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LONGFORD PARK, BANKSIDE
BANBURY

Ecological Assessment
(Community Park)

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1. INTRODUCTION

1.1. Background & Proposals

- 1.1.1. A planning application was submitted to Cherwell District Council (Ref:05/01337/OUT) in July 2005 for the development of a large area of land to the east of Bankside, Banbury to provide new residential homes and associated facilities including a school and playing fields. The application was supported by an Environmental Statement (ES), which included an Ecological Impact Assessment (EclA).
- 1.1.2. Outline planning permission for the above development was granted by Cherwell District Council in September 2009.
- 1.1.3. Aspect Ecology was commissioned by Barratt Homes, Bovis Homes and Taylor Wimpey in 2013 to undertake an ecological assessment in respect of Reserved Matters applications for the initial phases of development. The findings of that work have been reported in Aspect Ecology's 'Longford Park, Bankside Banbury – Ecological Assessment: Phase 1 – May 2013' and 'Longford Park, Bankside Banbury – Ecological Assessment: Spine Road Application – May 2014'.
- 1.1.4. Aspect Ecology have been subsequently commissioned by Barratt Homes, Bovis Homes and Taylor Wimpey in July 2014 to undertake an ecological assessment in respect of the land which makes up the 'Community Park' area of the development, hereafter referred to as 'the site'. The proposals are for the creation of a large parkland area incorporating formal and informal open space with footpaths, sports pitches woodland and wetland. The majority of this land was surveyed by Aspect Ecology in 2013 as part of the Spine Road Application. Accordingly, only a brief update survey was required in 2014, albeit an additional field not included in the previous survey work (centred at grid reference SP 467 391) was subject to more detailed ecological survey.

1.2. Site Characteristics

- 1.2.1. The site is situated in a semi-rural context and is bound primarily by arable fields, residential housing to the north and west and the Oxford Canal to the east (see Plan 3266/ECO3).
- 1.2.2. The site itself comprises arable fields, bare soil, grassland, hedgerows, trees, a pond, streams and ditches.

1.3. Ecological Assessment

- 1.3.1. This document assesses the ecological interest of the site as a whole. The importance of the habitats and species present is evaluated. Where necessary, mitigation measures are recommended so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are proposed with reference to local Biodiversity Action Plans (BAPs).

2. SURVEY AND EVALUATION METHODOLOGY

2.1. The methodology utilised for the survey work can be split into three main areas: a desktop study, habitat survey, and faunal survey. These are discussed in more detail below.

2.2. Desktop Study

2.2.1. The desk study undertaken for the 2005 ES and the desk studies undertaken by Aspect Ecology in 2013 were reviewed. The following organisations were contacted, English Nature, English Nature (Invertebrate Site Register), Environment Agency, Berkshire Buckinghamshire and Oxford Wildlife Trust, Northamptonshire Wildlife Trust, The Thames Valley Environmental Records Centre, Banbury Ornithological Society Bird Recorder, The Royal Society of the Protection of Birds – Central England Office, Oxfordshire Bat Group, Oxfordshire Badger Group and Oxfordshire Amphibian and Reptile Recorder.

2.2.2. Information on statutory designated sites was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England.

2.3. Habitat Survey

2.3.1. The majority of the site was surveyed in June 2013 (with an updated walkover survey undertaken in October 2014) and the remaining small portion of the site in July 2014 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats associated with the site.

2.3.2. The site was surveyed based on Phase 1 Habitat Survey methodology¹, as recommended by Natural England, 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.

2.3.3. 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.

2.3.4. 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 at different seasons. The survey work was conducted within the accepted survey season, and it is therefore

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

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

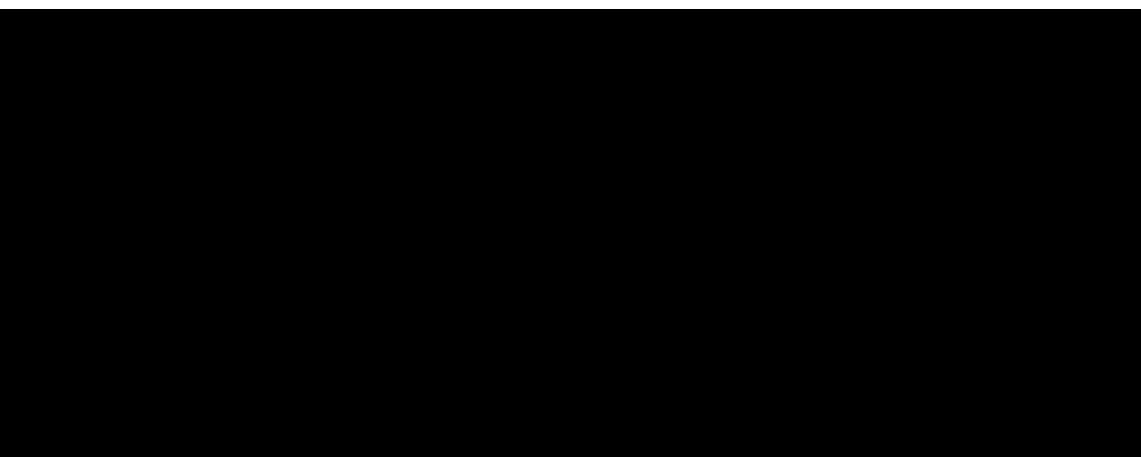
considered that a satisfactory survey and robust assessment of the habitats present have been undertaken.

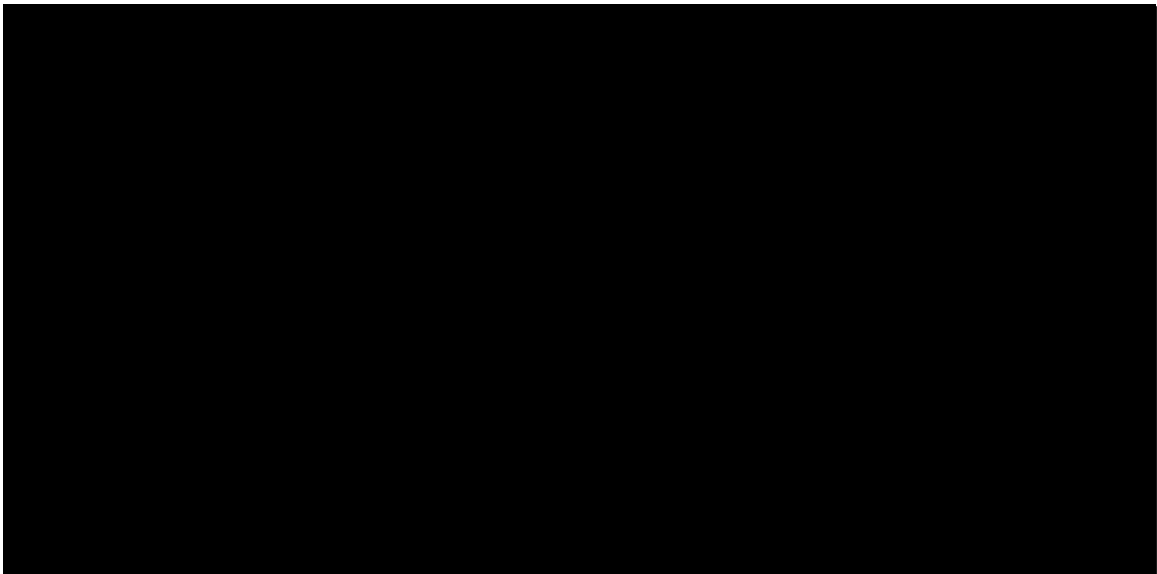
2.4. Faunal Surveys

- 2.4.1. General faunal activity, such as mammals or birds observed visually or by call during the course of the survey was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats and Badgers.

Bats³

- 2.4.2. **Buildings.** All buildings within the site are to be lost to the proposal, and were therefore subject to internal and external inspection surveys using ladders, torches, mirrors and binoculars where necessary to check for potential bat use.
- 2.4.3. Evidence of the presence of bats was searched for with particular attention paid to any loft voids and gaps between rafters and beams. Specific searches were made for bat droppings that can indicate present or past use and the extent of use, whilst other signs that can indicate the possible presence of bats were also searched for, e.g. presence of stained areas or feeding remains.
- 2.4.4. Exterior checks of the building were also undertaken in order to search for signs of any use by bats. Binoculars were used to inspect any inaccessible areas more closely.
- 2.4.5. **Trees.** An examination of the trees within the site was undertaken to search for the presence of features which could be of potential value for bats such as splits, cracks, rot holes, coverings of lvy, peeling bark or similar. The potential for the trees to support roosting bats is ranked in accordance with the criteria set out in 'Bat Surveys - Good Practice Guidelines'⁴ by the BCT:
- Category 1: Confirmed bat roost tree with field evidence of the presence of bats, e.g. droppings, scratch marks, grease marks or urine staining.
 - Category 2a: Trees that have a high potential to support roosting bats.
 - Category 2b: Trees with a moderate/low potential to support roosting bats.
 - Category 3: Trees with negligible potential to support bat roosts.





Great Crested Newt

2.4.8. One on-site pond and one off-site pond were subject to a Habitat Suitability Index (HSI) assessment based on the methodology detailed in Oldham *et al.* (2000)⁵, to determine the suitability of this feature to Great Crested Newts.

2.5. **Principles of Ecological Evaluation**

2.5.1. The evaluation of ecological features and resources should be based on sound professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described in 'Guidelines for Ecological Impact Assessment in the United Kingdom' published by the Institute of Ecology and Environmental Management (IEEM), 2006. In evaluating ecological features and resources the following key factors are taken into account:

Geographic Frame of Reference

2.5.2. The value of an ecological feature or resource is determined within a defined geographical context using the following frame of reference:

- International
- National
- Regional
- County (or Metropolitan)
- District (or Unitary Authority, City or Borough)
- Local (or Parish)
- At the Site level only

2.5.3. Within this frame of reference, certain sites may carry a statutory ecological designation, e.g. Special Area of Conservation (SAC) for internationally

⁵ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155

important sites or Site of Special Scientific Interest (SSSI) for sites of national importance.

- 2.5.4. Sites of more localised nature conservation importance do not receive statutory protection but may be designated by Local Planning Authorities or other bodies, e.g. Wildlife Trusts. Such non-statutory designations or “Local Sites”⁶ include County Wildlife Sites (CWSs) and Sites of Nature Conservation Interest (SNCIs), for example.

Biodiversity Value

Habitats

- 2.5.5. 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 can also be an important consideration, for example in the case of ancient woodland.
- 2.5.6. Regard should also be given to habitats listed as priorities for conservation in accordance with Section 41 of the NERC Act, 2006, so called “Priority Habitats”, as the likely effect of a development on such habitats is a potential material consideration within the planning process. Certain habitats may also be listed within more regionally or locally specific BAPs, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

Species

- 2.5.7. The assessment of the value of a species is based on factors including distribution, status, historical trends, population size and rarity. 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.
- 2.5.8. For certain species groups, e.g. waterfowl, there are established criteria that can be used for defining nationally and internationally important populations.
- 2.5.9. Regard should also be given to species listed as priorities for conservation in accordance with Section 41 of the NERC Act 2006, so called “Priority Species”. Certain species may also be listed within more regionally or locally specific BAPs, albeit as with habitats the listing of a particular species under a BAP does not in itself imply any specific level of importance.

Secondary or Supporting Value

- 2.5.10. Some habitats or features that are of no intrinsic biodiversity value may nonetheless perform an ecological function, e.g. as a buffer. In addition,

⁶ DEFRA (2006) “Local Sites – Guidance on their Identification, Selection and Management”

certain features of the landscape which by virtue of their linear or continuous nature (e.g. rivers) or their function as "stepping stones" (e.g. small woods) may be of value for the migration, dispersal and genetic exchange of wild species.

Other Value

2.5.11. Other tertiary factors may also be relevant in evaluating the value of a particular ecological receptor including social and economic factors.

2.6. The Five Point Approach

2.6.1. The National Planning Policy Framework (NPPF)⁷ describes the Government's national policies on the protection of biodiversity [and geological] conservation through the planning system. NPPF emphasises the need for planning authorities to ensure that the potential effects of planning decisions on biodiversity conservation are fully considered. A five-point best practice approach^{8,9,10} to the assessment of such effects within the development control process is recommended:

1. **Information** – gathering a sufficient evidence base on which to make sound planning decisions
2. **Avoidance** – adverse effects on habitats and species should be avoided where possible
3. **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects
4. **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm
5. **New benefits** – many planning decisions present the opportunity to deliver enhancements for habitats or species

2.6.2. The assessment of ecological effects set out within this report are based on the above five-point approach, where appropriate.

2.7. Survey Constraints/Limitations

2.7.1. No significant constraints or limitations to the survey were encountered.

⁷ Department for Communities and Local Government (2012) "*National Planning Policy Framework*"

⁸ Royal Town Planning Institute (1999) "*Planning for Biodiversity – Good Practice Guide*"

⁹ ODPM (2006) "*Planning for Biodiversity and Geological Conservation – A Guide to Good Practice*"

¹⁰ PAS 2010 "*Planning to Halt the Loss of Biodiversity, Biodiversity Conservation Standards for Planning in the United Kingdom – Code of Practice.*"

3. ECOLOGICAL DESIGNATIONS

3.1. Statutory Designations

3.1.1. The nearest statutory nature conservation designation is Adderbury Lakes Local Nature Reserve (LNR), located approximately 2.8km to the south-east of the site. The next nearest statutory designation is Neithrop Fields SSSI, located approximately 3.6km to the north-west of the site.

3.1.2. All statutory designations in the local area are well separated from the site by existing development and farmland, and are therefore unlikely to be affected by the proposals.

3.2. Non-statutory Designations

3.2.1. No non-statutory designations of nature conservation interest that occur in Oxfordshire are present within 5km of the site. No information was obtained regarding non-statutory designations in Northamptonshire, however the boundary with Northamptonshire lies along the M40 corridor to the east of the site. Therefore, any non-statutory designations that do occur within the area of Northamptonshire within the vicinity of the site are separated from the site by the M40 and are unlikely to be affected.

3.2.2. All non-statutory designations in the local area are therefore well separated from the site and will not be affected by the proposals.

Name	Designation	Brief Description	Approximate Distance & Direction
Statutory Designations			
Adderbury Lakes	LNR	Two interlinked lakes with small areas of botanically rich surrounding woodland, supporting a wider diversity of birds, mammals and invertebrates.	2.8km SE
Neithrop Fields Cutting	SSSI	Designated for geological reasons	3.6km NW
Farthinghoe	LNR	A former landfill site now supporting a mosaic of botanically rich habitats including grassland, developing woodland and ponds.	4.6km NE
Non-statutory Designations			
		No non-statutory ecological designations located within 5km of the site in Oxfordshire.	

Table 1: Statutory and Non-Statutory Designations situated within the local vicinity

3.3. Summary

3.3.1. The site itself is not subject to any statutory or non-statutory nature conservation designation. All such designations in the local area are well separated from the site and will not therefore be affected by the proposals.

4. HABITATS AND ECOLOGICAL FEATURES

4.1. The following main habitats/features were identified at the site:

- Buildings / Structures / Bare Soil
- Arable
- Grassland
- Hedgerows
- Trees and Scrub
- Ditches
- Pond

4.2. The following main habitats/features were identified adjacent to the site:

- Canal

4.3. The locations of these habitat types and features are represented on Plan 3266/ECO3, and the composition and structure of each habitat is summarised below, with an account of the representative plant species present where appropriate. In addition, the habitats are evaluated in terms of ecological value and any potential effects arising from the proposals assessed.

4.4. Buildings / Structures / Bare Soil

Description of the Habitat

4.4.1. A single stable block with an off-centre pitched roof constructed entirely from wooden boarding with a concrete base is present within field F5 (see Photograph 1). No enclosed roof space was present within this structure.

4.4.2. Areas of bare soil from ongoing construction activities are present across the site. Field F10 comprises entirely of bare soil. These areas are subject to regular disturbance from plant machinery and as such do not contain any vegetation.

Evaluation

4.4.3. The stable block and areas of bare soil are considered to be of negligible inherent ecological value. Therefore the loss of these habitats to the proposals is of negligible ecological significance.

4.5. Arable

Description of the Habitat

4.5.1. Three previously recorded (in 2013) arable fields are labelled **F1**, **F2** and **F10** on Plan 3266/ECO3 (see Photograph 2). Field **F1** is partially located within the west of the site and **F2** is fully enclosed at the north of the site. Field **F10** is partially located within the south-east of the site.

4.5.2. The 2014 update survey found that fields **F1** and **F2** appear to have been seeded with grasses. Field **F10** comprises entirely of bare soil from ongoing construction activities.

- 4.5.3. Since the 2013 survey relatively narrow sections of fields **F1**, **F2** and **F10** have been excavated for the installation of pipework.

Evaluation

- 4.5.4. The arable fields support few native species, such that they are considered to be of low to negligible ecological value at the site level. As such, the loss of these arable fields to the proposals is of negligible ecological significance. Although this habitat will be lost to the proposals, the majority of it will be replaced by a habitat of enhanced ecological value (see Section 6 below).

4.6. **Grassland**

Description of the Habitat

- 4.6.1. The arable fields **F1** and **F2** have grassy field margins, the majority of which are relatively narrow (approximately 1m wide). Three additional fields (**F3**, **F5**, and **F15**), two of which are situated at the south of the site and one at the north of the site comprise improved grassland (see Plan 3266/ECO3) (see Photograph 3).
- 4.6.2. The narrow field margins surrounding the majority of the arable fields within the site comprise grass species including Cock's-foot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius*, Rough Meadow-grass *Poa trivialis*, Yorkshire Fog *Holcus lanatus* and Perennial Ryegrass *Lolium perenne*, herb species including Comfrey *Symphytum officinale*, Creeping Buttercup *Ranunculus repens*, Cleavers *Galium aparine*, Wood Avens *Geum urbanum*, Red Deadnettle *Lamium purpureum*, Hedge Woundwort *Stachys sylvatica*, Dandelion *Taraxacum officinale* agg., Garlic Mustard *Alliaria petiolata* and Hedge Bindweed *Calystegia sepium*, and tall ruderal species including Common Nettle *Urtica dioica*, Cow Parsley *Anthriscus sylvestris*, Broad-leaved Dock *Rumex obtusifolius* and Common Hogweed *Heracleum sphondylium*.
- 4.6.3. Wider field margins and larger sections of colonising grassland are present along the eastern and northern boundaries of fields **F1** and **F2** and the north and west boundaries of field **F15**. The margins vary in width across the site from approximately 3-9m. The grassland areas appear to be subject to infrequent management, such that the sward is very tall and the grassland structure is tussocky in places. Species present within these areas are dominated by grasses including Cock's-foot, False Oat-grass, Rough Meadow-grass, Yorkshire Fog, Perennial Ryegrass, Wild Oat *Avena fatua*, Soft Brome *Bromus hordeaceus*, Barren Brome *Bromus sterilis*, Wheat *Triticum* sp., Oat *Avena sativa*, Wall Barley *Hordeum murinum*, Black Grass *Alopecurus myosuroides* and Meadow Foxtail *Alopecurus pratensis*. Herb species present include Common Knapweed *Centaurea nigra*, Common Fumitory *Fumaria officinalis*, Cow Parsley, Woody Nightshade *Solanum dulcamara*, Prickly Lettuce *Lactuca serriola*, Rosebay Willowherb *Chamerion angustifolium*, Meadowsweet *Filipendula ulmaria*, Dandelion, Mugwort *Artemisia vulgaris*, Creeping Buttercup, Cut-leaved Cranesbill *Geranium dissectum*, Herb Robert *Geranium robertianum*, Germander Speedwell *Veronica chamaedrys*, Greater Plantain *Plantago major*, Poppy *Papaver rhoeas*, Wood Avens, Perforate St John's-wort *Hypericum*

perforatum, White Campion *Silene latifolia*, Bindweed *Convolvulus* sp., and Cut-leaved Crane's-bill *Geranium dissectum*. Frequent tall ruderal species are also scattered within this habitat, including species such as Creeping Thistle, Musk Thistle *Carduus nutans*, Spear Thistle, Woolly Thistle *Cirsium eriophorum*, Smooth Sow-thistle *Sonchus oleraceus*, Common Ragwort *Senecio jacobaea*, Ivy *Hedera helix*, Common Hogweed, Cleavers *Galium aparine*, Broad-leaved Dock *Rumex obtusifolius*, Ribwort Plantain *Plantago lanceolata*, Smooth Hawk's-beard *Crepis capillaris*, Hedge Woundwort *Stachys sylvatica*, Ground-ivy *Glechoma hederacea* and Common Nettle.

- 4.6.4. Fields **F3** and **F5** contain improved grassland. **F3** is a hay meadow which had been recently harvested so the sward was short at approximately 5-10cm. **F5** is horse grazed and the sward length was mainly short, approximately 10cm but in less heavily grazed areas it was up to approximately 40cm. The grasses present comprise common species including Annual Meadow-grass, Cock's-foot, Perennial Ryegrass, Meadow Foxtail, Crested Dog's-tail *Cynosurus cristatus* and False Oat-grass.
- 4.6.5. Since the 2013 survey, a small section of field **F3** has been excavated and a proportion of the field now comprises bare soil. The majority of grass within **F5** has been removed by ongoing construction activities and comprises bare soil.
- 4.6.6. Field **F15** comprises a single improved grassland field. At the time of survey the grassland had been recently cut and the arisings had been left to dry and were being collected into bales at the time of survey. The grassland is dominated by common grass species such as Perennial Ryegrass, Yorkshire Fog, Cock's-foot and False Oat-grass. A relatively low number of herb and tall ruderal species are also present including White Clover *Trifolium repens* and Greater Plantain. A farm track runs along the southern boundary of the field. The track is approximately 3m wide and the parts exposed to regular farm vehicle movements comprise bare earth and hard-core. The central area of the track comprises Perennial Rye-grass, Meadow-grass, Scentless Mayweed *Tripleurospermum inodorum*, Greater Plantain and White Clover.

Evaluation

- 4.6.7. The grassland fields **F3**, **F5** and **F15** generally appear to receive relatively intensive management and exhibit a limited species diversity. This habitat comprises a range of common and widespread native species. In considering Natural England's FEP Manual guidance¹¹, based on the species abundance and diversity, the grassland is considered to be 'species-poor' improved grassland. Under the same guidance, the grassland does not qualify as a Priority Habitat. This habitat is therefore considered to be of no more than low ecological value at the local level. Any loss of this habitat to the proposals is therefore considered to be of minor ecological significance. Although this habitat will be lost to the proposals, the majority of it will be replaced by a habitat of enhanced ecological value (see Section 6).

¹¹ Based on guidance in: Natural England (March 2010). "Higher Level Stewardship Farm Environment Plan (FEP) Manual - Third Edition"

- 4.6.8. The wider field margins appear to receive relatively less intensive management than the improved grassland fields and therefore exhibit a relatively greater species diversity. However, on balance the species present are common and widespread and of moderate diversity. In considering Natural England's FEP Manual guidance¹¹, based on the species abundance, diversity and lack of indicator species, the grassland is considered to be species-poor semi-improved grassland. Under the same guidance, the grassland does not qualify as a Priority Habitat. This habitat is therefore considered to be of no more than low ecological value at the local level. Although this habitat will be lost to the proposals, the majority of it will be replaced by a habitat of enhanced ecological value (see Section 6 below).
- 4.6.9. The narrow grass margins do not appear to be managed for biodiversity and comprise a limited range of common and widespread native species. As such the grass margins are not classified as the Priority Habitat – Arable Field Margins. This habitat is therefore considered to be of no more than low ecological value at the local level. Although this habitat will be lost to the proposals, the majority of it will be replaced by a habitat of enhanced ecological value (see Section 6 below).

4.7. Hedgerows

Description of the Habitat

- 4.7.1. There are 13 hedgerows on-site, which are labelled **H1-H9**, **H11-H14** and **H20** on Plan 3266/ECO3 and described in the table at Appendix 2 (see Photograph 4).
- 4.7.2. Overall, the hedgerows lie at the boundaries to the arable and or grassland fields, and appear to receive management centred on controlling outgrowth, such that the structure of each hedgerow varies. Each of the hedgerows exhibits a varied composition of native species, albeit the hedgerows generally overshadow the ground below, prohibiting new growth and therefore preventing a diverse ground flora from establishing.

Evaluation

- 4.7.3. The hedgerows within the site are generally composed of a limited range of native species, and the structure of each of the hedgerows is varied and in places poor, whilst the diversity of the flora beneath them is limited. Accordingly, the majority of hedgerows within the site are unlikely to be classified as important under the Hedgerows Regulations (1997) criteria.
- 4.7.4. Hedgerows are listed as a Priority Habitat under Section 41 of the NERC Act 2006 and referred to in the Oxfordshire Biodiversity Action Plan. On this basis the on-site hedgerows are likely to qualify as a Priority Habitat and Local BAP habitat. Hedgerows **H2-H6**, **H8-H9** and **H13-H14** represent only moderate quality examples of this habitat type given their lack of woody species diversity, poor ground flora and lack of associated features.
- 4.7.5. Five hedgerows within the site (**H1**, **H7**, **H11**, **H12** and **H20**) are likely to be classified as 'important' under the Hedgerows Regulations (1997) criteria due to the large number of woody species the hedgerows support and are

considered to be of elevated value.

- 4.7.6. Small sections of hedgerows **H1**, **H3**, **H7** and **H9** will be lost to the proposals which will be removed to facilitate pedestrian access to the site. The small gaps created will not significantly affect their function as wildlife corridors. These losses are considered to be of negligible ecological significance. Standard arboricultural best practice guidelines (BS5837) will be adhered to during construction to protect the retained hedgerow sections.
- 4.7.7. To facilitate ongoing construction works, short sections of hedgerow **H2**, **H3**, **H12**, and **H20** have been removed. Hedgerow **H14** has been almost entirely removed. However, as part of the community park proposal, these sections of hedgerow will be replanted. Therefore the losses to the hedgerows due to the construction works are considered to be a temporary impact only.
- 4.7.8. On balance, the hedgerows are considered to be of low to moderate ecological value at the local level, and the minimal losses proposed are considered to be of no more than low ecological significance at the local level. The losses anticipated under the proposals will be offset by new species-rich native hedgerow planting as part of the wider development proposals.
- 4.7.9. Accordingly, it is considered that there will be no long-term decrease in net ecological value in regard to hedgerows within the site.

4.8. **Trees and Scrub**

Description of the Habitat

- 4.8.1. A number of young to mature trees are present mainly within hedgerows and at field boundaries. A line of trees is situated along the north-western boundary of the site. Species include Cherry *Prunus* sp., Sycamore *Acer pseudoplatanus*, Maple *Acer* Sp. Beech *Fagus sylvatica*, Hornbeam *Carpinus betulus* and Oak *Quercus robur*.
- 4.8.2. Small areas of dense and scattered scrub, including species such as Elder *Sambucus nigra* and Hawthorn *Crataegus monogyna*, are also located along field boundaries. A small discrete area of dense Bramble scrub is present at the north of the site.

Evaluation

- 4.8.3. The semi-mature to mature trees within the site are of moderate ecological value in the context of the site but of no more than low ecological value at the local level. The remaining trees and scrub comprises a limited range of native species that are common and widespread in the local and national context, and as such are considered to be of negligible ecological value at the local level.
- 4.8.4. Accordingly any loss of young trees and scrub to the proposals is considered to be of negligible ecological significance. Furthermore, the majority of the semi-mature to mature trees will be retained and protected during construction under standard arboricultural best practice guidelines

(BS5837), and new tree and shrub planting will be incorporated within the new development to replace the trees that are to be removed.

- 4.8.5. Accordingly, with the implementation of the above recommendations, it is considered that there will be no long-term decrease in net ecological value in regard to trees and scrub within the site.

4.9. Ditches

Description of the Habitat

- 4.9.1. Two ditches are located within the site (see Photograph 5). These ditches are of similar dimensions, being approximately 1-1.5m wide, with banks 1-1.5m high, and their banks and beds comprise a mixture of bare earth and leaf litter.
- 4.9.2. Ditch **D2** within hedgerow H5 held moderately flowing water approximately 15cm deep with sparse patches of emergent Fool's-water-cress and Water Mint *Mentha aquatica*. Ditch **D3** runs along the length of the southern side of the hedgerow H7. The ditch is less than 1m wide and approximately 5cm deep and has no associated aquatic vegetation. The ditch appears to be supplied by a land drain at the southern-most section of the ditch.

Evaluation

- 4.9.3. None of the ditches appear likely to hold substantial volumes of water at any time of year. In addition, the extent of accumulation of natural debris and encroachment from hedgerow vegetation indicates that the condition of the ditches is deteriorating, such that overall they are considered to be of no more than low ecological value at the site level. Nonetheless the ditches will be retained as part of the proposals.

Recommendation

- 4.9.4. There is a possibility that the ditches could suffer indirect adverse effects in terms of pollution and changes in hydrology, in the event that safeguards are not implemented to protect them during the site development process. As such, best management practice will be followed in accordance with the advice issued by the Environment Agency in their Pollution Prevention Guidelines (PPG)¹² or relevant updated documents, which will essentially reduce potential pollution impacts to nil. Of particular relevance are PPG 1: General guide to the prevention of pollution, PPG 5: Works and maintenance in or near water, PPG 6: Working at construction and demolition sites, PPG 7: Refuelling facilities, PPG 13: Vehicle washing and cleaning, and PPG 21: Pollution incident response planning.
- 4.9.5. The following key safeguards will be implemented:
- During all construction works, good site management will ensure that pollution incidences are kept to a minimum. This will include checking all machinery for any oil-leaks and installing drip trays as required.

¹² Accessed from: <http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx>

- Appropriate spillage kits or absorbent materials should be held on site and staff informed of what to do in an emergency. An up-to-date drainage plan should be maintained, hazards identified and a contingency plan drawn up, giving advice on what action to take and who to inform.
- Storage areas for chemicals, fuels, etc. should be sited well away from the ditches, and stored on an impervious base within an oil-tight bund with no drainage outlet;
- Where possible, and with prior agreement of the sewage undertaker, silty water, and water should be disposed of to the foul sewer. Discharges to the ditches could cause lasting damage to aquatic life and processes and should therefore be avoided;
- Water washing of vehicles, particularly those carrying fresh concrete and cement, mixing plant, etc. should be carried out in a contained area as far from the ditches as practical;
- Refuelling of plant should take place in a designated area, preferably on an impermeable surface.

4.10. Pond

Description of the Habitat

- 4.10.1. A single pond, approximately 35m long and 9m wide is located within the eastern boundary of the site (see Photograph 6), which appears to be fed by a broken water pipe within field F2. This pond appears to be extremely ephemeral and is very shallow (<10cm) with no discernible banks. No aquatic vegetation is present, with the only plants being occasional islands of Dock and grasses remaining from the original terrestrial arable ground flora.
- 4.10.2. The water quality within the pond also appears to be particularly poor, such that a floating residue is present at the pond edges, and there is evidence of waterfowl foraging throughout the pond.

Evaluation

- 4.11. As outlined above, the pond is extremely ephemeral and supports no emergent or aquatic vegetation. Accordingly, this habitat is considered unlikely to be of any more than negligible to low ecological value at the site level. In any event, the current proposals incorporate a number of purpose-built SUDS features, one of which will directly replace this pond, which will be planted with appropriate native aquatic/marginal species, and therefore represent habitats of much greater ecological value than the current pond.

4.12. Canal

Description of the Habitat

- 4.12.1. A short stretch of the Oxford Canal is situated adjacent to the eastern/north-eastern boundary of the site (see Photograph 7). The channel is straight

and uniform in width (estimated to be approximately 12m wide) and depth (estimated to be approximately 2m deep). The majority of the length of the bank is composed of a relatively steep earth slope. The base substrate of the channel could not be determined given the high turbidity of the water, however this in itself would suggest that the base substrate is likely to be composed of silt for the most part. The flow rate at the time of survey was negligible.

- 4.12.2. The majority of the channel is open and not subject to shading effects of nearby vegetation, however this stretch of the Canal appears to be well used by barges, and thus the coverage of submerged and emergent aquatic vegetation is greatly limited by their passage.
- 4.12.3. A margin of rough grassland, herb and tall ruderal is present adjacent to the canal. In addition to this, a narrow strip of emergent and marginal plants were recorded fringing the canal which include Common Reed *Phragmites australis*, Hard Rush *Juncus inflexus*, Water Dock *Rumex hydrolapathum*, Soft-rush *Juncus effuses*, Sedges *Carex* spp., Reed Canary-grass *Phalaris arundinacea*, Water Mint and Meadowsweet.

Evaluation

- 4.12.4. The stretch of canal adjacent to the site is subject to relatively heavy human traffic, and as such the aquatic/emergent vegetation is relatively limited in extent and diversity. Accordingly, the stretch of canal adjacent to the site is considered to be of no more than low ecological value in the local context, although it does form part of a larger habitat of greater ecological value.
- 4.12.5. The majority of the marginal habitat associated with the western side of the canal bank will be lost to the proposals. However, it will be replaced by a habitat of enhanced ecological value (see Section 6). In any event, the effect of the proposals on the canal will be very minimal and temporary, and adjoining sections of the canal will be fully protected during the construction period under the recommendations outlined for ditches above (see paragraph 4.9.5).

4.13. **Summary**

- 4.13.1. Overall, the vast majority of the site, namely arable and improved grassland is considered to be land of no more than low ecological value at the local level. The majority of this habitat will be lost to the proposals. However, as part of the landscape strategy, the majority of these areas will be replaced by a habitat of enhanced ecological value.
- 4.13.2. The remaining habitats, namely hedgerows, trees and scrub are of low-moderate ecological value at the local level and will be largely protected and retained as part of the proposals with the implementation of standard construction and arboricultural protection measures.
- 4.13.3. Overall with replacement and additional habitat creation (see section 6 'Enhancements'), there will be no long-term decrease in net ecological value in regard to habitats within the site as a result of the proposals. On the contrary, a number of substantial net gains for biodiversity will be provided by the proposals.

5. FAUNAL USE OF THE SITE

5.1. General observations were made during the surveys of any faunal use of the site, with specific surveys conducted in respect of bats. Below, the potential presence of protected species within the site is evaluated, along with an assessment of any potential effects arising from the development.

5.2. Bats

Legislation

5.2.1. All British bats are classed as European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2010 (as amended), making it an offence *inter alia* to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb bats, including in particular any disturbance which is likely to impair their ability to survive, to reproduce or to rear or nurture their young, or their ability to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
- Damage or destroy a breeding site or resting place of a bat.

5.2.2. In addition, all British bats are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which any bat uses for shelter or protection; or
- Disturb bats while occupying a structure or place that it uses for that purpose.

5.2.3. If proposed development work is likely to result in an offence a licence will need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats.

5.2.4. There are at least 17 breeding bat species in Britain. Many of them are considered threatened due to a variety of factors including habitat loss and disturbance/damage to roosts. Of these 17 species, a number regularly use buildings and trees as roost sites.

Potential Use of the Site

5.2.5. **Roosts: Buildings.** A single stable block with an off-centre pitched roof constructed entirely from wooden boarding is present within field F5. This building is modern, single-skinned, and constructed from pre-fabricated materials with no enclosed roof space, such that it is considered to offer negligible potential for roosting bats. Indeed no evidence of use by bats, i.e. bat droppings, staining from fur/urine or scratches, etc., was recorded during detailed internal and external inspections of this building.

5.2.6. **Roosts: Trees.** A number of trees are present within the site as shown on Plan 3266/ECO3. These trees were assessed for their potential to support

roosting bats and rated according to BCT guidelines as either Category 1 – a confirmed roost, Category 2a – high potential, Category 2b – moderate/low potential or Category 3 – negligible potential.

- 5.2.7. A number of trees within and adjacent to the site with the potential to support bat roosts were identified. In summary, one tree is considered to be of high potential to support roosting bats (i.e. Category 2a) and seven additional trees are considered to be of moderate to low (i.e. Category 2b).

Tree No.	Species	Age	Features to support roosting bats	BCT Category
T1	Ash	Mature	Small rot holes and dense Ivy coverage	2b (moderate to low)
T3	Ash	Mature	Dead wood and dense Ivy coverage	2b (moderate to low)
T4	Ash	Mature	Rot holes	2b (moderate to low)
T5	Ash	Mature	Woodpecker hole and split limb	2b (moderate to low)
T6	Ash	Mature	Knot holes and dense Ivy coverage	2b (moderate to low)
T8	Ash	Mature	Woodpecker holes, torn limbs and cavities (Photograph 8)	2a (high)
T11	Oak	Mature	Dense Ivy cover, split limbs and peeling bark	2b (moderate to low)
T12	Ash	Mature	Dense Ivy coverage and woodpecker hole	2b (moderate to low)

Table 2: Assessment of the potential of trees to support roosting bats

- 5.2.8. All trees identified as having bat potential were carefully examined for any evidence of bats. No such evidence of signs of use by bats, e.g. staining from fur/urine, scratches or droppings, or bats themselves were observed in association with the features listed in the table above in any of the on-site trees.
- 5.2.9. None of the remaining young to semi-mature trees exhibit any features which would provide potential roosting opportunities for bats. Therefore these trees fall into Category 3 – negligible potential according to the BCT guidelines.

Evaluation - Roosting

- 5.2.10. The stable block located within the site is modern, constructed from pre-fabricated materials, and does not feature any insulation or enclosed roof spaces. As such, the internal conditions within this building are subject to rapid fluctuations in temperature, and are therefore not typically favoured by bats.
- 5.2.11. Based on the guidance set out within the Bat Mitigation Guidelines (English Nature, 2004) it is considered that the above combination of factors strongly indicates a decreased likelihood of bats being present within the stable block, such that based on guidance set out in Natural England's standing advice¹³ for bats, the building is considered to be 'low-risk' in respect of bats, and no further survey effort is required. This building can therefore be demolished without any protection measures relating to bats.
- 5.2.12. Tree T8 at the south-east corner of the site exhibits a substantial number of features such as rot holes, torn limbs and cavities that provide potential

¹³ Natural England Standing Advice Species Sheet: Bats

opportunities for roosting bats, and thus fall within Category 2a (high potential) according to the BCT guidance. Based on the features exhibited by this tree, its location and the context of the local area, this tree is considered to be of moderate to high value to roosting bats at the site level, albeit no actual evidence of use by bats was recorded. Seven additional trees within or adjacent to the site exhibit a smaller number of features that provide potential opportunities for roosting bats, and thus fall within Category 2b (moderate to low potential).

- 5.2.13. All of these tree are to be retained within the proposed development and protected during the construction. However, if any limbs are required to be pruned to facilitate the development then this should be undertaken in accordance with best practice guidance. For trees T1-T6, T11 and T12 this would involve using a 'soft felling' technique, which encompasses slowly lowering and cushioning any limbs and tree sections that exhibit features (such as Ivy covering and or limbs with woodpecker holes) considered potentially suitable for bats, thereby reducing the impact on these tree sections as they are brought to the ground. For tree T8 further advice from a suitably qualified ecologist should be sought. Limbs requiring pruning which do not have any potential bat features present would likely be able to be soft-felled. Any limbs with potential bat features, may require further survey work and potentially a licence from Natural England, before any pruning works can take place.
- 5.2.14. All other trees within the site are considered to have negligible potential for roosting bats. Therefore, the removal of any of these trees within the site, can be carried out using standard felling techniques.
- 5.2.15. **Foraging/Commuting.** The hedgerows and lines of trees within the site as well as the adjacent canal are likely to offer potential foraging/commuting features for bats. The grassland and ex-arable within the site, however, offer negligible foraging/commuting opportunities for bats.

Evaluation - Foraging/Commuting

- 5.2.16. The majority of the site, namely grassland and arable are considered to be of negligible value to foraging/commuting bats at the site level. The hedgerows and trees are considered to be of moderate to low value to foraging/commuting bats at the local level. The vast majority of the hedgerows and trees will be retained, protected and enhanced as part of the proposals.
- 5.2.17. To facilitate ongoing construction works, short sections of hedgerow H2, H3, H12, and H20 have been removed. Hedgerow H14 has been almost entirely removed. However, these sections of hedgerow will be replanted and therefore the losses constitute only a temporary impact.
- 5.2.18. Long-term connectivity for foraging/commuting bats will be essentially unaffected by the proposed development. The small gaps created in hedgerows H1, H3, H7 and H9 to facilitate pedestrian access is unlikely to significantly impair the use of the site by bats for foraging or as a commuting route, subject to the recommendations on lighting set out below.

Recommendations

- 5.2.19. Any lighting should be positioned in order to avoid excessive illumination of the retained hedgerows, trees, proposed landscape planting and in particular the adjacent canal, so as to maintain the long-term potential of these habitats to provide roosting, foraging and commuting opportunities for bats. Directional lighting, reduced wattage lamps and louvres can be fitted to reduce night-time illumination of these areas further, if required.

Summary

- 5.2.20. Subject to implementation of the recommendations outlined above, it is considered that there will be no negative effect on the local population status of bats as a result of the development. On the contrary, the proposed development will result in net gains for local bats in terms of both foraging and commuting habitat, as well as new roosting opportunities.

5.3. **Badger (*Meles meles*)**

Legislation

- 5.3.1. In the UK the relevant legislation pertaining to Badger is the Protection of Badgers Act 1992. 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 should be noted that the legislation is not intended to prevent properly authorised development. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly. Planning authorities are, therefore, obliged to consult the appropriate Statutory Nature Conservation Organisation (SNCO) over any planning application that is likely to adversely affect Badger. The SNCO for England is Natural England.

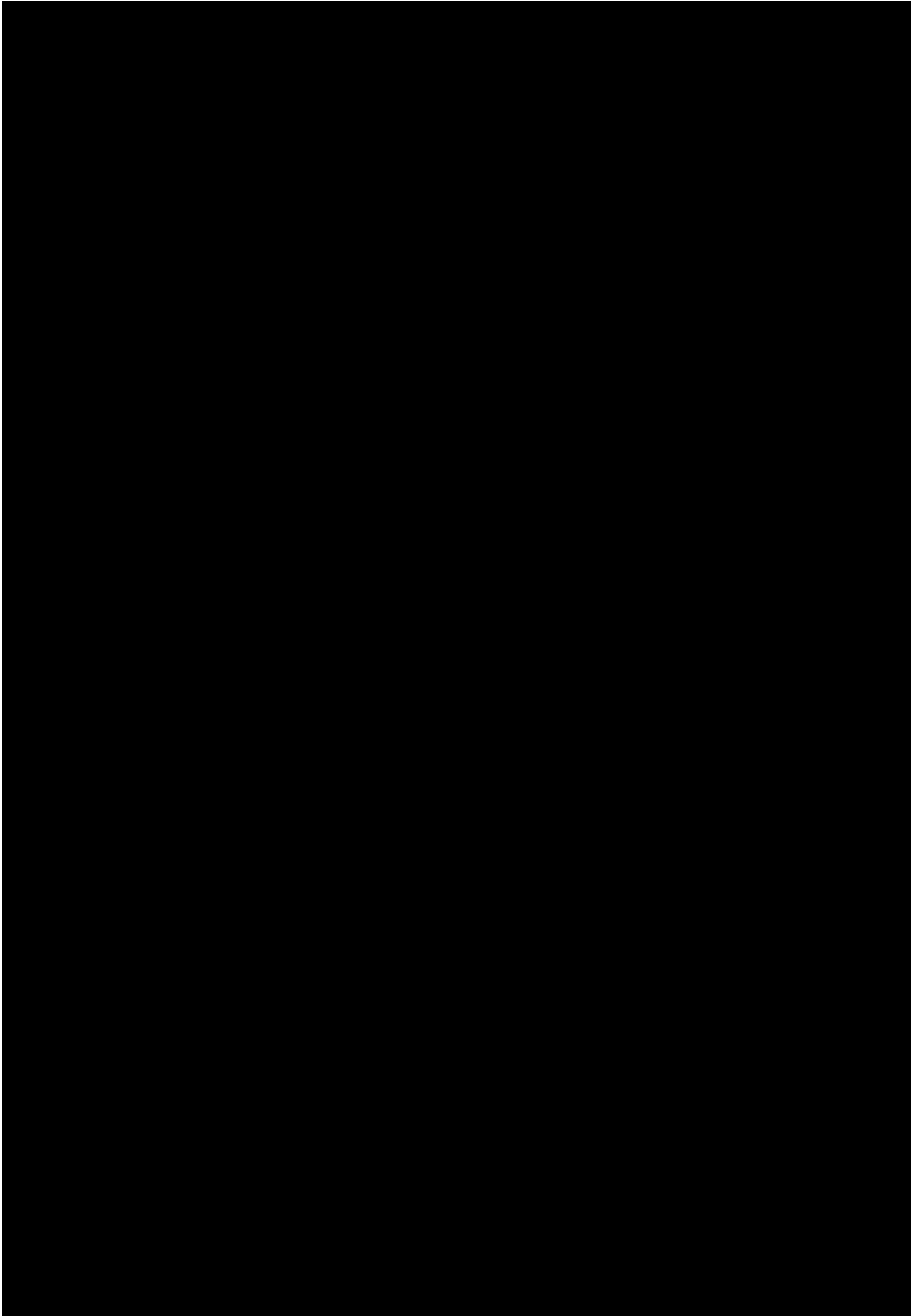
- 5.3.2. Under the Protection of Badgers Act it is an offence to:

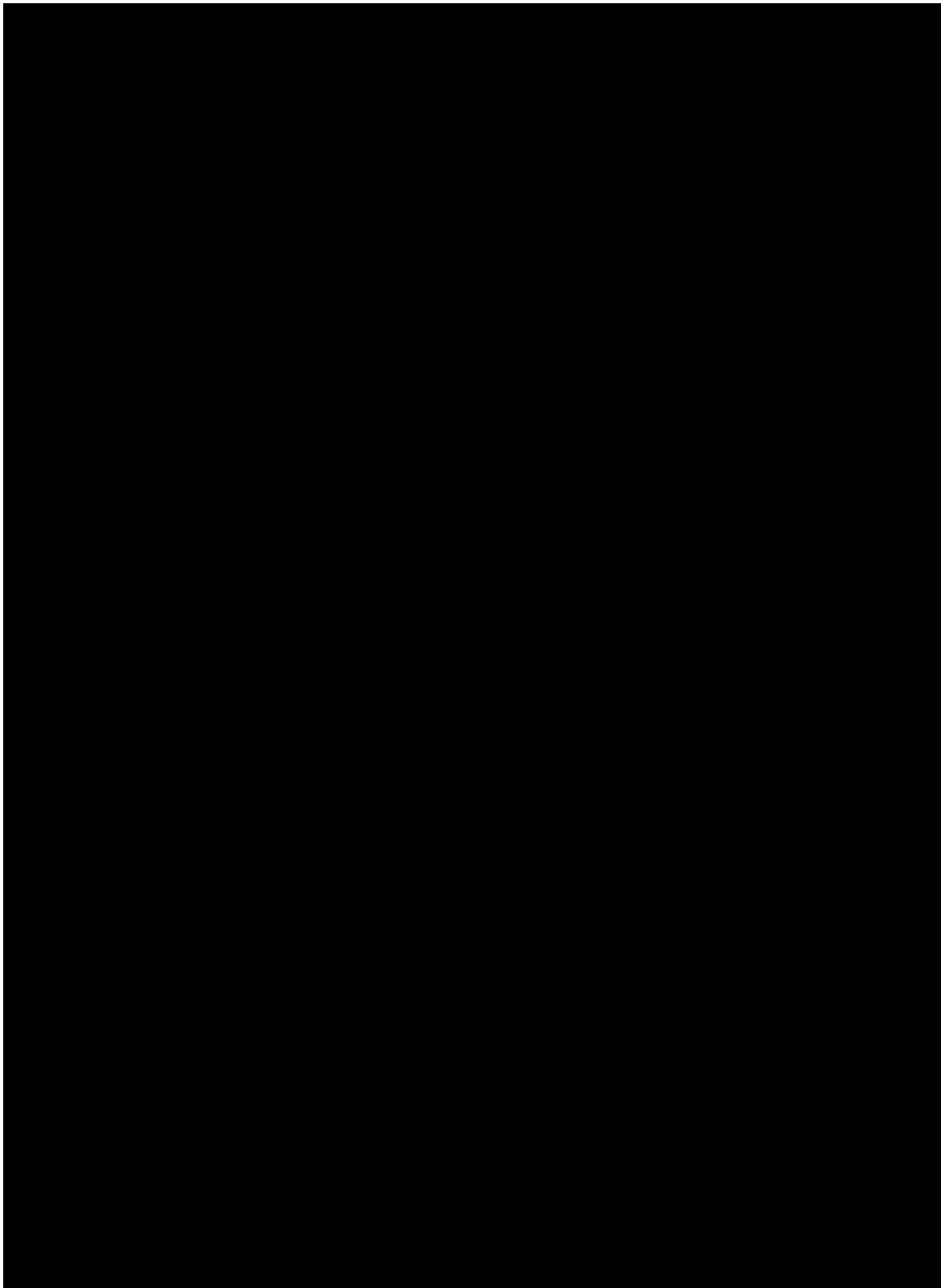
- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting "cruel ill treatment" of a Badger.

A sett is defined as "any structure or place which displays signs indicating current use by a Badger". Advice issued by Natural England (June 2009) is that a sett is protected as long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger.

- 5.3.3. Licences can be obtained from the SNCO 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 publications "Badgers and Development" (English Nature, 2002) and "Badgers and Development: A Guide to Best Practice and Licensing. Interim Guidance Document" (Natural





- 5.3.18. Given the ability of this species to rapidly establish setts, it is recommended that an update survey for Badger is conducted at the site leading up to site preparation to monitor any changes in Badger activity.

5.4. Other Mammals

Potential use of site and Evaluation

- 5.4.1. Habitats along the stretch of Oxford Canal surveyed are generally sub-optimal for protected riparian mammals such as Water Vole and Otter, being subject to frequent human disturbance, with little or no shelter provided by adjacent habitats, and with limited aquatic or emergent vegetation.
- 5.4.2. Nevertheless, there are records of Otter that originate from within a relatively close proximity to the stretch of canal surveyed, and individual Otters may therefore pass through the area surveyed on route to better quality habitat. However, no signs of Otter, such as prints, spraints, holts or couches, were identified within the stretch of the canal surveyed.
- 5.4.3. In conclusion, although no direct evidence was recorded to indicate use of the area by Otter, it remains possible that small numbers of this species may pass through the site from time to time. Accordingly, a number of measures are set out below to safeguard any individual Otters passing through this area.
- 5.4.4. No evidence of any other protected, rare or notable mammal species was recorded within the site, including Water Vole.

Recommendation

- 5.4.5. **Prior to Construction.** The following measures should be undertaken in order to safeguard any Otters utilising the affected area:
- An updated Otter survey should be undertaken by a suitability experienced ecologist immediately prior to any clearance works;
 - The bank-side vegetation on and around the area to be affected should then be subject to a strimming exercise, supervised by the ecologist in order to create unattractive habitat for any passing Otters. This exercise should include all areas of affected bank and any areas of taller grassland/ vegetation that lie within the construction envelope;
 - Construction works to the area can then commence immediately;
 - In the unlikely event any Otter holts are identified during the pre-works updated survey, an appropriate mitigation strategy will be drawn up by Aspect Ecology, based on current best practice guidance, including consideration of the need for a Natural England licence.
- 5.4.6. **During Construction.** The measures recommended to safeguard the ditches in paragraph 4.9.5 above will equally serve to protect passing Otter.

5.5. Amphibians

Legislation

- 5.5.1. All British amphibian species receive a degree of protection under the 1981 Wildlife and Countryside Act (as amended). The level of protection varies from protection from sale or trade only, as is the case with species such as

Smooth Newt *Triturus vulgaris* and Common Toad *Bufo bufo*, to the more rigorous protection afforded to species such as the Great Crested Newt *Triturus cristatus*.

5.5.2. Although Great Crested Newts are regularly encountered throughout much of lowland England and Wales, the UK holds a large percentage of the world population of the species. As such, the UK has an international obligation to conserve the species and it receives full protection under domestic and European legislation. Specifically, Great Crested Newt is classified as a European Protected Species and therefore receives protection under the Conservation of Habitats and Species Regulations 2010 (as amended), making it an offence *inter alia* to:

- Deliberately kill, injure or capture a Great Crested Newt;
- Deliberately disturb Great Crested Newts, including in particular any disturbance which is likely to impair their ability to survive, to reproduce or to hibernate, or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of a Great Crested Newt;
- Damage or destroy a breeding site or resting place of a Great Crested Newt.

5.5.3. In addition, the Great Crested Newt is also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which any Great Crested Newt uses for shelter or protection; or
- Disturb any Great Crested Newt while occupying a structure or place which it uses for that purpose.

5.5.4. 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 Great Crested Newt.

Potential Use of Site

5.5.5. A single ephemeral pond is present within the site, and a review of the 1:25,000 Ordnance Survey map for the area shows the next nearest waterbody to be located approximately 0.6km to the south-east of the site. An initial appraisal of both ponds was made using HSI to identify any potential to support Great Crested Newts, and the pond within the site was found to fall within the 'poor' HSI category, whilst the next nearest waterbody was found to be completely dry (having apparently been dry for several years previously) and therefore unsuitable for amphibian breeding.

5.5.6. Two ditches are also present within the site, however these were noted to be generally over-shadowed and encroached by hedgerow vegetation with very little or no aquatic/emergent vegetation. The ditches are also unlikely to hold substantial volumes of water at any time of year.

5.5.7. It is therefore considered extremely unlikely that the pond/ditches within the site support a resident population of Great Crested Newt.

5.5.8. Furthermore, the terrestrial habitats within the site are largely sub-optimal

for amphibians, such as Great Crested Newt, being dominated by ex-arable and intensively managed grassland.

Evaluation

- 5.5.9. The majority of the site is considered to offer potential, albeit sub-optimal, terrestrial habitat for amphibians including GCN. However, given that the no potential breeding sites lie within 0.5km of the site, it is considered unlikely that the proposals would lead to any significant effects on the conservation status of GCN. No specific reasonable avoidance measures for GCN are therefore required. However, the reasonable avoidance measures recommended for reptiles below will equally serve to protect amphibians such as GCN in the unlikely event any are utilising the site.
- 5.5.10. Nonetheless, as part of the proposals the vast majority of hedgerows and trees will be retained and protected during construction. New habitat will also be created including species-rich wildflower grassland, ponds and woodland (see Chapter 6), as well as additional planting of trees and shrubs which will enhance the existing habitat on-site and provide a net gain of aquatic and terrestrial habitat for amphibian species.

5.6. Reptiles

Legislation

- 5.6.1. All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, a higher level of protection is afforded to Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* than to Adder *Vipera berus*, Grass Snake *Natrix natrix*, Slow-worm *Anguis fragilis* and Common Lizard *Lacerta vivipara*.
- 5.6.2. For all British reptile species, Section 9 of the Wildlife and Countryside Act 1981 (as amended) contains provisions making it an offence to intentionally:
- Kill or injure; or to
 - Sell, offer for sale or trade any British reptile.
- 5.6.3. Because Slow-worm, Common Lizard, Grass Snake and Adder are relatively widespread British species, their habitat is not directly protected. Nevertheless, because of their partial protection, disturbing or destroying their habitat whilst they are present may lead to an offence.

Potential use of site

- 5.6.4. No evidence of reptiles was found on-site during the survey. The improved grassland and poor semi-improved grassland, hedgerows and marginal habitat associated with the canal offer potential habitat for reptiles. The ex-arable fields are considered to be generally unsuitable for reptiles.

Evaluation

- 5.6.5. The management of the improved grassland (cutting for hay), lowers the overall suitability of this habitat and will cause any reptiles present to disperse away from the site during times when the sward is short. The site

is therefore considered unlikely to support a resident reptile population, albeit it is possible that individual common species, such as Grass Snake, may make sporadic use of the site which would likely be confined hedgerow margins and the habitat adjacent to the canal.

- 5.6.6. The proposals will involve the loss of the improved grassland and poor semi-improved grassland. However, new habitat will be created including species-rich wildflower grassland, ponds, brash piles and woodland (see Chapter 6), as well as additional planting of trees and shrubs which will enhance the existing habitat on-site and provide a net gain of habitat for reptiles. It is therefore considered that the proposals are unlikely to adversely affect the conservation status of any reptile populations. On balance, there will be no negative effect on local populations of reptile as a result of the proposals.

Recommendation

- 5.6.7. The following reasonable avoidance measures will be employed prior to site clearance in order to safeguard any reptiles that may pass through the site:

- Any stretches of hedgerow to be removed will be subject to a finger-tip search by a suitably qualified ecologist, and their careful removal then supervised by this ecologist. The ecologist will also examine any suitable features such as log/rock piles within the construction zone, which can then be carefully dismantled by hand under the ecologist's supervision and removed from the area.
- A habitat manipulation exercise (i.e. strimming) of any suitable grassland habitat within the construction area will also be conducted under the supervision of a suitably experienced ecologist.
- Prior to any strimming/habitat manipulation, a fingertip search of the ground vegetation will be carried out by the ecologist, paying particular attention to crevices within the soil and around roots, and the areas beneath any rocks, logs or other refugia.
- The suitable grassland will then be strimmed to a height of approximately 150mm working towards the field boundaries, and the arisings carefully raked off whilst searching for any reptiles.
- The strimming will then be repeated to a height of approximately 20mm, and the arisings again raked off, thereby removing any suitable foraging/sheltering habitat.
- The vegetation will subsequently be maintained at this short sward height, in order to minimise its suitability to reptiles, until site clearance works commence.
- In the event that any reptiles are encountered, these will need to be relocated to a suitable receptor site in the local area.

5.7. **Birds**

Legislation

- 5.7.1. Section 1 of the Wildlife & Countryside Act 1981 (as amended) is concerned with the protection of wild birds. With certain exceptions, all wild birds are

protected such that 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.

5.7.2. Species listed under Schedule 1 of the Act receive greater protection such that they are also protected against intentional or reckless disturbance whilst building a nest or whilst they are in, on or near a nest containing eggs or young. The dependent young of Schedule 1 birds are also protected against intentional or reckless disturbance. Offences in respect of Schedule 1 species are subject to special, i.e. greater, penalties.

5.7.3. **Conservation Status.** The RSPB categorise British bird species in terms of conservation importance based on a number of criteria including the level of threat to a species' population status¹⁴. 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 ($\geq 50\%$ over the past 25 years).

Use of site

5.7.4. Bird species recorded at the site include Red Kite *Milvus milvus* (flying over) listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Other birds observed during the survey are not considered to be of significant conservation concern and included Chaffinch *Fringilla coelebs*, Blackbird *Turdus merula*, Robin *Erithacus rubecula*, Carrion Crow *Corvus corone*, Magpie *Pica pica*, Wren *Troglodytes troglodytes*, Skylark *Alauda arvensis* (an RSPB Red Listed species), Yellowhammer *Emberiza citrinella* (an RSPB Red Listed species), Reed Bunting *Emberiza schoeniclus*, Greenfinch *Carduelis chloris*, Wood Pigeon *Columba palumbus*, Great Tit *Parus major*, Long-tailed Tit *Aegithalos caudatus*, Blackcap *Sylvia atricapilla*, House Sparrow *Passer domesticus* (an RSPB Red Listed species and a Priority species), Goldfinch *Carduelis carduelis*, Whitethroat *Sylvia communis* and Collared Dove *Streptopelia decaocto*.

Evaluation

5.7.5. The habitats within the site that offer the greatest foraging and nesting opportunities for birds are the hedgerows and trees. The improved grassland within the site is unlikely to provide nesting habitat for ground nesting birds due to its relatively frequent cutting for hay. The on-site habitats are mirrored in the surrounding countryside by similar habitat that likely affords equivalent foraging and nesting opportunities.

¹⁴ RSPB "The population status of birds in the UK - *Birds of Conservation Concern: 2009*"

- 5.7.6. Although Red Kite is listed under Schedule 1 the population of the species has increased from being extinct in England and only a handful of breeding pairs present in Wales in 1871 to approximately 1,800 breeding pairs today¹⁵ and is now an Amber List species only due to its historical decline. The site is unlikely to be of significant value to foraging Red Kite as they tend to favour pasture. In addition, no Red Kite nests were observed during the survey, which is unsurprising as the species typically breeds in mature woodland.
- 5.7.7. The proposals will involve the loss of the improved grassland and poor semi-improved grassland. However, new habitat will be created including species-rich wildflower grassland, ponds and woodland (see Chapter 6), as well as additional planting of trees and shrubs which will enhance the existing habitat on-site and provide a net gain of habitat for local birds in the long-term.

Recommendations

- 5.7.8. It is recommended that any clearance of potential nesting habitat be undertaken outside of the nesting season (i.e. outside March to August inclusive). Should this not be practicable, it is recommended that a suitably qualified ecologist first checks any suitable habitat to be cleared in order to determine the location of any active nests before removal. Any active nests identified should be cordoned off and protected until the end of the nesting season or until the nests are no longer active.

Summary

- 5.7.9. Subject to implementation of the recommendations outlined above, it is considered likely that there will be no negative effect on the local population status of birds as a result of the development.

5.8. Invertebrates

Potential use of site and Evaluation

- 5.8.1. A number of invertebrates were observed at the site including the caterpillars of Cinnabar Moth *Tyria jacobaeae* (Priority Species) and Small Tortoiseshell *Aglais urticae* and adult butterflies including Small Tortoiseshell, Cabbage White *Pieris rapae*, Large White *Pieris brassicae*, Orange-tip *Anthocharis cardamines*, Meadow Brown *Maniola jurtina*, Small Heath *Coenonympha pamphilus* (Priority Species) and Skipper *Thymelicus* sp., in addition to a number of bumblebees, craneflies, White-legged Damselfly *Platycnemis pennipes* and Four-spotted Chaser dragonfly *Libellula quadrimaculata*.
- 5.8.2. The habitats present within the site are likely to support an assemblage of common and widespread invertebrates although they are unlikely to support any significant populations of protected, rare or notable invertebrate species, due to the uniform topographic, edaphic and hydrological features of the site and its intensive management regime. Nonetheless the habitats

¹⁵ <http://www.rspb.org.uk/discoverandenjoynature/discoverandlearn/birdguide/name/r/redkite/population.aspx>

are mirrored in the surrounding countryside by similar habitat that likely affords equivalent opportunities for invertebrates.

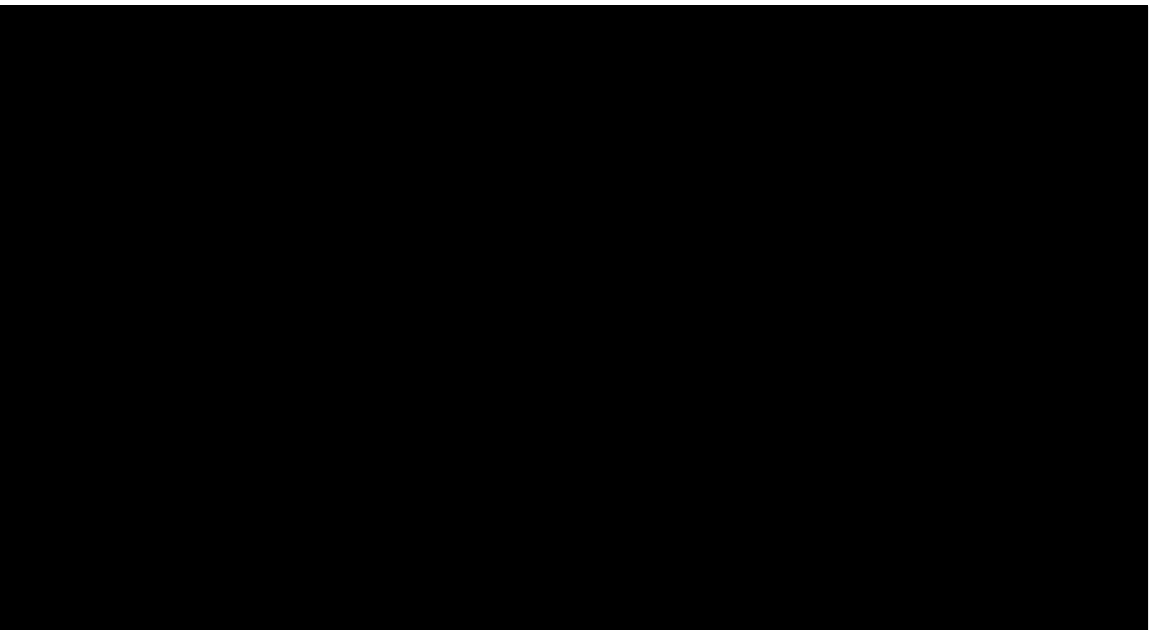
- 5.8.3. Overall, given the relatively small area of semi-natural habitat within the site, and the local abundance of similar habitat, the site is considered to be of low value to invertebrates at the local level. Accordingly, no specific safeguards or mitigation measures with regard to invertebrates are required. Nonetheless, new habitat will be created including a species-rich wildflower grassland and woodland (see Chapter 6), as well as additional planting of trees and shrubs. 'Bee Banks' and soil scrapes will also be created. These will provide topographic variation and will create habitat for thermophilic ground nesting invertebrates. These features will enhance the existing habitat on-site and provide a net gain of habitat for invertebrates.

6. ECOLOGICAL ENHANCEMENTS

- 6.1. The National Planning Policy Framework (NPPF) requires developments to maximise the opportunities for biodiversity by building in enhancement measures. The proposals present the opportunity to deliver ecological enhancements for the benefit of local biodiversity, thereby making a positive contribution towards national objectives and the local Biodiversity Action Plan (BAP).
- 6.2. A number of enhancements are proposed for the site and wider development and are described in detail in the Aspect Ecology's and Aspect Landscape's 'Habitat Creation and Management Plan 2014'. The new habitats to be created are listed below:
- Hedgerows
 - Native Shrub Planting
 - Woodland copses
 - Broadleaved woodland
 - Orchard
 - Dry Wildflower grassland
 - Wet Wildflower grassland
 - Ponds
 - Bee banks and soil scrapes
- 6.3. The proposed development also provides the opportunity to increase potential roost sites and nesting opportunities within the area for bats and birds respectively. A total of 12 bat and bird boxes (six of each) will be erected on suitable retained trees across the site. Bat boxes will incorporate types Schwegler 2F, 2FN, and 1FF (see Appendix 1 for specifications). Bird boxes will incorporate types Schwegler 1B and 2H bird boxes (see Appendix 2 for specifications).

7. SUMMARY AND CONCLUSIONS

- 7.1. Aspect Ecology was commissioned by Barratt Homes, Bovis Homes and Taylor Wimpey in July 2014 to undertake an ecological assessment in respect of the land which makes up the 'Community Park' area of the development, hereafter referred to as 'the site'.
- 7.2. The site was surveyed in June 2013 and July 2014 based on extended Phase 1 methodology as recommended by Natural England. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species with specific survey undertaken in respect of bats, Badgers and Great Crested Newts.
- 7.3. **Ecological Designations.** The site itself is not subject to any statutory or non-statutory nature conservation designation. The nearest statutory nature conservation designation is Adderbury Lakes Local Nature Reserve (LNR), located approximately 2.8km to the south-east of the site. All ecological designations in the local area are well separated and removed from the site and it is therefore unlikely that any designations will be adversely affected by the proposals.
- 7.4. **Habitats.** Overall, the vast majority of the site (improved grassland, poor-semi-improved grassland, arable, trees and scrub) is considered to be land of no more than low ecological value at the local level. The majority of this habitat will be lost to the proposals. However, as part of the landscape strategy, these areas will be replaced by habitat of significantly enhanced ecological value. The habitats of elevated value (namely hedgerows and trees) will be largely unaffected or only temporarily affected by the proposals.
- 7.5. To prevent any potential negative effects to the adjacent canal and on-site ditches, best management practice will be followed which will essentially reduce potential pollution impacts to nil.



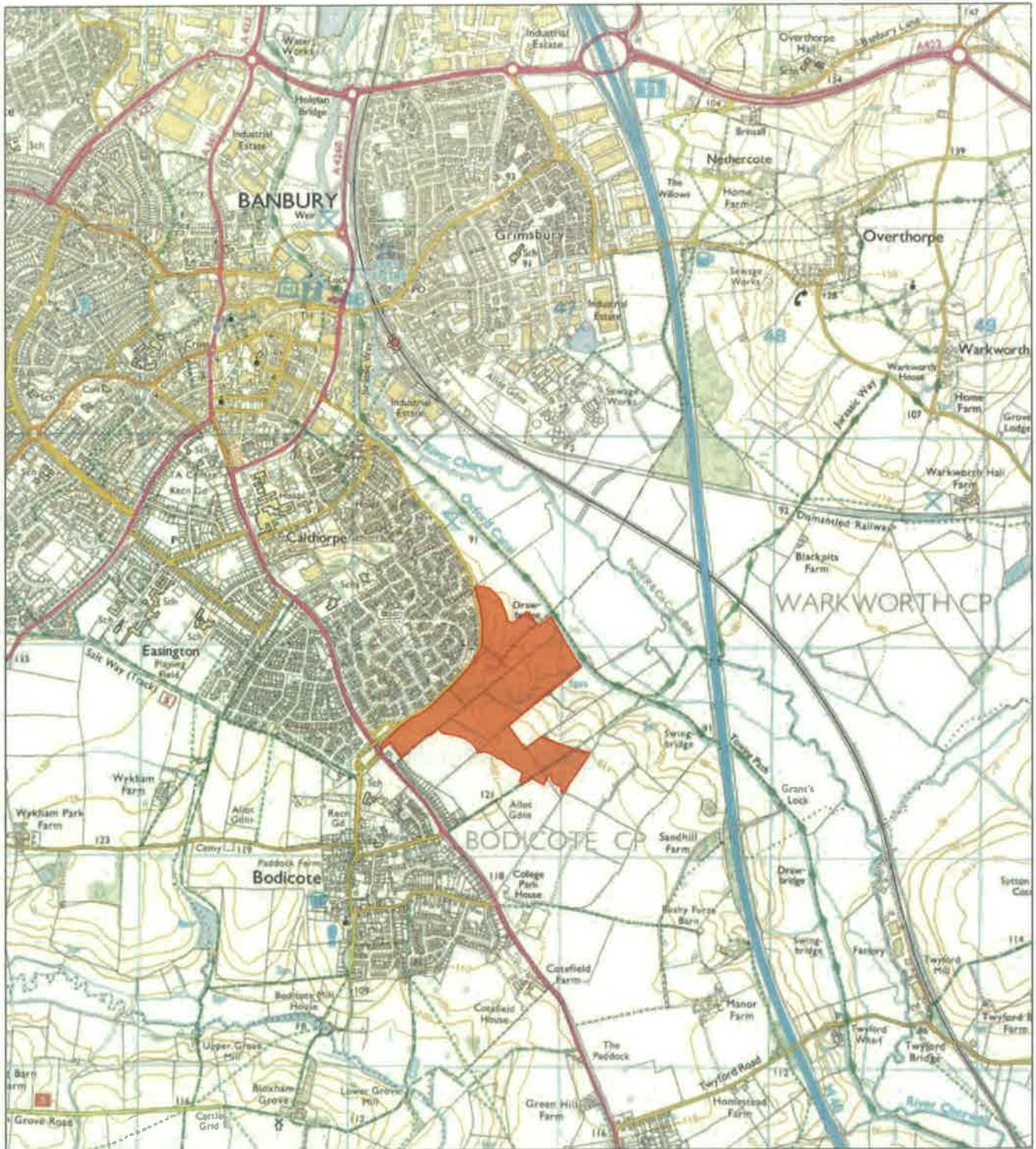
- *Reptiles*. Reptiles may make occasional use of the site but this will largely be located at the perimeter of the site. The site should be maintained at its current level of management prior to development. Prior to any ground works taking place to remove any hedgerows or grassland, a suitably qualified ecologist will 'finger-tip' search the ground. The area can then be cleared under the supervision of the suitably qualified ecologist with hand tools or machinery used at the discretion of the ecologist.
- *Common Birds*. Common birds may use habitats within the site for nesting, and as all wild birds receive protection whilst nesting, in order to avoid a potential offence it is recommended that any clearance of nesting habitat is undertaken outside of the bird nesting season (i.e. outside March to August inclusive).

7.7. **Conclusion.** Based on the evidence obtained from detailed ecological survey work and with the implementation of the recommendations set out in this report, there is no reason to suggest that any ecological designations or habitats of nature conservation interest will be significantly harmed by the proposals. On the contrary, a number of net gains for biodiversity will be provided by the proposals.

PLANS

PLAN 3266/ECO1

Site Location



KEY:

 **SITE LOCATION**

aspect ecology

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 North Way - Banbury - Oxfordshire - OX16 2AF
 01295 270088 - info@aspect-ecology.com - www.aspect-ecology.com

**LONGFORD PARK, BANKSIDE,
 BANBURY - COMMUNITY PARK**

PROJECT

SITE LOCATION

TITLE

3266/ECO1

DRAWING NO.



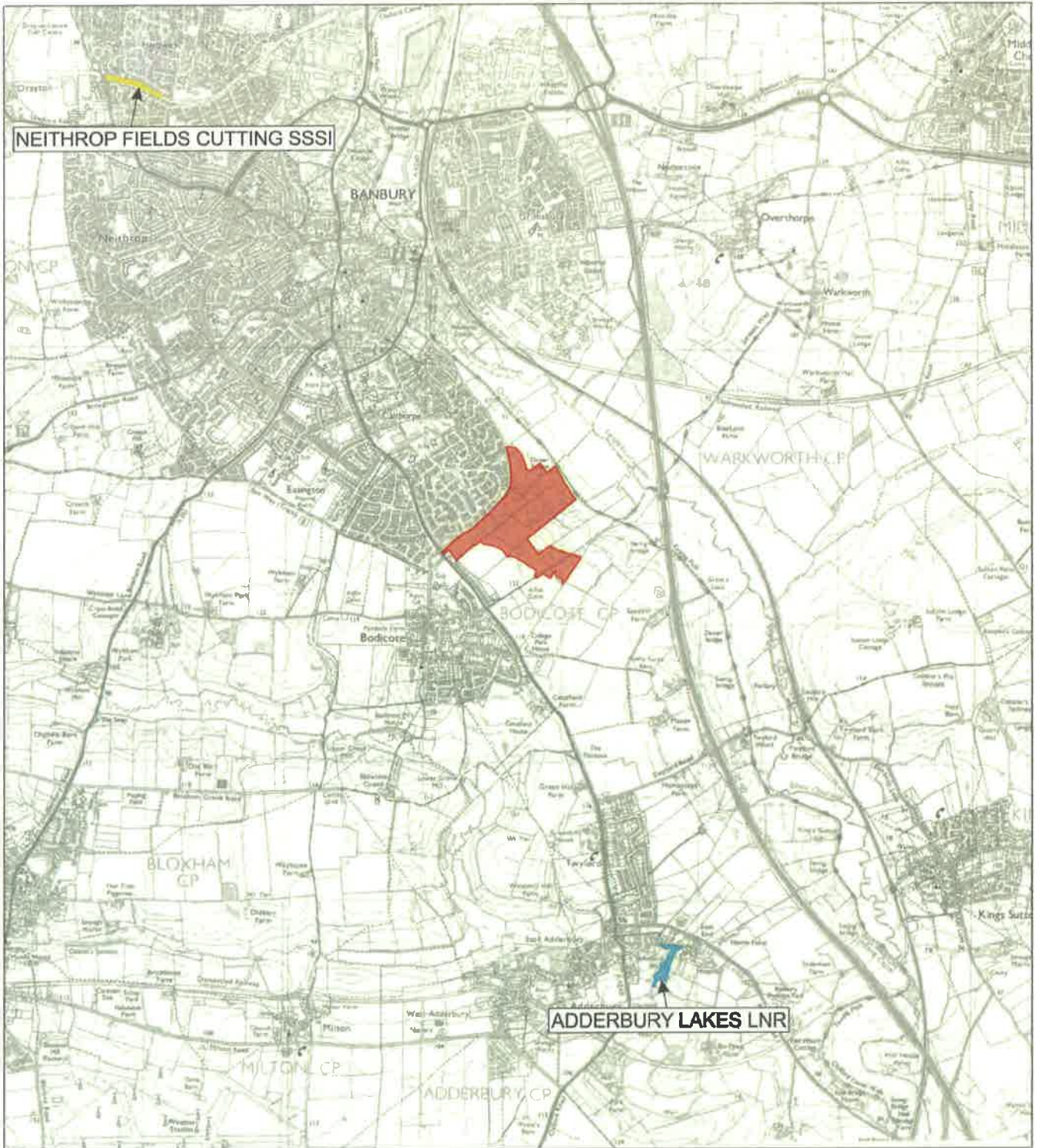
OCTOBER 2014

REV.

DATE

PLAN 3266/ECO2

Ecological Designations



KEY:

- SITE BOUNDARY**
- SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)**
- LOCAL NATURE RESERVE (LNR)**

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**LONGFORD PARK, BANKSIDE,
 BANBURY - COMMUNITY PARK**

PROJECT

ECOLOGICAL DESIGNATIONS

TITLE

3266/ECO2

DRAWING
 NO.



OCTOBER 2014

REV

DATE

PLAN 3266/ECO3

Habitats & Ecological Features



KEY:

- SURVEY AREA
- BUILDING
- ARABLE
- BARE SOIL
- IMPROVED GRASSLAND
- TALL RUDERAL VEGETATION
- WOODLAND
- TREE
- TREE WITH BAT POTENTIAL CATEGORY 2a
- TREE WITH BAT POTENTIAL CATEGORY 2b
- HEDGEROW
- DENSE SCRUB
- SCATTERED SCRUB
- DITCH/DRY DITCH
- CANAL
- BUND
-
- LATRINE
- MAMMAL PATH
- PUSH THROUGH

PROJECT
LONGFORD PARK, BANKSIDE,
BANBURY - COMMUNITY PARK

TITLE
HABITATS AND ECOLOGICAL FEATURES

DRAWING NO
 3266/EC03

REV
 -

DATE
 OCTOBER 2014

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PHOTOGRAPHS

PHOTOGRAPH 1: Building B1



PHOTOGRAPH 2: Arable Field F2



PHOTOGRAPH 3: Grassland



PHOTOGRAPH 4: Hedgerow H4 and H5



PHOTOGRAPH 5: Ditch



PHOTOGRAPH 6: Pond



PHOTOGRAPH 7: Oxford Canal



PHOTOGRAPH 8: Tree T8 - High Bat Potential (2a)



APPENDICES

APPENDIX 1

Bat Box Specifications

Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.

The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.

Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.

Schwegler 2F Bat Box

The 2F from Schwegler is the most popular general purpose bat box. It is particularly attractive to the smaller British bats. A simple design made from strong, natural WoodcretePLUS material, with a narrow entrance slit on the front. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail.

Woodcrete construction, 16cm diameter, 33cm height, 4kg weight.



2FN Bat Box

A large bat box featuring a wide access slit at the base as well as an access hole on the underside. Particularly successful in attracting Noctule and Bechstein's bats.

Woodcrete construction, 16cm diameter, height 36cm.

1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

*Woodcrete (75% wood sawdust, concrete and clay mixture)
Width: 27cm
Height: 43cm
Weight: 7.3kg*



APPENDIX 2

Bird Box Specifications

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.



1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts.

2H Open Fronted Nest Box

This box is attractive to Robins, Pied Wagtails, Grey Wagtail, Spotted Flycatcher, Wrens and Black Redstarts.

They are best sited on the walls of buildings with the entrance on one side.



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