

Land off Hempton Road, Deddington,
Oxfordshire

Ecological Appraisal

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Pembury Estates Ltd in March 2018 to undertake an Ecological Appraisal in respect of proposed development of land off Hempton Road, Deddington, Oxfordshire.
- ii) **Proposals.** The proposals are for the development of the site to provide new dwellings and associated landscaping and infrastructure.
- iii) **Survey.** The site was surveyed in March 2018 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats and Badger.
- iv) **Ecological Designations.** The site itself is not subject to any statutory or non-statutory ecological designations. The nearest statutory designation is Bestmoor Site of Special Scientific Interest located approximately 3.4km south-east of the site. The nearest non-statutory designation is Deddington Mill Local Wildlife Site located approximately 0.7km to the north of the site. All of the ecological designations in the surrounding area are physically well separated from the site and are therefore unlikely to be adversely affected by the proposals.
- v) **Habitats.** The site comprises arable land with associated narrow field margins and a building and hardstanding surrounded by areas of disturbed ground. A small area of rough grassland is present in the south-eastern corner of the site. Hedgerows with a low number of trees bound the site to the west and south. The arable land, field margins, trees (which are young in age), disturbed ground, buildings and hardstanding are of value at the site level and their loss to the proposals is of minor/negligible ecological significance. The hedgerows along the western boundary of the site are Priority Habitats. These, along with the rough grassland are of value at the local level. The western hedgerows will be retained and enhanced under the proposals, whilst the loss of the southern hedgerow, trees and rough grassland will be offset by new landscape planting, incorporating native species.
- vi) **Protected Species.** The site generally offers limited opportunities for protected species. [REDACTED] and other mammals to move through the site and precautionary safeguards have been proposed to protect these species during construction. It is likely that birds are nesting within the hedgerows and Ivy on building B1 and could therefore be adversely affected by the proposals. Appropriate mitigation measures will be implemented to safeguard nesting birds during relevant works and long-term nesting opportunities will be maintained, if not enhanced, under the proposals. A sensitive lighting scheme will be implemented to minimise disturbance to any commuting/foraging bats and other nocturnal animals during and after construction.
- vii) **Enhancements.** The proposals present the opportunity to secure a number of biodiversity benefits, including additional native planting, creation of areas of wildflower grassland and wetland habitat. New roosting opportunities for bats, more diverse nesting habitats for birds, and habitat features for reptiles, amphibians and invertebrates will also be incorporated within the proposals.
- viii) **Summary.** In summary, the proposals have sought to minimise impacts on biodiversity and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm. On the contrary, the proposals present the opportunity to provide a net gain in biodiversity at the site.

1 Introduction

1.1 Background & Proposals

1.1.1 Aspect Ecology was commissioned by Pembury Estates Ltd in March 2018 to undertake an Ecological Appraisal in respect of proposed redevelopment of land off Hempton Road, Deddington, Oxfordshire, centred at grid reference SP 4596 3187 (see Plan 5347/ECO1).

1.1.2 The proposals are for redevelopment of the site to provide new dwellings and associated landscaping and access roads.

1.2 Site Overview

1.2.1 The site is located in north Oxfordshire within an urban-edge context. The site is bound to the north and west by arable land beyond which lies further open countryside, whilst Hempton Road bounds the site to the south beyond which lies sports playing fields and a Community Centre. To the east the site is bound by Wimborn Close and the western edge of the small town of Deddington.

1.2.2 The site itself is dominated by arable land, with small areas of rough grassland, disturbed ground, bare earth, hardstanding and a single building. A low number of hedgerows and trees are also present on-site.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are proposed so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are identified with reference to national conservation priorities and local Biodiversity Action Plans (BAPs).

2 Methodology

2.1 Desktop Study

- 2.1.1 In order to compile background information on the site and its immediate surroundings Thames Valley Environmental Records Centre (TVERC) was contacted, with data requested on the basis of a search radius of 2km.
- 2.1.2 Where information has been received from the above organisation this is illustrated on Plan 5347/ECO2, where appropriate.
- 2.1.3 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (15km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the site. Relevant information is illustrated on Plan 5347/ECO2, where appropriate.

2.2 Habitat Survey

- 2.2.1 The site was surveyed in late March 2018 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology¹, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal² to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to bats and Badger, as described below.

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

² Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) *'Guidelines for Preliminary Ecological Appraisal.'*

Bats³

Visual Inspection Surveys

- 2.3.2 **Buildings.** The building within the site was subject to specific internal and external inspection surveys using ladders, torches and binoculars where necessary in March 2018.
- 2.3.3 During the external inspection, particular attention was given to any potential roost features or access points, such as broken or lifted roof tiles, lifted lead flashing, soffit boxes, weatherboarding, hanging tiles, etc. and for any external signs of use by bats such as accumulations of bat droppings or staining. Binoculars were used to inspect any inaccessible areas more closely where appropriate.
- 2.3.4 During the internal inspection, evidence for the presence of bats was searched for with particular attention paid to any loft voids and relevant potential roost features and locations, such as ridge boards, rafters, purlins, gable walls, and mortise joints. Specific searches were made for bat droppings that can indicate present or past use and extent of use, whilst other signs that can indicate the possible presence of bats were also searched for, e.g. presence of stained areas, feeding remains, corpses, etc. Any droppings collected during the course of the surveys were visually assessed and attributed to a species where possible on the basis of size/shape/texture⁴. Where appropriate, samples of similar droppings were collected with gloved hands and put into labelled eppendorfs, and forwarded to the University of Warwick for DNA analysis.
- 2.3.5 **Trees.** Trees were assessed for their suitability to support roosting bats based on the presence of features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁵ as:
- Negligible;
 - Low;
 - Moderate; or
 - High.
- 2.3.6 Any potential roost features identified were also inspected for any signs indicating possible use by bats, e.g. staining, scratch marks, bat droppings, etc.

Badger (*Meles meles*)⁶

- 2.3.7 A detailed Badger survey was carried out in March 2018. The survey comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The following information was recorded:
- Number and location of well used/active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;

³ Surveys based on: English Nature (2004) '*Bat Mitigation Guidelines*' and Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

⁴ Stebbings, RE, Yalden DW and Herman, JS (2007). '*Which bat is it? A guide to bat identification in Great Britain and Ireland.*' The Mammal Society

⁵ Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

⁶ Based on: Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

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2.4 Survey Constraints and Limitations

- 2.4.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat survey was conducted within the optimal season, therefore allowing a robust assessment of habitats and botanical interest across the site.
- 2.4.2 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

2.5 Principles of Ecological Evaluation

- 2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016)⁷ – for full details refer to Appendix 5347/1.

2.6 National Policy Approach to Biodiversity in the Planning System

- 2.6.1 The National Planning Policy Framework (NPPF)⁸ describes the Government's national policies on 'conserving and enhancing the natural environment' (Chapter 11). NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' (2014) and ODPM Circular 06/2005⁹.
- 2.6.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss¹⁰, as shown at Paragraph 109, which states the planning system should contribute to and enhance the natural and local environment by:

'minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'

⁷ Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) 'Guidelines for Ecological Impact Assessment in the UK and Ireland'

⁸ Department for Communities and Local Government (2012) 'National Planning Policy Framework'

⁹ ODPM (2006) 'Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice'

¹⁰ DEFRA (2011) 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services'

2.6.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 118:

'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- *if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;'*

2.6.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2013¹¹, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm;
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.5 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2013, section 5.5).

2.7 Local Policy

2.7.1 The Adopted Cherwell Local Plan 2011-2031 (Part 1) is the principle planning document guiding future development within the Cherwell District. Of the policies within the Local Plan, the following are of relevance to ecology:

2.7.2 *'Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment. Protection and enhancement of biodiversity and the natural environment will be achieved by the following:*

- *In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources*
- *The protection of trees will be encouraged, with an aim to increase the number of trees in the District*
- *The reuse of soils will be sought*
- *If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted.*
- *Development which would result in damage to or loss of a site of international value will be subject to the Habitats Regulations Assessment process and will not be permitted unless it can be demonstrated that there will be no likely significant effects on the international site or that effects can be mitigated*
- *Development which would result in damage to or loss of a site of biodiversity or geological value of national importance will not be permitted unless the benefits of*

¹¹ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2013

the development clearly outweigh the harm it would cause to the site and the wider national network of SSSIs, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity

- *Development which would result in damage to or loss of a site or biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity*
- *Development proposals will be expected to incorporate features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value within the site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity*
- *Relevant habitat and species surveys and associated reports will be required to accompany planning applications which may affect a site, habitat or species of known or potential ecological value*
- *Air quality assessments will also be required for development proposals that would be likely to have a significantly adverse impact on biodiversity by generating an increase in air pollution*
- *Planning conditions/obligations will be used to secure net gains in biodiversity by helping to deliver Biodiversity Action Plan targets and/or meeting the aims of Conservation Target Areas. Developments for which these are the principal aims will be viewed favourably*
- *A monitoring and management plan will be required for biodiversity features on site to ensure their long term suitable management.*

2.7.3 *Policy ESD 11: Conservation Target Areas. Where development is proposed within or adjacent to a Conservation Target Area biodiversity surveys and a report will be required to identify constraints and opportunities for biodiversity enhancement. Development which would prevent the aims of a Conservation Target Area being achieved will not be permitted. Where there is potential for development, the design and layout of the development, planning conditions or obligations will be used to secure biodiversity enhancement to help achieve the aims of the Conservation Target Area.*

2.7.4 *Policy ESD 17: Green Infrastructure. The District's green infrastructure network will be maintained and enhanced through the following measures:*

- *Pursuing opportunities for joint working to maintain and improve the green infrastructure network, whilst protecting sites of importance for nature conservation*
- *Protecting and enhancing existing sites and features forming part of the green infrastructure network and improving sustainable connectivity between sites in accordance with policies on supporting a modal shift in transport (Policy SLE 4: Improved Transport and Connections), open space, sport and recreation (Policy BSC 10: Open Space, Outdoor Sport and Recreation Provision), adapting to climate change (Policy ESD 1: Mitigating and Adapting to Climate Change), SuDS (Policy ESD 7: Sustainable Drainage Systems (SuDS)), biodiversity and the natural environment (Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment), Conservation Target Areas (Policy ESD 11: Conservation Target Areas), heritage assets (Policy ESD 15) and the Oxford Canal (Policy ESD 16)*

- *Ensuring that green infrastructure network considerations are integral to the planning of new development. Proposals should maximise the opportunity to maintain and extend green infrastructure links to form a multi-functional network of open space, providing opportunities for walking and cycling, and connecting the towns to the urban fringe and the wider countryside beyond*
- *All strategic development sites (Section C: 'Policies for Cherwell's Places') will be required to incorporate green infrastructure provision and proposals should include details for future management and maintenance.'*

2.7.5 The Cherwell Local Plan 2011-2031 (Part 2) is currently in preparation and as such, saved policies from the 1996 Adopted Cherwell Local Plan are still in use to inform planning decisions. The following saved policies are of relevance to ecology:

2.7.6 *'C1. The council will seek to promote the interests of nature conservation. Development which would result in damage to or loss of sites of special scientific interest or other areas of designated wildlife or scientific importance will not normally be permitted. Furthermore, the council will seek to ensure the protection of sites of local nature conservation value. The potential adverse affect of development on such sites will be a material consideration in determining planning applications.*

C2. Development which would adversely affect any species protected by schedule 1, schedule 5 and schedule 8 of the 1981 wildlife and countryside act, and by the e.c. habitats directive 1992 will not normally be permitted.

C4. The council will seek to promote the creation of new habitats. In urban areas the council will promote the interests of nature conservation within the context of new development and will establish or assist with the establishment of ecological and nature conservation areas, where such areas would further the opportunity for environmental education and passive recreation and would not conflict with other policies in the plan.

C5. The council will seek to protect the ecological value and rural character of the following through the control of development:

- (i) The Oxford Canal and River Cherwell;*
- (ii) The flood plain of the River Cherwell;*
- (iii) Salt way, Banbury;*
- (iv) The mineral-railway footpath route and geological site of special scientific interest, Banbury;*
- (v) The urban woodlands to the south of St. Louis meadow, at Grimsbury green and to the north of Grimsbury reservoir, Banbury; (vi) Otmoor and the flood plain of the River Ray;*

C6. development adjacent to the River Thames will normally be resisted.'

3 Ecological Designations

3.1 Statutory Designations

Description

- 3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 5347/ECO2. The nearest statutory designation is Bestmoor Site of Special Scientific Interest (SSSI) located approximately 3.4km to the south-east of the site. The SSSI is designated on the basis of its semi-improved floodplain meadow which supports a wide range of flora including one of the largest British populations of Narrow-leaved Water-dropwort *Oenanthe silaifolia*. The site also supports good numbers of breeding waders. The next nearest statutory designation is Adderbury Lakes Local Nature Reserve (LNR) located approximately 3.8km north-east of the site. The LNR is designated on the basis of its lakes and woodland which support a wide diversity of flora and fauna. No other statutory designations of ecological importance are present within 5km of the site.
- 3.1.2 Natural England has developed Impact Risk Zones (IRZs) as an initial tool to help assess the risk of developments adversely affecting SSSIs, taking into account the type and scale of developments. The site sits within an IRZ in relation to Bestmoor SSSI, however the IRZ does not apply to residential development.

Evaluation

- 3.1.3 The site itself is not subject to any statutory ecological designations. All statutory ecological designations in the surrounding area are well separated from the site by existing development and agricultural land and given the nature and scale of the proposals, these designations are unlikely to be affected.

3.2 Non-statutory Designations

Description

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 5347/ECO2. The nearest non-statutory designation is Deddington Mill Local Wildlife Site (LWS) located approximately 0.7km to the north of the site. The LWS is designated on the basis of its wet woodland which is a national priority for nature conservation. The next nearest non-statutory designation is Daeda's Wood Woodland Trust Reserve located approximately 1km north of the site. The Reserve is part of the Woodland Trust's 'Woods on Your Doorstep' campaign and was planted in 1997 with species to represent local wet woodlands.

Evaluation

- 3.2.2 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are well separated from the site by agricultural land and given the nature and scale of the proposals, these designations are unlikely to be affected.

3.3 Priority Habitats

Description

- 3.3.1 The nearest area of ancient woodland is approximately 2.7km south-east of the site and there are no priority habitats, as identified using MAGIC, within or adjacent to the site.

Evaluation

- 3.3.2 Given the distance between the site and any Priority Habitats or ancient woodland, it is unlikely that any such habitats will be significantly affected by the proposals.

3.4 Summary

- 3.4.1 In summary, the site itself is not subject to any statutory or non-statutory ecological designations and it is unlikely that any such designations in the surrounding area will be significantly affected by the proposals.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 No specific records of any protected, rare or notable plant species from within or immediately adjacent to the site are included within the information returned from the Records Centre. No records of Priority Species were returned from within 2km of the site. No evidence for the presence of any protected, rare or notable plant species within the site was recorded during the survey work undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of intrinsic ecological value, such as in relation to the presence of rare plant communities or individual plant species of elevated interest. The likely effects of the proposals on the habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats/ecological features were identified within/adjacent to the site:

- Arable;
- Field Margins;
- Rough Grassland;
- Hedgerows;
- Trees;
- Disturbed and Recently Cleared Ground; and
- Buildings, Hardstanding and Bare Ground.

4.2.3 The locations of these habitat types and features are illustrated on Plan 5347/ECO3 and described in detail below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the site, a number of the hedgerows are considered to qualify as Priority Habitats. This is discussed further in the relevant habitat sections below.

4.4 Arable

Description

- 4.4.1 The site is dominated by arable land with narrow field margins. At the time of the survey field F1 (see Plan 5347/ECO3) had been planted with a spring grain crop (Photograph 1). A low abundance of arable weeds is present including Shepherd's Purse *Capsella bursa-pastoris* and Speedwell *Veronica* sp. Field F2 had been recently ploughed with no crop germinated at the time of survey (Photograph 2). A higher abundance of arable weeds are present within field F2 including Shepherd's Purse, Speedwell, Red Dead-nettle *Lamium purpureum*, Crane's-bill *Geranium* sp., Cleavers *Galium aparine*, Annual Meadow-grass *Poa annua*, Groundsel *Senecio vulgaris* and Smooth Sow-thistle *Sonchus oleraceus*.

Evaluation

- 4.4.2 The arable fields are subject to intensive agricultural management and thus support a very limited diversity and abundance of plant species. As such the arable fields are of value at the site level only and their loss to the proposals is of negligible ecological significance.

4.5 Field Margins

Description

- 4.5.1 The arable field margins range from 0.5m to 1m in width and support a low number of rough grassland and tall ruderal species including White Clover *Trifolium repens*, Cow Parsley *Anthriscus sylvestris*, Cleavers, Crane's-bill, Ivy *Hedera helix*, Red Dead-nettle and False Oat-grass *Arrhenatherum elatius* (Photograph 3).

Evaluation

- 4.5.2 The field margins are narrow and support a low number of common and widespread species. Arable field margins are a Priority Habitat type when managed for biodiversity, however, there is no indication that the margins present on-site are managed to benefit wildlife. Overall, the field margins are considered to be of ecological value at the site level and their loss to the proposals would be of minor ecological significance.

4.6 Rough Grassland

Description

- 4.6.1 The south-east corner of the site contains an area of rough grassland (labelled G1 on Plan 5347/ECO3). The sward height is variable, ranging from approximately 5-20cm and there was no evidence of recent management at the time of survey (Photograph 4). Species present within the sward include Perennial Rye-grass *Lolium perenne*, Yorkshire Fog *Holcus lanatus*, Cock's-foot *Dactylis glomeratus*, False Oat-grass, Cow Parsley, Dock *Rumex* sp., Vetch *Vicia* sp., Crane's-bill, Cleavers, Speedwell, Ragwort *Jacobaea vulgaris*, Spear Thistle *Cirsium vulgare*, Hogweed *Heracleum sphondylium*, Nettle *Urtica dioica* and Red Dead-nettle. Some littering is present within the grassland and access by vehicles has caused disturbance by the gateway and areas of bare ground (Photograph 5).

Evaluation

- 4.6.2 The grassland is dominated by a low diversity of common and widespread grass species, with a low abundance of herb species interspersed. Based on the type and abundance of

species present, the grassland resembles species-poor improved grassland. The combination of lack of management at the time of survey, littering and patches of bare ground/disturbance caused by vehicles reduces the value of this habitat. Overall, the grassland is considered to be of value at the site to local level. The loss of this habitat to the proposals is of minor ecological significance and could be offset by the creation of areas of wildflower meadow and native planting within the green space proposed in the northern area of the site.

4.7 Hedgerows

Description

4.7.1 Three hedgerows are present within the site (labelled H1, H2a and H2b on Plan 5247/ECO3). The hedgerows are located along the western and southern boundaries and are described in detail in Table 4.1 below.

Table 4.1: Hedgerow descriptions. Dominant woody species underlined, woodland ground flora species underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway

No.	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Comments (including structure / management)	Likely to qualify#
H1	2m	1m	<u>Cypress</u> , Horse Chestnut (y-sm) and Sycamore (y-sm)	1	Ivy and field margin species	<10% gaps	Dense, box cut	No
H2a	1.75m	1.5m	<u>Hawthorn</u> , Elder	2	Ivy and field margin species	-	Box cut, very gappy stock proof fencing within hedgerow.	No
H2b	2.5m	1.5m	<u>Hawthorn</u> , Elder	2	Ivy and field margin species	<10% gaps	Box cut, dense, not gappy. Stock proof fencing no longer present.	No

* estimated average woody species in any one 30m stretch

likely to qualify – as ecologically ‘important’ under the Hedgerows Regulations 1997

Evaluation

4.7.2 From a preliminary appraisal, none of the hedgerows are considered to be species-rich¹² nor are they likely to qualify as ‘important’ under the Hedgerows Regulations 1997, based on the number of woody species and associated features. Hedgerows H2a and H2b are likely to qualify as Priority Habitats based on the standard definition¹³, which includes all hedgerows (>20m long and <5m wide) consisting predominantly (≥80%) of at least one native woody species. It has been estimated that approximately 84% of countryside hedgerows in GB qualify as a Priority Habitat under this definition. The hedgerows provide linear connectivity within the site and with other off-site hedgerows. Overall, collectively the hedgerows within the site are considered to be of value at the site to local level.

4.7.3 The proposals incorporate the retention of hedgerows H2a and H2b, with the only loss occurring to H1 which is a non-native hedgerow and its removal is therefore of negligible

¹² i.e. five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual

¹³ Based on: Biodiversity Reporting and Information Group (2011) ‘UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions’, ed. Ant Maddock

ecological significance. Retained hedgerows will be protected during the construction phase of the proposals as per the recommendations included at Chapter 6 below. Furthermore, the proposals incorporate new hedgerow planting which will improve connectivity and increase the value of the site for wildlife.

4.8 Trees

Description

4.8.1 Four trees are present on-site, situated within hedgerow H1 (as set out at Table 4.1 above). The trees within the hedgerow are relatively small in size and young to semi-mature in age (Photograph 6).

4.8.2 A line of young to semi-mature trees is present off-site adjacent to the eastern boundary including Elder *Sambucus nigra*, Ash *Fraxinus excelsior*, Hazel *Corylus avellana*, Willow *Salix* sp., Cherry *Prunus* sp., and Field Maple *Acer campestre*. Ground flora along this boundary includes Lesser Celandine *Ranunculus ficaria*, Wood Avens *Geum urbanum*, Cow Parsley, Ivy, Cleavers, Nettle and Daffodil *Narcissus* sp.

Evaluation

4.8.3 The ecological value of the trees on-site is currently limited by their young age. The trees are not yet able to provide the wide range of ecological functions that are exhibited by mature trees and provide only limited support for other wildlife. As such, the trees are considered to be of value at a site level. The line of trees bounding the east of the site is of greater value due to the diversity of species and the provision of a wide linear feature. This tree line will be retained and protected under the proposals. Any loss of the trees within hedgerow H1 will be compensated for by new native tree planting as part of the landscape design.

4.9 Disturbed and Recently Cleared Ground

Description

4.9.1 The south of the site contains areas of disturbed ground which are becoming colonised with grasses, herbs and tall ruderal species. These areas contain piles of machinery, equipment and some rubbish (Photograph 7). A relic vegetable patch is also situated within the area of disturbed ground. Vehicle tracks are evident in places and there are patches of bare ground. Species present within the areas of disturbed ground include False Oat-grass, Yorkshire-fog, Mayweed *Matricaria* sp., Crane's-bill, Shepherd's Purse, Annual Meadow-grass, Red Dead-nettle, Willowherb *Epilobium* sp., Herb Robert *Geranium robertianum*, Cleavers, Dandelion *Taraxacum officinale* agg., Nettle, Speedwell, Ivy, Groundsel, Vetch, Rhubarb *Rheum* sp., White Dead-nettle *Lamium album* and Common Chickweed *Stellaria media*.

4.9.2 There are also several areas of recently cleared ground which appear to have previously been hedgerows as small tree stumps and brash are present, along with plant species commonly associated with hedgerows such as Ivy.

Evaluation

4.9.3 This habitat supports a limited diversity of common and widespread pioneer species typical of disturbed ground. Therefore, it is considered to be of value at the site level and the loss of the disturbed ground to the proposals is of negligible ecological significance.

4.10 Buildings, Hardstanding and Bare Ground

Description

- 4.10.1 A single building is present within the site, identified as B1 on Plan 5347/ECO3. Building B1 is an agricultural building of breeze block and metal frame construction with a pitched corrugated asbestos roof and cladding (Photograph 8). Ivy is becoming established on external surfaces of the building, as well as internally.
- 4.10.2 An area of hardstanding and bare ground is present to the south of building B1 which is predominantly devoid of vegetation, aside from small areas of common pioneer species colonising the edges of the hardstanding from the disturbed ground.

Evaluation

- 4.10.3 The buildings and hardstanding support a limited range of common and widespread floral species and are inherently of negligible ecological value (site level only). The loss of these features is therefore of negligible ecological significance. Potential for the buildings to support faunal species such as roosting bats is discussed below in Chapter 5.

4.11 Habitat Evaluation Summary

- 4.11.1 A summary of the evaluation of the habitats present at the site is set out at Table 4.2 below.

Table 4.2. Summary of habitat evaluation.

Habitat	Value
Arable	Site
Field Margins	Site
Rough Grassland	Site to Local
Hedgerows	Site to Local
Trees	Site
Disturbed and Recently Cleared Ground	Site
Buildings, Hardstanding and Bare Ground	Site

5 Faunal Use Of The Site

5.1 Overview

5.1.1 During the survey work, general observations were made of any faunal use of the site with specific attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of bats and Badgers, with the results described below.

5.2 Priority Species

5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England and Wales, respectively. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.2.2 During the survey work undertaken, the Priority Species House Sparrow *Passer domesticus*, Dunnock *Prunella modularis* and Yellowhammer *Emberiza citrinella* were recorded within the site. Skylark *Alauda arvensis* were recorded singing over the arable field adjacent to the west of the site. This is discussed further below.

5.3 Bats

5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 5347/2 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. A number of bat species are also considered S41 Priority Species.

5.3.2 **Background Records.** No specific records of bats from within or adjacent to the site were returned from the desktop study. Information received from TVERC returned two records of bats within the 2km search radius. These were for Common Pipistrelle *Pipistrellus pipistrellus* and Brown Long-eared Bat *Plecotus auritus*. Both records were located approximately 1.2km to the south-west of the site and dated 1995.

5.3.3 Survey Results

Visual Inspection Surveys

Buildings

5.3.4 Building B1, located in the southern part of the site, is a single storey agricultural building of breeze block and corrugated asbestos construction, with a pitched corrugated asbestos roof. The building is in active use for storage. Windows are present on the southern and western sides of the building and a lean-to extension of the same construction is present on the northern side of the building. A large hole is present in the roof of this extension and a further hole in the asbestos cladding provides access between the extension and the

main building. There are numerous holes in the cladding of the main building, creating a light and draughty environment and the construction materials provide poor insulating properties. Overall, building B1 offers negligible roosting opportunities for bats and no evidence of bat occupation, e.g. droppings, staining, feeding remains, etc., was recorded during the inspection survey.

Trees

- 5.3.5 A number of young to semi-mature trees are present on site. These trees exhibit negligible opportunities for roosting bats.

5.3.6 **Evaluation and Assessment of Likely Effects**

Roosting

Buildings

- 5.3.7 Building B1 provides negligible suitability for roosting bats and no evidence of roosting bats was recorded during the survey work undertaken. As such it is considered that no specific mitigation or licensing for bats is required for the demolition of this building.

Trees

- 5.3.8 The trees present on-site offer negligible opportunities for roosting bats and in the event that these trees are to be lost to facilitate development of the site, it is highly unlikely that roosting bats would be impacted.

Foraging/Commuting

- 5.3.9 The vast majority of the site comprises poor quality habitat for foraging/commuting bats, being dominated by arable land, disturbed ground, a building and hardstanding. The hedgerows at the boundaries and the adjacent tree line may provide some opportunities for foraging and commuting bats but overall, the site provides limited opportunities for this species group. The environment within the surrounding area contains hedgerows linked to pockets of woodland and grassland which are likely to offer more optimal foraging/commuting opportunities for bats. Taking this into consideration, along with the lack of background records for bats within the local area, the site is considered to be of value at no more than the local level to bats.
- 5.3.10 It is understood that the hedgerow along the western boundary of the site will be retained under the proposals. There is the opportunity to enhance this hedgerow and adjacent tree line through bolstering with native species, which will improve foraging and commuting habitat opportunities for bats. Furthermore, the creation of areas of wildflower grassland and seasonal wetland habitats as part of the landscape design will further increase the value of the site for foraging and commuting bats.
- 5.3.11 Hedgerow H1 is to be lost under the proposals however, this is considered to be of minor ecological significance because it does not form part of a wider linear feature; the hedgerow is fragmented by the development within the town of Deddington to the east. In addition, the hedgerow is heavily managed and likely to be subject to illumination from the adjacent road lighting at night. The loss of this hedgerow is therefore unlikely to significantly impact foraging and commuting bats and its loss will be compensated by new native hedgerow planting within the site. Hedgerows H2a and H2b and the adjacent tree line are of greater value as they provide linear features connecting the site to other suitable habitat for bats within the wider environment, including the River Swere to the

north. These hedgerows and the off-site tree line are to be retained under the proposals, therefore no adverse effects on commuting or foraging bats are anticipated.

- 5.3.12 Accordingly, subject to the implementation of the recommendations outlined at Chapter 6 below, along with other ecological enhancements, it is considered that the conservation status of local bat populations will be fully safeguarded under the scheme.

5.4 Badger

- 5.4.1 **Legislation:** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 5347/2 for detailed provisions). The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

- 5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance.^{14, 15}

5

- 5.4.4 **Survey Results and Evaluation.** During the survey no Badger setts were found within or immediately adjacent to the site. [REDACTED]

[REDACTED]. However, no other signs such as mammal trails, Badger hairs or foraging scrapes were observed. The areas of rough grassland and the arable crops (depending on the season) provide some foraging opportunities for Badger. The remainder of the site, being dominated by a building, hardstanding and disturbed ground provides limited opportunities for this species.

- 5.4.5 The site is surrounded by development to the east and south and by arable land to the north and west, providing limited habitat opportunities for Badger, which are more likely to be found in the areas of woodland and grassland in the wider countryside. Overall, it is considered that the site is of value at no more than the local level for Badger and it is unlikely that the proposals will have any significant adverse impact on local Badger populations. Nevertheless, precautionary safeguards are recommended to protect Badgers should they enter the site during construction (see Chapter 6).

- 5.4.6 Connectivity at the site for Badger movements will be maintained under the proposals through the retention of hedgerows H2a and H2b and the protection of the off-site tree line during construction. The connectivity will be enhanced by new native planting and the creation of an area of green space at the north of the site. Planting of fruiting shrubs within the area of green space as part of the landscape scheme will further improve the value of the site for Badgers.

¹⁴ English Nature (2002) 'Badgers and Development'

¹⁵ Natural England (2011) 'Badgers and Development: A Guide to Best Practice and Licensing', Interim Guidance Document

5.5 Other Mammals

- 5.5.1 **Legislation.** A number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are S41 Priority Species.
- 5.5.2 **Background Records.** No specific records of other mammals from within or adjacent to the site were returned from the desktop study. A number of records of Harvest Mouse *Micromys minutus*, Hedgehog *Erinaceus europaeus*, Otter *Lutra lutra* and Brown Hare *Lepus europaeus* (all of which are Priority Species) were returned from within the 2km search area around the site. The Harvest Mouse records were approximately 0.3km west of the site (dated 2000) and the Hedgehog record was approximately 0.4km east of the site (dated 2006). The records of Otter were all over 1km from the site (dated 2002, 2008 and 2012) and the Brown Hare record was located approximately 1.7km north-west of the site (dated 2011).
- 5.5.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to utilise the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species to the proposals is of negligible significance.
- 5.5.4 The desktop study returned three records of Harvest Mouse approximately 0.3km west of the site. The site contains very limited habitat for Harvest Mouse which prefers tussocky grasslands, reedbeds and woodland. Harvest Mouse will utilise field margins when they are managed for biodiversity however, the field margins on-site are very narrow and are not managed to benefit wildlife. It is therefore highly unlikely that this species is present on-site and as such, unlikely that Harvest Mouse will be significantly affected by the proposals.
- 5.5.5 Three records of Otter were returned from the desktop study, all over 1km from the site and associated with the River Swere to the north and tributaries of the River Cherwell to the south of the site. The site contains no watercourses or suitable habitat for Otter and it is therefore highly unlikely for this species to be present on-site and will not be significantly affected by the proposals.
- 5.5.6 Records of Hedgehog and Brown Hare were returned from the desktop study. The site provides some habitat opportunities for these species, particularly the arable land and rough grassland. However, the area of rough grassland is very small and abundant similar habitat opportunities (including many arable fields) are present adjacent to the site and within the local area. As such, there is no evidence to suggest the proposals will significantly affect local populations of these species. Nonetheless, there is potential for these species to utilise the site on occasion and, as such, it is recommended that precautionary safeguards are put in place to minimise the risk of harm to other mammals, including Hedgehog and Brown Hare, in the event that these species enter the site during construction (see Chapter 6).

5.6 Amphibians

- 5.6.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats

and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 5347/2 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*.

5.6.2 Background Records. No records of amphibians were returned from the desktop study within a 2km search radius of the site.

5.6.3 Evaluation and Assessment of Likely Effects. No waterbodies are present on-site, meaning there is no suitable breeding habitat for amphibians. Additionally, based on OS mapping no ponds appear to be present within 500m of the site. The site offers limited terrestrial habitat for amphibians, with the small area of rough grassland and narrow field margins providing the most suitable on-site habitat. However, isolation from any suitable breeding habitat makes it unlikely that amphibians are present on-site. Furthermore, no records of amphibians were returned from the record centre within 2km of the site. The site is therefore of no more than potential value at a site level for amphibians and it is unlikely that amphibians, including Great Crested Newts, will be adversely affected by the proposals.

5.7 Reptiles

5.7.1 Legislation. All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5347/2 for detailed provisions. All six reptile species are also S41 Priority Species.

5.7.2 Background Records. The desk study returned no records of reptiles within 2km of the site.

5.7.3 Evaluation and Assessment of Likely Effects. The site offers very limited opportunities for reptiles, being dominated by arable land and a building. Similarly to amphibians, the small area of rough grassland in the south-eastern corner and the narrow field margins provide the most suitable habitat for reptiles, however the small size of these habitats reduces their value. The site contains a number of rubble/wood piles within the area of disturbed ground which could provide potential refuge sites for reptiles should they be present on-site. However, the site is surrounded by poor quality habitat in the form of development to the south and east and arable land to the north and west, further reducing the likelihood of reptiles utilising the site. Furthermore, no records of reptiles were returned from the record centre. The site is therefore considered to be of value at a site level for reptiles and it is considered unlikely that this species group is present on-site. However, precautionary safeguards are proposed to protect reptiles in the unlikely event that they are sheltering within the rubble piles on-site (see Chapter 6). Subject to these safeguards, this species group is highly unlikely to be adversely affected by the proposals.

5.8 Birds

5.8.1 Legislation. All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 5347/2 for detailed provisions).

- 5.8.2 **Conservation Status.** The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status¹⁶. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species.
- 5.8.3 **Background Records.** Information returned from TVERC included records of a number of birds within the same 1km² grid square as the site including Quail *Coturnix coturnix*, Hobby *Falco subbuteo*, Barn Owl *Tyto alba* and Black Redstart *Phoenicurus ochruros*, all of which were recorded between 2000 and 2006. No further detail about the precise location of these records was available. Records were also returned for a number of bird species within 1km of the site, including the Red Listed species Corn Bunting *Emberiza calandra*, Linnet *Carduelis cannabina*, Skylark, Starling *Sturnus vulgaris*, Tree Sparrow *Passer montanus* and Yellowhammer, which are also all Priority Species. None of these records originate from within the site itself.
- 5.8.4 **Survey Results.** Several species of bird were observed within the site during the Phase 1 survey, including Yellowhammer, House Sparrow, Dunnock, Blackbird *Turdus merula* and Wood Pigeon *Columba palumbus*. Skylark was observed singing over the arable field adjacent to the west of the site. A number of old bird nests were also observed within Building B1 and birds were noted to be moving in and out of dense Ivy on the exterior of Building B1 which could provide nesting opportunities.
- 5.8.5 **Evaluation.** Yellowhammer, House Sparrow, Dunnock and Skylark are all Priority Species and listed on the Amber and Red lists as a result of declines in UK breeding populations. The hedgerows on-site provide suitable nesting opportunities for House Sparrow, Dunnock and Yellowhammer. Skylark are ground nesting birds and the arable land on-site may provide early season nesting opportunities for this species. The environment surrounding the site contains abundant similar nesting opportunities for these and other bird species, being dominated by arable land with hedgerows. Furthermore, the buildings within the town of Deddington provide additional nesting opportunities, particularly for House Sparrow which readily nests in holes and crevices within buildings. As such, there is no evidence to suggest the site is of elevated value at a local level for these species.
- 5.8.6 The proposals include the retention of hedgerows H2a and H2b on the western boundary of the site. Hedgerow H1 will be lost to the proposals, however, this is dominated by a non-native coniferous species and is therefore of less value to birds than hedgerows H2a and H2b which are dominated by native species. Nonetheless, the removal of hedgerow H1 could potentially affect any nesting birds that may be present at the time of works. Similarly, nesting opportunities are afforded by building B1 and its removal under the proposals may have adverse impacts on nesting birds. Accordingly, a number of safeguards in respect of nesting birds are proposed, as detailed in Chapter 6. New native hedgerow, shrub and tree planting will improve connectivity throughout the site and increase foraging and nesting opportunities for birds.

5.9 Invertebrates

- 5.9.1 **Legislation.** A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*,

¹⁶ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) 'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man' British Birds 108, pp.708-746

Fisher’s Estuarine Moth *Gortyna borellii lunata* and Lesser Whirlpool Ram’s-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5347/2 for detailed provisions. A number of invertebrates are also S41 Priority Species.

5.9.2 **Background Records.** No recent records of invertebrates were returned within the 2km search radius of the site.

5.9.3 **Survey Results and Evaluation.** The site is dominated by arable land and a building which are likely to support only a limited diversity of invertebrates. The site contains small areas of bare ground, occasional patches of tall ruderal and a small area of rough grassland but otherwise contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates¹⁷, such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site, lack of recent records of invertebrates in the local area and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that the proposals will result in significant harm to any protected, rare or notable invertebrate populations.

5.10 Summary

Table 5.1: Summary of faunal evaluation.

Species/Group	Level
Bats	Site - Local
Badger	Local
Other Mammals	Local
Amphibians	Site
Reptiles	Site
Birds	Local
Invertebrates	Site

¹⁷ Natural England (2010) ‘Higher Level Stewardship – Farm Environment Plan (FEP) Manual’, 3rd Edition

6 Mitigation Measures and Ecological Enhancements

6.1 Mitigation

6.1.1 Based on the habitats, ecological features and associated fauna identified within/adjacent to the site, it is proposed that the following mitigation measures (**MM1 – 5**) are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2013).

Hedgerows and Trees

6.1.2 **MM1 – Hedgerow and Tree Protection.** All hedgerows and trees, including the adjacent tree line, to be retained within the proposed development shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees/hedgerows.

Bats

6.1.3 **MM2 – Sensitive Lighting.** Light-spill onto retained and newly created habitat, in particular the retained hedgerows on the western boundary and tree line on the eastern boundary, will be minimised in accordance with good practice guidance¹⁸ to reduce potential impacts on light-sensitive bats (and other nocturnal fauna). This may be achieved through the implementation of a sensitively designed lighting strategy, with consideration given to the following key factors:

- **Light exclusion zones** – ideally no lighting should be used in areas likely to be used by bats. Light exclusion zones or ‘dark corridors’ may be used to provide interconnected areas free of artificial illumination to allow bats to move around the site;
- **Variable Lighting Regimes** – VLRs can be employed, which involve switching off/dimming lights for periods during the night, for example when human activity is generally low (e.g. 12.30 – 5.30am). The use of VLRs may be particularly beneficial during the active bat season (April to October). Motion sensors can also be used to limit the time lighting is operational;
- **Light barriers** – new planting (e.g. hedgerows and trees) or fences, walls and buildings can be strategically positioned to reduce light spill;
- **Spacing and height of lighting units** – increasing spacing between lighting units will minimise the area illuminated and allow bats to fly in the dark refuges between lights. Reducing the height of lighting will also help decrease the volume of illuminated space and give bats a chance to fly over lighting units (providing the light does not spill above the vertical plane). Low level lighting options should be considered for any parking areas and pedestrian / cycle routes, e.g. bollard lighting, handrail lighting or LED footpath lighting;

¹⁸ Stone, E.L. (2013) ‘Bats and lighting: Overview of current evidence and mitigation guidance.’ ILP (2011) ‘Guidance notes for the reduction of obtrusive light’ Institution of Lighting Professionals, GN01:2011; and Bat Conservation Trust (2014) ‘Artificial Lighting and Wildlife – Interim Guidance: Recommendations to help minimise the impact of artificial lighting’.

- **Light intensity** – light intensity (i.e. lux levels) should be kept as low as possible to reduce the overall amount and spread of illumination. The type of light should also be considered, for example lights with high ultraviolet content (e.g. metal halide or mercury lights) should be avoided or fitted with UV filters; and
- **Directionality** – to avoid light spill lighting should be directed only to where it is needed. Particular attention should be paid to avoid the upward spread of light so as to minimise trespass and sky glow.

Wild Mammals

6.1.4 **MM3 – Wild Mammal Construction Safeguards.** In order to safeguard any wild mammals should they enter the site during construction works, the following measures will be implemented:

- Any trenches or deep pits within the site that are to be left open overnight will be provided with a means of escape should a wild mammal enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;
- Any temporarily exposed open pipes should be blanked off at the end of each working day so as to prevent wild mammals gaining access as may happen when contractors are off-site;
- Any trenches/pits will be inspected each morning to ensure no wild mammals have become trapped overnight. Should a Badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped Badger be encountered a suitably qualified ecologist will be contacted immediately for further advice;
- The storage of topsoil or other 'soft' building materials in the site will be given careful consideration. Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and any essential mounds subject to daily inspections with consideration given to temporarily fencing any such mounds to exclude Badgers;
- The storage of any chemicals at the site will be contained in such a way that they cannot be accessed or knocked over by any roaming mammals;
- Fires will only be lit in secure compounds away from areas of wild mammal activity and not allowed to remain lit during the night;
- Unsecured food and litter will not be left within the working area overnight.

Reptiles and Amphibians

6.1.5 **MM4 – Destructive Search.** As a precautionary measure to minimise the risk of harm to any reptiles or amphibians that may be taking refuge within the rubble piles on-site, a destructive search of these features is proposed. Any potential refuge features, e.g. piles of rubble, heavy logs, brash piles, will be fingertip-searched by an ecologist prior to being carefully disassembled (i.e. 'destructively searched'). Any reptiles or amphibians encountered during the destructive search will be carefully rescued by the supervising ecologist and relocated to suitable habitat at the north of the site.

Nesting Birds

6.1.6 **MM5 – Timing of Works.** To avoid a potential offence under the relevant legislation, no clearance of suitable vegetation or the demolition of building B1 should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable,

any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 5m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

6.2 Ecological Enhancements

6.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local Biodiversity Action Plan (BAP). The recommendations and enhancements summarised below are considered appropriate given the context of the site and the scale and nature of the proposals. Through implementation of the following ecological enhancements (**EE1 – EE8**), the opportunity exists for the proposals to deliver a number of net gains for biodiversity at the site.

Habitat Creation

6.2.2 **EE1 – New Native Planting.** It is recommended that where practicable, new planting within the site be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Oak, Birch *Betula pendula* and Field Maple, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn, Hawthorn, Crab Apple *Malus sylvestris*, Hazel *Corylus avellana* and Elder.

6.2.3 **EE2 – Hedgerow Planting and Bolstering of Existing Hedgerows.** New species-rich native hedgerows should be incorporated within the proposals to improve connectivity, foraging and refuge opportunities for wildlife on-site and contributing to the local BAP which lists hedgerows as a priority. These new hedgerows should ideally link with retained hedgerows to maximise connectivity. Retained hedgerows should be bolstered with native species to improve the structure and diversity of the hedgerows. Fruit and nut bearing species such as Blackthorn and Hazel are particularly beneficial to wildlife as an additional food source.

6.2.4 **EE3 – Wildflower Grassland.** It is recommended that areas of wildflower grassland are created within the proposed green space in the northern area of the site such that, in combination with new native landscape planting, opportunities for biodiversity will be maximised under the proposals. This would make a positive contribution towards the local BAP, which lists 'lowland meadows' as a priority.

6.2.5 **EE4 – Seasonal Wetland Feature.** The proposals include the creation of an attenuation pond which, if guided by ecological principles, will improve opportunities for a range of wildlife while also helping to attenuate surface water run-off. The sinuous margins of the pond could be seeded with a suitable native marginal species mix. Where practicable, the pond should include areas of permanent water which will provide a constant habitat for aquatic species and also shallower areas of water/inundation zones to support different assemblages of species. This new habitat will provide seasonal opportunities for a range of amphibian and invertebrate species, along with foraging habitat and water supply for mammals and birds.

Bats

- 6.2.6 **EE5 - Bat Boxes.** A number of bat boxes could be incorporated within the proposed development. The provision of bat boxes will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. A number of bat boxes should be incorporated into a proportion of the new build where practicable. The precise number and location of boxes should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

Birds

- 6.2.7 **EE6 - Bird Boxes.** A number of bird nesting boxes could be incorporated within the proposed development, thereby increasing nesting opportunities for birds at the site. A number of Priority Species were recorded within and adjacent to the site and specific boxes to support these species, particularly House Sparrow which readily take up nests in boxes, should be used. The boxes should be incorporated into a proportion of the new build where practicable. The precise number and locations of boxes should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

Reptiles and Amphibians

- 6.2.8 **EE7 – Buried Log Piles.** A proportion of any deadwood arising from vegetation clearance works could be retained and partially buried in areas of new planting, adjacent to the new attenuation pond or areas of wildflower grassland within the proposed area of green space in the northern area of the site. These partially buried log piles will provide shelter and hibernation opportunities for reptiles and amphibians, as well as habitat for invertebrates, including saproxylic insects which require deadwood to feed on.

Invertebrates

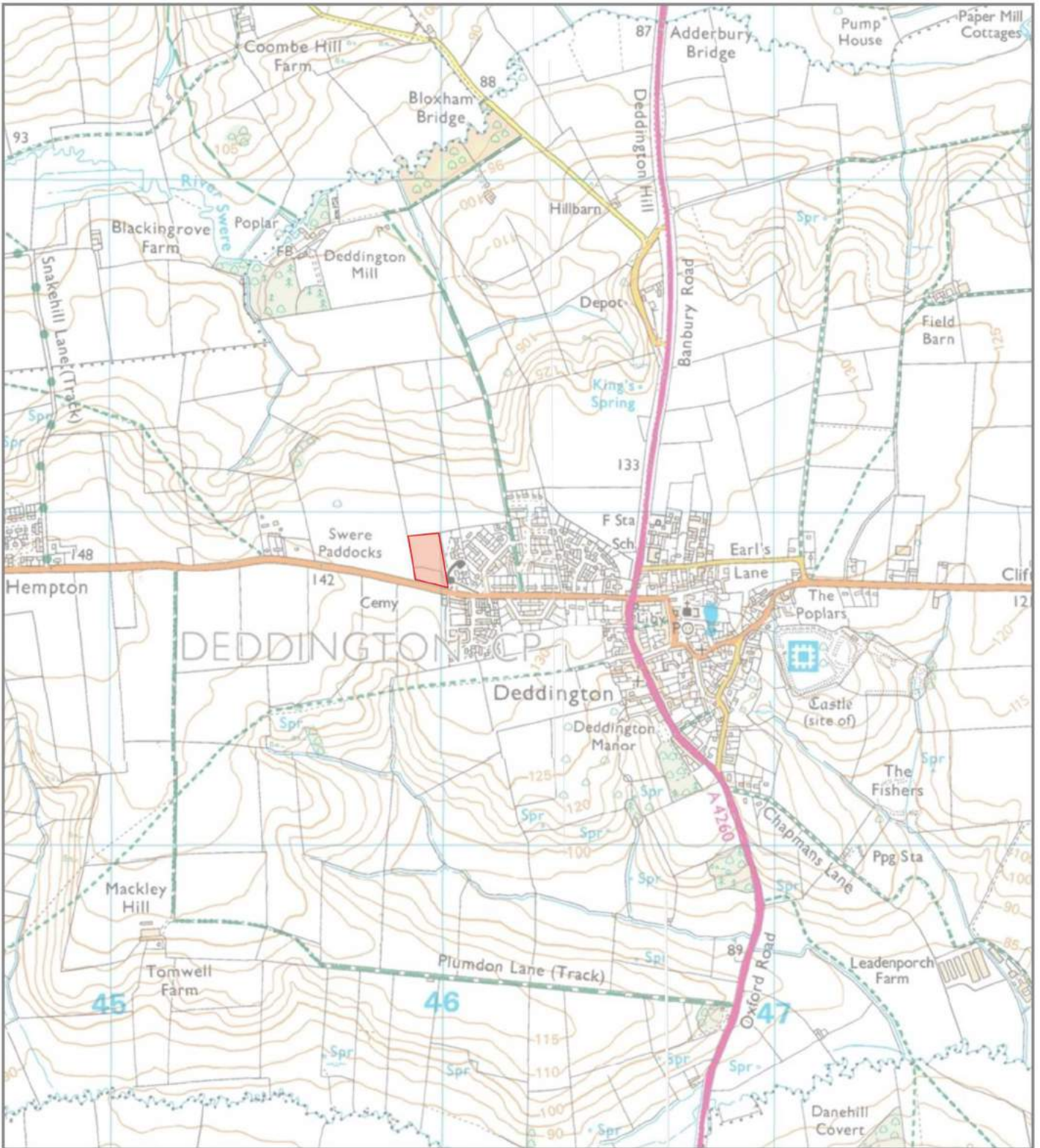
- 6.2.9 **EE8 – Nectar Source.** The wildflower mix could include various Bents *Agrostis* spp. and Hawkweeds (*Hieracium/Hypochoeris*), which will provide a food source for a range of invertebrates.

7 Conclusions

- 7.1 Aspect Ecology has carried out an Ecological Appraisal of the proposed development, based on the results of a desktop study, Phase 1 habitat survey and a number of detailed protected species surveys.
- 7.2 The available information confirms that no statutory or non-statutory nature conservation designations are present within or adjacent to the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals.
- 7.3 The Phase 1 habitat survey has established that the site comprises habitats of value at the site to local level and the proposals have sought to retain those features of greatest relative value (predominantly the native hedgerows). Where it has not been practicable to avoid loss of habitats, new habitat creation has been proposed to offset losses, in conjunction with the landscape proposals.
- 7.4 The habitats within the site offer limited opportunities for protected species. A number of mitigation measures have been proposed to minimise the risk of harm to any protected species that may be present on-site, with compensatory measures proposed, where appropriate, in order to maintain the conservation status of local populations.
- 7.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a number of biodiversity benefits as part of the proposals.

Plan 5347/ECO1:

Site Location



Key:



Site Location

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Site Location

5347/ECO1

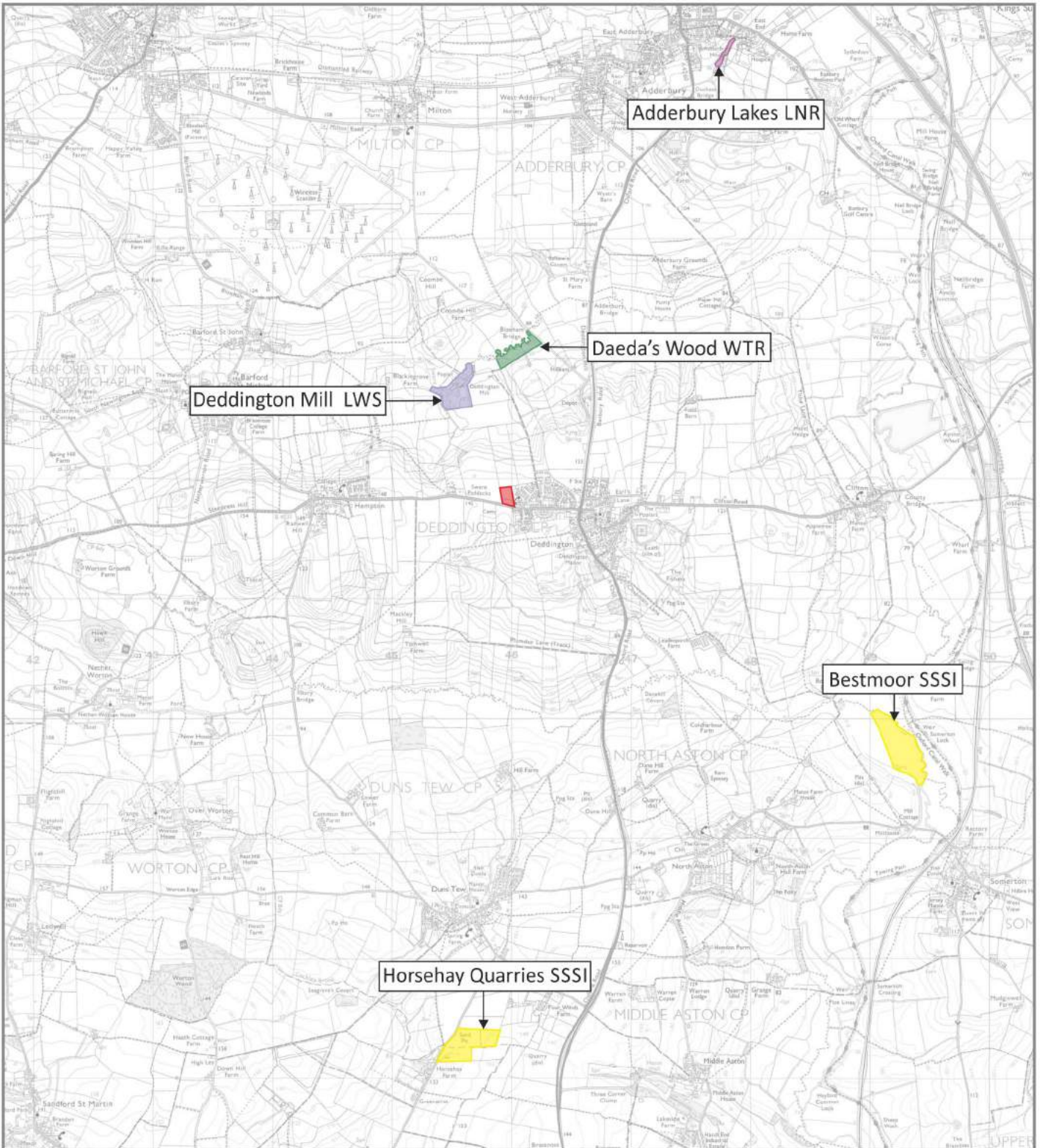
June 2018

PROJECT
 TITLE
 DRAWING NO.
 - REV.
 DATE



Plan 5347/ECO2:

Ecological Designations



Key:

-  Site Location
-  Site of Special Scientific Interest (SSSI)
-  Local Nature Reserve (LNR)
-  Local Wildlife Site (LWS)
-  Woodland Trust Reserve (WTR)

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Ecological Designations TITLE

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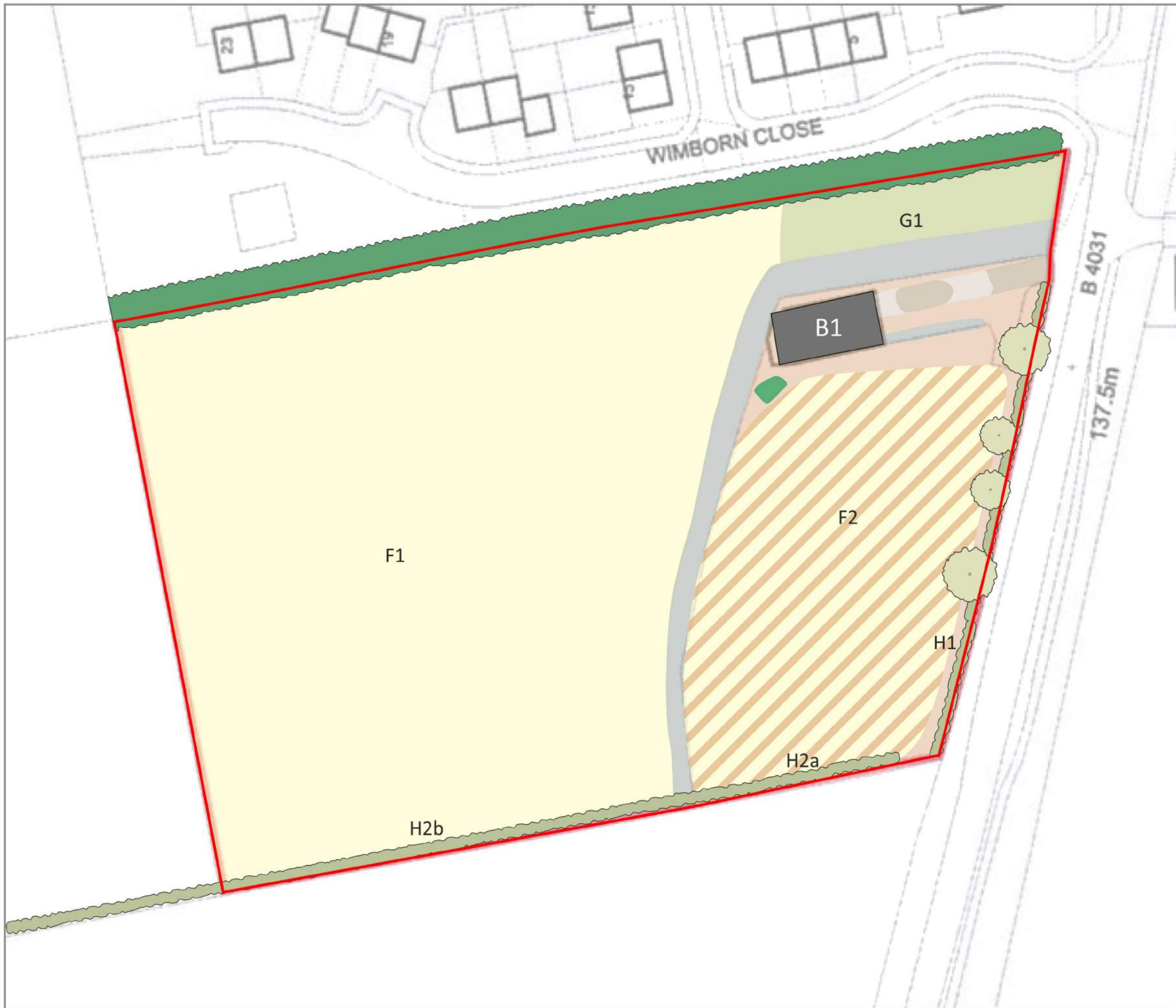
- REV.

June 2018 DATE



Plan 5347/ECO3:

Habitats and Ecological Features



- Key:
- Site Boundary
 - Arable
 - Ploughed
 - Rough Grassland
 - Recently Cleared Ground
 - Disturbed Ground
 - Band of Trees
 - Tree
 - Hedgerow
 - Relic Vegetable Patch
 - Bare Ground
 - Hardstanding
 - Building

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Photographs

Photograph 1 : Field F1



Photograph 2 : Field F2



Photograph 3 : Field Margin



Photograph 4 : Rough Grassland



Photograph 5 : Disturbance and litter in rough grassland



Photograph 6 : Trees



Photograph 7 : Machinery, equipment and rubbish within area of disturbed ground



Photograph 8 : Building B1



Appendix 5347/1:

Assessment Methodology

Principles of Ecological Evaluation

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland'¹.

Importance of Ecological Features

2. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
3. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);
- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

¹ Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal'

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

4. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

5. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
6. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
7. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of site importance.
8. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

9. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

10. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
11. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
12. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

13. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
14. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
15. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
16. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 5347/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017.** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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