

## 5. Ecology & Nature Conservation

### 5.1 Introduction

- 5.1.1 This chapter of the ES assesses the likely significant effects of the Proposed Development in terms of ecology and nature conservation, with additional detail, consideration and survey results set out at Appendices 5.1 and 5.2.
- 5.1.2 The chapter describes: the assessment methodology; survey methods; the baseline conditions existing at the Application Site and surroundings; the likely significant environmental effects of the proposed development; and presents the avoidance and mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. This chapter has been prepared by Aspect Ecology.
- 5.1.3 The development proposals for the Application Site are set out elsewhere within this Environmental Statement, including summaries at the associated Indicative Masterplan and Parameters Plans.

### 5.2 Assessment Approach

#### *Methodology*

- 5.2.1 The methodology utilised for the survey work can be split into three main areas: a desktop study, habitat survey, and faunal surveys. A summary of the survey methodology is given below, and further detail is provided in the full Baseline Ecological Assessment at **Appendix 5.1**.

#### *Desktop Study*

- 5.2.2 In order to compile background information on the Application Site and its immediate surroundings, a number of recording organisations and online data sources were consulted:
- Warwickshire Biological Records Centre (WBRC);
  - Multi-Agency Geographic Information for the Countryside (MAGIC) database;
  - Pond Conservation Trust database of Priority Ponds or Important Areas for Ponds; and
  - Woodland Trust database of notable, veteran and ancient trees
  - Open Mosaic Habitat Inventory Database hosted by Buglife.
- 5.2.3 Relevant information from these sources is referred to where appropriate within this document and at Appendix 5.1.
- 5.2.4 The National Biodiversity Network (NBN) database was also reviewed for up to date relevant records where appropriate in respect of the site and adjacent areas in order to fully inform the considerations. Where records are held, these are available via the NBN gateway, but cannot be specifically referenced without further permissions from the information provider and accordingly are not further mentioned specifically. Nonetheless, it is understood from the NBN Data Access Officer that all records are now passed directly to local records centres and individual records would therefore also be anticipated to be included as part of the information obtained from the Local Records Centre.

### *Habitat Survey*

- 5.2.5 The Application Site was surveyed based on Phase 1 Habitat Survey methodology 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 Appraisal to record details on the actual or potential presence of any notable or protected species or habitats.
- 5.2.6 Using the above method, the Application Site was classified into areas of similar botanical community types with a representative species list compiled for each habitat identified.
- 5.2.7 In addition, specific consideration was undertaken in respect of the hedgerows within the Application Site against the Wildlife and Landscape criteria of the Hedgerows Regulations 1997.

### *Faunal Surveys*

- 5.2.8 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was paid to any use or potential for use of the Application Site by protected, rare, notable or Biodiversity Action Plan species.
- 5.2.9 Specific Phase II survey work was also undertaken in respect of a number of protected and notable species with potential to occur within the Application Site, namely bats, Badger, Great Crested Newt, reptiles and breeding birds. Further details of the survey methodologies is provided in the full Baseline Ecological Assessment at Appendix 5.1.

## **5.3 Limitations**

- 5.3.1 Any specific survey constraints or limitations are detailed in the full survey methodologies within Section 2 of the Baseline Ecological Assessment at Appendix 5.1. However, no significant general over-riding constraints or limitations were identified, and the surveys undertaken are therefore considered to allow a robust assessment of the ecological interest of the Application Site to be made.

## **5.4 Ecological Assessment Methodology**

### *Ecological Evaluation*

- 5.4.1 The approach taken to assess ecological value of habitats, ecological features and fauna within the Site is based on that described in 'Guidelines for Ecological impact Assessment in the United Kingdom' 2006, published by the Chartered Institute of Ecology and Environmental Management (CIEEM), which takes into consideration a number of factors including geographic frame of reference, biodiversity value as well as secondary or supporting value. A full description of this approach is given at technical Appendix 5.1.

### *Assessment of Effects and Significance*

- 5.4.2 Standard methods and definitions are used in the assessment of ecological value, context and the level of importance of any effect on a given site, area or species. This assessment is set in the context of the value of the given site, habitat or species, as outlined above.

- 5.4.3 Any effect should be assessed within its relevant frame of geographical reference, in terms of the levels of “international, national, regional, county (or metropolitan), district (or unitary authority, city of borough), local (or parish) or at the site level”.
- 5.4.4 Against this reference frame, the magnitude of the impact can be assessed and categorised either quantitatively or under the following headings:

**Table 5.1: Determination of Magnitude**

Magnitude	Determination of magnitude
Major	The magnitude of an impact is determined taking into account the geographic frame of reference and the effects on the integrity of a site or habitat or the conservation status of a species in terms of the duration (permanent or temporary), reversibility, extent, timing, frequency and certainty (e.g. certain, probable or unlikely) of the potential impact.
Moderate	
Minor	
Negligible	

- 5.4.5 Impacts can be positive (beneficial), negative (adverse) or neutral in nature and direct or indirect.
- 5.4.6 The magnitude of the impact is in turn used in conjunction with ‘conservation status’ to determine whether an impact on a habitat or species is likely to be ecologically significant. Conservation status is defined as:
- For habitats – The sum of the influences acting on the habitat and its typical species, that may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area; and
  - For species – The sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a given geographical area.
- 5.4.7 Where the integrity of the favourable conservation status of a habitat or species is undermined the impact could be adverse and significant. A significant positive impact could be defined as one that prevents or slows an existing decline in the integrity of the favourable conservation status of a habitat or population as much as one that permitted a population or habitat area to increase.

## 5.5 Mitigation

- 5.5.1 Where significant effects upon ecological receptors have been identified and are considered likely, mitigation has been designed in accordance with best practice.
- 5.5.2 The National Planning Policy Framework (NPPF) (Department for Communities and Local Government, 2012) describes the Government’s national policies on the protection of biodiversity [and geological] conservation through the planning system. The NPPF emphasises the need for planning authorities to ensure that the potential effects of planning decisions on biodiversity conservation are fully considered.
- 5.5.3 A five-point best practice approach (Royal Town Planning Institute, 1999, ODPM, 2006, PAS, 2010), which incorporates the ‘mitigation hierarchy’ approach as well as assessment and enhancements, to the assessment of such effects within the development control process is recommended:
- Information – gathering a sufficient evidence base on which to make sound planning decisions
  - Avoidance – adverse effects on habitats and species should be avoided where possible
  - 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
- New benefits – many planning decisions present the opportunity to deliver enhancements for habitats or species

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

5.5.5 In terms of new benefits, the National Planning Policy Framework (NPPF) sets out that the planning system should enhance the natural environment by providing net gains in biodiversity *where possible*, contributing to the Government's commitment to halt the overall decline in biodiversity. The NPPF specifically states that opportunities to incorporate biodiversity in and around developments should be *encouraged*

## 5.6 Legislative/Policy Framework

### *Legislation*

5.6.1 Key legislation relevant to wildlife and nature conservation includes:

- The Conservation of Habitats and Species Regulations 2010 (as amended)
- Wildlife and Countryside Act 1981 (as amended)
- The Natural Environment and Rural Communities Act (2006)
- The Countryside and Rights of Way Act (2000)
- The Hedgerows Regulations (1997)
- The Protection of Badgers Act (1992)
- The Wild Mammals (Protection) Act 1996

5.6.2 Discussion of this legislation is given where relevant in relation to particular ecological features and fauna in the relevant sections of this chapter and the Baseline Ecological Assessment (see Appendix 5.1).

### *National Planning Policy*

5.6.3 Guidance on National Policy for biodiversity and geological conservation is provided within the NPPF, published by the Department for Communities and Local Government in March 2012. The NPPF confirms the Government's commitment to conserving and enhancing the natural and local environment through the planning system, including specific reference to maintenance and enhancement of biodiversity (see paragraphs 109, 117 and 118).

### *Local Planning Policy*

5.6.4 Extant relevant Planning Policy at the local level is principally provided by the adopted Coventry Development Plan (2001). The emerging Coventry Core Strategy Submission Draft (2012) was produced and formally submitted on 29 October 2012 to the Planning Inspectorate, however following correspondence from The Inspectorate, The Council's Cabinet formally resolved to withdraw it from the examination process in April 2013.

### *Coventry Development Plan 2001*

5.6.5 The Coventry Development Plan (2001) includes a number of policies potentially relevant to the Application Site and possible ecological effects of the Proposed Development. GE11 and GE12 relate to protection of statutory and non-statutory designated sites of nature

conservation value, whilst GE13 and GE15 relate to protecting species and enhancing new development sites for wildlife.

*Coventry Core Strategy Submission Draft 2012*

- 5.6.6 The Coventry Core Strategy Submission Draft (2012) includes a number of policies potentially relevant to the Application Site and possible ecological effects of the Proposed Development. Policy GE1 is proposed to replace existing policy GE15 from the Development Plan and relates to Green Infrastructure provision. Policy GE3 is to replace existing policies GE11, GE12 and GE13 from the Development Plan and relates to Biodiversity, Geological, Landscape and Archaeological Conservation.
- 5.6.7 In addition, the evidence base associated with the draft submission Core Strategy document includes a number of further documents which provide further background and advice in regard to Green Infrastructure in particular, including:
- Coventry Green Infrastructure Study November 2008
  - Coventry Green Belt Ecological Review
  - Coventry Habitat Biodiversity Audit
  - Coventry Greenspace Review 2008-2018

*Species and Habitats of Principal Importance*

- 5.6.8 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on the Secretary of State to publish a list of the habitats considered to be of principal importance for the purposes of conserving biodiversity. This list largely reflects those habitats listed under the UK Biodiversity Action Plan (UK BAP) that occur in England.
- 5.6.9 In addition, Warwickshire, Coventry and Solihull Local BAP contains individual action plans for a total of 24 habitats and 26 species, identifying priorities and targets for action at a local level.

*Discussion*

- 5.6.10 The policies outlined above have been taken into account wherever possible during the design of the Proposed Development and when considering mitigation and enhancement measures, with features and species of nature conservation interest protected and enhanced where possible. These measures are detailed in the relevant following sections, and an overview of how the Proposed Development complies with relevant policy is given in the Summary section.

## **5.7 Scoping Criteria**

- 5.7.1 Formal scoping opinion was provided by Coventry City Council in regard to the proposals in September 2013, including specific comments received from Warwickshire County Council Ecology Unit, Warwickshire Wildlife Trust and Natural England. This highlighted the need for the proposals to be informed by a full ecological assessment and relevant up to date survey work, including consideration of impacts on local designations, habitats and species, along with details of proposed avoidance and mitigation measures, consideration in regard to biodiversity offsetting and associated metric as well as ecological enhancement measures.
- 5.7.2 In addition, a further scoping meeting was held with Warwickshire County Council Ecology Unit and Warwickshire Wildlife Trust in November 2013 in order to further discuss the proposed scope of ecological works and progress considerations in regard to the proposals.

## 5.8 Baseline Conditions

5.8.1 This section describes the current ecological interest of the Application Site, detailing the habitats and species recorded to be present.

## 5.9 Application Site Description and Context

5.9.1 The Application Site is located in Keresley, north west of Coventry within the east of the Arden Landscape Character Area (Natural England Character Area 97), at the margin between the local landscape types Industrial Arden, Ancient Arden and Urban (Coventry) as identified within Coventry City Council's Green Infrastructure Study (e.g. Figure 5.2 within the study).

5.9.2 The Application Site is bounded to the east by curtilages associated with existing residential dwellings along Bennetts Road South, with further residential areas beyond. To the south, the site is bounded by Sandpits Lane beyond which is Cardinal Newman RC School and further developed areas within Coventry. West of the site is Tamworth Road with associated existing residential properties along the offsite (western) side of the road. The northern boundary to the Application Site is marked by the watercourse Hall Brook, beyond which is largely open agricultural land.

5.9.3 The Application Site itself is dominated by agriculturally managed habitats in the form of arable and species-poor agricultural grasslands. The western part of the site is dominated by intensively cultivated arable fields, whilst the eastern half is dominated by species-poor grassland. Other habitats present include field boundary hedgerows and associated standard trees, a number of ponds and small areas of amenity grassland, scrub, tall ruderal vegetation and Bramble.

### Ecological Designations

5.9.4 Ecological designations that occur within the vicinity of the Application Site are summarised at **Table 5.2** below. Further detail is provided in the Baseline Ecological Assessment at **Appendix 5.1** and associated plan 1825/ECO2.

**Table 5.2: Ecological Designations Situated within the Vicinity of the Application Site**

Name	Designation	Brief description	Distance from Application Site
<b>Statutory Designations – International Level</b>			
Ensor's Pool	SAC, SSSI and LNR	Very large population of Annex II species, White Clawed Crayfish <i>Austropotamobius pallipes</i>	7.4 km SW
<b>Statutory Designations – National Level</b>			
Hearsall Common	Local Nature Reserve (LNR)	Comprises areas of woodland and grassland which is set within an urban context and is well used by dog walkers.	4.0 km S
<b>Relevant Non-statutory Designations</b>			
Sandpits Lane Meadow	LWS	Semi-improved grassland field, mostly species poor but with relict habitat within the south west corner <sup>1</sup>	0km (within the site boundary)
Cottage Farm	Ecosite (115/38)	2008 survey recorded mostly improved grassland fields and boundary hedgerows (southern semi-improved field forms Sandpits Lane LWS)	0km (within the site boundary)
Pond	Ecosite (Marked on Plans received from WBRC, but no reference or apparent description received.	0km (within the site boundary – Pond P1)	Largely adjacent to S of site
Hall Brook	Ecosite (50/38)	Watercourse and associated hedgerows	0km (Adjacent)

			to northern site boundary)
Royal Court Hotel	Ecosite (114/38)	Previous hospital site supporting trees (including exotic species) and patches of tall ruderal.	0km (Adjacent to southern site boundary)
Keresley Manor	Ecosite (113/38)	Mixed woodland, lawns and gardens within manor grounds	0km (Adjacent to north western site boundary)
Durham House Farm and Manor Farm South	Ecosite (14/38)	1m north	0km (Adjacent to northern site boundary, beyond Hall Brook)
Cardinal Newman RC School	Ecosite (119/38)	Existing School: Predominantly amenity grassland with boundary hedge.	15m approx. (beyond Sandpits Lane)
Keresley Manor	Ecosite (113/38)	Mixed woodland, lawns and gardens within manor grounds	0km (Adjacent to north western site boundary)
Keresley Manor	Ecosite (113/38)	Mixed woodland, lawns and gardens within manor grounds	0km (Adjacent to north western site boundary)

*Ancient Woodland*

5.9.5 In addition, a number of areas of Ancient Woodland are present within the local area, the nearest of which is Pikehorne Wood.

*Habitats and Ecological Features*

5.9.6 A full description of habitats and ecological feature within the Application Site, along with an assessment of the ecological value of each type and feature, is set out within the Baseline Ecological Assessment at **Appendix 5.1.**, with the location of the habitats and features represented within the associated Plan 1825/ECO3. A summary of habitats and evaluation of their ecological value is set out at **Table 5.3** below.

**Table 5.3: Summary of Habitats and Ecological Features**

Habitat type	Brief Description	Value
Arable	The west of the site is dominated by a number of fields (F1 – F7) under intensive arable cultivation at the time of survey. The arable fields within the site were noted to be subject to intensive management with very few non-crop plant species noted within the cultivated areas and narrow field margins.	Negligible ecological value at local level
Species-poor Grassland	The east of the site is dominated by species-poor grassland fields (F8 – F15) supporting a limited range of common and widespread species.	Low ecological value at local level
Hedgerows	A total of 45 hedgerows were recorded within the Application Site during the survey work undertaken (H1 to H45). The hedgerows present vary in terms of their continuity, structure and quality as set out within the Baseline Ecological Assessment Appendix 5.1), albeit overall they provide cover and linear corridors across the Application Site available for use by a range of faunal species.	Moderate ecological value at local level
Amenity Grassland	An area of amenity grassland is present within the site boundary, apparently associated within an offsite golf driving range adjacent to the south west of the site.	Negligible ecological value at local level

	This grassland is subject to regular mowing, such that the sward is particularly short, with occasional patches of bare ground.	
Ponds	A total of three ponds are present within the Application Site (P1 to P3). Pond P1 appears relatively healthy, with good amounts of water and marginal vegetation. Ponds P2 and P3 appear to be in a considerable state of decline due to lack of management, albeit provide habitat diversity and valuable opportunities for a range of wildlife.	Moderate to high ecological value at local level
Bramble/Tall ruderal vegetation	Small areas present within the south east of the Application Site, limited to small number of common species, overgrown due to lack of management.	Negligible ecological value at local level
Watercourse	Part of Hall Brook situated along the northern site boundary forms a corridor for wildlife movement with associated hedgerows, albeit limited in size with little aquatic or marginal vegetation.	Moderate ecological value at local level

*Faunal Use of the Application Site*

5.9.7 Observations of faunal species were made during surveys of the Application Site, and specific Phase II survey work was carried out in relation to bats, Badger, birds, Great Crested Newt and reptiles in 2010 and 2013. Full details of this survey work are given in section 5 of the Baseline Ecological Assessment at **Appendix 5.1**, and a summary of results is given in **Table 5.4** below.

**Table 5.4: Summary of Faunal Survey Results**

Species	Survey results and discussion	Evaluation
Bats (roosting)	A number of trees (T1-T18) within the site were noted to have developed features such as splits/cracks, rot holes, peeling bark or similar and as such are considered to provide low-moderate potential to support roosting bats (BCT Category 2 and 1 respectively).	Low to Moderate ecological value at local level
Bats (foraging and commuting)	Low levels of bat activity were recorded across the site, with the vast majority of activity comprising Common Pipistrelle and only very occasional visits by other species.  The hedgerows within the site provide a potential network of corridors and commuting routes for foraging / commuting bats across the site, whilst the ponds are likely to provide a foraging resource for individual bats.	Low ecological value at local level  Hedgerows, ponds, and watercourse provide raised potential corridors/navigational routes.
Badger	No Badger setts were recorded within the site during the general survey work undertaken, albeit a single Badger sett (S1) is present offsite close to the site boundary, with further Badger activity noted in the vicinity of the site. No evidence of use or particular importance within the site, albeit given the known presence within the vicinity of the site it is likely that individuals frequent the Application Site from time to time.	Low ecological value at local level
Water Vole and Otter	No evidence for any use or presence. Habitats unlikely to provide suitable opportunities, albeit Hall Brook may provide minor potential to act as a movement corridor for Otter if this species is present within the vicinity of the site.	Negligible ecological value at local level
Other Mammals	Likely use by small numbers of common mammal species, including BAP/priority species Hedgehog and Brown Hare, albeit no evidence for any particular use by significant numbers or any rare or notable species.	Low ecological value at local level

Species	Survey results and discussion	Evaluation
Amphibians	Low population of Great Crested Newt recorded within the Application Site, focussed on ponds P2 and P3, likely forming part of wider metapopulation within the surrounding habitats.  Terrestrial habitats likely focussed on marginal vegetation and hedgerow corridors, with (to a lesser extent) species-poor grassland.	Moderate ecological value at local level
Reptiles	No individual reptiles recorded during most recent specific survey work during 2013. Very small numbers of Grass Snake recorded during 2010 indicates likely previous very low levels of use by this wide-ranging and common species.	Low ecological value at local level
Birds	No Schedule 1 species or any other notable species were recorded during the course of the surveys, including specific breeding bird surveys in 2010. Limited use, including breeding by a number of common and widespread species, including small numbers of 3 UK BAP Priority bird species (Bullfinch, Song Thrush and Dunnock).	Low ecological value at local level
Invertebrates	A number of common species were recorded within the site. No evidence for the presence of any protected, rare or notable. The majority of the site comprises arable land and species-poor grassland, which are unlikely to support significant notable species or important assemblages. Nonetheless, habitats present, notably ponds and hedgerow corridors providing opportunities for a range of invertebrate species.	Low ecological value at local level

## 5.10 Assessment of Effects

### *Ecological Receptors of Significant Ecological Value*

5.10.1 In the context of this assessment, ecological receptors are defined as any ecological designation, habitat / plant or faunal species / group which has the potential to be affected by changes to the Application Site. This includes:

- Statutory and non-statutory designations (where these are considered close enough to the Application Site such that they may be affected by the proposals);
- Habitats / Vascular plants within or adjacent to the Application Site; and
- Faunal species / groups using habitats within or adjacent to the Application Site.

5.10.2 Given the scale of the Proposed Development, all of the ecological designations discussed within Appendix 5.1 and summarised within Table 6.3 are considered within this assessment.

5.10.3 On the basis of the baseline ecological assessment, any habitat types, vascular plants and / or faunal species / groups considered to be of negligible ecological value at the local level, or likely absent from the Application Site are not considered likely to be significantly adversely affected by the Proposed Development and are not considered further within this assessment.

### *Potential Significant Effects*

5.10.4 The potential significant effects associated with the proposals and their ecological receptors identified as being of significant value at the site are identified in **Table 5.5** below.

Table 5.5: Potential Ecological Effects and Receptors

Receptor	Potential Effects								
	Construction (Temporary effects)					Post-construction (permanent effects)			
	Temporary land-take (construction)	Disturbance (Visual, noise)	Hydrology and pollution (Dust generation, pollution of aquatic habitats)	Lighting (construction)	Construction site hazards	Permanent land-take	Anthropogenic effects/disturbance	Hydrology	Permanent lighting
Statutory Nature Conservation Designations									
Pasture at Sandpits Lane LWS						X	X	X	X
Cottage Farm Ecosite						X	X	X	X
Pond P1 Ecosite							X	X	X
Hall Brook Ecosite							X	X	X
Other non-statutory designations									
Species-poor Grassland						X			
Ponds							X	X	X
Watercourse							X	X	X
Hedgerows						X	X	X	X
Bats - roosting		X		X		X			X
Bats - foraging		X		X		X	X		X
Badger		X			X	X	X		X
Other mammals		X		X	X	X	X		X
Amphibians	X	X	X		X	X		X	
Birds		X		X		X	X		X

**Construction (Temporary Effects)**

5.10.5 The potential effects considered within this section are those relating to temporary factors arising from the construction process, such as construction site noise or dust production, and which will cease to apply during the longer-term completed development phase. Thus loss of habitats through permanent land take for development is considered as a 'Completed Development' effect, although the land take actually occurs during the construction phase of the Proposed Development.

*Effects on Ecological Designations*

5.10.6 All identified statutory ecological designations are well separated and removed from the Application Site, with the closest statutory designation being Hearsall Common Woodland Local Nature Reserve (LNR), located approximately 4.0 km south of the Application Site.

5.10.7 Accordingly, **no significant adverse effects** on any statutory ecological designations are anticipated as a result of construction activities.

5.10.8 A number of non-statutory ecological designations have also been identified during the survey and assessment work undertaken.

- 5.10.9 **Sandpits Lane Meadow LWS.** The LWS comprises a single grassland field, contained entirely within the southern part of the Application Site, which was recorded to comprise species poor grassland (in line with the previous information available, including the LWS recording form, which confirms the low diversity of species previously noted and sets out the main value in terms of remnant MG4 grassland limited to the south western corner). Much of the internal areas of the LWS will be lost to provide new residential development and new water meadow habitats and as such are considered below in regard to operational effects. The potential exists for the construction works to result in further effects on the retained areas of the LWS, such as pollution, contamination or disturbance without mitigation or protective measures. Given the LWS designation, loss of habitats within Sandpits Lane Meadows LWS is considered to be relevant at the County Level, albeit given the low diversity and ecological value of the habitats present, effects are considered to be of minor significance, adverse and temporary.
- 5.10.10 **Cottage Farm Ecosite.** The ecosite is contained entirely within the east of the Application Site and accordingly much of the habitats will be lost under the proposals (and are therefore discussed below at the relevant sections). Nonetheless, the habitats of greatest value (hedgerows and ponds) are largely retained, and accordingly, without mitigation or safeguards the potential exists for construction effects on retained habitats, including inadvertent damage, temporary disturbance or pollution.
- 5.10.11 All ponds within the understood boundaries of the designation are fully retained under the proposals, albeit topsoil stripping and movement undertaken for construction could result in degradation of ponds as a result of release of contaminants and silt into surface water run-off.
- 5.10.12 In regard to hedgerows, potential effects of construction relate to potential dust deposition and damage from compaction or other damage from construction machinery or vehicles.
- 5.10.13 Prior to mitigation, potential effects on Cottage Farm Ecosite during the construction phase are considered to be at the local level, of minor significance, adverse and temporary.
- 5.10.14 **Pond P1 Ecosite.** Pond P1 and immediately surrounding vegetation will be fully retained under the proposals, within the linked network of green infrastructure. Accordingly, there will be no temporary or permanent land-take from the pond, albeit the proposals do have the potential to affect the pond through inadvertent damage or disturbance during construction activities, or indirectly via dust deposition or run-off. Accordingly, prior to mitigation potential effects on Pond P1 ecosite are considered to be at the local level, of minor significance adverse and temporary.
- 5.10.15 **Hall Brook Ecosite.** Part of Hall Brook Ecosite is located along the northern site boundary. The watercourse and associated corridor will be fully retained under the proposals and buffered from development, such that there will be no effect of temporary or permanent land-take on this ecosite. However, the designation could be indirectly affected by construction activities, via dust creation, damage or disturbance to vegetation associated with movement of vehicles and hydrological changes (e.g. affects on the water table, increased siltation and contamination of surface run-off). Prior to mitigation, potential effects on Hall Brook Ecosite during the construction phase are considered to be at the local level, of minor significance, adverse and temporary.
- 5.10.16 No other likely significant effects resulting from construction of the Proposed Development on any other identified non-statutory ecological designations have been identified.

*Effects on Habitats and Ecological Features*

- 5.10.17 Habitats identified as ecological receptors within the Application Site include arable land and species-poor grassland, amenity grassland and Bramble/ruderal vegetation and scrub

(low to negligible ecological value); watercourse (Hall Brook), ponds and hedgerows (moderate to high ecological value at the local /site level).

5.10.18 The majority of the habitats of elevated value (greater than low ecological value) within the Application Site will be largely retained under the proposals, albeit a number of hedgerows and hedgerow sections will be lost, particularly to provide access ways. Nevertheless, large parts of the Application Site will be subject to construction works resulting in the loss of existing habitats (predominantly arable and species-poor grassland). The permanent land-take of habitats (and resultant effects on fauna supported by such habitats) is discussed in the Completed Development section below and accordingly, although the losses will occur during the construction period, these are considered below and are not specifically included within this section.

5.10.19 Without mitigation, retained habitats within the Application Site and habitats within the immediate site surroundings may be subject to potential effects such as dust deposition and damage to trees (within hedgerows) from compaction or other damage from construction machinery or vehicles. Topsoil stripping and movement undertaken for construction could also result in degradation, including of the watercourse (Hall Brook) as a result of release of contaminants and silt into surface water run-off.

5.10.20 Prior to mitigation, these effects are considered to be at the local level, of minor to moderate significance, adverse and temporary.

#### *Effects on Fauna*

5.10.21 Faunal groups for which the Application Site is or may be of more than negligible ecological value at the local level are identified in **Table 5.4** above and potential effects on these groups are assessed below.

#### Bats - Roosting

5.10.22 A number of trees within the Application Site have been identified as providing some bat roosting potential, all of which appear to be retained under the indicative layout and parameters plans. Bats are highly mobile and regularly move between existing and new roosting locations such that other trees could develop suitable features and/or become used by roosting bats by the time of works, whilst the outline nature of the proposals is such that the retention of, or effects on existing trees would depend on the detailed design layout developed as part of any reserved matters. Therefore without mitigation, works affecting any mature trees (e.g. felling, accidental damage or temporary lighting) have the potential to result in the loss of roosting features or disturbance / injury to roosting bats should they be present, which could therefore also constitute an offence under the legislation protecting bats.

5.10.23 Accordingly, prior to mitigation, construction effects on roosting bats are considered to be at the local level, of moderate significance, adverse and temporary.

#### Bats - Foraging/commuting

5.10.24 Overall, the Application Site is considered to be of low value at the regional level to foraging and commuting bats, with low levels of activity recorded, the vast majority of which were recorded to comprise a single species (Common Pipistrelle). In the long term, the habitats to be lost at the site are dominated by arable land and species poor grassland, which is unlikely to be of particular importance to bats, with features such as hedgerows and watercourse corridors largely retained within the wider green infrastructure such that they continue to be present in the long term for use by bats. New lighting has the potential to result in disturbance to the small number of foraging bats that use the site. The effect of lighting on bats vary between species, with some bat species such as Pipistrelles and Noctule able to cope with relatively high light levels (of up to 14 lux for Pipistrelles) (Fure, 2006) and known to utilise lights as a foraging focus for insects attracted to lights, whilst many other bats species

avoid lit areas more determinedly, therefore affecting foraging success of these species. Bat activity across the application site was recorded to be low and to comprise almost exclusively Common Pipistrelle bats, which are widely acknowledged to be more tolerant of disturbance and are commonly associated with urban environments (Schofield & Mitchell-Jones, 2010).

5.10.25 Foraging and commuting bats could be affected during the construction phase by lighting of construction areas, noise disturbance or airborne pollutants (e.g. dust), potentially discouraging use of foraging areas or commuting routes within or adjacent to the Application Site. However, such effects would only be for the duration of the construction phase, and any requirement for lighting during construction works would be expected to be relatively minimal given the general restrictions on working to daylight hours.

5.10.26 Accordingly, prior to mitigation, construction effects on foraging and commuting bats are considered to be at the local level, of minor to negligible significance, adverse and temporary.

#### Badger

5.10.27 No Badger setts were recorded within the site during the general survey work undertaken, albeit a single Badger sett was recorded close to the southern site boundary. Potential significant effects of the construction phase on Badger appear likely restricted to construction site hazards (such as chemical spillage or uncovered trenches or pits) that could result in death or injury to individual Badgers. Nonetheless, Badgers are dynamic animals and accordingly, potential exists for use of the application site and surrounding area to alter over time, such that new setts or additional use may develop prior to commencement of any construction activities.

5.10.28 Prior to mitigation, construction effects will therefore be at the local level, of negligible to minor significance, adverse and temporary.

#### Other Mammals

5.10.29 The application site offers opportunities for a number of other mammal species including the Species of Principal Importance Brown Hare and Hedgehog, as well as common and widespread species such as Rabbit, Fox and Deer. However, the habitats within the Application Site are dominated by arable land and species-poor grassland which are typical of the wider area, and are unlikely to be of particular importance to these species, with any use likely focussed on the hedgerow corridors the majority of which will be retained under the proposals.

5.10.30 Construction works may pose a risk to mammal species through the destruction of burrows / Rabbit warrens and consequent risk of crushing or asphyxiation of wild mammals, (which could constitute an offence under the Wild Mammals (Protection) Act 1996), whilst mammals may also be at risk through hazards associated with the construction site such as the creation of trenches in which animals could become trapped. In addition, mammal species could also result in disturbance associated with movement of vehicles, noise and lighting. However, other mammal species likely to be present at the Application Site are relatively widespread in terms of their conservation status, and as such effects are considered to be of relatively low significance.

5.10.31 Accordingly, prior to mitigation, construction effects on other mammals are considered to be at the local level, of minor significance, adverse and temporary.

#### Amphibians

5.10.32 The ponds within the Application Site support a low population of Great Crested Newt, as well as common amphibian species (Smooth Newt and Common Frog). As such, the terrestrial habitats within the Application Site within 250m of these Great Crested Newt

breeding ponds (the typical ranging distance of Great Crested Newt) are clearly also utilised by this species, albeit the arable areas in particular are unlikely to represent an important foraging resource, with suitable opportunities focussed on the marginal vegetation and hedgerow corridors in particular. As such, the habitats within the Application Site as a whole are considered to be of moderate ecological value to Great Crested Newt and other amphibians at the local level.

5.10.33 Construction activities, such as clearance of vegetation, earthworks and tracking of vehicles, particularly within 250m of the identified Great Crested Newt breeding ponds (within the Application Site and offsite) have the potential to result in disturbance, injury or mortality to Great Crested Newt and other amphibians, and therefore have potential to cause offence under the legislation protecting Great Crested Newt. The proposals include the retention of all identified breeding ponds themselves, albeit any Great Crested Newts or other amphibians using the ponds may be affected by contamination of surface run-off or release of excess silts arising from construction works.

5.10.34 Accordingly, given the potential for adverse effects on Great Crested Newt in particular, in the absence of mitigation, construction effects on amphibians are considered to be at the local level, of moderate significance, adverse and temporary.

#### Reptiles

5.10.35 The majority of the Application Site (dominated by arable and species poor grassland) which is unlikely to provide particularly suitable reptile habitat, albeit occasional use by small numbers of individual Grass Snake was recorded within the Application Site during previous (2010) survey work. Accordingly, potential significant effects of the construction phase on reptiles are construction site hazards (such as uncovered trenches or pits) and injury or mortality caused by use of machinery and other construction activities that could result in death or injury to individual reptiles (Grass Snake), which could constitute an offence under the Wildlife and Countryside Act, 1981. Accordingly, prior to mitigation, effects are at the local level, of minor significance, adverse and temporary.

#### Birds

5.10.36 The Application Site supports a limited assemblage of bird species, (as detailed at **Appendix 5.1**) predominantly associated with field boundary hedgerows. Potential effects during the construction phase relate to noise and visual disturbance and lighting of nesting birds in close proximity to construction areas.

5.10.37 Potential effects on other bird species during the construction phase relate to direct loss of active nests. Any loss or disturbance to nests has the potential to constitute an offence under the Wildlife and Countryside Act 1981 (as amended), which affords protection to wild birds and their eggs. In addition, there is the potential for noise and visual disturbance to nesting birds in close proximity to construction areas, albeit these effects are anticipated to be highly localised.

5.10.38 Accordingly, prior to mitigation, construction effects on birds are considered to be at the local level, of minor significance, adverse and temporary.

#### Invertebrates

5.10.39 The Application Site is considered to be of generally low value for invertebrates at the local level, dominated by arable land and species poor agricultural grassland which likely support at best a limited assemblage, albeit the boundary hedgerows and ponds in particular likely to support a range of common species.

5.10.40 The generation of dust from construction activities and its subsequent deposition on vegetation could potentially affect invertebrates feeding on or selecting egg-laying sites within retained habitats. Contamination and siltation of waterbodies could also affect aquatic invertebrate species.

- 5.10.41 In addition, invertebrates may be attracted to construction lighting, where this involves UV lights, resulting in a re-distribution of invertebrates within the Application Site (e.g. drawing them away from other habitats such as woodlands).
- 5.10.42 Accordingly, prior to mitigation, effects are at the local level, of minor to negligible significance, adverse and temporary.

### **Completed Development**

- 5.10.43 The potential effects considered within this section are those relating to the 'operational' phase of the completed development. This includes the loss of habitats through permanent land take for the Proposed Development, in addition to potential effects resulting from the operation of the Proposed Development such as hydrology, recreational pressure and noise and light disturbance.
- 5.10.44 Likely significant effects have been assessed in respect of the Parameters Plans, which includes provision of considerable areas of ecologically managed green space to contribute to green infrastructure, albeit the precise design of the green space in particular (including habitat creation / enhancement measures) would need to be confirmed during the detailed design/reserved matters stage where relevant.

#### *Effects on Ecological Designations*

- 5.10.45 The statutory ecological designations identified by the desk study are well removed from the Application Site, with the closest statutory designation being Hearsall Common Woodland Local Nature Reserve (LNR), located approximately 4.0 km south of the Application Site.
- 5.10.46 At this distance, any adverse effects resulting from the completed Proposed Development are highly unlikely.
- 5.10.47 Non-statutory ecological designations identified which require further consideration include in particular Sandpits Lane Meadows LWS, along with the 'ecosites', Cottage Farm; pond P1 and Hall Brook.
- 5.10.48 **Sandpits Lane Meadow LWS.** Much of the internal areas of the LWS will be lost to provide new residential development along with new water meadow habitats in the east as part of the green infrastructure provision. The majority of the LWS boundary hedgerows will be retained, albeit some loss of sections of H35 and H37 appear to be required in order to provide access from Sandpits Lane. Loss of individual habitats within the LWS area is considered below within the habitats section, albeit on the basis of the survey work (including that reported within the LWS evaluation form) it is clear that the vast majority of the grassland habitats present are currently of low diversity and ecological value with no current favourable management in place. Given the LWS designation, loss of habitats within Sandpits Lane Meadows LWS is considered to be relevant at the County Level, albeit given the low diversity and ecological value of the habitats present, effects are considered to be of minor significance, adverse and permanent.
- 5.10.49 **Cottage Farm Ecosite.** The ecosite is contained entirely within the east of the Application Site and accordingly much of the habitats will be lost under the proposals. The ecosite includes Sandpits Lane Meadow LWS and accordingly, these areas are considered above. In regard to the remaining habitats within the ecosite, these are noted to be dominated by species-poor grassland of low ecological value, the majority of which will be lost to the proposals to provide new residential areas, transport corridors, as well as a primary school and local centre. Loss of habitats within the ecosite is largely limited to habitats of low to negligible ecological value. Re

5.10.50 Accordingly, prior to mitigation (and enhancements) effects on the Cottage Farm designations are at the district level, of minor significance, adverse and permanent.

5.10.51 **Pond P1 Ecosite.** The single pond (P1) and associated habitats within the identified ecosite boundary will be fully retained within the green infrastructure provision under the proposals as shown at the indicative masterplan and parameters plans. As such, there is unlikely to be any significant effect in terms of permanent land-take on this designation, whilst the inclusion of the pond within the green infrastructure provision is such that suitable long-term management would be anticipated to be incorporated under the proposals. Nonetheless, in the absence of mitigation and safeguards the pond could be indirectly affected by permanent hydrological changes (e.g. affects on the water table, increased siltation and contamination of surface run-off, as well as potentially disturbance from recreational pressures. Accordingly, prior to mitigation, effects on Pond P1 ecosite are considered to be at the local level, or minor to negligible significance, adverse and permanent.

5.10.52 **Hall Brook Ecosite.** This offsite designation will be fully retained under the proposals and buffered from permanent development by considerable areas of open space as part of the SUDs and green infrastructure provision, which will effectively widen and enhance the width of the habitat corridor afforded. Accordingly, prior to mitigation, effects of the completed development on Hall Brook Ecosite are at the local level, of minor to moderate significance, beneficial and permanent.

#### *Effects on Habitats and Ecological Features*

5.10.53 Large parts of the Application Site will be subject to land take for the Proposed Development. However, the layout of the Proposed Development has sought to retain habitats of elevated value, with all of the ponds, the watercourse corridor and the majority of hedgerows retained within the proposed indicative masterplan and parameters plans. Accordingly, losses are largely focussed on habitats of negligible or low value, namely arable (c. 20.8Ha) and species-poor grassland (c. 20.5Ha), whilst considerable corridors of new buffer habitats located adjacent to the entire length of the watercourse corridor along the site boundary. As such, the value associated with better quality habitats (ponds and hedgerows in particular) will be maintained within areas of open space, forming a network of wildlife habitat through and around the built development and protecting the areas of highest ecological value within the Application Site, in addition to dedicated areas for habitat enhancement and creation. These areas will contain new planting and habitat creation, including in particular new small-scale native tree and shrub planting, considerable new semi-improved grassland, including flood drainage areas as well as other open space areas.

5.10.54 Given the species-poor nature of the arable and grassland habitats, and the relatively limited opportunities these areas support for faunal species, the loss of these areas is considered to be of little to no ecological significance. A single species of interest (Great Burnet) was recorded within the southernmost field (Sandpits Lane Meadow LWS) in the form of a very small number of remnant individuals focussed on the south west of the field, which provide some minor interest, albeit the extremely low density (4-5 individuals total). As set out above, there will be some minor losses of habitats of ecological value in the form of loss of sections of hedgerows, predominantly to facilitate the construction of access and transport corridors through the site. However, given the small extent of habitat loss, this effect is considered to be of relatively low significance. Nevertheless, retained and newly created habitats are likely to be subject to anthropogenic effects resulting from the Proposed Development, potentially including informal garden extensions, dumping of garden waste and damage to vegetation from recreational activities such as dog walking or vandalism. In addition, consideration in regard to the biodiversity offsetting metric utilised by Warwickshire County Council (Appendix 5.2) shows an overall negative 'score' in respect of the proposals.

5.10.55 Without mitigation, habitats (in particular retained ponds and watercourse) may also be affected by changes to the hydrological regime as a result of large areas of impermeable

surfaces, increasing run-off and sediment input, and the potential risk of pollution from oil residues and sediments from vehicles, waste water from occupation of buildings within the Application Site, and potential use of household and garden chemicals.

5.10.56 On this basis, overall effects on habitats prior to mitigation are considered to be at the local level of minor to moderate significance, adverse, and permanent.

### *Effects on Fauna*

#### Bats - Roosting

5.10.57 A number of trees with low-moderate bat roosting potential have been identified, although these are to be retained under the proposals, based on the indicative masterplan and parameters plans. Retained trees with bat potential could be affected by disturbance during the operational phase (notably lighting), which would result in an adverse effect on this protected species group, in the event bats are present within the trees. On this basis, completed development effects on roosting bats prior to mitigation are considered to be at the local level, of minor significance, adverse and permanent.

#### Bats - Foraging/commuting

5.10.58 Habitats likely to be of highest value for foraging and commuting bats, namely the hedgerows, ponds and offsite watercourse are largely retained under the proposals, save for minor losses of hedgerow sections predominantly to facilitate access. As such there should be minimal loss of foraging opportunities and habitat connectivity for this species group.

5.10.59 Bat species may be affected by disturbance associated with the Proposed Development, notably as a result of light spill into areas used by foraging and commuting bats.

5.10.60 With regards to lighting in particular, effects vary between species, with some bat species such as Common Pipistrelle able to cope with relatively high light levels (of up to 14 lux) (Fure, 2006) and known to utilise lights as a foraging focus for insects attracted to lights (BCT and ILE, 2009). However, many bat species (particularly late emerging species such as Brown Long-eared and Myotis bats) will avoid lit areas, and attraction of insects to lit areas can result in adjacent habitats supporting reduced numbers of insects, further impacting on the ability bats being able to feed. Whilst other species were recorded occasionally, the vast majority of bat activity within the Application Site was recorded to comprise a single species, Common Pipistrelle, which is common and widespread and identified to be less susceptible to disturbance from lighting levels.

5.10.61 Overall, prior to mitigation, effects on foraging and commuting bats are considered to be at the local level, of minor to significance, adverse, and permanent.

#### Badger

5.10.62 Potential operational effects on Badger relate to permanent land-take and anthropogenic effects. In relation to permanent land-take, the habitats (in particular the hedgerow habitats, but also including the species-poor grassland recorded within the Application Site) provides potential foraging opportunities for Badger while arable habitats likely provide some limited foraging opportunities on a seasonal basis. Much of the species-poor grassland and arable land within the Application Site will be lost to the Proposed Development, such that this will likely result in a minor loss of potential foraging opportunities for this species prior to mitigation.

5.10.63 Almost no sign of badger foraging was recorded within the survey area, and the application site appears to support at best only occasional foraging by badgers. Areas of existing arable

and grassland habitats likely frequented by Badgers for foraging will be lost under the Proposed Development and lighting and disturbance associated with residential areas may discourage use of habitats within and adjacent to built development. However, Badgers are highly adaptable in their foraging behaviour and are considered unlikely to be significantly adversely affected by the loss of these habitats, whilst in any event large areas of alternative foraging habitat, including woodlands of elevated value to Badgers, are present within the A

5.10.64 Accordingly, prior to mitigation, effects on Badger from the completed development are considered to be at the local level, of minor significance, adverse, and permanent.

#### Other Mammals

5.10.65 The Application Site is considered likely to support a number of common mammal species, whilst the habitats also have the potential to support Brown Hare and Hedgehog (listed as species of principal importance in England under Section 41 of the Natural Environment and Rural Communities NERC Act 2006) which have been recorded within the local area, albeit these species remain relatively common and widespread in England. For the majority of mammal species, the principal habitats likely to be of value, including in particular hedgerow corridors, will be largely retained by the Proposed Development (as detailed in relation to habitats above, albeit a large proportion of the other habitats, particularly arable and species poor grassland, will be lost. However, the habitats within the Site are common in the local context such that the Application Site is not considered to represent a significant resource for such species. Furthermore, it is likely that Hedgehog, in addition to other common mammal species, will make use of the considerable green infrastructure provision and gardens within the areas of built development as these establish.

5.10.66 Overall, effects on other mammal species are considered to be at the local level, of low to negligible to minor significance, adverse and permanent.

#### Amphibians

5.10.67 Great Crested Newts have been recorded present within ponds within the Application Site and the wider study area and as such the potential for the Proposed Development to affect this European Protected Species needs to be fully considered. The following assessment, based on the Great Crested Newt Mitigation Guidelines evaluates the likely impact of the completed development on Great Crested Newt habitats and any damage to population viability.

#### *Breeding Ponds*

5.10.68 The first section of the assessment process examines whether the proposals will lead to any effects on breeding ponds. In particular it sets out that it is pertinent to review whether breeding ponds will be destroyed (wholly or partially), isolated, modified, disturbed or subject to post-development interference.

5.10.69 Two of the ponds within the Application Site (P2 and P3) were identified to support Great Crested Newt over the course of the surveys (see Appendix 5.1), whilst a number of further offsite ponds are present that also support populations of this species. All of these ponds are fully retained under the proposals and as such the proposed development will not result in any loss or direct damage to these ponds, hence there will be no loss of breeding ponds within the Application Site as a result of the Proposed Development. Indeed consideration in regard to ponds P2 and P3 in particular (see Appendix 5.1) identifies these to be currently in decline and without future management (including in particular removal of Willow scrub from P2) would likely be lost through natural successional processes such that the incorporation of these features into the proposed green infrastructure and associated management could result in beneficial effects on the ponds in terms of long term potential for use by breeding Great Crested Newt.

#### *Terrestrial habitats*

5.10.70 The majority of hedgerow habitats, providing cover and movement corridors will be retained under the proposals, although low quality habitats such as arable land and species poor grassland will be lost to the proposals. The majority of the affected habitats within the Application Site offer low quality for this species therefore reducing the likelihood of significant use by foraging Great Crested Newt. Nevertheless, even low quality habitats are likely to be of some value to Great Crested Newt, which is known to be present within the Application Site and surrounding areas. On this basis, the removal of arable and grassland habitats, particularly within 250m of the Great Crested Newt breeding ponds will result in the loss of terrestrial habitat potentially used by low numbers of foraging Great Crested Newt and indeed other amphibians. In addition, the construction of roads and other infrastructure may form potential barriers to the dispersal of foraging amphibians.

#### *Conclusion*

5.10.71 In conclusion, including when assessed against criteria set out in English Nature's (now Natural England) Great Crested Newt Mitigation Guidelines, under the proposals a high scale of impact would potentially arise on the population of Great Crested Newts in the absence of mitigation.

5.10.72 In addition, ponds within the Application Site could be indirectly affected by permanent hydrological changes (e.g. affects on the water table, increased siltation and contamination of surface run-off), which could in turn result in an adverse effect on Great Crested Newt.

5.10.73 Accordingly, prior to mitigation, operational impacts of the Proposed Development on Great Crested Newt are at the local level, of high significance, adverse and permanent.

5.10.74 A very low number of other amphibian species were recorded within the Application Site and as such, effects of the completed development on other species within this group are considered to be minimal and of negligible significance at the local level.

#### Reptiles

5.10.75 The majority of the Application Site (dominated by arable and species-poor grassland) is unlikely provide suitable reptile habitats, albeit occasional opportunities are present (including in particular the existing ponds and associated vegetation, with very low numbers of individual Grass Snake (this species typically having large territorial range and accordingly individuals likely utilising the application site in combination with offsite habitats rather than representing any population contained within the Application Site itself. Nonetheless, individuals of this species group may be present at the Application Site in very low numbers, particularly toward grassland margins, hedgerow bases, ponds and associated vegetation.

5.10.76 Potential effects on reptiles are limited to permanent land-take and anthropogenic effects (such as cat predation), albeit given very low numbers of reptiles (if any) are present, prior to mitigation effects are at the local level, of minor significance, adverse and permanent.

#### Birds

5.10.77 Habitats likely to be of elevated value for birds including in particular, the hedgerows and associated trees are largely retained under the proposals where possible. Species poor grassland and arable are likely to provide generally limited foraging opportunities for a typical assemblage of common and widespread farmland bird species (with only a limited community of breeding birds recorded during the specific survey work undertaken). Nonetheless, losses of these habitats will result in adverse effects resulting from direct land-take for such species.

5.10.78 Conversely, the Proposed Development may bring some benefits for bird species due to provision of new green infrastructure areas in particular (along with residential areas providing buildings and gardens) such that new nesting opportunities for bird species

including urban species in decline such as House Sparrow *Passer domesticus*, Starling *Sturnus vulgaris* and House Martin *Delichon urbicum*. However, potential adverse effects are also likely as a result of cat predation, disturbance associated with recreational use and residential areas. Some bird species may also be affected by light spill from roads and areas of built development.

5.10.79 Overall, prior to mitigation measures, effects on birds prior to mitigation are considered to be at the local level, of minor significance, adverse and permanent.

#### Invertebrates

5.10.80 The majority of the Application Site is considered to be of low value at the local level for invertebrates. Habitats likely to be of highest value to invertebrates such as hedgerows, watercourse and ponds are largely retained under the proposed parameters plans, and the loss of primarily intensive arable and species-poor grassland habitat is unlikely to result in any significant adverse effects on important invertebrate assemblages, particularly given the considerable new habitats as part of the proposed Green Infrastructure provision.

5.10.81 Accordingly, prior to mitigation, effects are at the local level, of negligible to minor significance, beneficial and permanent.

### **5.11 Mitigation, Enhancement and Residual Effects**

#### *Ecological Designations*

5.11.1 No significant effects on any statutory ecological designations from the construction phase are anticipated and therefore no mitigation is required in respect of such designations.

5.11.2 Potential effects were identified on the non-statutory designations Sandpits Lane Meadow LWS, along with Cottage Farm Ecosite, Pond P1 Ecosite and Hall Brook Ecosite as a result of land take, dust deposition, hydrological effects and potential damage to retained habitats through compaction or encroachment of the construction zone as well as recreational pressure. Standard safeguards and mitigation measures will be put in place during construction activities, including protective fencing installed around hedgerows and other retained habitats within construction areas, damping down of potential sources of dust, and management of *drainage (e.g. through CEMP and/or detailed design)*.

5.11.3 Consideration of habitat loss is considered directly in relation to the habitats present, which provide any value to the designations themselves. In particular, loss of habitats within the LWS are most relevant, albeit as described elsewhere (including within the LWS evaluation form) the habitats present are predominantly of low species diversity. Further, overall new green infrastructure provision will include new native planting and habitats of greater individual value than the arable and species-poor grassland types present, along with incorporation (and thereby improved management) of the existing retained habitats (particularly hedgerows and ponds).

5.11.4 Further, substantial areas of new Green Infrastructure have been incorporated into the proposals, totalling 12.1 Ha (28.7% of the total area), which will serve to mitigate potential recreational pressure on offsite habitats and designations, whilst also providing new habitats of value in their own right.

5.11.5 Following mitigation, construction effects on the LWS are at the county level, adverse, of low to negligible ecological significance and permanent. Effects in regard to other non-statutory ecological designations (ecosites) following mitigation measures are at the local level, neutral, of negligible to low significance and permanent.

#### *Habitats and Ecological Features*

5.11.6 A number of potential effects on retained habitats within the Application Site and its immediate surroundings in the absence of mitigation during the construction phase have been identified, including dust deposition, damage to vegetation, and degradation of

ponds. In order to reduce such effects, standard mitigation measures will be put in place during the detailed design and construction phases, which could be detailed within a CEMP or otherwise ensured through suitable planning conditions. Such measures will include:

- Protective fencing will be erected along retained hedgerows and other habitats, including ponds (albeit refer to faunal mitigation in particular in regard to Great Crested Newt), and the retained watercourse corridor and associated habitats;
- Materials and vehicles will be stored away from the watercourse corridor, ponds and boundary features such as hedgerows;
- Potential sources of dust will be dampened down during construction;
- Engineering safeguards will be implemented as part of construction works to control surface water run-off and avoid contamination of watercourses, and could include measures such as the use of a temporary silt trap in order to form an intercept for silt and other potential pollutants; and
- Adherence to Environment Agency Pollution Prevention Guidelines,

5.11.7 The loss of habitats including species poor grassland (and minor losses to hedgerows) will be mitigated by the creation of considerable areas of Green Infrastructure (comprising 12.1 ha), including in particular Public Open Space, a considerable proportion of which will comprise natural and semi-natural greenspace including wildflower grassland (which in particular should include provision and/or relocation of individual Great Burnet), new tree and shrub planting, including species guided by local conditions and background (e.g. guidelines in respect of Arden landscape character area). Areas of species-rich grassland will be created, with the green infrastructure focussed on a number of considerable green corridors leading through the application site and associated with boundary features including the boundary watercourse. These areas will be subject to varied, low intensity management, including mowing no more than 2-3 times a year outside of the flowering/seeding period.

5.11.8 In order to mitigate potential hydrological effects on habitats and ecological features (and designations) pollution control measures including appropriate petrol interceptor installed at the downstream end of the drainage networks will be used to minimise the risk of polluted surface water runoff entering watercourses or wetland features. Attenuation areas are also proposed to control surface water runoff rates to the required greenfield rate and to attenuate pollutants prior to discharge into the wider surface water network. These areas will provide additional valuable ecological habitats as part of the green infrastructure provision.

5.11.9 Anthropogenic effects such as informal garden extensions and dumping of garden waste will be reduced through the careful design of the layout of built development areas, with use of hard edges (such as footpaths or roads) to define the boundaries of green space areas wherever possible, or facing out of houses onto green space areas so that they are overlooked and promoted as a focal point. Green space areas will also be subject to long-term management, allowing for remedial action or alleviation of any problems.

5.11.10 Under specific consideration in regard to the WCC biodiversity offsetting metric, the proposals appear to result in a calculated loss of 'biodiversity value' under the metric, (amounting to less than approximately one third of the calculated overall site 'value') albeit given the nature of the habitats to be lost (predominantly arable and species-poor grassland) losses would be extremely unlikely to be of ecological significance in their own right in the context of the local area, particularly given the considerable, linked network of green infrastructure including new native habitats and improved management of habitats throughout the site.

5.11.11 Following mitigation, compensation and habitat enhancement measures, effects on the quality of individual habitats and ecological features are calculated to be potentially positive, at the local level, and likely of negligible significance and permanent. In terms of value of individual habitats, particularly in the long term these would likely be anticipated to be beneficial, since greater areas of higher quality/value habitats will be provided and

managed when compared against the existing low quality/value habitats lost (predominantly arable and species-poor grassland) with existing management unfavourable for wildlife. Nonetheless, when calculated in accordance with the biodiversity offsetting metric adopted by WCC a negative 'score' is achieved such that under this measure effects remain apparently adverse, albeit given the above consideration and low existing value any such adverse effects are unlikely to be ecologically significant.

### Fauna

#### Bats

5.11.12 On the basis of the current indicative masterplan and parameters plans, no direct effects on potential bat roosting features are anticipated. Should it prove necessary at the detailed design or reserved matter stage, or for arboricultural or health and safety reasons for works to affect trees with identified potential to support roosting bats, such works will only be undertaken following inspection/survey by appropriately qualified and experienced ecologists. Should any roosts be identified at this time, a European Protected Species licence will likely need to be sought from Natural England.

5.11.13 To mitigate identified potential effects on bats during the construction phase, temporary lighting will be minimised, wherever possible. Where required for health and safety, security or other reasons, it will be positioned so as to minimise light spill on to features identified as being of value to bats, such as hedgerows and trees, as well as the watercourse corridor. Disturbance from noise would be minimised by the adoption of good working practice. Following mitigation, construction effects on bats are negligible.

5.11.14 Temporary lighting of the construction site may be required for a number of reasons, including for health and safety and site security considerations. To reduce the potential effects of any lighting that is required, lighting will be positioned and directed so as to minimise light spill on to features such as hedgerows, ponds and watercourse which are of potential value to bats. The amount of lighting used overall will be restricted, whilst where possible, no works will be undertaken during periods of darkness when bats might be expected to be active.

5.11.15 As discussed in the Likely Significant Effects section above, effects of lighting on bats is variable, with *Pipistrellus* sp. likely being relatively tolerant of higher light levels, with indeed individuals potentially benefiting from the foraging opportunities provided by attraction of insects to lights. Nevertheless, a detailed lighting design for the Proposed Development will be prepared at the detailed design stage incorporating measures to reduce the effects of lighting on bats, particularly species such as *Myotis* species that are more sensitive to an increase in light levels and have been recorded (albeit in extremely low numbers) across the site. Measures and considerations taken into account during lighting design should include:

- Avoidance of lighting where possible within green infrastructure areas and areas adjacent to vegetated boundary corridors, namely hedgerows and watercourse corridor, along with similar offsite habitats;
- Where lighting is necessary adjacent to these areas, this will ideally comprise low-level bollard lighting where possible to minimise light spill into the adjacent green space areas;
- Use of additional design measures where required, such as louvres, shields or hoods, to control light spill;
- Careful selection of luminaries and their location in relation to sensitive habitats to minimise light spill; and
- Use of low-pressure sodium lights where appropriate as these have a low attraction to insects and are therefore less likely to disrupt bat activity.

5.11.16 In addition, the location and orientation of buildings, the proposed landscape treatment and the retention and enhancement of the existing vegetation within the Application Site will further act as secondary mitigation to screen and soften the effects of installed artificial

light sources. Where necessary, further shrub and tree planting will be provided to create screening against lighting from roads and residential areas. Overall, such measures should maintain suitable areas of habitat for light-sensitive species such as *Myotis* sp., and provide an overall increase in potential bat roosting features through incorporation of new roosting boxes and opportunities within buildings where possible.

5.11.17 New roosting opportunities will be provided and enable an overall net increase in available roosting habitat at the Application Site. This will include the provision of bat boxes, tiles and roosting units on new buildings and erection of bat boxes on trees throughout the Application Site. Opportunities will also be explored for the creation of roof voids, which are accessible to bats (particularly within non-residential buildings such as garages).

5.11.18 The habitat creation and enhancement measures outlined above should provide substantial benefits to foraging and commuting bats. Notably, provision of natural and semi-natural greenspace, including species-rich grassland and new native planting should enhance the value of this area as foraging habitat.

5.11.19 In addition, hop-over features including more mature planting, at the margins of roads, particularly where hedgerows are bisected, will aim to enhance connectivity of the retained network of hedgerows within the site insofar as is possible.

5.11.20 Following mitigation, effects on roosting, foraging and commuting bats anticipated under the proposals on the basis of the indicative masterplan and parameters plans would be beneficial at the local level, minor and permanent.

#### Badger

5.11.21 No Badger setts are present within the proposed development footprint and no works likely to result in disturbance are anticipated within 30m of the single badger sett identified within the Application Site, such that no setts would appear to be disturbed during construction works. However, since there is a possibility that Badgers may enter the construction areas, a range of general construction site safeguards for Badger will be followed during the construction process including:

- Badgers are a highly mobile species which readily open new setts and vary use of foraging areas, such that, in the intervening period prior to construction works, the potential exists for the use of the Application Site to change. As such, update Badger survey work will be undertaken prior to the commencement of construction works, in order to assess levels of use of the affected areas at that time and to determine any new Badger activity. Should any newly created setts be recorded or additional Badger activity be present within the construction areas, licensing may be required in order to close or disturb any relevant new setts to facilitate works (dependent on the situation recorded), with appropriate mitigation put in place as required. Should a new Badger sett be created outside of the construction zone (i.e. over 20m from any active construction works), the sett will be retained and safeguarded during construction and a method statement drawn up for the works as appropriate.
- All contractors will be briefed as to the possible presence of Badgers within the Application Site, with particular reference to the implications of legislation and licensing;
- Any trenches or deep pits within the Application Site that are to be left open overnight will be provided with a means of escape should a Badger (or other mammal) enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;
- Any 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 Application 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 (or nightly patrols if 24 hour security is present at the site) with consideration given to temporarily fencing any such mounds to exclude Badgers;
- The storage of any chemicals at the Application Site will be contained in such a way that they cannot be accessed or knocked over by any roaming Badgers / other mammals;
- Fires will only be lit in secure compounds away from areas of Badger activity and not allowed to remain lit during the night;
- Food and litter will not be left within the working area overnight.

5.11.22 Following mitigation, construction effects on Badger are negligible.

#### Other Mammals

5.11.23 The general site safeguard measures outlined above in respect of Badger and measures to reduce lighting in respect of bats will also reduce disturbance to other mammals using the Application Site. Further general protection measures and habitat provision/enhancements would be confirmed as part of the detailed design/reserved matters stage (including set out within any CEMP or similar document prepared), which will act to ensure that other mammal species are fully safeguarded.

5.11.24 Following mitigation, construction effects on other mammals would be of negligible significance.

#### Amphibians

5.11.25 Standard measures employed during the construction phase including provision of suitable buffer zones and protective fencing, damping down of dust sources and management of drainage will avoid adverse effects on amphibian breeding habitats as a result of suspended silt or contaminated surface run-off. Further, new management of retained ponds, along with provision of additional waterbodies as part of the proposals will result in enhanced breeding opportunities for this species at the Application Site in the long term. The precise details of such provision would need to be included within detailed design and reserved matters layouts and accordingly, cannot be available at this stage, albeit could be suitably secured through relevant planning requirements such as suitably worded Planning Condition or other mechanism, with further detailed provided within any CEMP or similar document prepared.

5.11.26 As discussed above, site clearance and construction works within the vicinity (closer than 250 to 500m of breeding ponds in line with Natural England Guidance) may result in injury or disturbance to any newts present within terrestrial habitat. Such activities may also lead to an offence under the legislation protecting Great Crested Newts. As such, a detailed mitigation scheme will be implemented in advance of the site clearance and construction works to avoid the risk of injury to any newts present, and ensure compliance with the relevant legislation.

5.11.27 As construction works within the vicinity of known breeding ponds are considered likely to potentially result in an offence in relation to Great Crested Newts, these activities would need to be carried out under a European Protected Species (EPS) development licence, accompanied by a method statement providing full details of the mitigation strategy, together with details of habitat creation and long-term management (discussed in relation to the Completed Development below). In relation to this, a consideration of the three licensing tests under Article 16 of the Habitats Directive is given in Appendix 5.3.

- 5.11.28 Within the nearby vicinity of the ponds (up to 250m away), mitigation measures will focus on translocation to remove newts from the areas affected by works. This will include the erection of amphibian exclusion fencing around the edge of areas subject to construction works and installation of pitfall traps and refuges, together with additional lengths of drift fencing as required. A trapping exercise will then be undertaken to remove newts from the affected areas. Any newts captured will be relocated to areas of retained habitat, most likely within the surroundings of retained ponds, albeit such detail would need to be determined at the detailed design stage, for instance once any phasing or development schedule is worked up. Based on the low population of newts recorded, it is considered that at least 30 days of trapping during suitable weather conditions between March and October would be required, until results indicate that suitable effort has been expended. The exclusion fencing would then be maintained for the duration of the construction works, preventing newts re-entering areas affected by construction activities, whilst restricting them to retained suitable habitats.
- 5.11.29 Construction effects of high significance at the national level has been identified in relation to Great Crested Newt prior to mitigation and having given due regard to the relevant legislative protection afforded to Great Crested Newts, and having reviewed appropriate statutory guidance material, it is considered that a licensed approach provides the highest legislative safeguard for the proposed activities at the site.
- 5.11.30 As part of any licence, in order to maintain the favourable conservation status of Great Crested Newt within the local area, a suite of mitigation measures will be put in place under the proposals to ensure that Newts are safeguarded during the construction period. In accordance with best practice guidelines, a mitigation strategy will be put in place to take reasonable steps to minimise any potential impact on Great Crested Newt.
- 5.11.31 In terms of long term effects, the proposed green infrastructure provision in particular will incorporate wetland habitats within SUDs design, which will include new potential breeding opportunities for Great Crested Newt, whilst new terrestrial habitats, in particular species-rich grassland habitats will provide new terrestrial opportunities of increased quality for this species. Further, the layout of green infrastructure provision, incorporating broad corridors through the application site will provide continued connectivity throughout the application site in particular linking new and existing ponds, including with offsite areas. In addition, new purpose-built hibernacula will be provided within suitable locations to be determined at the detailed design stage. The nature of proposals is such that transport infrastructure would be required and accordingly, a number of roads will cross green infrastructure areas and potential habitats. In order to ensure long-term connectivity and prevent these forming significant barriers to dispersal, where roads cross substantial corridors of suitable habitat, features such as underpasses, newt tunnels or other suitable provisions will be incorporated to ensure continued connectivity.
- 5.11.32 Consideration will be given, at the detailed stage to the design of drainage measures, to minimise any risk of individual Great Crested Newts becoming trapped in gully pots along roads near to ponds or major connective routes. Suitable features could include soakaways, porous drainage surfaces, modified gully pots with newt passes or similar solutions.
- 5.11.33 In the long term, management of newt habitats will be secured as part of the management of green infrastructure across the application site, which would be anticipated to be detailed within a habitat management plan or similar document to be worked up and agreed at the appropriate detailed stage and could suitably be ensured through a planning condition or legal agreement.
- 5.11.34 Long-term management of Great Crested Newt habitats will be secured as part of the ongoing management of green infrastructure across the application site, providing benefits in contrast to the current situation, whereby no existing requirement or mechanism for management is in place for this species, whilst future monitoring of the Great Crested Newt population following completion of development works would be anticipated to be required

as part of any licensing requirements, providing ongoing feedback and potential to alter mitigation provision to reflect the recorded position.

5.11.35 Overall, following mitigation, likely effects in regard to Great Crested Newt are beneficial, at the local level, of minor significance and permanent.

#### Reptiles

5.11.36 No reptiles were recorded during the most recent specific survey work undertaken in 2013 such that any associated risk of killing or injuring a reptile is clearly very low. Nonetheless, individual Grass Snakes were recorded during the previous survey work undertaken at the site in 2010, and therefore, in order to ensure this species group is fully safeguarded in the event they are present, a precautionary to any vegetation clearance will be undertaken, with management and staged clearance of any tall vegetation to be affected undertaken to discourage individual Grass Snake should they be present, whilst should any individuals be recorded during the Great Crested Newt mitigation, including translocation, these will be similarly relocated into safeguarded areas. In the long term, new open space areas, in particular wildflower grassland and associated SUDs features, including specific provisions in respect of amphibian species (Great Crested Newt) will provide continued (likely enhanced) opportunities for common reptiles, including Grass Snake at the Application Site. Following mitigation, likely effects on reptiles are therefore beneficial at the local level, of negligible to minor significance and permanent.

#### Birds

5.11.37 Potential effects during the construction phase are considered to relate primarily to the direct loss of active nests during site preparation works and to noise and visual disturbance to nesting birds in close proximity to construction areas.

5.11.38 The potential loss of active nests during construction will be mitigated by either (wherever possible) undertaking clearance of potential bird nesting habitat, including areas of arable land, outside the bird nesting season (March to August inclusive) or, if necessary, preceding any clearance by an inspection by a professional Ecologist. Any nests identified will be retained within sufficient habitat to prevent disturbance and protected until they cease to be active. Disturbance from noise will be minimised by the adoption of good working practice, such as restricted hours of working and noise-reducing construction measures.

5.11.39 The habitat creation and enhancement measures outlined above will provide habitats for a range of bird species. In addition, new nesting opportunities will be created through the provision of nest boxes across the Application Site. This will include features such as Sparrow terraces and Swift cups/bricks on new buildings and nest boxes erected on trees, the precise nature and locations of which will be determined at the detailed design stage once proposed building layouts and details are worked up.

5.11.40 Birds typically associated with urban areas such as House Martin and the UK BAP species House Sparrow and Starling are likely to experience significant benefits due to the Proposed Development. Features such as nest boxes, terraces and nesting bricks on new buildings will provide suitable nesting habitat for such species, and residential gardens, together with other habitats in areas of green space, will provide large areas of foraging habitat.

5.11.41 Further, new planting within green infrastructure provision in particular, but also including new gardens and other vegetated areas, is likely to benefit a range of bird species, including UK BAP species such as Bullfinch, Song Thrush and Dunnock which were recorded breeding within the application site. Erection of nest boxes on existing trees within areas of green space will also provide nesting opportunities for a range of hole nesting birds.

5.11.42 Following mitigation, likely effects on birds are beneficial, at the local level, of negligible to minor significance and permanent.

#### Invertebrates

- 5.11.43 Good working practices to minimise dust production and manage drainage will reduce any effects which may occur on invertebrates, whilst the above protective measures set out in regard to ecologically valuable habitats (ponds, hedgerows and watercourses) will also likely serve to safeguard and benefit existing invertebrate populations present.
- 5.11.44 The habitat creation and enhancement measures outlined above will provide new opportunities for a range of invertebrate species, particularly through provision of species-rich grassland and new native tree and shrub planting within green infrastructure provision, which will form a valuable habitat for a range of invertebrate species.
- 5.11.45 Retention of dead wood generated from construction works, but also in the long term as part of habitat management works, either as standing trees or in habitat piles will also provide valuable habitat for invertebrates.
- 5.11.46 Following mitigation, likely effects on invertebrates are beneficial, at the local level, of minor to negligible significance and permanent.

## **5.12 Cumulative Effects**

- 5.12.1 The potential for cumulative adverse effects as a result of the Proposed Development in combination with other nearby committed developments also need to be considered. There are no known current proposals within the vicinity of the application site which would appear likely to combine with the current proposals to result in any additional significant cumulative effects on ecological receptors.
- 5.12.2 On the basis of the above consideration and parameters plans, physical disturbance events during construction works, along with operational considerations such as drainage will be contained within the application site boundary, whilst the proposals appear unlikely to result in any significant direct effects (positive or negative) on any offsite ecological habitats or features. As such, there does not appear to be any potential for the proposals to combine with the offsite schemes to result in any cumulative effects in regard to such features over and above the individual effects identified for the individual schemes. As set out above, the proposals will incorporate additional open space and considerable green infrastructure, which would likely support a greater range and variety of species than the current arable and species poor grassland that dominates the site, whilst the existing habitats of greater value (watercourse, hedgerows and ponds) will be largely retained. The provision of new habitats under any masterplan (details of which would be confirmed at the detailed design stage) would (as set out above) likely result in positive effects, which would similarly have potential to combine with any new habitats provided by offsite schemes for the benefit of wildlife within the local area.
- 5.12.3 On the basis of the current information, as set out above following the provision of suitable mitigation and enhancement measures detailed, the proposals are unlikely to result in any significant adverse effects on any protected, rare or notable faunal species in the long term. Further, the proposals do not rely on the displacement of faunal species into offsite areas (albeit faunal species within the site, in particular including Great Crested Newt, for which considerable mitigation measures are required, form part of larger metapopulations within the wider area around the site), indeed in line with the above consideration, the proposed development would appear to result in overall positive likely significant effects in respect of a number of faunal species. Accordingly, there does not appear to be significant potential for faunal effects to combine with any other proposals to result in significant cumulative adverse effects on faunal species.
- 5.12.4 Overall, given the nature of the proposals and the anticipated overall likely significant effects (as set out above) following the implementation of the mitigation and enhancement measures set out, the proposals are unlikely to combine with offsite proposals to result in any significant adverse ecological effect. The proposals will result in a number of positive likely

significant effects relating to individual ecological receptors, including habitat provision, which would likely combine with the adjacent offsite schemes, albeit any benefit would likely largely relate to the individual effects of the measures proposed rather than any wider cumulative effects. Accordingly, cumulative effects are anticipated to be of negligible significance.

**Residual Effects**

5.12.5 A summary of residual effects outlined above on ecological designations, habitats and ecological features, and faunal species is given at Table 5.6 below:

**Table 5.6:** Summary of residual effects under construction phase

Receptor	Likely Residual Effect			
	Scale	Significance	Adverse/beneficial	Temporary/permanent
Statutory designations	No significant effects			
Non-Statutory designations	County (LWS)	Minor	Adverse	Permanent
Habitats	Local	Negligible - Minor	Adverse/Beneficial	Permanent
Bats	Local	Minor	Beneficial	Permanent
Badger	Local	Negligible	-	-
Water Vole	Local	Negligible	-	-
Otter	Local	Negligible	-	-
Other mammals	Local	Negligible	-	-
Amphibians	Local	Minor	Beneficial	Permanent
Reptiles	Local	Negligible to Minor	Beneficial	Permanent
Birds	Local	Minor	Beneficial	Permanent
Invertebrates	Local	Minor	Beneficial	Permanent

5.12.6 Overall, it is considered that the combined benefits of the Proposed Development on habitats and ecological features, bats, amphibians, reptiles and invertebrates will result in a negligible, or potentially beneficial effect at the local level of minor to negligible significance.

**5.13 Summary**

5.13.1 Ecological surveys of the Application Site have been undertaken, including a desk study, an extended Phase 1 Habitat survey and Phase 2 faunal surveys and assessment/evaluation.

*Baseline Conditions*

5.13.2 A number of statutory ecological designations were identified by the desk study, although these are generally well removed from the Application Site, the closest statutory designation being Hearsall Common LNR, located approximately 4.0km from the Application Site.

5.13.3 A number of non-statutory ecological designations have been identified within and adjacent to the Application Site, including in particular Sandpits Lane Meadow LWS.

5.13.4 The Application Site itself is dominated by arable and species-poor grassland, considered to be of low to negligible ecological value, such that any loss of these habitats would be of negligible significance (albeit such losses contribute considerably to the calculated negative result from consideration against the WCC biodiversity offsetting metric tool). Habitats within and surrounding the Application Site considered to be of elevated value include hedgerows, ponds and watercourse (Hall Brook), which will be largely retained and protected under the proposals within the green infrastructure provision and open space.

- 5.13.5 Surveys of protected species have found that the Application Site supports low levels of use by foraging/commuting bats (largely limited to Common Pipistrelle), low populations of Great Crested Newt and a range of bird species.

*Likely Significant Effects*

- 5.13.6 A range of potential effects have been identified in regard to designations (separately from the direct consideration of habitats and fauna contained therein), habitats and fauna within and surrounding the Application Site.

*Mitigation*

- 5.13.7 Mitigation and enhancement measures are proposed, including provision of natural and semi-natural greenspace, new tree and shrub planting and grassland creation in particular, guided by local information including in particular in order to accord with the existing general character and species associated with the local Arden landscape character area. These measures should provide new areas of valuable wildlife habitat, providing benefits to a wide variety of faunal species. Measures are also proposed to avoid effects relating to anthropogenic effects, lighting and changes to hydrology.
- 5.13.8 The Proposed Development and mitigation scheme have been designed to achieve compliance with relevant legislation and planning policy where appropriate. Measures are proposed to avoid killing or injury of protected species such as Great Crested Newt, reptiles and birds (protected under the Wildlife and Countryside Act 1981, and the Conservation of Habitats and Species Regulations) and opportunities for enhancements to, along with long term management of ecological receptors are proposed, in line with NPPF, the NERC Act 2006 and local policy, whilst consideration in regard to biodiversity offsetting metric calculations are also considered in line with WCC requirements. The Proposed Development also accords with UK and local BAP objectives, specifically in relation to creation of new habitats such as hedgerows and ponds.
- 5.13.9 Following mitigation, it is considered that the Proposed Development would result in benefits in respect of habitats and faunal species, whilst ecological receptors of significant value will be safeguarded and incorporated into new extensive green infrastructure provision.

#### 5.14 Reference List

- Joint Nature Conservation Committee (2010) *"Handbook for Phase 1 habitat survey: A technique for environmental audit."*
- English Nature (2004) *"Bat Mitigation Guidelines"*
- Bat Conservation Trust (2012) *"Bat Surveys – Good Practice Guidelines (2<sup>nd</sup> Ed)"*
- JNCC (2008) *"Herpetofauna Worker's Manual"*
- Froglife (1999) *"Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation."* Froglife Advice Sheet 10. Froglife, Halesworth.
- 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.
- English Nature (2001) *"Great Crested Newt Mitigation Guidelines"*
- IEEM (2006) *"Guidelines for Ecological Impact Assessment in the United Kingdom"*
- Conservation of Habitats and Species Regulations 2010 (as amended)*
- Wildlife and Countryside Act 1989 (as amended)*
- The Protection of Badgers Act 1992*
- The Hedgerows Regulations 1997*
- The Natural Environment and Rural Communities Act 2006*
- Coventry City Council (2001) *"The Coventry Development Plan 2001"*
- Coventry City Council (2012) *"Coventry Core Strategy 2001 – 2028 Submission Draft"*
- Coventry Green Infrastructure Study November 2008
- Coventry Green Belt Ecological Review
- Coventry Habitat Biodiversity Audit
- Coventry Greenspace Review 2008-2018
- Warwickshire Landscape Guidelines: Arden (Warwickshire County Council)
- Natural Character Areas: 97 Arden (Natural England – NE337)
- HMSO (1994) *"Biodiversity: The UK Action Plan"*
- Fure A. (2006) *"Bats and Lighting"*. The London Naturalist, 85.
- BCT & ILE (2008) *"Bats and Lighting in the UK"*
- Department for Communities and Local Government (2012) *"National Planning Policy Framework"*