

Land North of Dukes Meadow Drive,
Hanwell Fields, Banbury

Ecological Appraisal

September 2021

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Executive Summary

- i) **Introduction.** Aspect Ecology has been commissioned by Manor Oak to undertake an Ecological Appraisal in respect of proposed redevelopment of land at Hanwell Fields, Banbury, Oxfordshire.
- ii) **Proposals.** It is understood that a planning application is to be submitted for the site to provide new residential development of up to 78 dwellings with all matters reserved other than access.
- iii) **Survey.** The site was surveyed in August 2020 and July to September 2021 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 Neithrop Fields Cutting Site of Special Scientific Interest (SSSI), which is located approximately 0.8km south west of the site. The nearest non-statutory designation is Fishponds Wood, Hanwell Local Wildlife Site (LWS), which is located approximately 0.9km north west 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 is occupied almost entirely by a single semi-improved grassland field, with other habitats including boundary hedgerows and scattered scrub. Features of ecological importance include the hedgerows which are to be retained under the proposals and will be protected during construction, with only small sections removed to facilitate access. This will be compensated by new hedgerow planting which will link with the existing / retained hedgerows. The remaining habitats within the site are not considered to form important ecological features and their loss to the proposals is of negligible significance.
- vi) **Protected Species.** The internal areas of the site generally offer limited opportunities for protected species, albeit on the basis of the survey work undertaken, potential opportunities or confirmed use of the site by badger, reptiles and common nesting birds has been recorded. Accordingly, a number of recommendations and measures are set out in regard to these species in order to ensure they are fully considered and safeguarded under the proposals.
- vii) **Enhancements.** The proposals present the opportunity to secure a number of biodiversity net gains, including additional native tree planting, new roosting opportunities for bats, and more diverse nesting habitats for birds.
- 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.

1 Introduction

1.1 Background and Proposals

- 1.1.1 Aspect Ecology has been commissioned by Manor Oak Homes Ltd to undertake an Ecological Appraisal in respect of proposed development of land at Hanwell Fields, Banbury, centred at grid reference SP 4469 4255 (see Plan 6007/ECO1), hereafter referred to as 'the site'.
- 1.1.2 The site is proposed for residential development (see Appendix 6007/1), for which an outline planning application is proposed for the construction of up to 78 dwellings, with all matters reserved other than access.

1.2 Site Overview

- 1.2.1 The site is located in north Oxfordshire within an urban-edge context at the north of Hanwell Fields in Banbury. The site is bounded to the north and west by agricultural land in the within a single large grassland field, with arable land beyond, whilst Dukes Meadow Drive and associated verges are located adjacent to the southern and eastern boundaries, beyond which is existing commercial and residential development and open space within the north of Banbury.
- 1.2.2 The vast majority of the site itself is dominated by semi-improved grassland, with other habitats including boundary hedgerows and scrub.

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(s) this is reproduced at Appendix 6007/2 and on Plan 6007/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 (25km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the site. Relevant information is reproduced at Appendix 6007/2 and on Plan 6007/ECO2, where appropriate.
- 2.1.4 In addition, the Woodland Trust database was searched for any records of ancient, veteran or notable trees within or adjacent to the site.

2.2 Habitat Survey

- 2.2.1 The site was surveyed by Aspect Ecology Ltd in August 2020 and July to September 2021 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology¹, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal² to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

2.3 Faunal Surveys

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

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

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

Bats³

Visual Inspection Surveys of Trees

2.3.2 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 guidance⁴ as:

- Negligible;
- Low;
- Moderate; or
- High.

2.3.3 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*)⁵

2.3.4 A detailed Badger survey was carried out in July 2021. 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;
- Number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance; and
- Number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3.5 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

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 undertaken within the optimal season therefore allowing a robust assessment of habitats and botanical interest across the site.

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

⁴ Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

⁵ Based on: Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

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.

2.4.3 Densely vegetated habitats within the site have the potential to reduce the detectability of field signs for faunal species such as Badger. A detailed survey was able to be completed and, whilst dense scrub vegetation and outgrown hedgerows are present within the site, these are limited to relatively small areas within the site and it is considered that the survey results provide an accurate baseline to assess the potential for impacts on Badger under the development proposals.

2.5 Ecological Evaluation Methodology

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, 2018)⁶, which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). For full details refer to Appendix 6007/3.

2.6 National Policy Approach to Biodiversity in the Planning System

2.6.1 The National Planning Policy Framework (NPPF)⁷ describes the Government's national policies on 'conserving and enhancing the natural environment' (Chapter 15). NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' and ODPM Circular 06/2005⁸.

2.6.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss⁹, as set out at Paragraph 174, which states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'

2.6.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 180:

'When determining planning applications, local planning authorities should apply the following principles:

- a) *if significant harm to biodiversity 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;*

⁶ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

⁷ Ministry of Housing, Communities & Local Government (2021) 'National Planning Policy Framework'

⁸ ODPM (2006) 'Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice'

⁹ DEFRA (2011) 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services'

- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'*

2.6.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019¹⁰, 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; and
- **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 42020:2019, section 5.5).

2.7 Local Policy

2.7.1 Policy of relevance to ecology at the site can be found within the 'Cherwell Local Plan 2011 – 2031', which sets out an overall strategy to guide development across the district until 2031, and was formally adopted by Cherwell District Council on 20 July 2015 (Policy Bicester 13 being re-adopted on 19 December 2016). The following policies of the Local Plan are of particular relevance to ecology:

2.7.2 **Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment** states:

'Protection and enhancement of biodiversity and the natural environment will be achieved by the following:

¹⁰ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

- *In considering proposals for the 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, a 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 or loss of a site of biodiversity or geological value of national importance will not be permitted unless the benefits of 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 of biodiversity or geological value of regional or local importance including habitats of species of principle 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 favourable*
- *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 states:

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 The site is not located within or adjacent to any identified Conservation Target Area based on the adopted information.

2.7.5 **Policy ESD 17: Green Infrastructure** states:

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 SLE4: Improved Transport and Connections), open space, sport and recreation (Policy BSC10: Open Space, Outdoor Sport and Recreation Provision), adapting to climate change (Policy ESD1: Mitigating and Adapting to Climate Change), SuDS (Policy ESD7: Sustainable Drainage Systems (SuDS)), biodiversity and the natural environment (Policy ESD10: Protection and Enhancement of Biodiversity and the Natural Environment), Conservation Target Areas (Policy ESD11: Conservation Target Areas), heritage assets (Policy ESD15) and the Oxford Canal (Policy ESD16)*
- *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.*

3 Ecological Designations

3.1 Statutory Designations

Description

- 3.1.1 The statutory designations of ecological importance that occur within the vicinity of the site are shown at Appendix 6007/2 and on Plan 6007/ECO2.
- 3.1.2 No identified statutory ecological designations of nature conservation importance are located within 5km of the site. (Neithrop Fields Cutting Site of Special Scientific Interest (SSSI), is located approximately 0.8km south west of the site, however is designated for geological reasons and is therefore not of ecological relevance, albeit in any event it is well-removed from the site).
- 3.1.3 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 is not located within any identified IRZ.

Evaluation

- 3.1.4 The site itself is not subject to any statutory ecological designations. All statutory ecological designations in the surrounding area are well removed from the site and separated by existing development and given the nature and scale of the proposals, all such identified 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 vicinity of the site are shown on Plan 6007/ECO2.
- 3.2.2 The nearest non-statutory nature conservation designation to the site is Fishponds Wood, Hanwell Local Wildlife Site (LWS), which is located approximately 0.9km north west of the site. The LNR is designated on the basis of the medieval fishponds, one of which contains an island supporting pines with nesting herons. The remaining ponds are mostly dry and wooded with a variety of characteristic flora including Giant Butterbur *Petasites japonicus*, Plott's Elm *Ulmus plotti*, Broad-leaved Helleborine *Epipactis helleborine* and impressive displays of Snowdrop *Galanthus nivalis*.
- 3.2.3 The next nearest non-statutory nature conservation designation to the site is Grimsbury Reservoir Proposed Cherwell District Wildlife Site, which is located approximately 1km south east of the site.

Evaluation

- 3.2.4 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are well removed and separated from the site, including by existing development and given the nature and scale of the proposals, all such designations are unlikely to be affected.

3.3 **Priority Habitats, Ancient Woodland and Notable Trees**

Description and Evaluation

- 3.3.1 There are no records of any notable or veteran trees, ancient woodland or other priority habitats within or adjacent to the site. As such, on the basis of the desktop information available, it is unlikely that any Priority Habitats or any notable or veteran trees 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 as such 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. A number of records of notable species were returned from TVERC including the Wildlife and Countryside Act 1981 Schedule 8 Species Bluebell *Hyacinthoides non-scripta* and the England Red Listed Species Common Valerian *Valeriana officinalis*, Sainfoin *Onobrychis viciifolia*, Wild Pansy *Viola tricolor*, Ragged-robin *Silene flos-cuculi*, Stinking Chamomile *Anthemis cotula*, Prickly Poppy *Papaver argemone*, Lesser Spearwort *Ranunculus flammula*, Dwarf Spurge *Euphorbia exigua*, Corn Marigold *Glebionis segetum* and Hairy Rock-cress *Arabis hirsuta*, dating between 2001 and 2019, none of which have been recorded within or adjacent to the site on the basis of the information received.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and 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:

- Semi-improved Grassland;
- Hedgerows; and
- Scrub.

4.2.3 The locations of these habitat types and features are illustrated on Plan 6007/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, the hedgerows are considered to qualify as Priority Habitats and therefore constitute important ecological features. This is discussed further in the relevant habitat sections below.

4.4 Semi-improved Grassland

Description

4.4.1 A single semi-improved grassland field is present within the site. At the time of July 2021 survey the sward height was tall, measuring approximately 60cm to 1m, albeit this was cut

short as part of the regular agricultural management during August 2021. The field contains frequent ruderal species and recolonizing vegetation indicating regular agricultural disturbance, albeit overall the habitat appears best categorised as grassland, with occasional scattered scrub and denser patches of grass noted in places prior to cutting. Species include Yorkshire Fog *Holcus lanatus*, Common Couch *Elymus repens* Perennial Ryegrass *Lolium perenne*, Crested Dog's-tail *Cynosurus cristatus*, Meadow Grass *Poa sp.*, False Oat-grass *Arrhenatherum elatius*, Bent *Agrostis sp.*, Bristly Oxtongue *Helminthotheca echioides*, Willowherbs *Epilobium sp.*, Broad-leaved Dock *Rumex obtusifolius*, Bramble *Rubus fruticosus*, Meadow Vetchling *Lathyrus pratensis*, Teasel *Dipsacus fullonum*, Mugwort *Artemisia vulgaris*, Hedge Woundwort *Stachys sylvatica*, Cut-leaved Crane's-bill *Geranium dissectum*, Square-stalked St John's-wort *Hypericum tetrapterum*, Guelder-rose *Viburnum opulus*, Ragwort *Jacobaea vulgaris*, Selfheal *Prunella vulgaris*, Soft Rush *Juncus effuses*, Fox-and-cubs *Pilosella aurantiaca*, Rose *Rosa sp.*, Hairy Tare *Vicia hirsuta*, Common Field-speedwell *Veronica persica*, Scentless Mayweed *Tripleurospermum inodorum*, Rosebay Willowherb *Chamerion angustifolium*, Meadowsweet *Filipendula ulmaria* and Hairy St John's-wort *Hypericum hirsutum*. In addition, Great Willowherb *Epilobium hirsutum*, Hawthorn *Crataegus monogyna* and Perforate St John's-wort *Hypericum perforatum* were recorded at the field edges, bordering the hedgerows.

Evaluation

- 4.4.2 Overall, the grassland is clearly subject to agricultural management and disturbance, and includes grasses and forb species along with frequent ruderal elements and based on the type and abundance of species present it can be classified as semi-improved grassland¹¹. Semi-improved grassland is not uncommon in the local area and higher quality areas of grassland are present in the surrounding area, such as Hanwell Gorse Cherwell Proposed District Wildlife Site, whilst all of the species recorded within the site are common and widespread including within similar habitats elsewhere within the surrounding areas. Accordingly, it is considered that the grassland on site does not constitute an important ecological feature, and is of ecological value at the site level only. The potential for the grassland within site to support faunal species is discussed at Section 5, below.

4.5 Hedgerows

Description

- 4.5.1 Two connected hedgerows are present within the site (H1 and H1a), forming the western and northern site boundaries respectively. The characteristics of the hedgerows are summarised at Table 4.1 below.

¹¹ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

Table 4.1. Hedgerow descriptions.

No.	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Comments (including structure / management)	Likely to qualify#
H1	4-6m	4m	<u>Hawthorn (D)</u> , <u>Elder</u> , <u>Sambucus niagra</u> , <u>Wild Privet</u> , <u>Ligustrum vulgare</u> , <u>Prunus spp.</u> (including a <u>Cherry species</u>), <u>Hazel</u> , <u>Corylus avellana</u> , <u>Ash Fraxinus excelsior</u> .	<4	Ivy <i>Hedera helix</i> , Bramble, Common Nettle <i>Urtica dioica</i> .	<10% gaps	Outgrown; active badger latrine recorded under hedgerow, as well as a separate mammal path likely used by Badger.	N
H1a	4-5m	3-4m	<u>Hawthorn (D)</u> , <u>Blackthorn</u> <u>Prunus spinosa (D)</u> , <u>Elder</u> , <u>Ash</u> , <u>Cherry</u> , <u>Dog Rose</u> <u>Rosa canina</u> .	<4	Bramble, Common Nettle, Rosebay Willowherb <i>Chamerion angustifolium</i> , Spear Thistle <i>Cirsium vulgare</i> , Creeping Thistle <i>Cirsium arvense</i> , Hogweed <i>Heracleum sphondylium</i> , Hedge Parsley <i>Torilis sp.</i>	<10% gaps	Old, outgrown hedge which is somewhat gappy, but still continuous; mammal path recorded; a relatively short length of dry ditch is present towards hedge centre; a single semi-mature Ash tree was recorded.	N

Woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) and woodland ground flora species (as listed under Schedule 2 of the Hedgerows Regulations 1997) underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway, (D) = dominant species

* estimated average number of woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) in any one 30m stretch

likely to qualify – as ‘important’ under the wildlife and landscape criteria of the Hedgerows Regulations 1997

Evaluation

- 4.5.2 Both hedgerows recorded within the site are relatively substantial and outgrown in nature, but are unlikely to qualify as important under the Hedgerows Regulations 1997 based on the ecological criteria.
- 4.5.3 Both of the hedgerows are likely to qualify as a Priority Habitat based on the standard definition¹², 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.¹²
- 4.5.4 On this basis, the hedgerows within the site constitute important ecological features, although given the relatively limited network present, are only of importance at the local level.
- 4.5.5 The proposals incorporate the retention of all the hedgerows within the site, with the only exceptions in the form of a small section at the extreme eastern end in order to facilitate the provision of SUDs drainage route (itself providing ecological enhancements). It is proposed that the retained hedgerows will be protected during the construction phase of the proposals in line with the recommendations included at Chapter 6 below.

¹² Based on: Biodiversity Reporting and Information Group (2011) ‘UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions’, ed. Ant Maddock

Furthermore, the proposals incorporate new hedgerow planting which will link with the existing / retained hedgerows, strengthening the local hedgerow network and its benefits to biodiversity and connectivity.

4.6 Scrub

Description

- 4.6.1 Scrub was recorded to be present within the site, predominantly associated with the southern site boundary adjacent to the offsite road verge associated with Dukes Meadow Drive, much of which appears to be formed by planted landscaping associated with the construction of the road. In particular, species present include Dogwood *Cornus sanguinea*, Field Maple *Acer campestre*, Guelder-rose, Bramble, Cherry, Field Rose *Rosa arvensis*, Grey Willow *Salix cinerea*, Hazel, Hawthorn, Silver Birch *Betula pendula*, Blackthorn *Prunus fruticosus*, Ash *Fraxinus excelsior*, Goat Willow *Salix caprea* and Grey Willow *Salix cinerea*.

Evaluation

- 4.6.2 The patches of scrub support a limited range of common and widespread species associated with the landscape planted road verges and field margin, which in general therefore appears relatively recent in nature. On this basis, it is considered that the scrub present within the site is of ecological value at no more than the site level, whilst this habitat type is common and widespread in the local vicinity of the site. Accordingly, the loss of scrub within the site is considered to be of no ecological significance. Nevertheless, the proposals incorporate substantial new tree and hedgerow planting that will provide new and replacement opportunities for wildlife, as described in Chapter 6.

4.7 Habitat Evaluation Summary

- 4.7.1 On the basis of the above, the following habitats within and adjacent to the site are considered to form important ecological features:

Table 4.2. Evaluation summary of habitats forming important ecological features.

Habitat	Level of Importance
Hedgerows	Local

- 4.7.2 Other habitats present within the site include semi-improved grassland and scrub. However, these habitats do not form important ecological features.

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 Badger, 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. 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 to date, no evidence for the presence of any Priority Species was recorded within the site.

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 6007/4). 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. Given all bats are protected species, they are considered to represent important ecological features. 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 the LRC returned records of Unidentified bat species (Chiroptera), Brown Long-eared Bat *Plecotus auritus*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Pipistrelle bat species *Pipistrellus sp.*, Daubenton's Bat *Myotis daubentonii*, Natterer's Bat *Myotis nattereri* and Noctule *Nyctalus noctula* within 2km of the site. The closest record is for a Pipistrelle bat species recorded in 2001, located approximately 310m south east of the site boundary.

5.3.3 Survey Results and Evaluation

Roosting

5.3.4 The site does not contain any buildings or other structures that could provide potential opportunities for roosting bats.

5.3.5 A single semi-mature Ash is present within hedgerow H1a. This tree was recorded to offer negligible bat roosting potential and as such roosting bats are not considered to pose a

constraint to the proposals. No other trees of sufficient size or age to provide potential suitability for roosting bats are present within the site.

Foraging / Commuting

- 5.3.6 The hedgerows and, to a lesser extent, scrub offer foraging and commuting habitat for bats (albeit noting the south western boundary with Dukes Meadow Drive is likely subject to considerable light-spill from the lighting along the existing road). These habitat types occur frequently in the surrounding area and as such are considered likely to be of no more than local level importance to bats.
- 5.3.7 The hedgerows are to be retained under the proposals whilst new tree and hedgerow planting will improve connectivity through the site and increase the foraging potential of the site.
- 5.3.8 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 receives legislative protection under the Protection of Badgers Act 1992 (see Appendix 6007/4 for detailed provisions), and as such should be assessed as an important ecological feature. 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.^{13, 14}

- 5.4.4 **Survey Results:** No Badger setts were recorded within or adjacent to the site itself during the survey work undertaken.

- 5.4.6 As such, appropriate mitigation measures and safeguards in respect of Badger will be put in place as part of the proposals, as described at Chapter 6 below.

¹³ English Nature (2002) 'Badgers and Development'

¹⁴ 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 and should be assessed as important ecological features.
- 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 Hedgehog *Erinaceus europaeus* (Priority Species) were returned from within the search area around the site, with the closest record being from approximately 800m to the south of the site, recorded in 2019.
- 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*, Brown Rat *Rattus norvegicus* and Rabbit *Oryctolagus cuniculus*, 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 background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit this species remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of hedgerows and boundary vegetation. Given the abundance of similar habitats locally, Hedgehog is considered to be of importance at a site level only and there is no evidence to suggest the proposals will significantly affect local Hedgehog populations, whilst in any event in the long term the proposals incorporate the retention of the existing boundary features and vegetation, along with new green infrastructure incorporating native planting and enhanced habitats that will continue to provide suitable (potentially enhanced) habitat opportunities for common mammals such as this species. However, it is recommended that precautionary safeguards are put in place to minimise the risk of harm to Hedgehog in the event this species is present, as detailed in Chapter 6 below.

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 *Triturus cristatus* 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 6007/4 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*. As such, these species should be assessed as important ecological features.
- 5.6.2 **Background Records.** No specific records of Great Crested Newt or other amphibians from within or adjacent to the site were returned from the desktop study. A number of records of Amphibian species were returned from within the search area surrounding the site, including Great Crested Newt, Common Toad, Common Frog *Rana temporaria* and Smooth Newt *Lissotriton vulgaris*, with the closest record of Great Crested Newt located approximately 700m north east of the site, recorded in 2015.

5.6.3 **Survey Results and Evaluation:** No evidence for the presence of any fully protected amphibian species (e.g. Great Crested Newt) was recorded during the general survey work undertaken. The site and wider survey area does not contain any standing water bodies and accordingly does not support any potentially suitable breeding habitats for this species. Furthermore, based on a review of the OS 1:25 000 mapping of the area, along with available aerial photography and associated resources, no ponds or other standing waterbodies appear to be located within 250m of the site. Amphibians, including Great Crested Newt, can range some distance from their breeding ponds, although typically the majority of activity with regard to this species is centred within 100m of the breeding pond with the maximum routine migratory range usually occurring within 250m of the pond.

5.6.4 The habitats within the site appear to provide potentially suitable terrestrial habitats for amphibians (in particular including the hedgerows and boundary vegetation), however as noted above these appear to be well separated from any potentially suitable breeding sites for fully protected amphibian species. Accordingly, this group does not appear to represent a potential constraint on the proposed development.

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 6007/4 for detailed provisions. All six reptile species are also S41 Priority Species. As such, all reptile species should be assessed as important ecological features.

5.7.2 **Background Records.** Information returned from TVERC includes a number of records of Grass Snake *Natrix natrix* and Common Lizard *Zootoca vivipara*, with the closest record to the site being of Grass snake, recorded approximately 500m north east of the site in 2012.

5.7.3 **Survey Results and Evaluation.** The habitats present within the site are dominated by semi-improved grassland, which was recorded to support a tall sward during July 2021, with boundary vegetation in the form of hedgerows which likely provide shelter, such that the site appears to provide potentially suitable opportunities for common reptile species should they be present (particularly in relation to the boundary features, whereas the disturbed nature of the internal areas are such that any potential for use by reptile species is likely limited to transient use during undisturbed periods).

5.7.4 In the long term, the provision of substantial areas of open space and green infrastructure as part of the proposals (including substantial areas of wildflower grassland within the open space areas and SUDs features designed to incorporate enhancements for wildlife) are such that it is clear that the proposals would result in the continued presence of habitats suitable for reptiles in the long term. Nonetheless, in order to further confirm the position with regard to this group, specific reptile survey work is underway at the site in order to confirm the presence or likely absence of this group in order to ensure completion within the optimal seasonal period (September), the results of which (along with any associated mitigation measures and consideration) will be reported elsewhere once complete.

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 6007/4 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 status¹⁵. 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. Red and Amber listed species and priority species should be assessed as important ecological features.
- 5.8.3 **Background Records.** Information from the data search includes records for several bird species in the vicinity of the site, including the Red/Amber Listed species Skylark *Alauda arvensis*, Redwing *Turdus iliacus*, Willow Tit *Poecile montana*, Reed Bunting *Emberiza schoeniclus*, Lapwing *Vanellus vanellus*, Linnet *Linaria cannabina*, House Sparrow *Passer domesticus*, Swift *Apus apus* and Dunnock *Prunella modularis* (most of which are also Priority Species). The first four listed species were all recorded within the 1km grid square covering the site, albeit more specific information was not available that would allow the precise location of these records to be determined in relation to the site, whilst no more specific records of any of the above species were returned from the site itself.
- 5.8.4 **Survey Results and Evaluation.** Bird species recorded within the site during the survey work undertaken include Wood Pigeon *Columba palumbus*, Blackbird *Turdus merula* and Dunnock *Prunella modularis*. In addition, Yellowhammer *Emberiza citrinella* was heard calling offsite within distant agricultural land located north of the site during the 2021 surveys.
- 5.8.5 Woodpigeon and Blackbird are not listed as having any special conservation status, while Dunnock is included on the Amber List, as a result of declines in UK breeding populations, and is also Priority Species. However, the habitats present are common in the surrounding area and there is no evidence to suggest the site is of elevated value at a local level for this species (which in any case, are common in Great Britain¹⁶), or any other priority or red/amber list species (e.g. Yellowhammer). The proposals will result in the loss of small sections of hedgerow/scrub to facilitate site access and drainage/SUDs features, which could potentially affect any nesting birds that may be present at the time of works. Accordingly, a number of safeguards in respect of nesting birds are proposed, as detailed in Chapter 6 below. In the long-term, new nesting opportunities will be available for birds as described in Chapter 6 below.

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*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail

¹⁵ 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

¹⁶ Population estimates of birds in Great Britain and the United Kingdom. Musgrove *et al.*, British Birds, 2013

Anisus vorticulus receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 6007/4 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.9.2 **Background Records.** No specific records of invertebrates were returned from within or adjacent to the site. A number of records of Small Heath *Coenonympha pamphilus* (Priority Species) were returned within the information received from TVERC, with the closest in the last 20 years recorded approximately 1.3km north of the site.

5.9.3 **Survey Results and Evaluation.** Several species of invertebrate were recorded on site including Small Tortoiseshell *Aglais urticae*, Meadow Brown *Maniola jurtina*, Large White *Pieris brassicae*, Gatekeeper *Pyronia tithonus*, Ringlet *Aphantopus hyperantus*, Cinnabar Moth *Tyria jacobaeae* caterpillar, Puss Moth *Cerura vinula* caterpillar, Blowfly *Lucilia* sp., Seven-spot Ladybird *Coccinella septempunctata*, and Roesel's Bush Cricket *Metrioptera roeselii*, along with plant galls confirming the presence of the Bedeguar Gall Wasp *Diplolepis rosae* and Common Spangle Gall Wasp *Neuroterus quercusbaccarum*. In addition, larva of the Sawfly *Cimbex luteus* was recorded on Willow *Salix caprea* adjacent to the site boundary.

5.9.4 No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the site. The site is dominated by a semi-improved grassland field, and therefore contains relatively few microhabitats of elevated potential for invertebrates¹⁷, albeit the hedgerows and scrub will likely offer some opportunities, with the hedgerows set to be retained save for small losses to facilitate access. New planting at the site will compensate for any losses to the scrub and hedgerow, maintaining and enhancing opportunities for invertebrates in the long-term.

5.10 Summary

5.10.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.1. Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the site	Level of Importance
Bats – Roosting	Likely absent	Negligible
Bats – Foraging / Commuting	Suitable habitat present	Local
Badger	No setts identified, but confirmed presence of badger activity on site	Site
Reptiles	Suitable habitat present	TBC following reptile surveys (to be reported separately elsewhere once complete)
Birds	Suitable habitat present	Site

5.10.2 Other fauna supported by the site include non-priority species of mammals and invertebrates. However, these species do not form important ecological features.

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

6 Mitigation Measures and Biodiversity Net Gains

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** to **MM7**) 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 42020:2019).

Hedgerows and Trees

6.1.2 **MM1 – Hedgerow and Tree Protection.** All hedgerows and trees to be retained within the proposed development shall be protected during construction in line with standard arboricultural 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, will be minimised in accordance with good practice guidance¹⁸ to reduce potential impacts on light-sensitive bats (and other nocturnal fauna). This may be achieved through the implementation of a sensitively designed lighting strategy, with consideration given to the following key factors:

- **Light exclusion zones** – ideally no lighting should be used in areas likely to be used by bats. Light exclusion zones or ‘dark buffers’ may be used to provide interconnected areas free of artificial illumination to allow bats to move around the site;
- **Appropriate luminaire specifications** – consideration should be given to the type of luminaires used, in particular luminaries should lack UV elements and metal halide and fluorescent sources should be avoided in preference for LED luminaries. A warm white spectrum (ideally <2,700K) should be adopted to reduce the blue light component;
- **Light barriers / screening** – 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;
- **Light intensity** – light intensity (i.e. lux levels) should be kept as low as possible to reduce the overall amount and spread of illumination;

¹⁸ Bat Conservation Trust and Institute of Lighting Professionals (2018) ‘Guidance Note 08/18: Bats and artificial lighting in the UK’; 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.

- **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;
- **Dimming and part-night lighting** – lighting control management systems can be used, which involves 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 such control systems 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.

Badger

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

- Any trenches or excavations within the site that are to be left open overnight will be provided with a means of escape should a Badger enter. This could simply be in the form of a gently graded ramp or 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 (>150mm outside diameter) should be blanked off at the end of each working day so as to prevent Badgers gaining access as may happen when contractors are off-site;
- Any trenches/pits will be inspected each morning to ensure no Badgers 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 Badgers;
- Fires will only be lit in secure compounds away from areas of Badger activity and not allowed to remain lit during the night; and
- Unsecured food and litter will not be left within the working area overnight.

6.1.5 **MM4 – Badger Update Survey.** Badgers are dynamic animals and levels of Badger activity can rapidly change at a site, with new setts being created at any time. Given the known presence of Badger setts in the area it is recommended that an update survey is carried out prior to commencement of site works in order to confirm the current status of Badgers at the site at that time and ensure the information remains up to date and avoid any potential offence (for instance should any new setts or activity have been created).

Hedgehogs

6.1.6 **MM5 – Hedgehog Safeguards.** In order to safeguard Hedgehogs and other small mammals should they enter the site during construction works, the following measures will be implemented:

- A watching brief should be maintained for Hedgehog and other small mammals throughout any clearance works;
- Any piles of material already present on site, particularly vegetation/leaves, etc. and any areas of dense scrub or hedgerows, shall be dismantled/removed by hand and checked for Hedgehog prior to the use of any machinery/disposal;
- Any material to be disposed of by burning, particularly waste from vegetation clearance and tree works, should not be left piled on site for more than 24 hours in order to minimise the risk of Hedgehogs occupying the pile. If this cannot be avoided, material should be stored within a container such as a skip to prevent animals from gaining access. Any material which has been stored on the ground overnight should be moved prior to burning to allow a thorough check for any animals which may have been occupying the pile;
- In the event that an injured Hedgehog is found, the animal should be wrapped carefully in a towel, the British Hedgehog Preservation Society (BHPS) phoned (01584 890 801) and the Hedgehog taken to a local vet immediately;
- To maintain connectivity throughout the site for Hedgehog and to allow access to suitable foraging habitat contained within residential gardens, small holes (13cmx13cm) should be created within garden fences or under gates.

Reptiles

6.1.7 **MM6 – Phase 2 Survey Work.** Given the presence of potentially suitable reptile habitat within the site, specific reptile survey work is currently in progress at the site to establish the presence/absence of common reptile species, during the optimal seasonal period. This will involve transects of thick roofing felt tiles (acting as artificial refugia), placed at a density of at least 10 mats per hectare. Following an initial bedding in period (1-2 weeks), these will then be checked seven times at appropriate times of day (morning and evening), during suitable weather conditions, to allow the presence/absence of common reptile species to be determined. Reptiles (and evidence of reptiles such as slough) will also be searched for within suitable habitats across the site. The results of the survey work and any associated mitigation measures (should these be required) will be reported separately elsewhere, albeit the proposed layout incorporates substantial areas of open space and new wildlife habitats which could be used to provide suitable receptor/replacement habitats for reptiles should this group be present.

Nesting Birds

6.1.8 **MM7 – Timing of Works.** To avoid a potential offence under the relevant legislation, no clearance of suitable vegetation should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 5m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

6.2 Biodiversity Net Gains

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** to **EE6**), the opportunity exists for the proposals to deliver a number of biodiversity net gains at the site.

Habitat Creation

6.2.2 **EE1 – New Planting.** The proposals incorporate new tree and hedgerow planting within the site. It is recommended that where practicable, new planting be comprised of native species of local provenance, including species appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Oak, Ash, Birch 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 and Elder. Where non-native species are proposed, these should include species of value to wildlife, such as varieties listed on the RHS' 'Plants for Pollinators' database, providing a nectar source for bees and other pollinating insects.

6.2.3 **EE2 – Wildflower Grassland.** It is recommended that areas of wildflower grassland are created within the site, in particular throughout the new green infrastructure such that, in combination with new native landscape planting, opportunities for biodiversity will be maximised under the proposals.

6.2.4 **EE3 – Wetland Features.** The proposals incorporate new Sustainable Drainage Systems (SuDS) features, including in particular a new balancing pond at the north east of the site. It is understood that the SUDs basin can be designed to incorporate permanent standing water (e.g. through over-excavation), which would therefore be designed to be of value to wildlife and include elements such as sinuous margins (to create a variety of conditions and micro-climates which would encourage a broad range of invertebrates to colonise), gently sloping margins (which are favoured by amphibians) and conditions to allow abundant marginal and aquatic vegetation to develop. Creation of such habitats will provide opportunities for a range of wildlife such as amphibians and invertebrates, while also helping to attenuate surface water run-off.

Bats

6.2.5 **EE4 - Bat Boxes.** It is recommended that a number of bat boxes/roost features be incorporated within the new buildings where architectural design allows. This will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. The precise number and locations of boxes / roost features should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

Birds

- 6.2.6 **EE5 - Bird Boxes.** It is recommended that a number of bird nesting boxes be incorporated within the proposed development, thereby increasing nesting opportunities for birds at the site. These should be sited on suitable buildings. 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. In particular, it is recommended that a number of swift bricks be incorporated within the proposed development. Swift is a rapidly declining UK species threatened by a lack of nesting cavities in new buildings¹⁹. The data search returned records of nesting Swift within the local area and as such this species could benefit from such provisions. Additionally, swift bricks are suitable for other species such as House Sparrow.

Invertebrates

- 6.2.7 **EE6 – Nectar Source.** The recommended wildflower mix would include various Bents *Agrostis* spp. and Hawkweeds (*Hieracium/Hypochoeris*), which would provide a larval food source and adult nectar source, respectively, for local Priority species such as Small Heath.

¹⁹ <https://www.rspb.org.uk/our-work/conservation/conservation-and-sustainability/safeguarding-species/swiftmapper/>

7 Biodiversity Net Gain Assessment (BNGA)

7.1 Defra Biodiversity Metric

- 7.1.1 To quantify the level of biodiversity net gain that can be delivered under the proposed development, the change in biodiversity value resulting from the scheme has been calculated using the Defra Biodiversity Metric 3.0 calculation tool and associated user guide²⁰. This takes account of the size, distinctiveness and ecological condition of existing and proposed habitat areas to provide a proxy measure of the present and forecast biodiversity value of a site, and therefore determine the overall change in biodiversity value.
- 7.1.2 Relevant outputs from the completed spreadsheet tool and associated target notes are provided at Appendix 6007/5 (a completed copy of the metric calculator tool in MS Excel (.xlsm) format can be provided on request, if required).
- 7.1.3 Broad habitat areas have been identified based on the survey work undertaken at the site, as described above. Habitat conditions and connectivity scores have then been assigned based on the guidance set out in the Technical Supplement²¹, other appropriate guidance and professional judgement.
- 7.1.4 The post development information used to inform the DEFRA 3.0 Biodiversity Metric Calculation Tool are based on the latest proposed land use parameters Plan (see Appendix 6007/1). Given the outline nature of the proposals at this stage, the proposed strategy necessarily provides an indicative assessment of what could be achieved at the site based on the outline parameters, with any detailed information anticipated to be confirmed through reserved matters considerations at the appropriate stage.

7.2 Biodiversity Net Gain Assessment

Habitat Biodiversity Impact Calculations

- 7.2.1 As set out above, the internal areas of the site are currently dominated by semi-improved grassland, which is clearly subject to high levels of agricultural disturbance on an infrequent basis, with evident mechanical damage and a high proportion of ruderal colonising species present. Other habitats present are extremely small in size and largely associated with the existing highways land along Dukes Meadow Drive (proposed for the new site access).
- 7.2.2 The proposals are for development of the site to provide new residential development of up to 78 dwellings with all matters reserved other than access.
- 7.2.3 On the basis of the considerations and proposals set out (including the assumptions and limitations set out above and within the comments in the spreadsheet tool), the DEFRA 3.0 Metric calculator indicates a net habitat biodiversity unit change for the proposals within the site boundary of -1.84 Habitat Units representing a loss of 12.72% within the site boundary. Accordingly, in order to provide compensation for the loss of habitats and ensure biodiversity net gain in line with planning policy requirements, it is proposed to

²⁰ Natural England (July 2021) *Natural England Joint Publication JP039. Biodiversity Metric 3.0: auditing and accounting for biodiversity – User Guide.*

²¹ Natural England (July 2021) *Natural England Joint Publication JP039. The Biodiversity Metric 3.0: auditing and accounting for biodiversity – Technical Supplement*

provide offsetting through enhancement of existing habitats within the wider landholding (as shown at Plan 6007/ECO4).

- 7.2.4 The habitats within the wider landholding (blue line land) were subject to survey at the same time as the site boundary and similarly confirmed to support semi-improved grassland with high levels of disturbance. In order to provide an overall net gain of at least 10%, an area of approximately 0.72ha grassland is proposed for enhancement (albeit given the outline nature of the application and associated indicative nature of the masterplan, the precise area and measures can be further confirmed at the reserved matters/detailed design stage if required).
- 7.2.5 Nonetheless, it is clear that suitable areas are available for ecological enhancement within the control of the applicant, which can be enhanced and managed for the benefit of biodiversity, which is provided, based on the outline scheme and assumptions within the Defra 3.0 metric, would enable the proposals to result in a calculated increase of 1.53 habitat units (representing a calculated net gain of 10.54%).

Hedgerow and River Impact Assessment

- 7.2.6 The site does not include any watercourses. However, based on the current scheme proposals, it is likely that the proposed development will result in the necessary loss of a single, short length of hedgerow (H1b) at the east of the site in order to facilitate the required SUDs features. However, considerable areas of new planting are proposed, including in particular the provision of replacement native hedgerow planting along the southern boundary adjacent to Dukes Meadow Drive and associated highways land, which will therefore provide suitable compensation in line with offsetting guidance (and not taking into account any improved management of existing retained hedgerows).
- 7.2.7 Based on an indicative total of approximately 0.25km new native species-rich hedgerows, the DEFRA 3.0 Metric calculator indicates a net hedgerow biodiversity unit change for the proposals within the site boundary of +1.94 Habitat Units representing an increase of 58.11%.

Overall BIA Consideration

- 7.2.8 Overall, on the basis of the above consideration in relation to the Defra offsetting metric, including guidance, it can be concluded that, subject to appropriate detailed landscape design and planting information, along with the incorporation of the proposed enhancement measures within the offsite land under the control of the applicant, the current indicative proposals/parameters would result in a calculated increase in biodiversity units, with an indicative overall 'score' of approximately +1.53 habitat units (representing an increase of 10.54%) and +1.94 hedgerow units (representing an increase of 58.11%).
- 7.2.9 On this basis (and subject to the successful implementation of the proposed scheme, including offsetting provision within the wider land under the applicant's control and long term suitable management), the proposals will result in a calculated net gain in biodiversity (representing greater than 10% net gain based on the calculator tool and in line with local planning policy requirements). The proposals would therefore appear to be in line with relevant planning policy requirements in regard to biodiversity net gain.

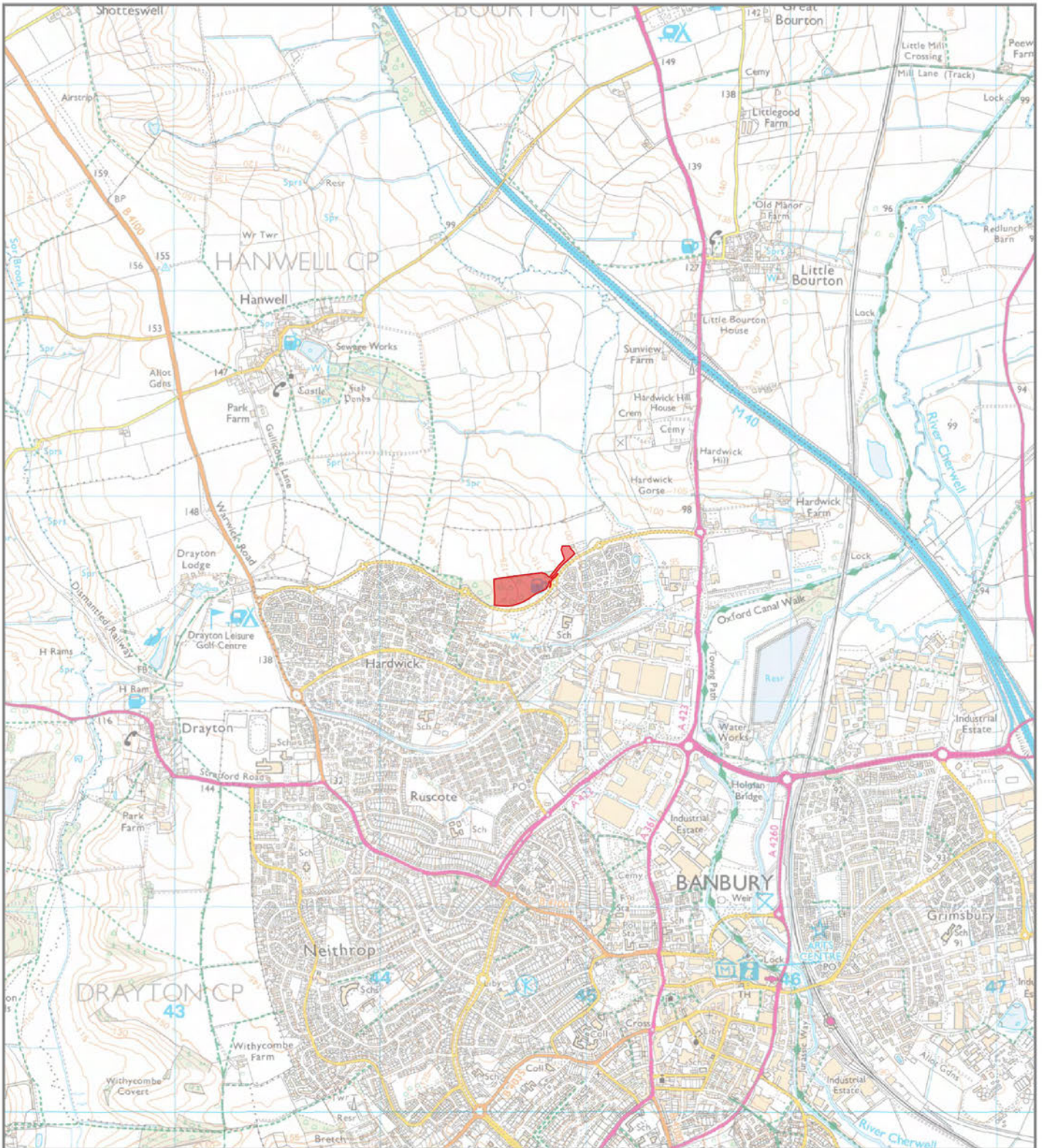
8 Conclusions

- 8.1 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 detailed protected species surveys, including in respect of bats and Badger.
- 8.2 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.
- 8.3 The extended Phase 1 habitat survey has established that the site is dominated by habitats not considered to be of ecological importance, whilst the proposals have sought to retain those features identified to be of value. 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. A number of specific measures and recommendations are set out in order to ensure the suitable protection of the retained habitats and associated fauna, whilst where possible it is recommended that any new planting at the site incorporate native species for the benefit of local wildlife, in combination with the enhancement and management of the retained features of value.
- 8.4 The habitats within the site have the potential to support several protected species, including species protected under both national and European legislation and indeed, badger activity is confirmed on site through the presence of latrines, whilst the habitats present appear suitable for use by common reptile species and nesting birds. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, with compensatory measures proposed, where appropriate, in order to maintain the conservation status of local populations where appropriate.
- 8.5 In conclusion, subject to the implementation of the measures and recommendations set out, the proposals will 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 net gains as part of the proposals.

Plans

Plan 6007/ECO1:

Site Location



Key:

 Site Location

aspect ecology

Aspect Ecology Limited West Court Hardwick Business Park
 Noral Way Banbury Oxfordshire OX16 2AF
 01295 279721 info@aspect.ecology.com www.aspect.ecology.com

Land at Hanwell Fields,
 Banbury
 Site Location

6007/ECO1

A
 September 2021

PROJECT

TITLE

DRAWING NO.

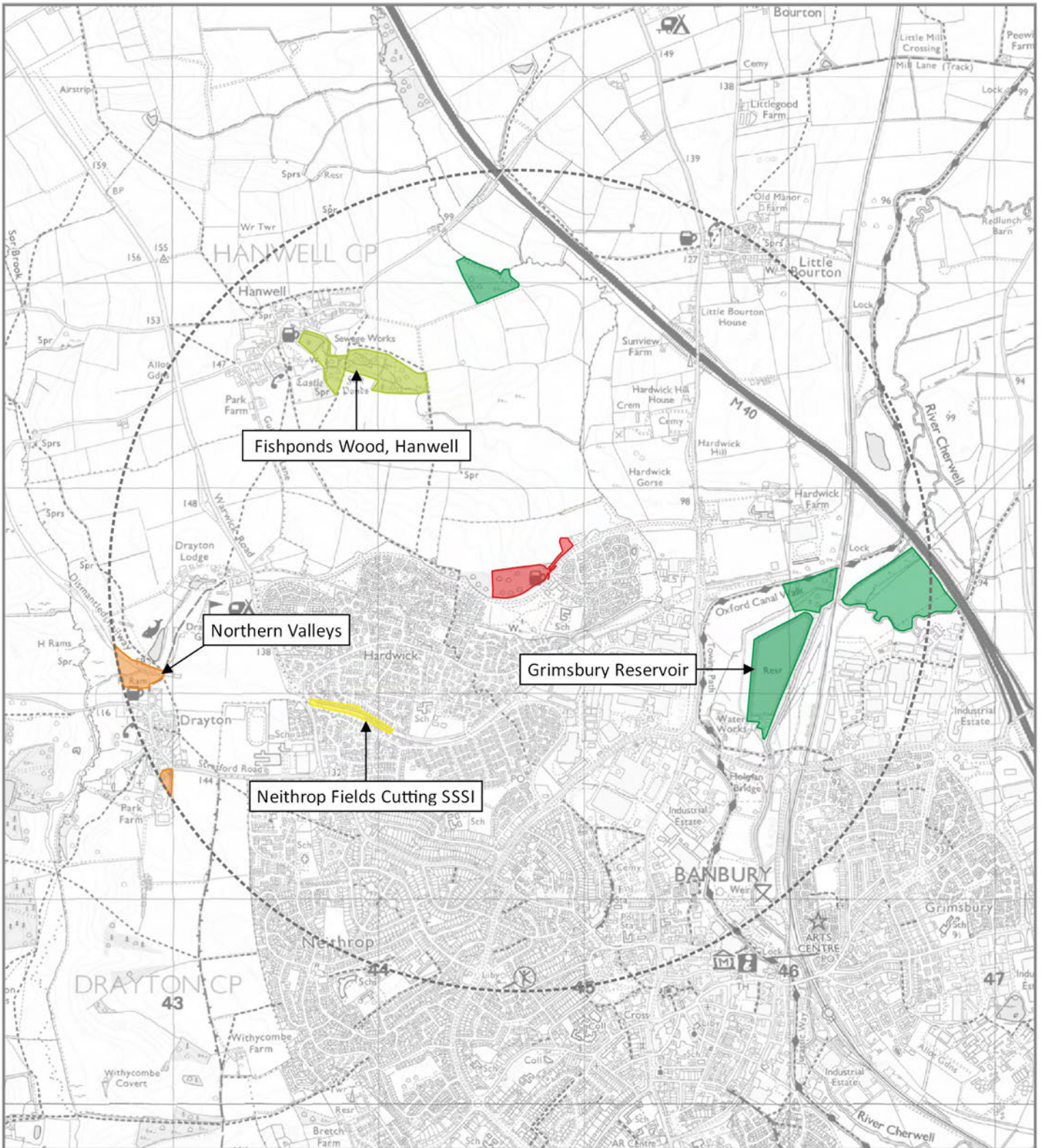
REV

DATE



Plan 6007/ECO2:

Ecological Designations



Key:

- Site Location
- Site of Special Scientific Interest (SSSI)
- Oxfordshire Local Wildlife Site
- Proposed Cherwell District Wildlife Site
- Conservation Target Area
- 2km Buffer Around Site Centre (only non-statutory designations within this buffer are shown)



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Land at Hanwell Fields,
 Banbury
 Ecological Designations

6007/ECO2

September 2021



PROJECT	
TITLE	
DRAWING NO.	
REV.	A
DATE	

Plan 6007/ECO3:

Habitats and Ecological Features



Key:

- Site Boundary
- Amenity Grassland
- Semi-improved Grassland
- Scrub
- Dense Scrub
- Scattered Scrub
- Hedgerow
- Tree
- Hardstanding
- ▲ Badger Latrine

aspect ecology

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Land at Hanwell Fields, Banbury

Habitats and Ecological Features

6007/ECO3

September 2021



PROJECT
 TITLE
 DRAWING NO.
 REV
 DATE

Plan 6007/ECO4:

Location of Proposed Biodiversity Net Gain Provision



Key:

- Site Boundary
- Additional Land Under Control of the Applicant
- Indicative Location of Proposed Biodiversity Net Gain Provision (0.72ha)



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Land at Hanwell Fields, Banbury PROJECT

Location of Proposed Biodiversity Net Gain Provision TITLE

6007/ECO4 DRAWING NO.



A REV

September 2021 DATE

Appendices

Appendix 6007/1:

Proposed Land Use Parameters Plan



- Site Boundary
- Other Land Ownership
- Up to 1 storey
- Up to 2 storey
- Up to 3 storey
- 4 storey
- ↘ Site Access
- ↘ Pedestrian Links
- Existing Vegetation
- Proposed Trees
- Green Fingers
- Green Corridor
- Public Open Space
- Proposed Development Parcels
- Proposed Vehicular Routes
- Proposed SuDS Locations
- Proposed Play Area

Romsey T: 01794 367703 F: 01794 367276
 Portishead T: 01275 407000 F: 01794 367276
 Camberley T: 01276 749050 F: 01794 367276

Rev	Description	Date	Au	Ch
P1	Preliminary Issue	17.08.21	PM/hm	--/--
P2	Revised in accordance with CMP-01 P2	27.08.21	PM/hm	
P3	Site boundary amended	06.09.21	PM/ci	
P4	Site boundary amended	24.09.21	PM/hm	

Project	Hanwell Fields, Banbury		
Drawing	Land Use Parameter Plan - 01		
Client	MANOR OAK HOMES		
Job no.	MANO210710	Date	17.08.21
Dwg no.	LUPP-01	Rev.	P4
Author	PM/hm	Checked	-/-
Status	PRELIMINARY	Scale	1:1000@A2
Office	Romsey	Client ref.	-

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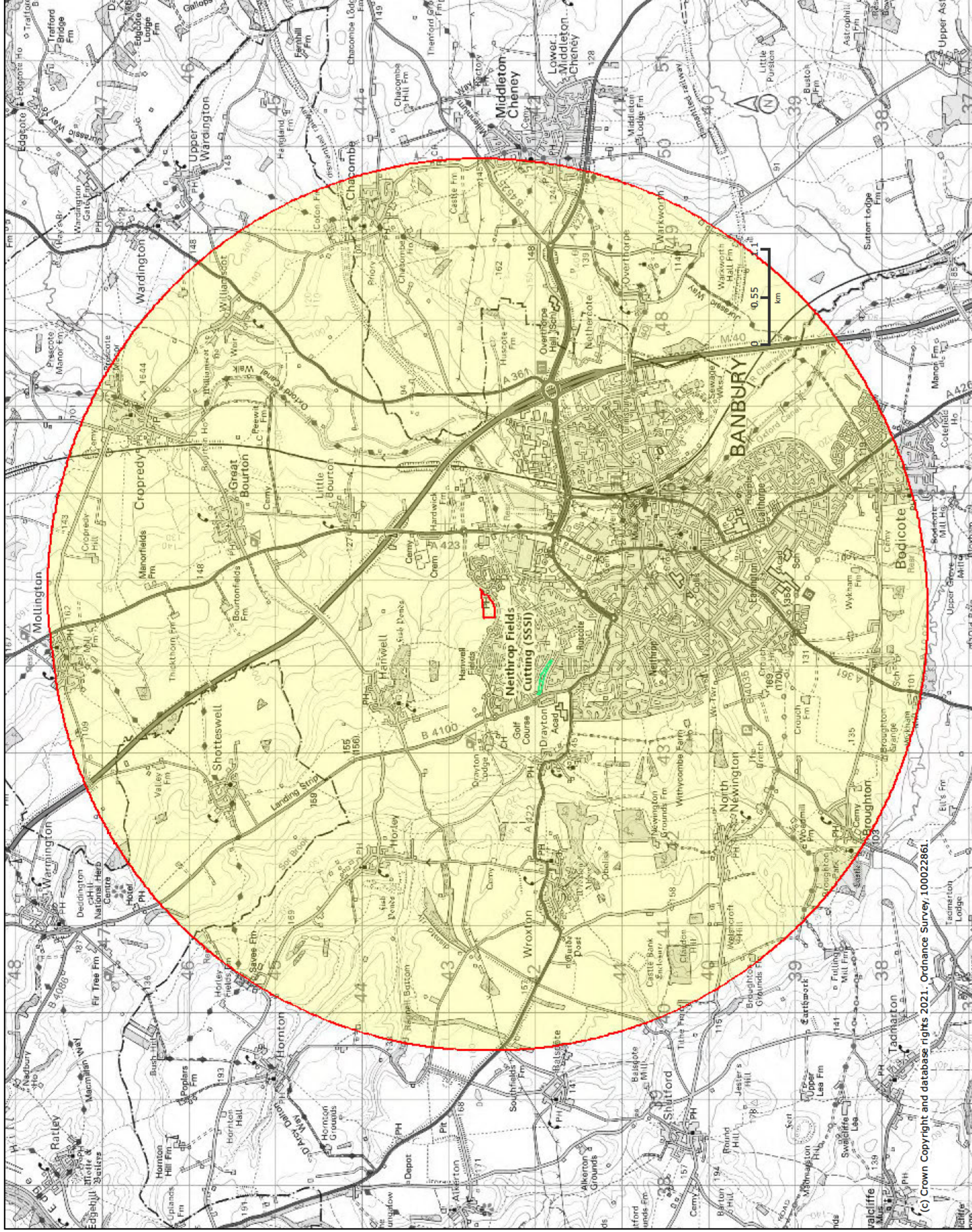
This drawing is the copyright of Thrive Architects Ltd ©. All rights reserved. Ordnance Survey Data © Crown Copyright. All rights reserved. Licence No. 100007359. DO NOT scale from this drawing. Contractors, Sub-contractors and suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work. Any discrepancies should be recorded to the Architect. Where applicable this drawing is to be read in conjunction with the Consultants' drawings.



Appendix 6007/2:

Desktop Study Data

Statutory Designations at 5km

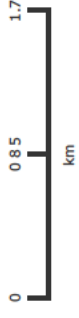


Legend

Sites of Special Scientific Interest (England)



Projection = OSGB36
 xmin = 433400
 ymin = 236800
 xmax = 455800
 ymax = 248300



Map produced by MAGIC on 28 July, 2021.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Site Check Report generated on Wed Jul 28 2021
You selected the location: Centroid Grid Ref: SP44714255
The following features have been found in your search area:

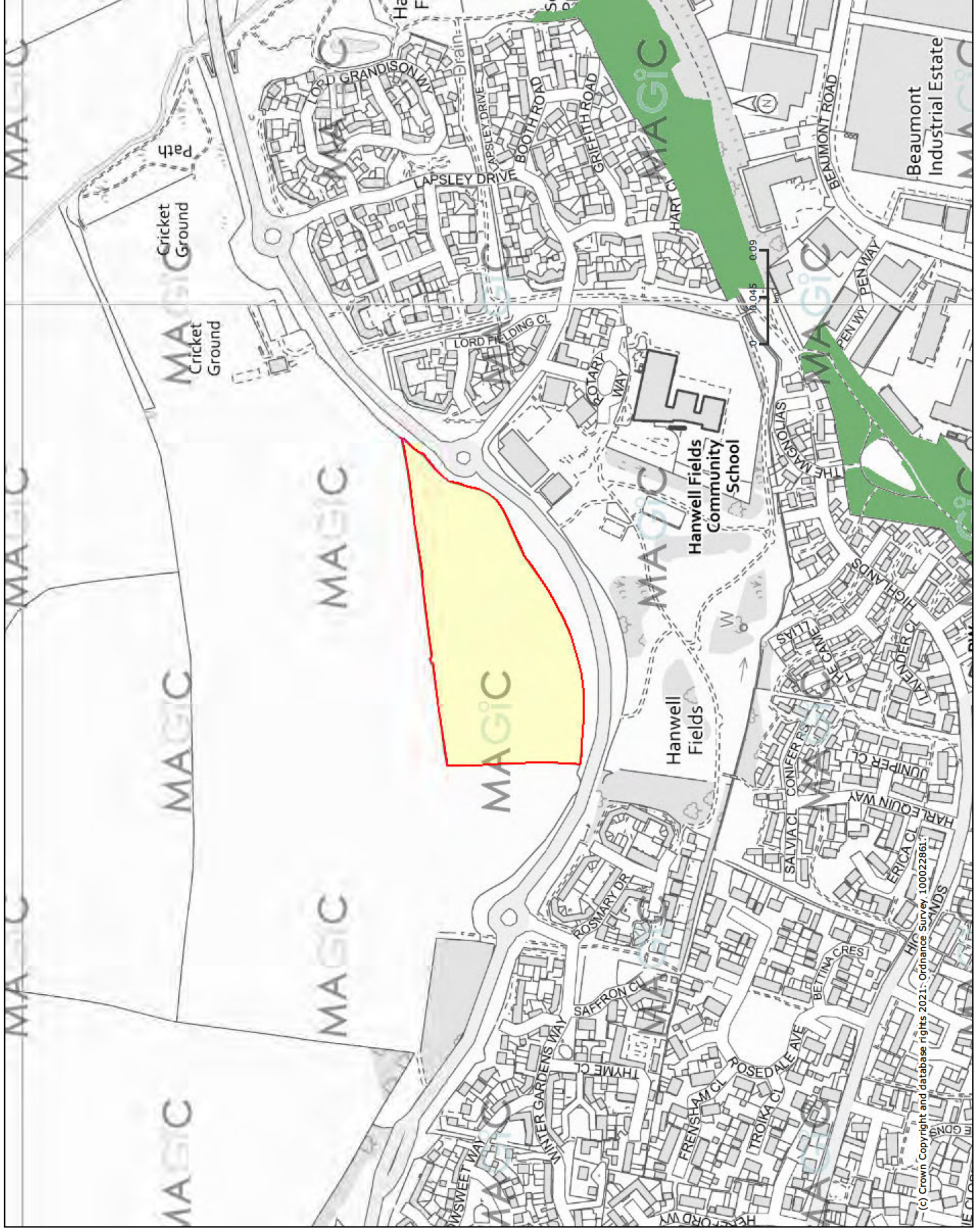
Sites of Special Scientific Interest (England) - points

Name Neithrop Fields Cutting SSSI
Reference 1000768
Natural England Contact Conservation Delivery Team
Natural England Phone Number 0845 600 3078
Hectares 1.44
Citation 1002934
Hyperlink <http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1002934>

Sites of Special Scientific Interest (England)

Name Neithrop Fields Cutting SSSI
Reference 1000768
Natural England Contact Conservation Delivery Team
Natural England Phone Number 0845 600 3078
Hectares 1.44
Citation 1002934
Hyperlink <http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1002934>

Nearby Priority Habitats



Legend

- Priority Habitat Inventory -
- Deciduous Woodland (England)

Projection = OSGB36
 xmin = 443800
 ymin = 242100
 xmax = 445600
 ymax = 243000

Map produced by MAGiC on 28 July, 2021.
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Appendix 6007/3:

Evaluation Methodology

Evaluation Methodology

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' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. 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.
4. 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);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- 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).

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.

5. 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

6. 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).
7. 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.
8. 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.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. 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

11. 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.
12. 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.
13. 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

14. 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.
15. 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.
16. 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.
17. 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 6007/4:

Legislation Summary

LEGISLATION SUMMARY

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

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

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

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

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

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

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

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

Appendix 6007/5:

Relevant output from the Biodiversity Metric 3.0 Calculation Tool

The Biodiversity Metric 3.0 - Calculation Tool

Start page

Project details	
Planning authority:	Cherwell DC
Project name:	Land off Dukes Meadow Drive, Hanwell Fields, Banbury
Applicant:	Manor Oak Homes
Application type:	
Planning application reference:	
Assessor:	Aspect Ecology Ltd
Reviewer:	
Metric version:	Defra 3.0
Assessment date:	27/09/2021
Planning authority reviewer:	

Instructions

Main menu

Results

View all

Reset view

Cell style conventions	
	Enter data
	Automatic lookup
	Result

On-site baseline map

Insert

On-site post intervention map

Insert

Off-site baseline map

Insert

Off-site post intervention map

Insert

Land off Dukes Meadow Drive, Hanwell Fields, Banb
 Headline Results

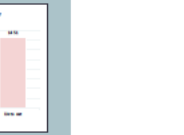
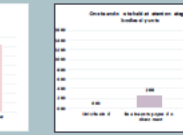
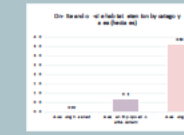
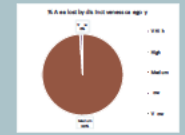
[Return to results menu](#)

On-site baseline	<i>Habitat units</i>	14.51
	<i>Hedgerow units</i>	3.34
	<i>River units</i>	0.00
On-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	12.67
	<i>Hedgerow units</i>	5.28
	<i>River units</i>	0.00
On-site net % change <small>(Including habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	-12.72%
	<i>Hedgerow units</i>	58.11%
	<i>River units</i>	0.00%
Off-site baseline	<i>Habitat units</i>	2.88
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	6.26
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	1.53
	<i>Hedgerow units</i>	1.94
	<i>River units</i>	0.00
Total on-site net % change plus off-site surplus <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	10.54%
	<i>Hedgerow units</i>	58.11%
	<i>River units</i>	0.00%
Trading rules Satisfied?	No - Check Trading Summary	

Land of Silver Meadow Drive, Hopedale, Railway	
Detailed Results	
Summary Figures	
Net project biodiversity units (on existing site less than offset on land lost or added)	1.00
Total project biodiversity % change (on existing site less than offset on land lost or added)	0.00%
Combined habitat net on and off-site enhancement	
Time area / length	2.00
Time area / length	2.00
Area / length on a road	2.00
Area / length proposed for enhancement	2.00
Area / length proposed for enhancement	2.00
Area / length to lose	2.00

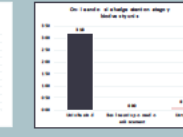
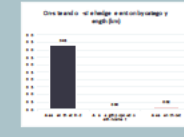
On site change by broad habitat type						
Habitat group	Existing on site	Lost on site	Proposed on site	Proposed on site	Change on site	Change on site
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland/scrub	0.00	0.00	0.00	0.00	0.00	0.00
Open	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00

Combined area lost by disturbance band		
Category	Area lost (hectares)	Area lost (%)
High	0.00	0.00
Medium	0.00	0.00
Low	0.00	0.00
Total	0.00	0.00



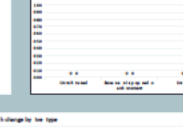
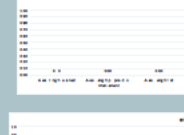
On site change by broad habitat type						
Habitat group	Existing on site	Lost on site	Proposed on site	Proposed on site	Change on site	Change on site
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland/scrub	0.00	0.00	0.00	0.00	0.00	0.00
Open	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00

Combined area lost by disturbance band		
Category	Length lost (km)	Length lost (%)
High	0.00	0.00
Medium	0.00	0.00
Low	0.00	0.00
Total	0.00	0.00



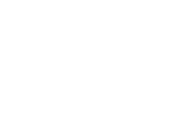
On site change by broad habitat type						
Habitat group	Existing on site	Lost on site	Proposed on site	Proposed on site	Change on site	Change on site
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland/scrub	0.00	0.00	0.00	0.00	0.00	0.00
Open	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00

Combined area lost by disturbance band		
Category	Length lost (km)	Length lost (%)
High	0.00	0.00
Medium	0.00	0.00
Low	0.00	0.00
Total	0.00	0.00



On site change by broad habitat type						
Habitat group	Existing on site	Lost on site	Proposed on site	Proposed on site	Change on site	Change on site
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland/scrub	0.00	0.00	0.00	0.00	0.00	0.00
Open	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00

Combined area lost by disturbance band		
Category	Length lost (km)	Length lost (%)
High	0.00	0.00
Medium	0.00	0.00
Low	0.00	0.00
Total	0.00	0.00



Land off Dukes Meadow Drive, Harwell Fields, Banbury
A-1 Site Habitat Baseline

Coordinates / Show Column Coordinates / Show Rows

Map Menu Instructions

Ref	Broad habitat	Habitat type	Area (hectares)	Disturbance		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline Total habitat value
				Disturbance	Score	Condition	Score	Strategic significance	Strategic significance multiplier	Strategic significance multiplier		
1	Grassland	Other semi-improved grassland	3.573	Medium	4	Poor	1	Area/compensated on suit a local strategy/ no local strategy	Low Strategic significance	1	None formed habitat or a N other a high/strategic habitat required	14.59
2	Grassland	Moorland grassland	0.034	Low	2	Poor	1	Area/compensated on suit a local strategy/ no local strategy	Low Strategic significance	1	None formed habitat or a N other a high/strategic habitat required	0.07
3	Heathland and scrub	Mixed scrub	0.018	Medium	4	Moderate	2	Area/compensated on suit a local strategy/ no local strategy	Low Strategic significance	1	None formed habitat or a N other a high/strategic habitat required	0.15
4	Urban	Developed hard paved surface	0.006	V Low	0	N/A - O bar	0	Area/compensated on suit a local strategy/ no local strategy	Low Strategic significance	1	Compensation Not Required	0.00
5			3.63									14.81

Biodiversity category biodiversity value						Biodiversity compensation agreed for unrecognisable losses	Comments	
Area retained	Area enhanced	Baseline value retained	Baseline value enhanced	Area lost	Value lost		Assessor comments	Reviewer comments
		0.00	0.00	3.57	14.59			
		0.00	0.00	0.03	0.07			
		0.00	0.00	0.02	0.15			
		0.00	0.00	0.01	0.00			
0.00	0.00	0.00	0.00	3.63	14.81			

Land off Dikes Meadow Drive, Harwell Fields, Banbury
D-1 Off Site Habitat Baseline

Condense / Show Columns Condense / Show Rows
Main Menu Print out one

Baseline ref	Habitat unit areas			Habitat distinctiveness		Habitat condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline	Resilience category biodiversity value					Resilience compensation agreed for unmitigatable losses	Comments	
	Broad habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier			Area retained	Area enhanced	Baseline value retained	Baseline value enhanced	Area lost		Value lost	Assessor comments
1	Grassland	Other natural grassland	0.72	Medium	4	Poor	1	Area 'compensated' on site to local strategy' no local strategy	Low Strategic Importance	1	Some broad loss of or a higher level of disturbance habitat class red	2.88	0.72	0.00	2.88	0.00	0.00			
2																				
3																				
4																				
5			0.72									2.88	0.00	0.72	0.00	2.88	0.00	0.00		
													0.00	0.72	0.00	2.88	0.00	0.00		

B-1 Site Hedge Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

List Actions

Baseline ref	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Strategic significance	Suggested action to address habitat losses	Ecological baseline Total hedgerow units	Retention category biodiversity value						Comments	
	Hedge number	Hedgerow type	Length KM						Strategic significance	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments
1	H1	Native Hedgerow	0.13	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness based or better	0.78	0.13		0.78	0.00	0.00	0.00		
2	H1a	Native Hedgerow with trees	0.32	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	10x for line or better	2.56	0.5		2.40	0.00	0.02	0.18		
3																
4																
5																
6																
7			0.45					3.34	0.43	0.00	3.18	0.00	0.03	0.18		

B-2 Site Hedge Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Baseline ref	New hedge number	Proposed habitats		Habitat distinctiveness	Habitat condition	Strategic significance	Temporal multiplier			Difficulty risk multipliers	Hedge units delivered	Comments	
		Habitat type	Length km				Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years			Final difficulty of creation	Assessor comments
1		Native Species Rich Hedgerow with trees	0.25	High	Moderate	Area compensation not in local strategy/ no local strategy	Standard time to target condition applied	10	Low	2.10	Indicative figure based on provision of new native hedgerow around minimum of southern boundary section adjacent to Dukes Meadow Drive boundary (anticipated opportunity for great hedgerow planting as part of detailed planting designs across the site).		
2													
3													
4													
5													
6			0.25							2.10			

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