase of the development. This plan will aim to ensure there is no net loss of habitats on site and to increase biodiversity gain by giving opportunities for wildlife to use the site. The biodiversity enhancement plan will aim to provide opportunities for local wildlife to ensure the development does not have a significant detrimental impact on local or national wildlife populations. The Biodiversity Enhancement Plan should include:

- Quantities and locations of faunal boxes for bats and birds.

- Native shrub/tree/grass/hedgerow planting.

- Gaps in fencing to allow movement for hedgehogs and other small mammals.

- Low level wildlife lighting options and lighting buffer zones.

- Management scheme on vegetation clearance.

© JCA Limited 2020

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 (Accessed: 21 September 2016).

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

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

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

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

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

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

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

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

As well as:

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

© JCA Limited 2020

Species Specific Information:

Badgers:
Natural England, (2007) Badgers and Development: A Guide to Best Practice and Licensing.
Competencies for Species Survey: Badger, Chartered Institute of Ecology and Environmental Management CIEEM, 2013. Accessed 2018-06-21

Bats:
Bat Conservation Trust, (2007) Bats, Development & Planning in England. London.
Mitchell-Jones, A. and McLeish, A. (ed.). (2004) Bat Workers' Manual. 3rd ed. JNCC.
The Bat Worker's Manual, Anthony J. Mitchell-Jones, 2015
Bats: surveys and mitigation for development projects, https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects Accessed 2018-06-21
Guidance note 8: bats and artificial lighting in the UK, bats and the built environment series, Bat Conservation Trust and ILP, produced 2018, accessed November 2018. https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/
Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition, Bat Conservation Trust, written 2016

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, (1998), Water Vole Conservation Handbook,. Wildlife Conservation Research Unit, University of Oxford, Oxford. Strachan R, and Moorhouse, T. (2006),
Water Vole Conservation Handbook, 2nd Edn. Wildlife Conservation Research Unit, University of Oxford, Oxford.
Strachan, R. (2009), Populations and Persistence – Developing a Strategy for Conserving Water Voles in the UK, Presentation to Warwickshire Wildlife Trust, 2nd April 2009, Environment Agency, Wales
Strachan, R. and Holmes-Ling, P (2003), Restoring water voles and other biodiversity to the wider countryside. Wildlife Conservation Research Unit, Oxford.
Strachan, R., Moorehouse, T. and Gelling, M. (2011), Water Vole Conservation Handbook, 3rd Edn, WILDCRU

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

© JCA Limited 2020

Relevant Legislation:

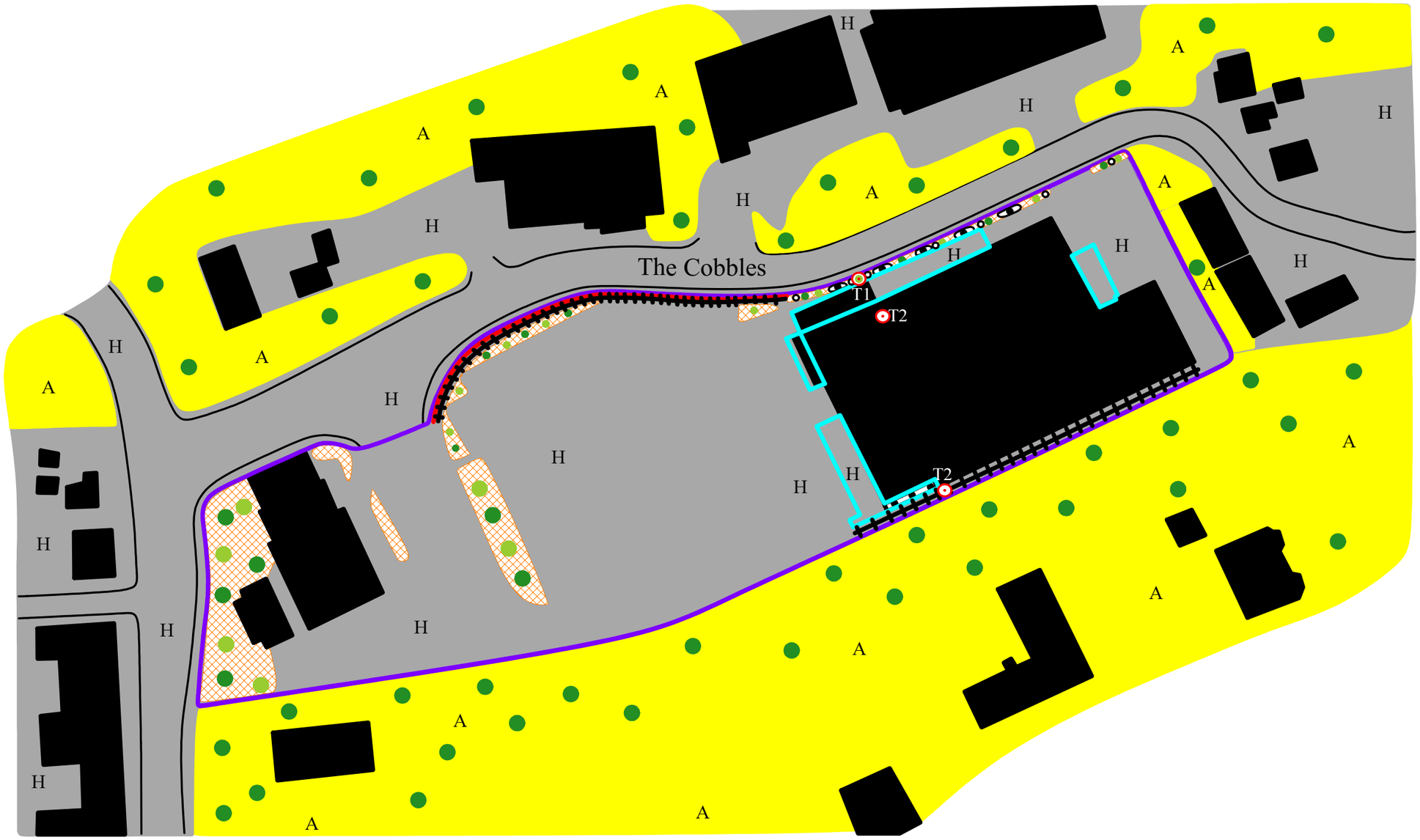
Wildlife and Countryside Act 1981, (c. 69) (as amended). Available at: http://www.legislation.gov.uk/ukpga/1981/69
(Accessed: 21 September 2016)
Countryside and Rights of Way Act 2000 (c.37). Available at: http://www.legislation.gov.uk/ukpga/2000/37/contents
(Accessed: 21 September 2016)
The Conservation of Habitats and Species Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents/made
(Accessed: 08 January 2018)
Conservation of natural habitats and of wild fauna and flora Council Directive (92/43/EEC) (The Habitats Directive) (as amended) Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043
(Accessed: 21 September 2016)
Protection of Badgers Act 1992 (c. 51). Available at: http://www.legislation.gov.uk/ukpga/1992/51/contents
(Accessed: 21 September 2016)
The Hedgerow Regulations 1997 (No. 1160). Available at: http://www.legislation.gov.uk/uksi/1997/1160/contents/made
(Accessed: 21 September 2016)

© JCA Limited 2020

Appendices

Appendix 1: Phase 1 Habitat Map

© JCA Limited 2020



Appendix 1:
Phase 1 Habitat Map

Address: Morrisons - Meltham,
2 The Cobbles, Meltham,
Holmfirth, HD9 5QR
JCA Ref: 15676/AmB REV 1

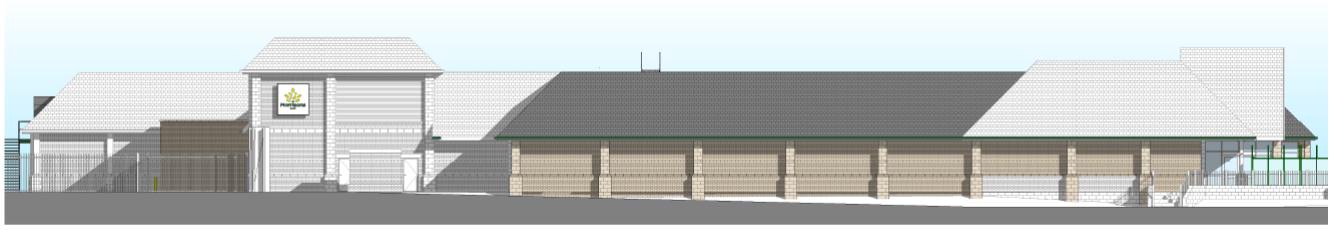
NOT TO SCALE

KEY	
A	Amenity grassland
H	Hard standing
	Introduced shrubs
	Buildings
	Scattered mixed trees
	Scattered broad-leaved trees
	Bare ground
	Fence
	Rock
	Wall
	Proposed Development Area
	Site boundary
	Other habitat
T	Target note

JCA Limited
Arboricultural & Ecological Consultants

Appendix 2: Proposed Development Plan

3d View - Proposed



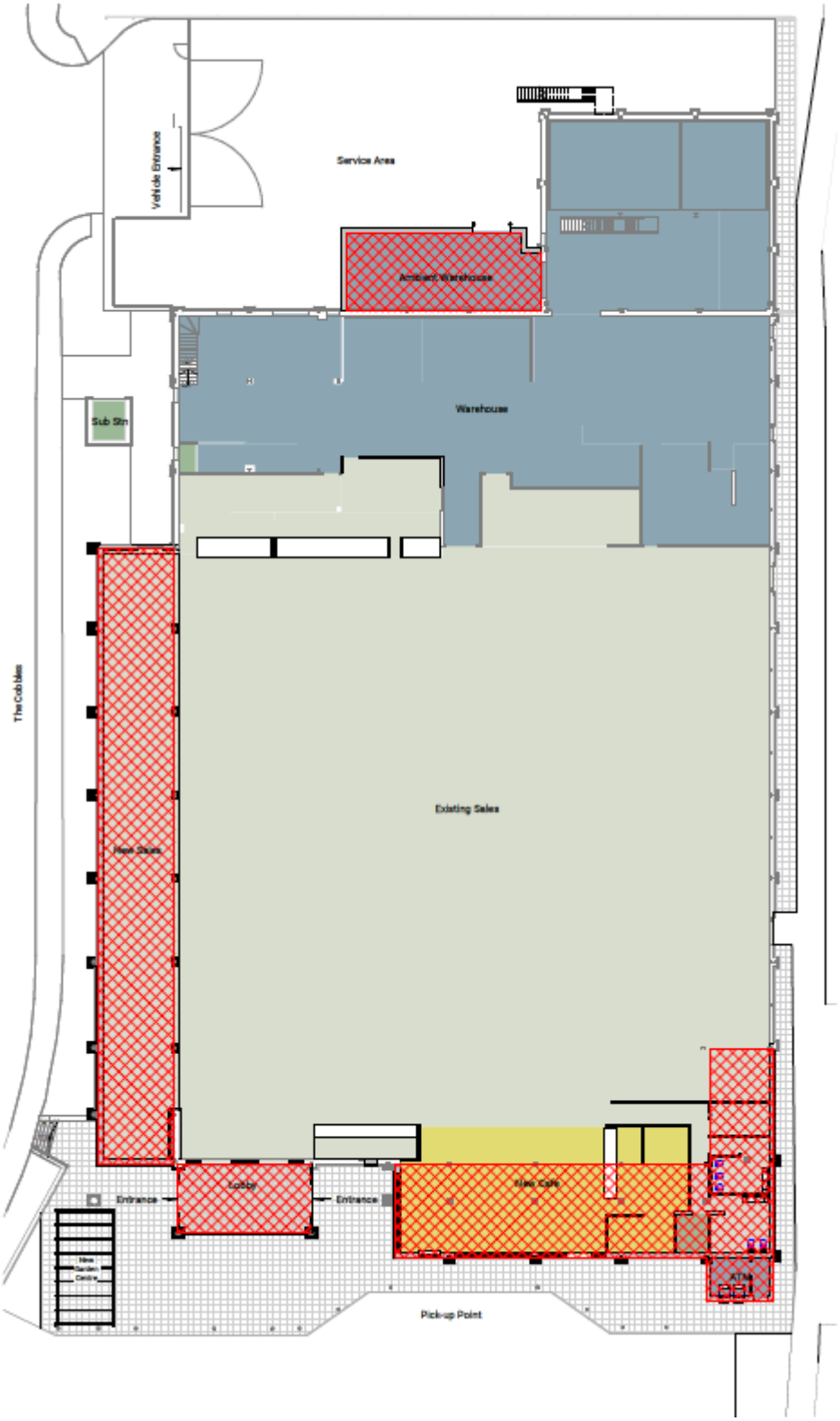
Proposed West Elevation

© JCA Limited 2020

3d View - Proposed

Proposed North Elevation

© JCA Limited 2020



Red areas to be developed.

© JCA Limited 2020

Appendix 3: Photographic Evidence

Photo 1: View from the east looking west to side of store to be developed.

Photo 2: Vegetation to the east of the store.

Photo 3: View in the west.

Photo 4: View looking east from the west of area to be developed.

Photo 5: Front entrance view

Photo 6: Cash point and café area to the front of the store.

© JCA Limited 2020

	
Photo 7: Front end corner of store.	Photo 8: Closer view of area to be developed.
	
Photo 9: Area to east to be made into indoor floor space.	Photo 10: View looking from the east side across the front of the store that would be developed.
	
Photo 11: Metal panelling underneath overhangs on the store roof.	

© JCA Limited 2020

Appendix 4: Species List

To be submitted to the appropriate Local Records Centre

Site Name: Morrisons-Meltham, 2 The Cobbles **Provided by**: JCA Ltd

Grid Ref: SE101108 **Verified by:** Amanda Beck

Table 6: Complete list of species encountered during survey.

Common Name	Scientific Name	Number	Comment
Sycamore	*Acer pseudoplatanus*	N/A	None
Silver Birch	*Betula pendula*	N/A	None
Butterfly Bush	*Buddleja*	N/A	None
Cotoneaster	*Cotoneaster x watereri*	N/A	None
Wallflower	*Ersimum sp.*	N/A	None
Beech	*Fagus sylvatica*	N/A	None
Ash	*Fraxinus excelsior*	N/A	None
Hebe	*Hebe Sp.*	N/A	None
Common Ivy	*Hedera helix*	N/A	None
St John's Wort	*Hypericum perforatum*	N/A	None
Holly	*Ilex aquifolium*	N/A	None
Boxed leaved Honeysuckle	*Lonicera ligustrina var. pileata*	N/A	None
Annual Bluegrass	*Poa annua*	N/A	None
Dunnock	*Prunella modularis*	1	On the bare ground to the east of the supermarket building.
Cherry Laurel	*Prunus laurocerasus*	N/A	None
Pyracanths	*Pyracantha coccinea*	N/A	None
Garden Rose Sp.	*Rosacea sp.*	N/A	None
Bramble	*Rubus fruitcosus*	N/A	None

© JCA Limited 2020

Common Dandelion	*Taraxacum officinale*	N/A	None
Blackbird	*Turdus merula*	1	Sitting on roof of supermarket to the west.
Nettle	*Urtica dioica*	N/A	None

© JCA Limited 2020

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 manmade 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.

© JCA Limited 2020

Appendix 6: Protected Species Information

The following species are protected under EU law, such as the Conservation (Natural Habitats, &c.) Regulations (2017):

- 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:

- 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.

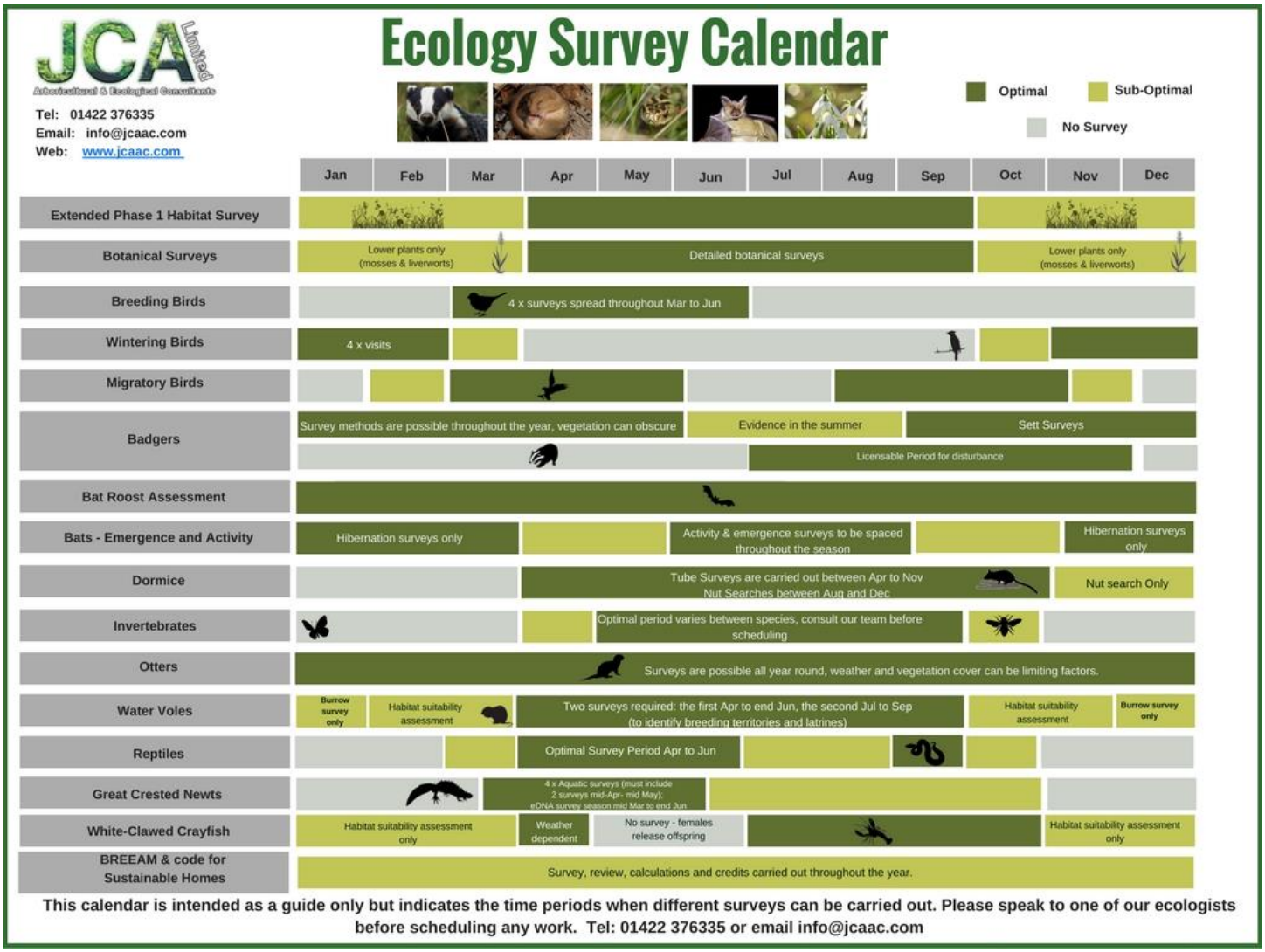
The following habitat types are protected under UK Law:

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

© JCA Limited 2020

Appendix 7: Survey Calendar

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



© JCA Limited 2020

Appendix 8: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking
F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.
Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years' experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Director

Toby Thwaites
BSc (Hons), HND (Arboriculture).
Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Director and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Ecology

Amanda Beck, Ecological Officer
Cert/He in Field Ecology, Diploma Field and Conservation Ecology, Qualifying CIEEM member.
Amanda joined JCA's ecology department in 2018, previously working as a freelance Ecological Consultant in North Wales and as a trainee Ecologist in South Wales. She has a background surveying botanical, amphibians, birds, terrestrial and marine mammals along with small mammal trapping and invertebrate research work on SSSI sites. She has practical experience in habitat management and creation when volunteering for North Wales Wildlife Trust. Amanda is currently studying for a MSc in Biological Recording and Ecological Monitoring with Manchester Metropolitan University. She is a member of the Butterfly Conservation Trust, Bat Conservation Trust, Botanical Society of Britain & Ireland and the British Hedgehog Preservation Society. Amanda is DBS checked and holds a Natural England level 1 bat licence and Natural England Level 2 Great Crested Newt licence and Great Crested Newt Licence for Wales.

Amy Reddick, Ecological Consultant
MSc Conservation Biology & Associate CIEEM member.
Amy joined JCA's ecology department in 2020 after working for an ecological consultancy in Yorkshire for the past 4 years. She possesses a Natural England Class II Bat Licence to handle bats and has experience undertaking surveys for various protected species including badgers, great crested newts, barn owls and otters. She is confident in identifying a range of botanical species and habitats in order to produce robust Preliminary Ecological Assessments. During her time as a consultant Amy has developed in depth knowledge of UK wildlife and habitat legislation and their relevance when assessing the impacts of development proposals. Amy has a CSCS card a Wilderness first aid certificate.

Charis Russell-Smith, Ecological Consultant
BSc Wildlife Conservation (Hons) & GradCIEEM.
Charis joined JCA in 2019, bringing with her 5 years' experience in ecological consultancy and two Natural England protected species class licences (Great Crested Newt Class I and Bat Class II). Her professional specialism is in bats and their ecology, having extensive experience of bat surveys, mitigation and call analysis. She is also competent at conducting preliminary ecological appraisals and phase II protected species surveys. Charis is an experienced ecologist who is able to collate accurate fieldwork data and deliver robust ecological evaluations, assessments and reports.

Joe Earnshaw, Trainee Ecologist
BSc (Hons), MSc Biodiversity and Conservation, Qualifying CIEEM member.
Joe joined the ecology department of JCA in 2018 after taking part in JCA's student training programme. He initially obtained a bachelor degree in Animal Management from Askham Bryan College, York. He has since furthered his education and brings to the company an MSc in Biodiversity and Conservation from the University of Leeds. Joe has expertise in aquatic invasive species identification and control.

© JCA Limited 2020

The information 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

.....

Joe Earnshaw *BSc (Hons), MSc Biodiversity and Conservation, Qualifying CIEEM Member*

29th January 2020

Proofread by

.....

Amy Reddick MSc Conservation Biology, *Associate CIEEM member*

29th January 2020

For and on behalf of ***JCA Ltd***

Registered Office:

Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 OAD

Tel. 01422 376335
Fax. 01422 376232
Email: jon@jcaac.com
Web: www.jcaac.com

© JCA Limited 2020

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

JCA Limited

Arboricultural & Ecological Consultants

HEAD QUARTERS

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

Company Reg No: 05005041
VAT No: 686 4674 78