



**ECOLOGY**SOLUTIONS

Part of the ES Group

Burrington Estates (Midlands)

HEMPTON ROAD,  
DEDDINGTON

**Landscape and  
Biodiversity  
Enhancement &  
Management Plan**

**Pursuant to Conditions  
14 & 15 of Planning  
Consent 18/02147/OUT**

January  
2021  
9549M.LBEMP.vf2

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## 1. INTRODUCTION

- 1.1 This Landscape and Biodiversity Enhancement and Management Plan has been prepared by Ecology Solutions Limited on behalf of Burrington Estates in respect of the Site known as Hempton Road, Deddington, hereafter referred to as the 'Development Site'.
- 1.2 The Development Site is in receipt of outline planning permission (Planning Ref. 18/02147/OUT) for the development of up to 21 dwellings together with access, garaging and landscaping (all matters reserved except the principal means of access from Hempton Road).
- 1.3 This document has been produced in order to discharge two planning Conditions attached to the planning consent (Condition 14 and Condition 15).
- 1.4 Condition 14 states:

*“Prior to the commencement of the development hereby approved including any demolition, and any works of site clearance, and as part of any reserved matters for layout and landscaping, a method statement and scheme for enhancing biodiversity on site such that an overall net gain for biodiversity is achieved, to include details of enhancement features and habitats both within green spaces and integrated within the built environment, shall be submitted to and approved in writing by the Local Planning Authority. This shall also include a timetable for provision. Thereafter, the biodiversity enhancement measures shall be carried out and retained in accordance with the approved details.”*
- 1.5 A note added to this Condition advises that a Biodiversity Impact Assessment is submitted to demonstrate how a net gain may be achieved.
- 1.6 Condition 15 states:

*“Prior to the commencement of the development hereby approved, a Landscape and Ecology Management Plan (LEMP) shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the development shall not be carried out other than in accordance with the approved LEMP.”*
- 1.7 Section 2 of this document (Ecological Baseline) summarises the existing baseline for the Development Site. The required habitat creation, biodiversity enhancement, and management measures (Method Statements) are provided within Sections 3 and 4 of this LBEMP. Section 5 details the Biodiversity Impact Assessment work which underpins the habitat creation and management measures detailed within this document.
- 1.8 The ecological baseline for the Development Site is set out in further detail within the Ecological Appraisal (June 2018) prepared by Aspect Ecology in support of the planning application.

- 1.9 The management prescriptions proposed give due regard to the pre-existing ecological baseline and ensure the measures set out in this document account for the faunal species recorded, or otherwise potentially present, in the local area.
- 1.10 The proposals set out in this document will ensure there will be no adverse impacts to protected species and will moreover maximise gains for biodiversity in general, such that overall there will be net gain in biodiversity, in line with Local and National Planning Policy.
- 1.11 The contents of this document have been written with reference to published guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM), and with regards to guidance produced by Natural England (NE) in relation to protected species.

## 2. ECOLOGICAL BASELINE AND EVALUATION

### Background

- 2.1.1 The Development Site was subject to ecological assessment work by Aspect Ecology in 2018, with this work sufficient to ascertain a robust baseline which informed the planning application. This Section outlines a brief summary of the key findings of this work. A detailed baseline is provided at Appendix 2.

### Results

#### Designated Sites

- 2.2 The assessment found there are no statutory or non-statutory nature conservation designations within the Development Site. Moreover, there are no nearby sites that would have the potential to be impacted by the proposed development.

#### Habitats

- 2.3 The Development Site is of generally low ecological value and consists of predominantly arable, field margins, rough grassland, hedgerows, trees, disturbed and recently cleared ground and buildings, hardstanding and bare ground. These habitats are deemed to be of low ecological significance.
- 2.4 A full species list for the Site as provided by Aspect Ecology is included within the relevant Ecological Assessment; however, a summary of the habitats present within the Site is extracted and provided below.

#### Habitats

##### *Arable*

- 2.5 The Development Site is dominated by arable land with narrow field margins. At the time of the survey, the field was planted with a spring grain crop, which included a low abundance of arable weeds. Another arable field had been recently ploughed with no visible crop germination, which had a higher abundance of crop weeds.

##### *Field Margins*

- 2.6 Fields margins are present along the boundaries of the arable fields. They range from 0.5m to 1m In width and support low numbers of rough grassland and tall ruderal species.

##### *Rough Grassland*

- 2.7 An area of rough grassland is present within the south-east of the Development Site. The sward height varies from approximately 5 to 20cm. It is dominated by a low diversity of common and widespread grass species, which resembles species-poor improved grassland.

### *Hedgerows*

- 2.8 There are three hedgerows within the Development Site, located along the western and southern boundaries, including two hedgerows consisting of Hawthorn *Crataegus* and Elder *Sambucus nigra*, and one hedgerow consisting of Cypress *Cupressus*, Horse Chestnut *Aesculus hippocastanum* and Sycamore *Acer pseudoplatanus*.

### *Trees*

- 2.9 Four trees are present within the Development Site, situated within the Cypress, Horse Chestnut and Sycamore hedgerow. The trees are all relatively small in size, and young to semi-mature in age.

### *Disturbed and Recently Cleared Ground*

- 2.10 Areas of disturbed ground present within the south of the Development Site are recolonising with grasses, herbs, and tall ruderal species. These areas contain piles of machinery, equipment and rubbish.

### *Buildings, Hardstanding and Bare Ground*

- 2.11 A single building is present within the Development Site, which is an agricultural building of breeze block and metal frame construction with a pitched corrugated asbestos roof and cladding. An area of hardstanding and bare ground is present south of the building, which is largely devoid of vegetation, aside from small areas of common pioneer species colonising the edges of the hardstanding from the disturbed ground.

### Faunal Species

- 2.12 The Development Site is considered to be generally of negligible value to protected and notable species.
- 2.13 Some sub-optimal opportunities exist for Hedgehog *Erinaceinae*, nesting birds and common invertebrate assemblages.
- 2.14 No evidence of Badger *Meles meles*, Great Crested Newts (GCN) *Triturus cristatus*, or roosting bat were recorded within the Development Site. Reptiles are equally considered to be absent from the Site.
- 2.15 It should be noted that careful consideration has been given to opportunities for protected species as part of the proposal, with appropriate mitigation and enhancement measures, as well as appropriate construction methodologies, secured in respect of the species potentially present on Site. These opportunities are further considered in Section 3 of this LBEMP (see Objective 2).

### 3. MANAGEMENT OBJECTIVES

- 3.1 The aims and objectives of the LBEMP are therefore to secure long term ecological enhancements within the Development Site and ensure further enhancements are realised through on-plot landscaping and on-going Site management.
- 3.2 The management prescriptions as outlined in this LBEMP will also ensure there will be no adverse impacts to protected and notable species which utilise the Site. Indeed, opportunities for enhancement are identified and prescribed.
- 3.3 The following objectives have been identified:
- Objective 1: Maintain and enhance retained and newly created habitats within the Site;
  - Objective 2: Maintain opportunities for protected species identified within the Site at a favourable conservation status; and
  - Objective 3: Increase biodiversity by maximising opportunities for flora and fauna.
- 3.4 Appropriate management options for achieving these objectives are set out below.
- 3.5 The landscape proposals are illustrated on the Illustrative Landscape Masterplan produced by Clews Landscape Architecture Limited, included at Appendix 1. Further detail regarding the planting requirements is included on this plan.

#### **Objective 1: Maintain and Enhance Retained and Newly Created Habitats Within the Site**

- 3.6 The Hawthorn and Elder hedgerows present at the southern and eastern boundaries of the Site are to be largely retained and enhanced as part of the proposals. The off-site treeline to the western boundary will also be retained and safeguarded as part of the proposals. While there will be minimal losses to short sections of hedgerow H1 in order to facilitate the construction of access roads, the scheme has been designed to ensure any losses to these features will be minimised.
- 3.7 The remaining habitats on site will be lost as a result of the development proposals.
- 3.8 The development proposals will see the creation of new, high quality habitats which will more than mitigate for these losses.

#### Retained Habitats

- 3.9 As above, linear wooded features at the boundaries of the Site are to be retained and safeguarded as part of the proposals. Protective fencing will be installed prior to the commencement of construction, in order to protect

areas of retained hedgerows prior to works commencing, particularly those immediately adjacent to proposed built form. Fencing will be undertaken in accordance with the current British Standard (BS 5837:2012) to protect roots from compaction. This will ensure direct impacts and severance/asphyxiation of roots are avoided.

- 3.10 Retained hedgerows and boundary vegetation will be subject to works including the selective removal of non-native specimens (i.e. the Cypress sp. in H1), and bolster planting as required to improve their structure, in-fill gaps and increase biodiversity. Hedgerow bolster planting will include for a range of native and wildlife beneficial species including Hawthorn, Hazel *Corylus avellana*, Holly *Ilex aquifolium*, Field Maple *Acer campestre* and Guelder Rose *Viburnum opulus*. The detailed species mix is provided at Appendix 1.
- 3.11 Regular health checks of the new planting will be undertaken, especially during periods of dry weather, to ensure the hedgerows are not affected by drought.

Where required, protection will be implemented to ensure young vegetation is not damaged by species such as rabbits *Oryctolagus cuniculus*. Planting will be undertaken during the autumn or spring, during suitable weather conditions, with subsequent monitoring required in order to identify any potential gaps where plants have not survived. Should gaps or areas of dead hedgerow be identified, then replacement planting will be undertaken.

- 3.12 Retained hedgerows will be cut once every two years on a rotational basis such that no more than 50% of hedgerows are subject to works in any one year. This will seek to enhance their structure and value to nesting birds. Cuts shall typically be undertaken as late into the autumn/winter period as possible, in order to ensure these features provide as much of a food resource as possible for birds. However, if management is required between March and July this will be preceded by a survey by an ecologist to check for nesting birds.
- 3.13 Cutting of native hedgerows will serve to ensure an 'A' shaped structure, with a minimum height of 2m.
- 3.14 Where possible, verges of hedgerows are to be managed to promote wildflower edges. Management will include a relaxed cutting regime in which hedge margins up to 1.5m will be cut once a season, ideally between late July and August. Weeding by hand of these verges will be conducted on a monthly basis during the establishment period in order to prevent the establishment of undesirable species.

#### New Habitat Creation

- 3.15 Newly created habitats within the Development Site will include areas of native scrub, trees, wet and dry meadow grassland, including a Sustainable Drainage System (SuDS), and amenity grassland planting.
- 3.16 Management prescriptions and monitoring requirements for these habitats are described below.

### Native Scrub Planting

- 3.17 New areas of native scrub planting will be planted predominantly along the south-western boundary of the Development Site. New planting will be located to provide an enhanced band of high quality wooded habitat which interlinks with existing boundary habitats within the Site.
- 3.18 Scrub planting will be planted at a frequency of between 5 to 7 plants of the same species, per square meter. All plants will be planted as feathered trees, whips and transplants ranging from 40cm to 80cm in height, in order to encourage structural diversity.
- 3.19 Scrub planting will comprise of native species of particular benefit to biodiversity, including berry and seed-bearing species such as Hawthorn, Common Dogwood *Cornus sanguinea*, Hazel, Dog Rose *Rosa canina*, Whitebeam *Sorbus aucuparia*, Wayfaring Tree *Viburnum lantana* and Guelder Rose.
- 3.20 All areas of new tree/shrub planting will be subject to a care programme during the establishment period, with maintenance, including cutting/pruning, undertaken where necessary to promote healthy vigorous growth
- 3.21 Additionally, regular health checks of newly planted trees will be made during periods of dry weather to ensure trees are not affected by drought, and in order to conduct pruning of dead/damaged branches as required.
- 3.22 Where necessary, protective fencing of tree guards will be installed to avoid grazing by herbivores.
- 3.23 From 'Year 3', new planting will be subject to management, to remove overly dominant species and to prevent encroachment of this habitat type into areas of wildflower grassland. At this stage it is considered that no more than 50% of the scrub habitat will be subject to works in any one year, thereby allowing for undisturbed habitat areas to remain each year (benefitting nesting birds).

### Planted Trees

- 3.24 Individual standard trees will be planted across the Development Site and will include a number of the species listed above, in addition to other natives such as Rowan *Sorbus aucuparia*, Bird Cherry *Prunus avium* and Silver Birch *Betula pendula*. Non-native trees will also be planted across the Site. While these trees will be ornamental in nature, many will still be flowering and a source of fruit and nuts (including fruit and seeding bearing varieties).
- 3.25 The condition of the newly planted trees within the Site will be monitored to ensure a favourable condition is maintained. All management involving tree removal and remedial arboricultural works to trees will be carried out by experienced and qualified contractors.

- 3.26 All areas of new tree planting will be subject to a care programme during the establishment period with maintenance, including cutting/pruning undertaken where necessary to promote healthy vigorous growth ('Years 1 to 5'). Regular health checks of newly planted trees will be made during periods of dry weather to ensure trees are not affected by drought, and in order to conduct relevant pruning when and if required.
- 3.27 Log and brash piles will be established using arising taken from ongoing management of trees and scrub, and will be situated in close proximity to trees/hedges, or otherwise near to the proposed SuDS feature. All dead wood produced in the future will be retained as an ecological feature, offering new habitat for saproxylic invertebrates, as well as potential hibernacula for amphibian and reptile species.

#### Grassland Habitats

- 3.28 New species-rich meadow grassland will be provided as part of proposals, both within margins of retained hedgerows, along the Site's northern boundary, and within the south-east of the Site surrounding the area of SuDS. These areas will be seeded with wildflower mixes suitable for use within both wet and dry habitats. Drier areas of meadow will be seeded with Emorsgate Seed's *General Purpose Meadow Mixture* (EM2), with wetter elements seeded with Emorsgate Seed's *Meadow Mixture for Wetlands* (EM8). This habitat will include a wide range of native species, which will be of benefit to a range of species, particularly foraging birds, invertebrates and amphibians.
- 3.29 Areas of proposed meadow grassland will be prepared through the removal of existing vegetation and tilling of soil (where required) prior to sowing, in order to produce bare ground within which seed mixes can be sown and bedded for germination.
- 3.30 Management of these swards in the first year will involve regular maintenance in order to ensure seeding development is successful, and that the growth of competitive weed species is controlled. Where required, weeding will be undertaken by hand or, if necessary, through the sensitive use of Glyphosate based chemicals. Cuttings should be removed immediately from Site. For the first few years, it may be necessary to re-seed areas of wet meadow in order a sufficient, self-sustainable seed-bank can develop.
- 3.31 Following sowing, the swards will be kept short (for approximately 6 months) such that light can help germination. For areas sown in the autumn, the sward shall be cut three times in the first year, once each in March, May and September. For any areas sown in the spring, the sward shall be cut once after six weeks (if sufficient growth), and then twice more in May and September.
- 3.32 Upon establishment (6 months to 1 year post-seeding) cutting of grassland within the Site will occur twice per annum, in order to remove undesirable species and/or more vigorous growth and thereby maximise the biodiversity value of the habitat. Subject to weather conditions, one of these cuts should be undertaken in the early spring (March to April), with the main 'hay cut' undertaken in the late summer, once wildflowers have set seed (typically late July to August). The sward should be cut to a

length between 40 to 70mm, upon the recommendation of the seed supplier. Following the summer cut, cuttings should be left on Site to dry for approximately seven days prior to removal, in order to allow for flower seeds to disperse.

- 3.33 The SuDS feature will be designed to have an uneven, 'pockmarked' basin, with this in turn ensuring varying depths and water permanence, thus encouraging greater habitat diversity over time. It should be regularly monitored to ensure the vegetation is maintained, and the water is being attenuated as desired.
- 3.34 By complying with the management regimes above, the need for additional management to grassland habitats in the form of weed removal or scrub clearance will be largely alleviated. Should additional management be required, this should be in the form of either manual or mechanical vegetation removal. Where this is not possible, Glyphosate based herbicides may be applied to habitats of concern, where necessary.
- 3.35 Management will be reviewed on a regular basis (as appropriate) by the developer's ecologist or landscape management team, in order to ensure biodiversity gains are realised in the long term, with iterations to be made if and when required. The guiding principle of management is to realise overall ecological gains and to ensure structural diversity across proposed grassland areas, to provide opportunities for the greatest range of species within the Site.
- 3.36 Other grassland habitats within the Site are limited to private gardens. These areas will be turfed with an appropriate, hard wearing lawn mixture. These habitats lie outside the remit of this management plan.

## **Objective 2: Maintain Opportunities for Protected Species at a Favourable Conservation Status**

- 3.37 Habitat creation and the introduction of a management regime will provide for a net enhancement in the quality of habitats present within the Development Site, compared to the existing situation. This will be of benefit to key species/groups, such as bats and birds. Management of boundary features will also ensure retained and improved connectivity to the wider area.
- 3.38 The measures detailed below fully accord with the prescriptions detailed within the Ecological Appraisal produced for the Site by Aspect Ecology.

### Bats

- 3.39 The provision of new, high quality landscape planting, comprising native scrub and trees will provide additional foraging and commuting opportunities for this faunal group. The enhancement of the hedgerows along the southern boundaries of the Development will avoid disruption to existing feeding and commuting behaviour and, indeed will provide enhanced opportunities for bats on Site.
- 3.40 The siting of individual lighting columns (to comprise LED lighting with no UV content) will be considered such that requirements for areas of built

form can be met with minimal spill onto semi-natural habitats. Where necessary, screening vegetation will be provided to minimise light spill into wider semi-natural areas. Additionally, accessories (such as baffles, hoods or louvres) will be utilised to further minimise light spillage and direct light below the horizontal plane to where it is required (limiting light to an angle of 70 degrees or below wherever possible). It is proposed for new lighting to comprise warm white LED with a colour temperature of 3000K or below.

- 3.41 In order to provide new roosting opportunities, currently not present within the Site, four bat roosting features (i.e. 'bat bricks') will be installed within the fabric of the newly developed built-form, in buildings located close to the Site boundary and retained hedgerows (as shown in Appendix 3). These features will be fitted in a south-westerly and south-easterly direction, or where it is considered best in order to maximise the appealability to bat species.
- 3.42 Bat boxes will be installed as close to the apex of the buildings as possible, with a minimum height of 12ft. Features will be installed away from artificial lighting (including glare from windows).

#### Badgers

- 3.43 On a precautionary basis, appropriate construction safeguards will be implemented to safeguard Badgers (and other mammal species) from accidental harm. These measures, as detailed within the Ecological Appraisal and will include:
- Any excavations left open overnight to be fitted with a means of escape (e.g. scaffolding plank or graded edge, and to be checked each morning by Site staff);
  - Open pipes to be blocked/covered at the end of each working day;
  - Soil mounds to be avoided where possible, and otherwise subject to daily inspections by Site staff.
- 3.44 The planting of new meadow grassland and scrub, as well as the retention and enhancement of hedgerow habitat within the Site, will provide an enhanced foraging resource for Badgers post-development, compared to the current baseline position.

#### Hedgehogs

- 3.45 Suitable areas for hedgehogs will be provided when the planted scrub have matured, and it is expected that arisings from management of the scrub will allow for the creation of hibernacula by piling dead wood/brush.
- 3.46 Further opportunities for hedgehogs will be delivered within the main Development footprint through the inclusion of 'hedgehog tunnels' between garden plots within the Phase 1 Site. Hedgehog tunnels will comprise small (13cm x 13cm) openings in the base of garden fences, providing a means for this species to migrate between gardens in the Phase 1 Site.

- 3.47 It is proposed for one hedgehog tunnel to be provided at each aspect of residential gardens (i.e. 3 in total per garden), where levels permit. This will ensure hedgehogs are able to disperse throughout residential parcels.

#### Birds

- 3.48 Birds will benefit from new landscaping and planting, particularly from berry bearing species, and the implementation of appropriate habitat management, as this will provide additional nesting habitats as well as an increased foraging resource.
- 3.49 Management of habitats will be undertaken with due consideration for potential use by birds. Any necessary management of vegetation will be undertaken outside of the main bird breeding season (March to July inclusive) wherever possible.
- 3.50 In order to allow immediate nesting opportunities for bird species, a total of six integrated nest boxes and two free hanging boxes will be provided. These include six House Sparrow *Passer domesticus* terrace bird boxes on the exterior of the built-form, and two Schwegler 1B bird boxes that will be located within the trees in the south of the site (as shown in Appendix 3). All boxes will be placed at a suitable orientation. Generally, for free hanging boxes this will be at a minimum height of 3.5m from ground level, ideally at 4.5 to 6m, with a northeast/northwest aspect. Free hanging boxes will be cleaned once a year and any damaged boxes will be repaired or replaced as necessary.
- 3.51 Integrated House Sparrow boxes will generally be provided in pairs, and at the highest point of the buildings to match the nesting preferences of the species.

#### Invertebrates

- 3.52 A range of pollinator and invertebrate friendly floral species are to be incorporated into the planting proposals, in order to increase the range of opportunities available to invertebrate species within the Site. This will include flowering shrub species which will offer an important early season nectar source, as well as a diverse range of wildflowers within meadow grassland areas.
- 3.53 The provision of log piles and habitat piles as part of the Development proposals will provide additional opportunities for saproxylic species within the Site (as shown in Appendix 3).

#### Other species

- 3.54 As a precautionary measure for reptiles and amphibians, a destructive search method will be employed within the on-Site debris piles. Any potential refuge features such as piles of rubble and brush piles will be fingertip searched by an ecologist, prior to being destructively searched. Any reptiles or amphibians found during the destructive search will be rescued by the supervising ecologist and relocated to suitable habitat located in the north of the Site.

### **Objective 3: Increase Biodiversity by Maximising Opportunities for Flora and Fauna**

- 3.55 The establishment of an ecologically sensitive management regime for the Site will ensure the biodiversity value of new and retained habitats is retained and enhanced in the long term. This adopted regime, as set out above, will facilitate the continued diversification (both structurally and botanically) of maturing habitats and, in turn, ensure a diverse range of opportunities to a wide range of faunal groups.
- 3.56 For example, SuDS habitats will be managed as wet meadow, within which a variation in micro-habitats will be sought through creating a pockmarked surface basin. This habitat will be sown with a species-rich mix which will hold much greater botanical diversity than the existing, species-poor grassland on Site.
- 3.57 Arisings from hedge, scrub and tree management will be used to create refugia, with these in turn offering new habitat for saproxylic invertebrates, as well as potential hibernacula for small mammal or reptile species, should either of these faunal groups colonise the Site in the future.
- 3.58 Additional planting within the in-plot Development areas will utilise planting mixes based around the use of native species, or those of benefit to wildlife (berry bearing varieties of shrubs and trees).
- 3.59 Bat boxes and bird nesting boxes will be provided on/within built-form in order to provide immediate benefits to these species.

#### Management Constraints

- 3.60 Management cannot be undertaken which compromises the survival or success of the species listed above. This will ensure conformance with relevant legislation relating to protected species.
- 3.61 All birds are legally protected from disturbance whilst actively nesting (generally March to August inclusive). Management of hedgerows, scrub and trees should therefore be undertaken outside the bird breeding season wherever possible.
- 3.62 Should any more mature trees, or those with obvious damage, or thick coverings of Ivy need to be felled as part of future management, these should first be surveyed by an appropriately experienced ecologist to check for the presence of bats. Should a bat roost be found, either during the initial survey or during felling work, work must stop immediately and cannot continue until appropriate advice has been sought. A licence from NE may be required.

#### **4. MONITORING AND MANAGEMENT RESPONSIBILITIES**

##### **Personnel Responsible for Implementation of the Plan**

- 4.1 Responsibility for implementation and continuation of this Management Plan will be placed with the appropriate management body who will ensure that management undertaken at the Site complies with the prescriptions as set out in this document, in order to ensure proper establishment. After this period, it is expected that habitat management will be undertaken on an 'as required' basis, whilst still confirming to the prescriptions (i.e. nesting bird constraints) as outlined within the document.
- 4.2 Where required, Ecology Solutions or another suitably qualified ecologist, will be able to advise on any specific questions or queries in regards to any issues regarding ecology or nature conservation which may arise.

##### **Monitoring and Remedial/Contingency Measures Triggered by Monitoring**

- 4.3 On the basis there are no significant constraints related to protected species within the Development Site, and given the nature of the new landscape planting and management proposed, it is considered that monitoring required for the Development should be limited to the establishment period of the natural habitats proposed, with annual monitoring undertaken thereafter.
- 4.4 Annual monitoring checks will be undertaken to highlight any Site specific problems (such as disease or damage to flora, or the presence of invasive species) or to identify problems associated with past management regimes. Upon identification of such issues, suitable remedial works will be implemented.
- 4.5 It is considered these checks need not be undertaken by a qualified ecologist, and could instead be undertaken by the management body employed to undertake the duties prescribed elsewhere in the LEMP.
- 4.6 Notwithstanding the above, it is noted there may be occasions when felling or remedial measures (e.g. from a health and safety perspective) will be required in respect of trees. Checks for nesting birds will also be necessary for any works undertaken within the main bird breeding season (March to August inclusive).
- 4.7 Additionally, should any works be required on the buildings which either directly impact the integrated/attached bat roosting or bird nesting features, or could indirectly impact them, then Ecology Solutions, or another suitably qualified appointed ecologist, should be contacted in order to provide specialist advice.

## 5. BIODIVERSITY IMPACT ASSESSEMENT CALCULATION

- 5.1 The above habitat measures include detailed methods to achieve appropriate habitat creation, management, and enhancement for the Development Site, and will be sufficient to elevate its ecological value and its contribution to the biodiversity of the local area.
- 5.2 In accordance with Condition 14, a full Biodiversity Impact Assessment (BIA) using the latest DEFRA Metric (Version 2.0) has been applied to further inform the enhancements .
- 5.3 The mechanism of the BIA considers the baseline value of the site (by calculating 'biodiversity units') and compares this with the proposed condition of the site following habitat creation, enhancement and management. This is applicable to each Habitat Unit (given as an area measurement) and hedgerow units (given as a linear measurement).
- 5.4 As a result of the management prescriptions as outlined above, the results of the BIA have returned a significant net gain of **+0.17 Habitat Units** (+8.21% net gain), and a **+0.52 Hedgerow Units** (+152% net gain). The results of which are included at Appendix 4.
- 5.5 The Biodiversity Calculator for the proposals is provided at Appendix 4.

## 6. WORK PROGRAMME

Objective	Receptor	Management Prescription	Timing of Works	Commencement, Frequency, and Duration of Works
1. MAINTAIN AND ENHANCE RETAINED AND CREATED HABITATS	Species-rich wet meadow and Sustainable Drainage System	Weed and invasive plant removal.	Monthly during establishment period. Periodically as required thereafter.	Year 1 (during establishment) and as required thereafter.
		Mowing regime (establishment).	If autumn sown the sward shall be cut 3 times in the first year, once each in March, May and September, in order to encourage successful germination. If spring sown, then the sward shall be cut once after six weeks (if sufficient growth) and then twice more in May and September.	As specified, annually.
		Mowing regime (long-term).	Commence Year 2, with twice annual cuts thereafter. Main annual cut of meadow grassland to occur between July and August. Additional cuts to occur in early spring.	As specified, twice annually.

		Long-term management of scrub encroachment.	As required following annual assessment. Conduct outside of the main bird breeding season (March to July) wherever possible.	Annually.
Amenity grassland.		Weed and invasive plant removal.	Monthly during establishment period. Periodically as required thereafter.	Year 1 (during establishment) and as required thereafter.
		Long term mowing regime.	Several cuts per annum, with frequency dependent on growth rates.	Annually.
Hedgerows.		Protect/bolstering of retained hedgerows (through installation of temporary protective fencing and infill planting).	Duration of construction phase, and during planting season.	Construction phase, Year 1 (during establishment).
		Monitoring of new hedgerow bolstering to ensure establishment.	Monthly during establishment period. Remedial works as required.	Year 1 (during establishment).
		Cut native hedgerows once every two years on a rotational basis where possible. Cuts to be undertaken as late as possible in autumn or winter to provide feeding resource for birds.	Every 2 years on a rotational basis. Conduct outside of main bird breeding season (March to August) wherever possible.	Every two years. 50% cut per annum.

	Trees and native scrub planting.	Protect retained trees (through installation of temporary protective fencing).	Duration of construction phase.	Construction phase.
		Monitoring of new tree and scrub planting to ensure establishment – including orchard planting.	Monthly during establishment period. Remedial works/replacement as required.	Years 1 to 5.
		New and retained trees, subject to appropriate arboriculture, to prolong life and make safe.	Annually as required. Conduct outside of main bird breeding season (March to August) wherever possible.	Annually.

2. MAINTAIN POPULATIONS OF PROTECTED SPECIES AT A FAVOURABLE CONSERVATION STATUS	Bats.	Installation of integrated bat boxes.	Bat box installation in Year 0 (during construction).	-
		Sensitive habitat management.	See above in relation to specific habitats. Trees with bat potential to be subject to appropriate surveys (and to be licenced where required) ahead of works commencing.	-
	Birds	Nest boxes to be installed within built-form and on trees. Free hanging boxes to be cleaned once a year (in the autumn) and repaired when necessary.	Annual condition checks and replacement as necessary.	Annually.
		Any management work to trees to be sympathetic to breeding birds.	See habitats above. Avoid undertaking management work during main bird breeding season 1 March to 31 August.	Annually.
	Invertebrates	Sensitive habitat management.	See above in relation to specific habitats.	-
		Creation of deadwood habitat.	Commence in Year 0 (construction phase) and on annual basis thereafter.	-
3. INCREASE BIODIVERSITY BY MAXIMISING		Provision of log piles, when available.	As applicable following tree works.	Annually or when necessary.
		Maintenance of free hanging bird boxes.	Annual checks.	Annually.

OPPORTUNITIES FOR FLORA AND FAUNA		Annual habitat management, as detailed above, will increase the biodiversity value of the new development over time.	As applicable (see above).	Annually.
		Creation of hedgehog tunnels in garden boundary features.	During construction.	-
		Management of hedgerows, trees and scrub to be undertaken outside breeding bird season where possible, with specific surveys undertaken if conflicts are likely.	As necessary, see habitats above.	Annually.

## **APPENDICES**

## **APPENDIX 1**

### Landscape Masterplan



**HARD LANDSCAPE**

- FLAG PAVING**  
Marshalls Saxon textured paving 600x450x50mm colour - natural laid stretcher bond according to manufacturer's recommendations
- KERBS AND EDGINGS**  
Kerbs to be Marshalls Saxon concrete kerb 145 x 255mm, colour - Natural  
Edgings to be Marshalls Saxon concrete edgings 150 x 63mm, colour - Natural
- ROAD BANDS/ Rumble Strips 1.2m wide**  
Marshalls Tegula blocks, laid in stretcher courses 160mm gauge with random sizes  
Colour: Harvest
- PARKING COURTS/ DRIVEWAYS**  
Marshalls Tegula blocks, laid in stretcher courses. White demarcation blocks 160mm gauge with random sizes  
Colour: Pennant Grey
- ASPHALT ROAD SURFACE**  
Installed with road gulleys to engineers specifications
- ASPHALT FOOTPATH**  
To engineers specifications  
Installed with 160 fall to road
- CLOSEBOARD FENCE**  
1.8m high timber close-board fence with matching pedestrian gates to rear gardens
- STONE WALLING**  
1.8m high coursed local ironstone boundary walling

**SOFT WORKS**

- EXISTING TREES TO BE REMOVED**  
See tree survey for further information
- EXISTING TREES TO BE RETAINED**  
See tree survey for further information
- TREES: 36no.**  
1m3 pit - 1x1m by 1m deep with aeration pipe. Prior to backfilling base and sides of pit/ trench/ bed to be broken up to an additional depth of 150mm to facilitate drainage. Trees to be double staked and centrally tied specialist rubber tree tie at 1.2m. Backfill with imported good quality topsoil with an additional 200mm of PAS 100 compost and Slow release fertilizer: ENMAG CRF at 50g per m2 and finish worked surface with 50mm bark mulch cover. Root barriers to be used to contain roots as required near structural services.
- SPECIES:**

SPECIES	LABEL	GIRTH	HEIGHT	CLEAR STEM
Acer campestre	Ac	12-14cm	3.5-4.25m	1.8-2.1m clear stem
Betula pendula	Bp	12-14cm	3.5-4.25m	1.8-2.1m clear stem
Carpinus betulus	Cb	12-14cm	3.5-4.25m	1.8-2.1m clear stem
Morus nigra	Mn	12-14cm	3.5-4.25m	1.8-2.1m clear stem
Pinus austriaca 'Piena'	Pa	12-14cm	3.5-4.25m	1.8-2.1m clear stem
Quercus robur	Qr	12-14cm	3.5-4.25m	1.8-2.1m clear stem
Sorbus aria	Sa	12-14cm	3.5-4.25m	1.8-2.1m clear stem
Sorbus aucuparia SP.	Sac	12-14cm	3.5-4.25m	1.8-2.1m clear stem

- SHRUBS: 254m2**  
Ornamental Shrubs to be planted in cultivated beds 450mm deep  
Prior to backfilling add in 50mm PAS 100 compost (as specified) to base and backfill with imported good quality topsoil adding Slow release fertilizer: ENMAG CRF at 50g per m2. Finish surface with 50mm bark mulch cover.
- SPECIMEN SHRUBS**  
Planted as above
- SPECIES:**

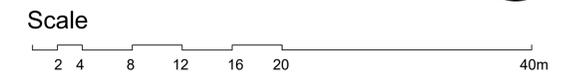
SPECIES	SIZE	AGE	ROOT	LENGTH
Ameisancier lamarckii	175-200cm	25L	Multi-stem	
Buxus sempervirens	40-50cm	10L	Topiary ball	
Mahonia x media 'Winter Sun'	900-1200mm	15L		
Miscanthus sinensis 'Gracillimus'	100-150cm	12L	Full pot, fully rooted pot	
Viburnum x burkwoodii	900-1200mm	15L		

- HEDGES:**  
Hedge to be planted in cultivated bed 450mm deep.  
Prior to backfilling add in 50mm PAS 100 compost (as specified) to base and backfill with imported good quality topsoil adding Slow release fertilizer: ENMAG CRF at 50g per m2. Finish surface with 50mm bark mulch cover.  
Planted at 450mm centres in a double staggered row. Rows to be 400mm apart.
- HEDGE TYPE**

HEDGE TYPE	SIZE	AGE	ROOT	LENGTH
Carpinus betulus (Hornbeam)	40-60cm	1+1	OG	75LinM
Native species rich	40-60cm	1+1	OG	152LinM

- WILDFLOWER MEADOW: 1150m2**  
To road verges and public open spaces  
Seeded with EM2 - STANDARD GENERAL PURPOSE MEADOW MIXTURE @ 5g/m2  
Supplier: Emorsegate Seeds  
Web: www.wildseed.co.uk
- WETLAND SWALE MEADOW: 1350m2**  
To road verges and public open spaces  
Seeded with EM8 - MEADOW MIXTURE FOR WETLANDS @ 4g/m2  
Supplier: Emorsegate Seeds  
Web: www.wildseed.co.uk
- AMENITY GRASSLAND: 650m2**  
To road verges and public open spaces  
Seeded with A19 (All purpose Landscaping) @ 50g/m2 (500kg/ha)  
Supplier: Germinal Amenity  
Web: germinalamenity.com
- BACK GARDENS:**  
To be turfed or seeded with Seeded with A19 (All purpose Landscaping) @ 50g/m2 (500kg/ha)  
Supplier: Germinal Amenity  
Web: germinalamenity.com
- NATIVE SCRUB PLANTATION: 275M2** to be planted in cultivated bed 450mm deep.  
Prior to backfilling add in 50mm PAS 100 compost (as specified) to base and backfill with imported good quality topsoil adding Slow release fertilizer: ENMAG CRF at 50g per m2. Finish surface with 50mm bark mulch cover.  
Planted in groups of 5 or 7 in random grid at 1m centres with rabbit guard
- Thicket Plantation (mix)**

	SIZE	AGE	ROOT
Crataegus monogyna (Hawthorn)	40-60cm	1+1	OG
Betula pendula (Birch)	40-60cm	1+1	OG
Corylus avellana (Hazel)	40-60cm	1+1	OG
Malus everest (Crab Apple)	40-60cm	1+1	OG
Sorbus intermedia (Whitebeam)	40-60cm	1+1	OG

**Notes:**  
This drawing is for planning purposes only. All quantities, dimensions and final settings out is subject to detailed design and construction issue. Contractor to confirm, agree and obtain approval from Landscape Architect for all of the above prior to any ordering or works commencing.  
All details are for information/ pricing only and rely on a sound and free-draining ground formation layer with a minimum of 5% GBR. If there are concerns about the ground conditions notify Clewsla and engineers may need to be consulted to oversee a ground investigation.  
Refer to NBS specifications for detailed hard landscape implementation methodology but assume all works will be carried out to a high standard in accordance with the relevant BS specifications.  
All general works to be carried out BS 4428:1989 Code of practice for general landscape operations.  
**IF IN DOUBT ASK!**

REV.	DESCRIPTION	APP. DATE

**clewsla**  
Clewslas Landscape Architecture Ltd, 17 Highdon Road, Buryton, CV16 9RE  
t: 01295700264 w: www.clewsla.co.uk

Hempton Road site  
DEDDINGTON

LANDSCAPE MASTERPLAN  
HARD AND SOFT LANDSCAPE

DWG. NO: 20\_218\_010

SCALE	DATE	DATE
1:2000A0	DEC 2020	

STATUS	PLANNING	DESIGN	CC

**APPENDIX 2**

Ecological Appraisal

As Produced By Aspect Ecology

(June 2018)

Land off Hempton Road, Deddington,  
Oxfordshire

## Ecological Appraisal

June 2018

Quality Management	
<b>Client:</b>	Pembury Estates Ltd
<b>Project:</b>	Land off Hempton Road, Deddington, Oxfordshire
<b>Report Title:</b>	Ecological Appraisal
<b>Project Number:</b>	ECO-5347
<b>File Reference:</b>	5347-EcoAp.vf/RL/LN/DS
<b>Date:</b>	04/06/2018

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**Confidentiality**

This report may contain sensitive information relating to protected species. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

**Legal Guidance**

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

**Liability**

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Plan 5347/ECO2	Ecological Designations
Plan 5347/ECO3	Habitats & Ecological Features
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Appendix 5347/1	Assessment Methodology
Appendix 5347/2	Legislation

## 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 methodology<sup>1</sup>, 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 Appraisal<sup>2</sup> 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.

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

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

## Bats<sup>3</sup>

### *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/texture<sup>4</sup>. 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 guidance<sup>5</sup> 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*)<sup>6</sup>

- 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;

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

<sup>4</sup> 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

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

<sup>6</sup> 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)<sup>7</sup> – 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)<sup>8</sup> 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 06/2005<sup>9</sup>.
- 2.6.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss<sup>10</sup>, 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'*

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

<sup>8</sup> Department for Communities and Local Government (2012) 'National Planning Policy Framework'

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

<sup>10</sup> 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 42020:2013<sup>11</sup>, 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*

<sup>11</sup> 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-rich<sup>12</sup> 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 definition<sup>13</sup>, 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

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

<sup>13</sup> 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.<sup>14, 15</sup>

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.

<sup>14</sup> English Nature (2002) 'Badgers and Development'

<sup>15</sup> 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 status<sup>16</sup>. 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 1km<sup>2</sup> 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*,

<sup>16</sup> 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 invertebrates<sup>17</sup>, 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

<sup>17</sup> Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3<sup>rd</sup> 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 guidance<sup>18</sup> 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;

<sup>18</sup> 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 (1<sup>st</sup> March to 31<sup>st</sup> 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

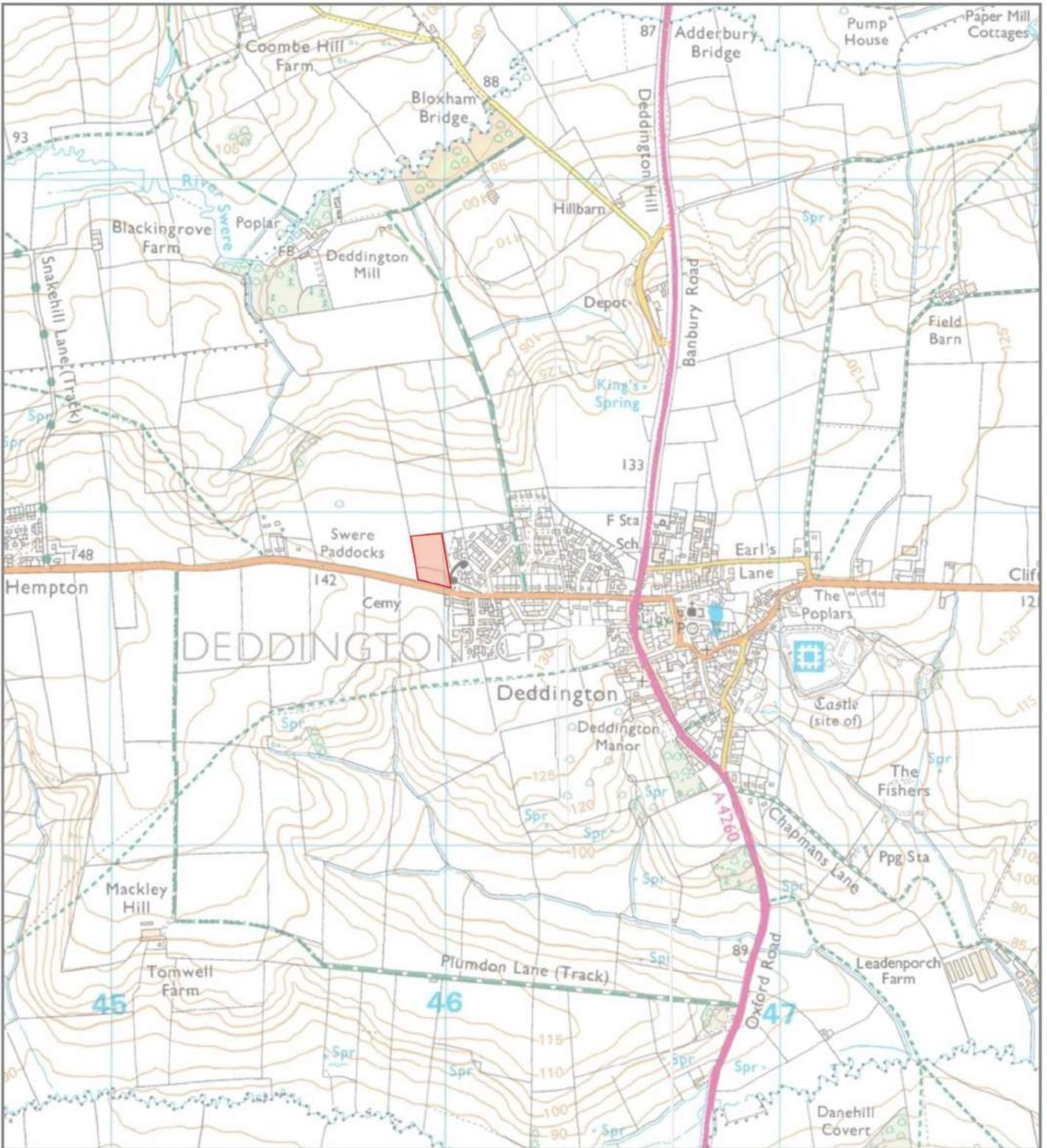
- 6.2.9 **EE8 – Nectar Source.** The wildflower mix could include various Bents *Agrostis* spp. and Hawkweeds (*Hieracium/Hypochoeris*), which will provide a food source for a range of invertebrates.

## 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

**aspect** ecology

Aspect Ecology Limited - West Court - Hardwick Business Park  
 Noral Way - Banbury - Oxfordshire - OX16 2AF  
 01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Land off Hempton Road,  
 Deddington, Oxfordshire

Site Location

5347/ECO1

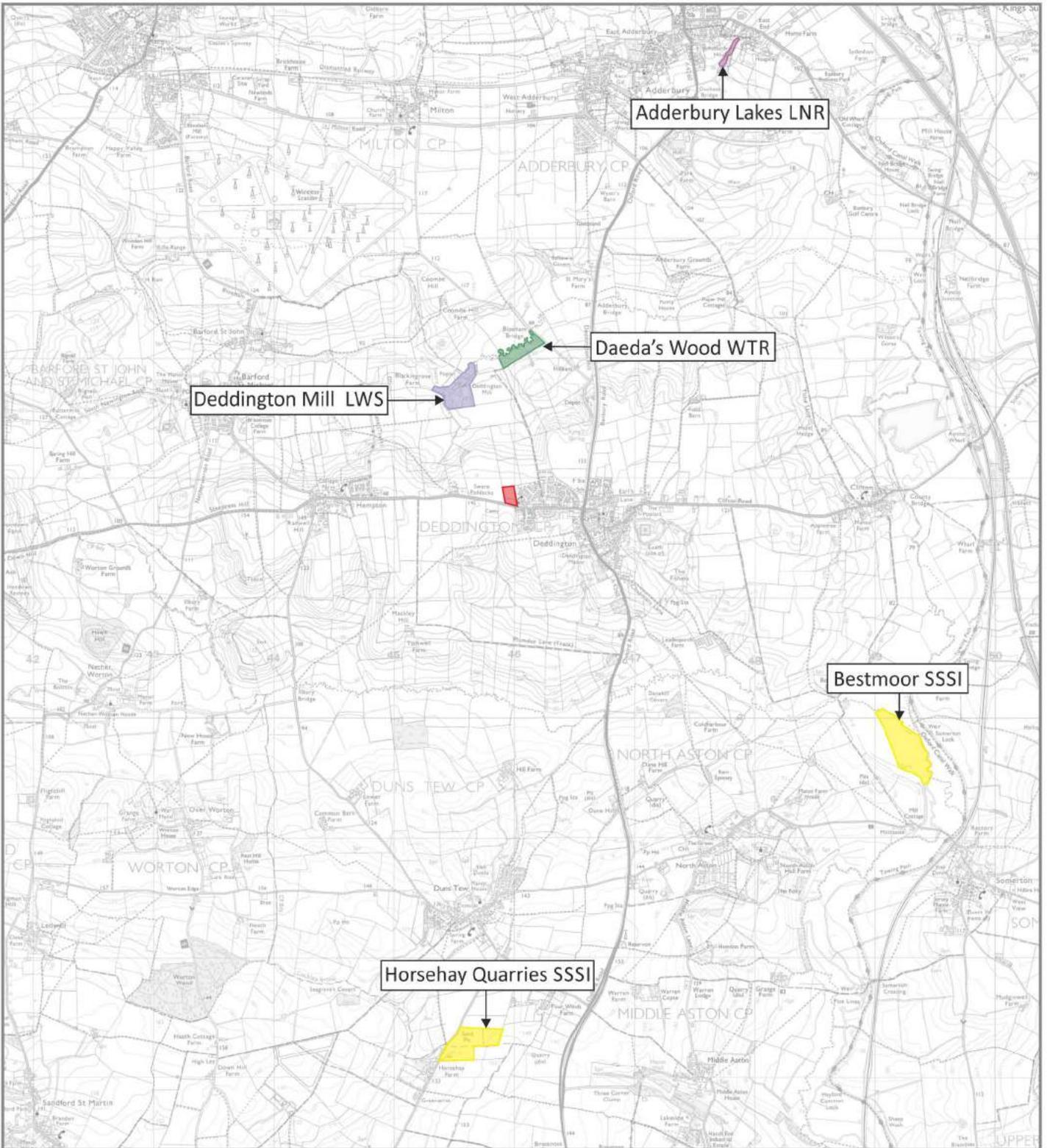
June 2018

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

5347/ECO2 DRAWING NO.

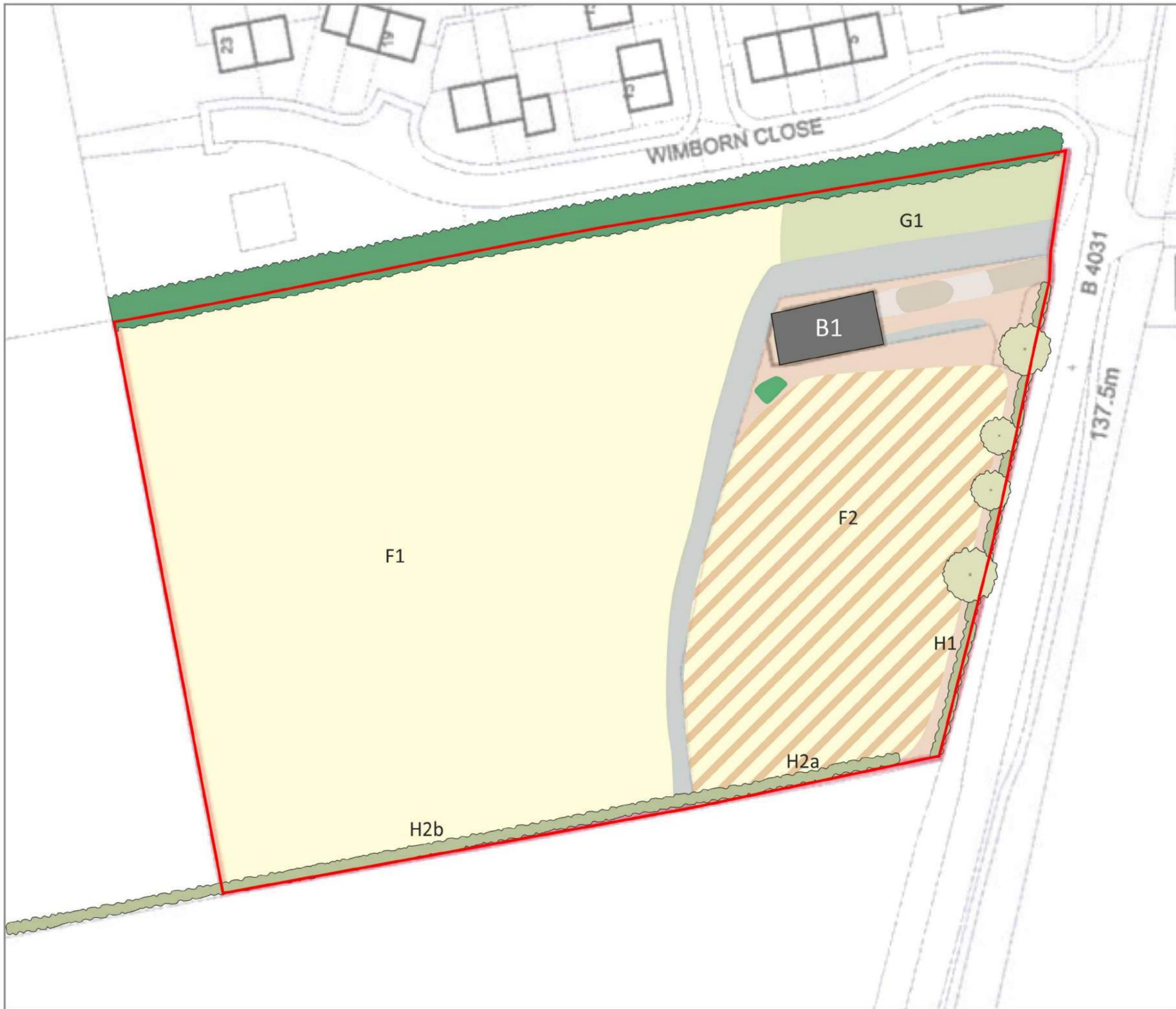
- REV.

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

**aspect ecology**

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Land off Hempton Road, Deddington, Oxfordshire	PROJECT
Habitats and Ecological Features	TITLE
5347/ECO3	DRAWING NO.
-	REV.
June 2018	DATE



## 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'<sup>1</sup>.

### 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).

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<sup>1</sup> 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 itself<sup>1</sup>. 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.

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<sup>1</sup> <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)<sup>2</sup> 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.

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<sup>2</sup> 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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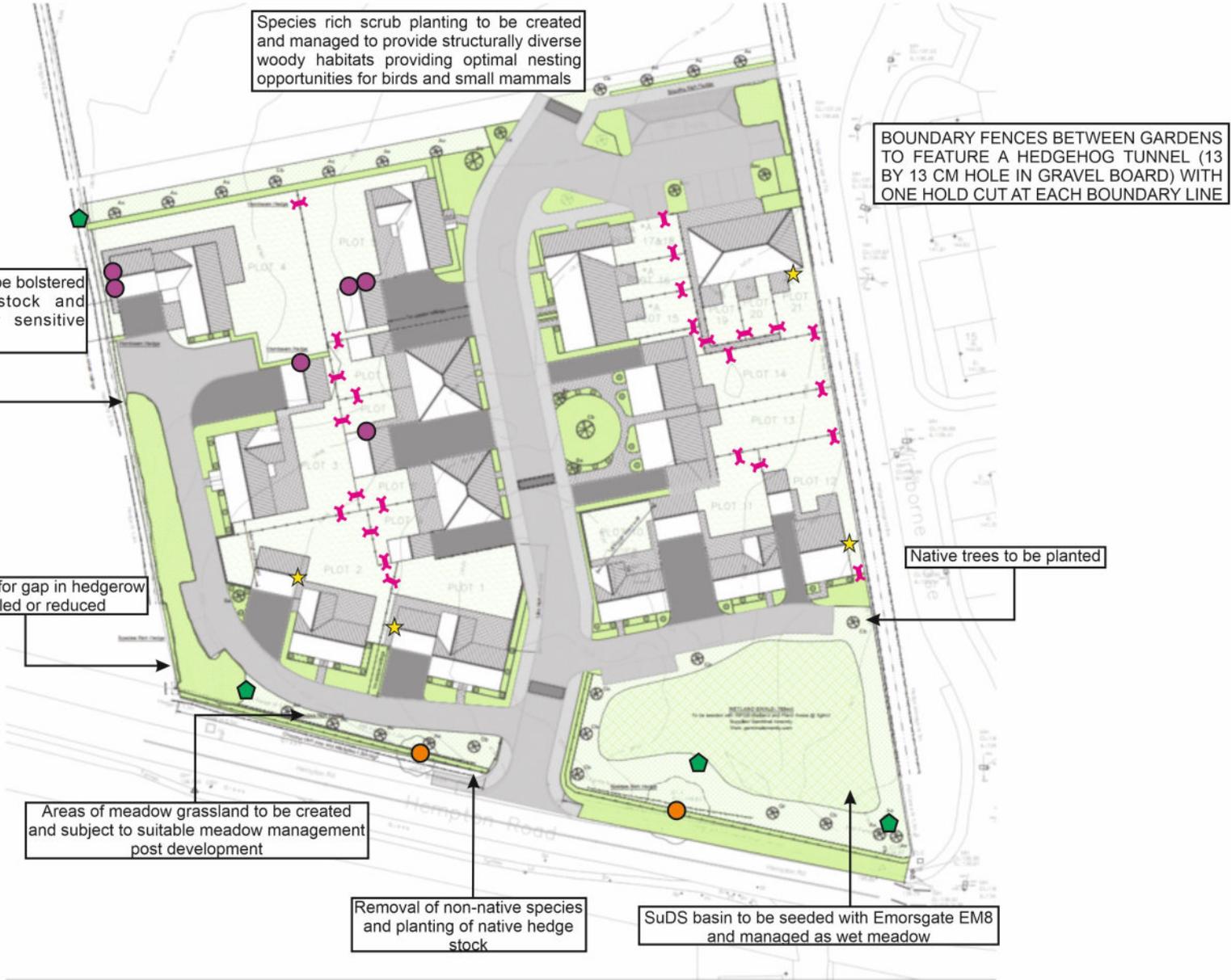
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## **APPENDIX 3**

### Habitat Mitigation and Enhancement



- KEY:**
-  ENCLOSED BAT BOX (IBSTOCK)
  -  SCHWEGLER SPARROW TERRACE
  -  BIRD BOX (SCHWEGLER 1B)
  -  LOG PILE / HIBERNACULA
  -  HEDGEHOG TUNNEL



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APPENDIX 3: MITIGATION & ENHANCEMENT PRESCRIPTIONS

Rev: A  
Jan 2021

## **APPENDIX 4**

### DEFRA Biodiversity Metric

# The Biodiversity Metric 2.0 - Calculation Tool

## Start page

### Project details

Planning authority:	Cherwell District Council
Project name:	Hempton Road, Deddington
Applicant:	Burrington Estates Ltd
Application type:	Outline
Planning application reference:	18/02147/OUT
Assessor:	Gareth Hey
Reviewer:	Jacob Hepworth-Bell
Revision:	
Assessment date:	14.12.2020
Planning authority reviewer:	

### Cell style conventions

	Enter data
	Automatic lookup
	Result

Instructions

Main menu

Results

View all

Reset view

Hempton Road, Deddington

**Headline Results**

Return to results menu

<b>On-site baseline</b>	<i>Habitat units</i>	2.08
	<i>Hedgerow units</i>	0.34
	<i>River units</i>	0.00
<b>On-site post-intervention</b> (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	2.25
	<i>Hedgerow units</i>	0.86
	<i>River units</i>	0.00
<b>Off-site baseline</b>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Off-site post-intervention</b> (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Total net unit change</b> (including all on-site & off-site habitat retention/creation)	<i>Habitat units</i>	0.17
	<i>Hedgerow units</i>	0.52
	<i>River units</i>	0.00

## Total net % change

(including all on-site & off-site habitat creation + retained habitats)

*Habitat units*

**8.21%**

*Hedgerow units*

**152.01%**

*River units*

**0.00%**

Hempston Road, Deddington  
**A-1 Site Habitat Baseline**

Condense / Show Columns    Condense / Show Rows

Main Menu    Instructions

Ref	Habitats and areas				Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
	Broad Habitat	Habitat type	Area (hectares)	Area						
1	Cropland	Cropland - Cereal crops	0.83	Low	N/A - Agriculture	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	1.66	
2	Grassland	Grassland - Modified grassland	0.09	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	0.18	
3	Urban	Urban - Developed land; sealed surface	0.03	V.Low	N/A - Other	Low	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00	
4	Sparsely vegetated land	Sparsely vegetated land - Ruderal/Ephemeral	0.12	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	0.24	
5										
6										
7										
8										
9										
Total site area ha			1.07							
Total Site baseline									2.08	

Retention category biodiversity value								Bespoke compensation agreed for unacceptable losses	Comments	
Area retained	Area enhanced	Area succession	Baseline units retained	Baseline units enhanced	Baseline units succession	Area lost	Units lost		Assessor comments	Reviewer comments
0	0	0	0.00	0.00	0.00	0.83	1.66			
0	0	0	0.00	0.00	0.00	0.09	0.18			
0	0	0	0.00	0.00	0.00	0.03	0.00			
0	0	0	0.00	0.00	0.00	0.12	0.24			
0.00	0.00	0.00	0.00	0.00	0.00	1.07	2.08			

Hempton Road, Deddington

**A-2 Site Habitat Creation**

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Post development/ post intervention habitats											
Proposed habitat	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Ecological	Strategic significance	Temporal multiplier	Difficulty	Habitat units delivered	Comments	
					Ecological	Strategic significance	Time to target condition/years	Difficulty of creation category		Assessor comments	Reviewer comments
Urban - Street Tree	0.147	Low	Moderate	Low	Low	Area/compensation not in local strategy/ no local strategy	27	Low	0.22	36 medium trees	
Urban - Vegetated garden	0.23	Low	Poor	Low	Low	Area/compensation not in local strategy/ no local strategy	1	Low	0.44	All gardens tufted as standard. Frontgardens to include amenity planting beds.	
Urban - Introduced shrub	0.025	Low	Moderate	Low	Low	Area/compensation not in local strategy/ no local strategy	1	Low	0.10		
Urban - Sustainable urban drainage feature	0.135	Low	Good	Low	Low	Area/compensation not in local strategy/ no local strategy	5	Medium	0.45	SUDS to be managed as high quality wet meadow grassland and so should attain comparable value.	
Urban - Developed land; sealed surface	0.472	V.Low	N/A - Other	Low	Low	Area/compensation not in local strategy/ no local strategy	0	Low	0.00		
Grassland - Other neutral grassland	0.115	Medium	Moderate	Low	Low	Area/compensation not in local strategy/ no local strategy	10	Low	0.64		
Heathland and shrub - Mixed scrub	0.028	Medium	Good	Low	Low	Area/compensation not in local strategy/ no local strategy	7	Low	0.26		
Urban - Amenity grassland	0.065	Low	Poor	Low	Low	Area/compensation not in local strategy/ no local strategy	1	Low	0.13		
<b>Totals</b>	<b>1.07</b>								<b>2.25</b>		



Hempton Road, Deddington  
**B-2 Site Hedge Creation**

Condense / Show Columns    Condense / Show Rows  
 Main Menu    **Instructions**

Baseline ref	New hedge number	Proposed habitats		Multipliers				Hedge units delivered	Comments		
		Habitat type	Length km	Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance		Time to target condition/years	Assessor comments	Reviewer comments
				Distinctiveness	Condition	Ecological connectivity	Strategic significance				
1		Native Species Rich Hedgerow	0.03	Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	5	0.13	Infilling of existing H1 (eastern end) and H2 (southern end)	
2											
3											
4											
5											
6											
Creation Length/kW			0.03						0.13		





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