



Jowkin Lane, Bamford/Norden, Rochdale OL11 5NX

## PRELIMINARY ECOLOGICAL APPRAISAL

June 2017

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## CONTENTS

<b>1.0</b>	<b>Introduction</b> .....	<b>1</b>
<b>2.0</b>	<b>Method of Survey</b> .....	<b>1</b>
<b>3.0</b>	<b>Survey Results</b> .....	<b>3</b>
<b>3.1</b>	<b>Desktop Study</b> .....	<b>3</b>
<b>3.2</b>	<b>Phase 1 Habitat Survey</b> .....	<b>5</b>
<b>3.3</b>	<b>Animal Life</b> .....	<b>6</b>
<b>4.0</b>	<b>Evaluation and Assessment</b> .....	<b>7</b>
<b>5.0</b>	<b>Recommendations and Ecological Enhancement</b> .....	<b>8</b>
<b>6.0</b>	<b>Conclusion</b> .....	<b>9</b>
<b>7.0</b>	<b>References</b> .....	<b>10</b>
<b>8.0</b>	<b>Appendix 1: Figures</b> .....	<b>10</b>

### List of Tables

Table 3.1:	Non-statutory SBIs within a Two Kilometre Radius of the Site Boundary .....	3
Table 3.2:	Records of Protected Species within a Two Kilometre Radius of the Site .....	4
Table 5.1:	Further Surveys to Inform Planning Application at the Site.....	8

### List of Figures

Figure 1:	Phase 1 Habitat and Vegetation Map .....	10
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## 1.0 INTRODUCTION

- 1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Peel Holdings (Land and Property) Limited to carry out a preliminary ecological appraisal of Jowkin Lane, Bamford, Rochdale, OL11 5NX (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 8600 1324.
- 1.2 The appraisal was requested to determine potential ecological constraints and opportunities associated with any potential development of the site, and to identify any further ecological surveys which may be required to inform a planning application.
- 1.3 The scope of ecological surveys undertaken in April 2017 comprised a data search and a walkover Phase 1 Habitat Survey. The data from these surveys have been / will be used to:
- Identify any potential ecological constraints to any future development proposals, inform the preparation of a site masterplan and provide initial guidance on mitigation and compensation, if needed, and ecological enhancement in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
  - Identify any further surveys or precautionary actions that may be required prior to the commencement of development activities.

## 2.0 METHOD OF SURVEY

### Desktop Study

- 2.1 MAgiC (a web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites), Greater Manchester Local Record Centre (GMLRC), and Greater Manchester Biodiversity Action Plan (BAP) were consulted for information and ecological records for the site.

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## Vegetation and Habitats

- 2.2 A Phase 1 Habitat Survey of the site was carried out by Chris Schofield on 24<sup>th</sup> April 2017. The weather was overcast, with a light breeze (Beaufort Scale 2) and 9°C at 8.00am rising to 12°C in the afternoon. The conditions and time of year were suitable for the scope of ecological survey.
- 2.3 A habitat map, based on the Phase 1 Habitat Survey methodology (JNCC, 2010), was produced for the site and the immediate surrounding area at a scale of 1:4000 (refer to **Figure 1**). Habitats are described using those defined by the Phase 1 Habitat Survey methodology and, where appropriate, the National Vegetation Classification (NVC).
- 2.4 Searches were made for: uncommon, rare and statutorily protected plant species; species listed as protected in the *Wildlife and Countryside Act 1981* (as amended); species which are indicators of important and uncommon plant communities; and invasive species (as listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended)).

## Animal Life

- 2.5 Any signs of protected species were noted during the Phase 1 Habitat Survey. The habitats within and adjacent to the site were assessed to determine their suitability for use by protected species, including: amphibians (i.e. great crested newt), birds (i.e. breeding birds, wintering birds and Schedule 1<sup>1</sup> species, such as barn owl), terrestrial mammals (i.e. badger, bats, otter and water vole) and reptile species.

## Survey Limitations

- 2.6 The majority of the site was accessible, although the private residential gardens associated with Bamford Mews at the east of the site, the property at the southern tip of the site and at Mooredge Cottages at the west of the site, were not accessed but could be viewed from adjacent areas. It is considered suitable survey was possible to complete the scope of this preliminary ecological assessment.

## Evaluation Methodology

- 2.7 The habitats were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977), and were assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008)<sup>2</sup>. The ecological value of the habitats present have been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition* (CIEEM, 2016).
- 2.8 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Great Britain Department for Communities and Local Government, 2012) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedule 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2010* (as amended), is referenced where applicable.

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<sup>1</sup> Species listed under Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended).

<sup>2</sup> These lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*.

## 3.0 SURVEY RESULTS

### 3.1 Desktop Study

#### Site Designations

##### *Statutory Designated Sites for Nature Conservation*

- 3.1.1 There are no statutorily designated sites within a two kilometre radius of the site boundary.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the Rochdale Canal SSSI and Special Area of Conservation (SAC) which lies approximately three kilometres south-east of the site, and is important for its aquatic and emergent vegetation. The Impact Risk Zone at this distance states that Natural England should be consulted in relation to development activities which include aviation proposals (such as airports), developments causing air pollution (such as slurry lagoons and industrial processes) and combustion processes (such as waste incineration and sewage treatment works).

##### *Non-statutory Designated Sites for Nature Conservation*

- 3.1.3 The site is not, and does not form any part of, a non-statutory designated site for nature conservation.
- 3.1.4 Thirteen non-statutory Sites of Biological Importance (SBIs) lie within a two kilometre radius of the site boundary. The details of these sites are summarised in **Table 3.1**, below.

**Table 3.1: Non-statutory SBIs within a Two Kilometre Radius of the Site Boundary**

Site Name	Grid Reference	Distance from Site	Description
Naden Brook	SD 852 130	200m north-west	A corridor of ancient woodland characterised by both upland and wet woodland areas.
Plumpton Wood	SD 860 119	400m south	The site supports areas of broadleaf woodland, flushes and neutral and acid grassland communities within the former grounds of Plumpton Hall.
Meadowcroft Woods	SD 870 214	595m south-east	Large area of semi-natural woodland which has been identified as ancient woodland. 31 species of bird have been recorded as breeding here.
Old House & Mill Croft Brook	SD 848 141	665m north-west	Complex of woodlands the majority of which has been identified as ancient woodland.
Ashworth Valley	SD 845 131	765m west	Diverse and extensive upland woodland, wet woodland, scrub, heathland, flushes and acid grassland
Queens Park Lake	SD 860 116	840m south	An artificially created lake within parkland, which supports a herony which is reported to be the third largest in Greater Manchester.
Meadow by Heywood Cemetery	SD 867 118	945m south-east	A large field of semi-improved grassland which is important for the presence of meadow saxifrage, which is scarce in Greater Manchester.
Springfield Wood	SD 872 123	1km south-east	A corridor of ancient woodland along the southern bank of the River Roch.
Tack Lee & Gristlehurst Woods	SD 847 117	1.1km south-west	A variety of woodland communities forming part of an important corridor of ancient woodland.
Doctor Dam And Holt Wood	SD 855 149	1.2km north	Upland oak woodland which has been identified as ancient woodland.
Lomax Wood	SD 845 115	1.7km south-west	Area of woodland along the southern bank of the River Roch.
Fardoe & Naden Woods	SD 852 155	1.9km north	Area of woodlands adjacent to the south-west end of Greenbooth Reservoir.
Smethurst & Elbut Woods (East)	SD 839 115	1.9km South-west	Areas of woodland, scrub and grassland along the north bank of the River Roch.

3.1.5 The presence of the non-statutory designated sites is considered further at **Section 4.0**, below.

### Protected and Notable Species

3.1.6 GMLRC holds one record of pipistrelle bat species within the site.

3.1.7 GMLRC holds records for protected and notable species within a two kilometre radius of the site boundary; as summarised in **Table 3.2**, below.

**Table 3.2: Records of Protected Species within a Two Kilometre Radius of the Site**

Group	Species & Designation	Notes <sup>2</sup>
Amphibians	Common toad (WCA, PS)	5 records, the closest being 1.7 kilometres south of the site.
Terrestrial Mammals	Brown hare (PS, GMBAP)	1 record 1.8 kilometres north of the site.
	Badger (PBA, WCAs6)	45 records within a 2 kilometre radius of the site, no records within 250 metres of the site boundary.
	Brown long-eared bat (EPS, WCAs5, PS, GMBAP)	2 records of a roost, the closest 715 metres east of the site. 1 record of other signs of bats 1.2 kilometres south.
	Common pipistrelle (EPS, WCAs5, GMBAP)	23 records of a roost, the closest 160 metres south of the site. 104 records of other signs of bats, the closest being 260 metres west of the site.
	Daubenton's bat (EPS, WCAs5, GMBAP)	3 records of other signs of bats, the closest 810 metres south of the site.
	Noctule (EPS, WCAs5, PS, GMBAP)	3 records of other signs of bats, the closest 1.5 kilometres east of the site.
	Soprano pipistrelle (EPS, WCAs5, PS, GMBAP)	1 record of a roost 1.5 kilometres south of the site. 5 records of other signs of bats, the closest 560 metres north of the site.
	Whiskered bat (EPS, WCAs5, GMBAP)	3 records of a roost, the closest 1.1 kilometres east of the site. 3 records of other signs of bats, the closest 1.7 south-east of the site.
	<i>Myotis</i> species (EPS, WCAs5, GMBAP)	1 record of other signs of bats 1.2 kilometres south-west of the site.
	Pipistrelle species (EPS, WCAs5, GMBAP)	34 records of roosts, the closest 145 metres south of the site. 46 records of other signs of bats, with one record in the site boundary and the closest record in the wider area adjacent to the southern site boundary.
	Bat species (EPS, WCAs5, PS, GMBAP)	4 records of roosts, the closest 70 metres north of the site. 5 records of other signs of bats, the closest 210 metres north of the site.
	Otter (EPS, WCAs5, PS)	1 record the closest 1.7 kilometres south of the site.
	Water vole (WCAs5, PS, GMBAP)	1 record 930 metres south of the site.
Birds	Bullfinch (PS), barn owl (WCAs1), curlew (PS), dunnock (PS), grey partridge (PS), house sparrow (PS), kingfisher (WCAs1), lesser redpoll (PS), peregrine (WCAs1), reed bunting (PS), skylark (PS), song thrush (PS), spotted flycatcher (PS), starling (PS)	
Flowering plants	Floating water-plantain (PS, GMBAP)	
Insects	Wall (PS), white ermine (PS)	
<b>Key to Designation Codes:</b> <sup>1</sup> EPS = European Protected Species under <i>The Conservation of Habitats and Species Regulations 2010</i> (as amended); WCAs1 = Species receiving full protection under Schedule 1 of the <i>Wildlife and Countryside Act 1981</i> (as amended); WCAs5 = Species receiving full protection under Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> (as amended); WCAs6 = Species receiving full protection under Schedule 6 of the <i>Wildlife and Countryside Act 1981</i> (as amended); PBA = Protection of Badgers Act 1992 PS = Priority Species listed under Section 41 of the <i>Natural Environment and Rural Communities (NERC) Act 2006</i> GMBAP = Species listed under the Greater Manchester Biodiversity Action Plan <sup>2</sup> All measurements are approximate.		

## 3.2 Phase 1 Habitat Survey

### General Description (Refer to Figure 1)

- 3.2.1 The approximately 34.5 hectare site lies to the west of Rochdale in the suburban area of Bamford. The site comprises a landscape of fields of grazed pasture with boundary trees and hedgerows, amenity grass sports pitches, several groups of buildings, including Bamford Mews, Mooredge Cottages and a Cricket and Tennis Club, and areas of scrub, a patch of broadleaf woodland and tall-herb vegetation.
- 3.2.2 The site is bound by Norden Road and residential housing to the east beyond which is residential development, and by residential housing to the north. Jowkin Lane, Lower Jowkin Lane and Furban Road mark the western boundary of the site, beyond which is farmland pasture, the Naden Brook corridor and open countryside. Norden Road and Jowkin Lane meet at the southern tip of the site.

### Grazed Pasture

- 3.2.3 The southern, western and north-western areas of the site support field units of grazed farmland pasture. Predominantly the fields represent species-poor semi-improved grassland, composed of constant and abundant Yorkshire-fog (*Holcus lanatus*), frequent and locally abundant Soft-rush (*Juncus effusus*), frequent Meadow Foxtail (*Alopecurus pratensis*), Common Bent (*Agrostis capillaris*) and Creeping Buttercup (*Ranunculus repens*) and locally abundant Tufted Hair-grass (*Deschampsia cespitosa*), Timothy (*Phleum pratense*) and Perennial Rye-grass (*Lolium perenne*).
- 3.2.4 The grazed pasture field units are all comparatively similar in their species composition, however (as shown on **Figure 1**) four fields at the north and north-west of the site have a lower species diversity with fewer grassland species and a greater abundance of Yorkshire-fog, Dandelion (*Taraxacum officinale* agg.) and Ribwort Plantain (*Plantago lanceolata*).
- 3.2.5 Areas of lower lying and / or waterlogged soil conditions have colonised with dense Soft Rush and associated grass and herb species such as Tufted Hair-grass and Cuckooflower (*Cardamine pratensis*).
- 3.2.6 The grasslands are a mosaic of the MG7, MG6 and MG10 communities which are typically widespread across the British lowlands and characteristic of permanently moist grasslands.

### Amenity Grasslands

- 3.2.7 In central, eastern and north-eastern areas of the site are four amenity grass sports fields. These fields are species-poor and regularly mown and all represent the *MG7 Perennial Rye-grass ley* grassland community of the NVC, which is widespread and ubiquitous with sports fields such as these. These fields do not support any rare or notable species or habitats of ecological interest.

### Hedgerow and Field Boundaries

- 3.2.8 There is a network of native hedgerows across the site and around the site boundaries. Other field boundaries are demarcated by fenceline and/or by planted trees and shrubs.
- 3.2.9 The native hedgerows represent *Priority Habitat*, and along with the boundary trees and shrubs are of importance at the site and local level as they provide habitat corridors and structural diversity in a landscape dominated by farmland pasture.
- 3.2.10 All the hedgerows exhibit characteristics of the widespread and common *W21 Hawthorn – Ivy* scrub community of the NVC, which are planted in origin. Across the site the hedgerows vary in height and density as determined by the level and intensity of management over the years.
- 3.2.11 Some areas around the field boundaries indicate a lack of management and have developed dense Bramble (*Rubus fruticosus* agg.) scrub and/or tall ruderal herb vegetation with abundant Common Nettle (*Urtica dioica*).

- 3.2.12 These unmanaged scrub and tall-herb areas support the *OV24* Common Nettle- Cleavers open vegetation community and the *W24* Bramble – Yorkshire-fog underscrub community of the NVC. Both communities are common and widespread and are typical of unmanaged areas and field margins where there is a high soil nutrient content.

### **Broadleaf Woodland**

- 3.2.13 At the west of the site is a copse of mature broadleaf woodland, with abundant Beech (*Fagus sylvatica*) and occasional Pedunculate Oak (*Quercus robur*). The ground vegetation supports tussocky grass species, with abundant Yorkshire-fog, Cock's-foot (*Dactylis glomerata*) and Common Bent (*Agrostis capillaris*).
- 3.2.14 This wooded copse represents *Lowland Mixed Deciduous Woodland Priority Habitat*.

## **3.3 Animal Life**

### **Terrestrial Mammals**

- 3.3.1 No signs of badger were detected within the site, or within an accessible 50 metres of the site. However, this was a preliminary walkover survey and updated surveys will be required to inform any planning application at the site.
- 3.3.2 The site supports many groups of buildings which likely support features suitable for use by roosting bats. Also three trees were identified at the north and north-west of the site which support potential roost features (refer to **Figure 1**). Further surveys will be required if buildings or the identified trees are to be affected by development proposals. In addition, the boundary hedgerows and trees provide suitable foraging habitat for bat species, particularly edge-feeding species such as common pipistrelle and soprano pipistrelle which have been recorded in the wider area.
- 3.3.3 The boundary habitats also provide suitable shelter and corridors for hedgehog (*Priority Species*).

### **Amphibians**

- 3.3.4 There are no ponds or other waterbodies at the site which may provide opportunities for breeding amphibians such as great crested newt.
- 3.3.5 One pond (Pond 1) lies within a 500 metre radius of the site, and is located in the private grounds of Bamford Old Hall approximately 475 metres to the south-west. There is an abundance of favourable terrestrial habitats for amphibians in close proximity to Pond 1, with extensive woodland and scrub habitats associated with Naden Brook SBI which lies approximately 40 metres west of the pond.
- 3.3.6 Due to the lack of any favourable terrestrial habitats within the site compared to those closer to the pond, the considerable distance between the site and the pond (approximately 475 metres) and the lack of any ponds to the north or east of the site to which amphibians from Pond 1 may disperse across the site to, it is considered, at this stage, that the presence of great crested newt within the site can be reasonably discounted.

### **Birds**

- 3.3.7 Bird species observed and heard during the survey comprise robin, house sparrow, dunnoek, blue tit, long-tailed tit, magpie, song thrush, chaffinch, great tit, wren, wood pigeon, carrion crow, starling, goldfinch, jackdaw and swallow. Of the species detected, dunnoek, house sparrow and song thrush are *Priority Species*.
- 3.3.8 The wooded copse, boundary trees and hedgerows provide suitable nesting and foraging habitat for a range of passerine species, and it is considered likely many of the species detected above will breed at the site.
- 3.3.9 No ground nesting birds were observed within the site during the survey, although it is assessed the site does provide suitable habitat for ground-nesting species such as lapwing, skylark which have been



recorded in the wider area. The dense stands of rushes provide opportunities for nesting and wintering snipe.

### Reptiles

- 3.3.10 There are no known records of reptile species in the area, and the site does not support, and is not connected to, any favourable habitats for reptiles such as heathland or moorland; the presence of reptiles is currently discounted.

## 4.0 EVALUATION AND ASSESSMENT

### Designated Sites

- 4.1 Residential development at the site does not represent a development type for which Natural England require consultation in respect of the SSSI Impact Risk Zone in which the site lies.
- 4.2 The site does not support any habitats which significantly contribute to the designation of, or complement habitats within, the SBIs in the wider area.
- 4.3 It is considered residential development of areas of the site will have no direct or indirect adverse effect on any designated site for nature conservation in the wider area, provided there are no significant changes to the hydrological regime. However, as woodland habitats are of value and contribute to the features of interest at the SBIs in closest proximity to the site, it is suggested that a site layout could include additional belts of native woodland to connect up and provide habitat links between the SBIs, particularly to enhance the wildlife corridors with an east-west alignment.

### Phase 1 Habitat Survey

- 4.4 The preliminary survey has not identified any species-rich habitats or rare plant species within the site. The habitats and NVC communities identified are common and widespread across lowland Britain and are typical of the conditions present.
- 4.5 The boundary hedgerows and copse of broadleaf woodland at the west of the site are *Priority Habitat* and are of local value as they provide habitat connectivity and structural diversity, and provide habitat for nesting and foraging birds and for foraging bats. Recommendations for the protection and enhancement of these features as part of any development proposals are described at **Section 5.0**.
- 4.6 Indian Balsam (*Impatiens glandulifera*), Montbretia (*Crocsmia crocosmiiflora*) and Variegated Yellow Archangel (*Lamiastrum galeobdolon* subsp. *Argentatum*) were detected within the site (refer to **Figure 1**). These three species are all listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), and it is an offence to cause the spread of these species in the wild. Guidance in relation to the eradication of these species is presented at **Section 5.0**.

### Protected Species

- 4.7 Subject to an updated badger survey and further consideration of bat species in relation to tree felling and building demolition (if required), conservation of habitat connectivity and a lighting strategy, it is concluded that development can be achieved with no direct adverse effect on protected species. Mitigation for protected species, if present, if considered to be entirely feasible.
- 4.8 Implementation of the recommendations in **Section 5.0** will achieve protection and enhancement of habitat used by passerine and ground nesting birds, including Priority Species and provide opportunities for other wildlife.



## 5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

### Introduction and Preliminary Recommendations for Site Layout Design

- 5.1 These outlined recommendations aim to ensure that any proposed development is implemented in accordance with all wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.
- 5.2 Measures to ensure the site retains and enhances its value to wildlife will be required by any planning application. This will comprise retaining and protecting the habitats identified as being of ecological value (i.e. copse of mature trees, the dense areas of rushes (particularly where they connect with the wider open countryside) and the hedgerows). Unavoidable losses of these habitats to facilitate site accesses, for example must be adequately compensated for by replacement planting and this is considered to be feasible.
- 5.3 The site design must seek to retain and enhance wildlife corridors and habitat connectivity across the site by connecting woodland habitat and also by linking retained areas of dense rushes as part of a SuDS.
- 5.4 Opportunities should be explored to provide additional ecologically valuable habitats at the developed site, such as species-rich wildflower grassland and provision of ponds. For example, recommendations can be provided to utilise any required SUDS areas to incorporate species-rich marshy grassland.
- 5.5 It is recommended that a portion of the site, most suitably on the site margin, is allocated for continued application of agricultural management to provide continued opportunities for ground nesting birds and other fauna such as invertebrates.

### Further Surveys

- 5.6 To progress a planning application at the site the scope of ecological surveys listed at **Table 5.1**, below are recommended.

**Table 5.1: Further Surveys to Inform Planning Application at the Site**

Survey Type	Notes
Extended Phase 1 Habitat and Vegetation Survey	Detailed vegetation surveys of the habitats will be required to inform any planning application; these will include updated invasive species surveys. An assessment of each hedgerow under <i>The Hedgerow Regulations 1997</i> Wildlife and Landscape criteria is required to determine if hedgerows qualify as 'important'.
Bird Surveys	Breeding bird surveys and wintering bird surveys may be required to inform a planning application; discussion with the Local Planning Authority to confirm this prior to the submission of any planning application is recommended.  If any building within the site is to be affected, these should be assessed for the potential presence of barn owl.
Badger	Owing to the records of badger in the wider area, and as the site supports suitable habitat for sheltering and foraging badger, it is considered an updated badger survey is required to inform any development proposals.

Survey Type	Notes
Bat Surveys	<p>If any building within the site is to be affected by the proposals, an initial licensed daylight bat survey should be undertaken to assess the suitability of the buildings for roosting bats. It is likely that further dusk/dawn bat surveys would be required at buildings to confirm the presence or absence of roosting bats at any building to be affected.</p> <p>Similarly, if any of the three trees identified as having features suitable to support roosting bats are to be affected, further survey will be required to determine the presence or absence of roosting bats.</p> <p>Further bat activity surveys, comprising transect surveys and static detector surveys may be required if it is likely that hedgerows and / or the copse of woodland at the west of the site will be affected by any development proposals.</p>

- 5.7 If protected species (such as roosting bats and badger) are detected within the site, then a suitable mitigation strategy will be required to determine how the proposals can proceed whilst taking into account the presence of that protected species. Based on the size of the site it is considered that appropriate and proportionate mitigation is entirely feasible and can be accommodated.

### Habitat Management and Ecological Enhancements

- 5.8 Mitigation and enhancements, which are necessary as part of any development proposals, are likely to include the following:
- a) Long-term management of the retained habitats (such as hedgerows, rushy areas as part of the SuDS and woodland);
  - b) Details of habitat creation such as additional tree and hedgerow planting, species-rich grassland and ponds, and securing the long-term management of these habitats for their value for wildlife;
  - c) Allocation of a portion of the site of a suitable size and condition for the application of continued agricultural management for ground nesting birds and invertebrates;
  - d) Provision of bird and bat boxes on retained trees and proposed residential housing;
  - e) Provision of native species and species known to be of high value to local wildlife within the landscape design proposals; and
  - f) Implementation of an appropriate lighting strategy to minimise the impact on wildlife, in accordance with current guidance.

## 6.0 CONCLUSION

- 6.1 Further surveys are required to determine the presence or absence of protected species and to inform the scope of mitigation and compensation required. At this stage, it is considered that mitigation for protected species and other notable species such as Priority Species, if present, is entirely feasible.
- 6.2 Protection of habitats identified to be of ecological value such as hedgerows, dense rushes and mature woodland and incorporation into the site layout is recommended and considered entirely feasible.
- 6.3 Any development proposals should seek to incorporate appropriate ecological enhancements, such as native landscape planting, provision of bird and bat boxes, and establishing, where possible, species-rich grassland and ponds. It is considered provision of ecological enhancement including improvement of habitat connectivity, as required in accordance with the NPPF and local planning policy, is entirely feasible.

## 7.0 REFERENCES

- CIEEM, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition*. Winchester: Chartered Institute of Ecology and Environmental Management.
- Collins, J. (ed), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. London: The Bat Conservation Trust.
- Great Britain Department for Communities and Local Government, 2012. *National Planning Policy Framework*. London: H.M.S.O.
- Great Britain, 1981. *Wildlife and Countryside Act*. London: H.M.S.O.
- Great Britain, 2006. *Natural Environment and Rural Communities Act*. London: H.M.S.O.
- JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit*. Peterborough: NCC.
- Maddock, A (ed), 2008. *UK Biodiversity Action Plan: Priority Habitat Descriptions*. [Online] Available at: <http://jncc.defra.gov.uk/page-5718>
- Maddock, A., 2008. *UK Biodiversity Action Plan; Priority Habitat Descriptions (Updated Dec 2011)*. [Online] Available at: <http://jncc.defra.gov.uk/page-5706>
- Ratcliffe, D. A., 1977. *A Nature Conservation Review*. Cambridge: Cambridge University Press.
- Rodwell, J. S., 1991. *British Plant Communities: Volume 1, Woodlands and Scrub*. Cambridge: Cambridge University Press.
- Rodwell, J. S., 1992. *British Plant Communities: Volume 3, Grasslands and Montane Communities*. Cambridge: Cambridge University Press.
- Rodwell, J. S., 2000. *British Plant Communities Volume 5, Maritime Communities and Vegetation of Open Habitats*. Cambridge: Cambridge University Press.
- Stace, C. A., 2010. *New Flora of the British Isles 3rd Edition*. Cambridge: Cambridge University Press.

## 8.0 APPENDIX 1: FIGURES

### Figure 1: Phase 1 Habitat and Vegetation Map

