D F Clark Bionomique Ltd

Extended Phase 1 Habitat Survey

of

Scraptoft North, Leicestershire

on behalf of

Parker of Leicester Developments Limited

Reference:	DFCP 3788 DRAFT
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Executive Summary

1.1 D F Clark Bionomique Ltd were commissioned by Andrew Hiorns on behalf of Parker of Leicester Developments Limited to undertake a Preliminary Ecological Appraisal (PEA) of Scraptoft North, Leicestershire. The site is approximately 74ha and comprises predominantly of an existing golf course and a Local Nature Reserve. The site supports a network of managed hedgerows, mature scattered trees, semi-improved grassland and buildings.

1.2 No specific development proposals have yet been put forward for the site. This report will be used to inform scheme design and will be updated once the design is fixed.

1.3 The main findings of the PEA are as follows:

i. The site includes the Scraptoft Local Nature Reserve (LNR). This designation is typically recognised as being of local importance for nature conservation although the ecological value of the existing LNR was assessed to be primarily low. The LNR supports closely grazed, semi-improved grassland and areas of dense scrub. It is suggested that, if the eastern half of the LNR is to be used for development, the western half could be substantially enhanced to mitigate for the loss of low quality habitat. Options for enhancement of the western half of the LNR are included within the report; and

ii. Recommendations relating to breeding birds, reptiles, invertebrates, bats and great crested newts have been made to minimise any potential for impacts upon these species as a consequence of the proposed works.

1.4 The habitats within the zone of influence are generally unsuitable for otters, white-clawed crayfish and water voles. The site is outside of the known UK distribution for hazel dormouse. No evidence of badger presence was recorded on site or within 30m of site during the survey. No further surveys in respect of these species are recommended.

Key Recommendations

1.5 It is recommended that:

Ecological Protection by Design

i. The site proposals should aim to retain, enhance and protect all hedgerows, and should retain and enhance the existing ponds. Ensuring that habitat corridors are retained along hedgerows and between ponds will help maintain landscape scale connectivity for a range of species;

ii. Where impacts upon hedgerows or ponds are unavoidable, replacement hedgerows - that maintain landscape scale habitat connectivity - should be created, and additional waterbodies should be provided to compensate for the loss of ponds;

iii. Site proposals should incorporate plantings of locally appropriate, native tree, shrub and herb species. Plantings should aim to deliver a diverse range of pollen, nectar, berry and shelter resources throughout the year. This will benefit invertebrates, birds and bats and help to compensate for the loss of onsite vegetation and tree cover;

iv. Any external lighting features on the new development should be minimal and bat sensitive i.e. direct light towards the ground using shields, hoods or cowls, and be motion sensitive to reduce light pollution (BCT/ILE 2009). The boundary hedgerows should not be artificially lit in anyway.

Further Surveys

1.6 Exact survey requirements will be determined as site development proposals emerge.

v. Nesting birds and their nests are protected under the Wildlife and Countryside Act (1981) (as amended) and therefore vegetation clearance should be undertaken during the period October to February to avoid the bird nesting season and once all the other protected species surveys have been completed. If this is not possible, prior to commencement on site a check for nesting birds should be undertaken by a suitably experienced ecologist and any active nests will need to be left *in situ* until the young have fledged;

vi. Scheme design will seek to maximise retention of hedgerows and boundary trees. However, should substantial loss of these habitats be proposed, then a breeding bird survey will need to be conducted in the period April to June inclusive. The results of this survey would then be used to inform appropriate mitigation and enhancement;

vii. Seven ponds on-site, and one off-site pond within 250m, have potential to support great crested newts. The application site provides suitable terrestrial amphibian habitat. *Great crested newt presence/likely absence surveys have been started on those ponds considered suitable and will continue throughout May and early June. The results will be included within the final PEA report;*

viii. Several mature trees across the site have high potential to support roosting bats. Scheme design should aim to retain these trees, however, if any tree with roosting bat potential is to be felled to facilitate construction works, further bat surveys will be required. Similarly, if the dwelling (Oak Lodge) is to be demolished or restored then further bat surveys will be required during the active season (May to August/September, inclusive);

ix. Further assessment of the brick cow shed located on Scraptoft LNR will be required to determine its potential to support roosting bats;

x. As the site provides suitable foraging habitat for bat species along hedgerows, it is recommended that a combination of transect surveys and static/automated bat surveys are undertaken during the bat active season, April to October. Transect surveys aim to survey habitats likely to support bats and to examine how bats use the habitats on site, and in particular the linear boundary features;

xi. Areas of the site are considered suitable to support reptiles. A reptile presence/absence is recommended to be undertaken during April to September.

1.7 Full recommendations are provided under Section 5 of this report.

1.8 This report should be read in full to understand the potential impacts of development upon legally protected species, species and habitats of principal importance, and other valuable ecological features.

2.0 Introduction

2.1 Instruction

2.1.1 D F Clark Bionomique Ltd were instructed on 17th March 2016 by Andrew Hiorns to undertake a PEA of land centred around Beeby Road, Scraptoft, Leicestershire (approximate central grid reference: SK 652 062), to inform development proposals for the site.

2.2 Scope of Assessment

2.2.1 This survey and report aim to:

- Establish preliminary ecological baseline conditions for the site, by assessing and recording the habitats present, and assessing the potential of these habitats to support protected species and other species of conservation importance;
- Determine the importance of the ecological features present, or those that could be present (on site or within relevant offsite areas), as far as is possible;
- Identify any requirements for further survey work to inform the ecological impact assessment process;
- Identify key constraints for the proposed scheme, and make recommendations to inform design to avoid significant effects on important ecological features at an early stage;
- Identify ecological protection and mitigation measures as far as is possible; and
- Identify opportunities for ecological enhancement.

2.3 Description of Site and Surrounds

2.3.1 The site is located to the west of Beeby Road and was dominated by Scraptoft Golf Course and Scraptoft LNR. The golf course supported closely mown semi-improved grassland, with rough grass and scrub areas, mature boundary trees, hedgerows and a number of ponds. The LNR supported closely grazed semi-improved grassland with areas of dense scrub and an eastern boundary hedgerow. The site also supported closely grazed horse paddocks with mature boundary trees.

2.3.2 The site is located adjacent the village of Scraptoft, Leicestershire. The wider local landscape comprises a mosaic of arable farmland and heavily grazed pasture with pockets of woodland and managed hedgerows, as well as suburban residential areas.

2.4 Description of Development

2.4.1 No proposals currently exist for the site.

2.5 Competency

2.5.1 Recommendations included within this report are the professional opinion of an experienced ecologist and are based on the results of the ecological site survey and desk study. The survey was carried out by Samuel Durham. Samuel is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM), has over six years of relevant ecological survey experience, and holds class survey licences to survey for great crested newt *Triturus cristatus* (licence registration no. 2016-23139-CLS-CLS) and barn owl *Tyto alba* (licence registration no. CL29/00164).

2.6 Terms Used

2.6.1 For the purposes of this report, the term 'site' will be used to refer to all land that was included within the redline boundary at the time of survey (as shown on the Phase 1 Habitat Plan under Appendix 2). The 'survey area' included all land within this red line, as well as adjacent offsite areas that were considered relevant to this assessment.

2.6.2 Mitigation measures are typically defined as those that minimise and / or avoid impacts on ecological features. Compensation measures are typically defined as those that compensate for unavoidable impacts. The term mitigation is frequently used to combine these two elements, and is used in that context within this report.

3.0 Methodology

3.1 Desk Study

3.1.1 Natural England's Multi Agency Geographic Information for the Countryside (MAGIC) website was consulted to obtain information about any statutory designated sites of national importance - such as Sites of Special Scientific Interest (SSSIs) - located within a 2km radius of the site boundary, and any sites of international importance - such as Special Areas of Conservation (SACs) - within a 5km radius.

3.1.2 The MAGIC website was also used to search for any records of European Protected Species Mitigation (EPSM) licences that have been approved by Natural England within a 2km radius of the application site since late 2008.

3.1.3 Promap digital mapping software, and publically available aerial imagery were used to identify the presence of any offsite water bodies located within 500m of the site boundary, and to assess the connectivity of these water bodies to onsite habitats. These search tools were also used to assess general habitat cover and connectivity within the surrounding landscape.

3.1.4 The results of a biological records search were obtained from Leicestershire & Rutland Environmental Records Centre (LRERC). The record search was conducted to a radius of 2.5km from the site central grid reference, and included records of:

- Legally protected species;
- National Species of Principal Importance (SPI), as listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (as amended);
- Local Biodiversity Action Plan (BAP) species; and
- Local Wildlife Sites (LWS) (including confirmed, candidate and potential LWS).

3.1.5 The various search radii employed were considered appropriate for the size, nature and likely Zone of Influence (ZoI) of the proposed scheme and the scope of this assessment.

3.2 Habitat Survey

3.2.1 A two day site visit was carried out over the 30th and 31st of March 2016. The survey methodology was based on the standard methodology for Extended Phase 1 Habitat Survey (JNCC 2010). Vegetation communities were assessed through the identification of individual plant species, which were then grouped, classified and mapped according to the standardised habitat descriptions. During the site visit, the presence of any non-

native invasive plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA) was also noted.

3.3 Protected Species Assessment

3.3.1 Based on criteria detailed within best practice guidelines for individual species, habitat suitability ratings have been used as a guide to inform any need for further surveys in respect of these species. For example *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd edition (BCT, 2016) was used to determine any requirements for further bat survey work.

3.3.2 The likelihood of species presence on site has been assessed based on the results of the field survey and desk study. The following categories have been used to describe likelihood of occurrence:

Negligible - Species absence cannot be absolutely confirmed. However, the site supports habitats that are of a very limited extent or very poor quality for a particular species or species group. No records of this species / species group have been obtained through the biological records search, and / or the habitats surrounding the site are considered unlikely to support a wider population of this species / species group. The survey site may also be outside of the known range of the species.

Low - The site supports habitats that are of poor to moderate quality for a particular species or species group. The biological record search returned no or few records. However, species presence cannot be scoped out at this stage due to the proximity and / or connectivity of suitable offsite habitats, or the potential for residual presence of individuals within small or less suitable areas of site after a recent disturbance event.

Moderate - The site supports habitats that are of moderate quality for a given species or species group, providing all fundamental habitat components. The site is within the known national distribution for the species / species group, and / or is bounded by suitable habitats. Biological records may have been obtained within relevant distance. Factors limiting the likelihood of occurrence may include the small area of suitable habitat present, the isolation of this habitat, or disturbance levels at the site.

High - The site supports habitats that are of a high quality for a particular species / species group and local records of species presence have been obtained through the desk study. The site may also be within or adjacent a geographic stronghold for the species / species group. The surrounding habitats may also be of a high quality and well connected to the site.

Present - Species presence has been confirmed on site through the PEA field survey, or via recent, confirmed biological records that fall within the site boundary.

3.3.3 The precise factors used to determine likelihood of individual species / species group presence will vary. However, the above categories summarise the basic criteria considered.

3.4 Site Evaluation

3.4.1 The ecological value of the site has been assessed in broad accordance with industry standard guidelines (CIEEM 2013). The professional judgement of an experienced ecologist has also been employed to ensure effective and proportionate application of best practice guidelines. Where any significant deviation from such guidance has been made, this is clearly stated at the relevant point.

3.4.2 As well as confirmed or potential presence of Habitats of Principal Importance (HPI), legally protected species, SPI, or other species of conservation importance, the assessment process has considered a range of other factors that may result in a site being attributed ecological value. Such factors include, but are not limited to, the presence of (or strong potential for presence of):

- Habitats or species that are uncommon;
- Habitats or species that are in decline;
- A diverse range of habitats;
- Rich assemblages of plants and animals;
- Habitats that form part of a wider ecosystem that is of recognised conservation importance;
- Large populations, or concentrations of species considered uncommon or threatened in a wider context; and
- Species that are on the edge of their known range.

3.4.3 The degree to which some of these additional factors can be assessed within the PEA process is limited. However, attention has been paid to these criteria to ensure that a robust assessment of the true ecological value of the site has been undertaken.

3.5 Habitat Suitability Index (HSI) assessment

3.5.1 For each accessible water body connected to the proposed development site via suitable terrestrial amphibian habitat, and located within 500m of the site boundary, a Habitat Suitability Index (HSI) assessment was undertaken, following standard methods described in *Oldham R.S. et al*, (2000).

3.5.2 Following survey, HSI field scores were inserted into a table to calculate an overall suitability score for each pond. Pond suitability for great crested newt was assessed on the following scale:

Table 1: HSI score categories:

HSI Score	Pond Suitability
< 0.5	Poor
0.5 – 0.59	Below Average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

3.6 Zone of Influence

3.6.1 The potential impacts of a development are not always limited to the boundaries of the site concerned. In order for the proposed works to have an impact on habitats and species outside of the site boundaries, there needs to be a source of impact, a pathway and a receptor for that impact.

3.6.2 The results of the PEA field survey and desk study, detail of the proposed scheme, and the assessment process documented within this report would typically be used to determine the Zone of Influence (ZoI) for the proposed. However, as no scheme is currently proposed, the ZoI cannot be effectively determined. In place of a complete ZoI assessment, Section 5 of this PEA report provides some general comments regarding the potential for offsite impacts upon valuable ecological features.

3.7 Constraints

3.7.1 The survey was conducted outside of the main plant growing season. Therefore any invasive plant species - such as Japanese knotweed *Fallopia japonica*, present on site may have gone undetected during the survey. This remains a minor constraint.

3.7.2 The presence of any rare or notable plant species may also have gone undetected due to this seasonal constraint.

3.7.3 Access to a 30m perimeter around some areas of the site to search for badger *Meles meles* setts was not possible. However, the majority of offsite areas located within 30m were searched, and this is not considered a significant constraint.

3.7.4 Internal access to onsite buildings was not possible at the time of survey; therefore, a full assessment of the bat roost potential of these structures could not be completed. However, recommendations for further survey have been included within this report, and access restrictions during the PEA survey are not considered a significant constraint to the preliminary ecological appraisal process.

3.7.5 There were no other known limitations to the survey.

3.8 Legislative and Planning Policy Context

3.8.1 See Appendix 5 for a summary of national and local planning policies and legislation relevant to this assessment. Relevant content of legislation has also been cited under individual species assessments within Sections 5 of this report.

4.0 Survey Results

4.1 Desk Study: Statutory Designated Sites

4.1.1 Natural England's MAGIC website indicates that there is one UK statutory designated site of local importance located within a 2km radius of the site boundary, and no statutory designated sites of international importance located within a 5km radius.

4.1.2 The distance and direction of this designated site, its reasons for designation, and its connectivity to site are summarised within Table 1, below.

Table 1: Statutory designated sites within applicable search radii:

Name	Designation(s)	Distance, Direction and Connectivity	Reason for designation / features of note (taken directly from citation)
Scraptoft	Local Nature Reserve (LNR)	On site	Urban Fringe - Situated on Beeby Road, 300m northeast of the village. Livestock are free to roam. The habitats include an area of semi-improved grassland and mature hawthorn scrub. A pond has been created to increase the wildlife variation.

4.2 Desk Study: Non-Statutory Designated Sites

4.2.1 The results of the LRERC biological records search indicate that there are seven Local Wildlife Sites (LWS) located within 2.5km of the application site's central grid reference point.

4.2.2 The distance and direction of these designated sites, their reasons for designation, and their connectivity to site are summarised within Table 2, below.

Table 2: Non-statutory designated sites within 2.5km of site central grid reference:

Name	Designation(s)	Distance, Direction and Connectivity	Reason for designation / features of note (taken directly from citation)
Hamilton School Nature Reserve	LWS	Adjacent northwestern boundary	Mesotrophic grassland and species rich hedgerows, with pond and woodland. Community value.
Willowbrook	LWS	900m southwest	Willow Brook and adj bankside and seasonally flooded spp-rich grassland and marsh. Ponds, scrub and plantation woodland. Open access. Formerly Water voles

Hamilton Meadows	LWS	1.1km northwest	Mesotrophic grassland.
Quakesick Spinney	LWS	1.5km west	Red Data Book species present in woodland.
Four Acres	LWS	1.6km southeast	Mesotrophic grassland, with pond.
Barkby Brook, Keyham	LWS	2km northeast	Brook with riffle & pool system, gravel substrate, eroded earth cliff and Red Data Book species.
Keyham Meadow	LWS	2.4km east	Mesotrophic grassland and Red Data Book species.

4.3 Desk Study: EPSM Licence Search

4.3.1 One record of an EPSM licence located within 2km of the development site was obtained through a search of the MAGIC website. The distance and direction of this record from the development site, the species to which the licence applies, and the nature of the licence have been summarised within Table 3, below.

Table 3: Detail of EPSM licences identified within 2km of the site:

EPSM licence reference	Species covered by licence	Distance, Direction and Connectivity	Actions covered by licence
EPSM2012-5392	Common pipistrelle *Pipistrellus pipistrellus* (bat)	1.6km north east. Moderate connectivity via local hedgerow network	Damage and destruction of a non-breeding roost. Not known whether or not the licence covered works affecting a hibernation roost.

4.3.2 Species records obtained through the LRERC biological records search have been incorporated into the relevant species sections, below.

4.4 Habitats of Principal Importance

4.4.1 The site boundary hedgerows qualify as HPI. Further detail of hedgerow structure and composition can be found under section 4.5, below.

4.4.2 Further survey work for great crested newt will be required to determine whether or not the onsite ponds qualify as HPI. If great crested newt are recorded during these surveys (currently underway), then the relevant ponds will qualify as HPI. During the newt surveys, and presence of legally protected or rare plants and/or aquatic invertebrates will also be recorded and will be factored into the assessment of pond HPI status.

4.5 Other Habitats and Flora

4.5.1 See Appendix 2 for a plan of onsite habitats and notable ecological features.

4.5.2 See Appendix 1 for pictures of these habitats and features.

Buildings

4.5.3 The site supports several buildings. To the west of Beeby Road is the Scraptoft Golf Club office, shop and clubhouse. This is a single storey brick-built structure, with a pitched, tiled roof. The structure is in good overall condition, with no missing or slipped roof tiles noted, and very few gaps between soffit and fascia boards and walls. One gap between fascia and soffit, and one gap in external boarding were noted. Internal access to the roof void of this structure was not possible.

4.5.4 An adjacent shed structure was also in good overall condition, with only very narrow gaps present between some boards. The internal structure of this shed was open, with no crevices noted between the small roof beams.

4.5.5 A large metal barn was also present within the vicinity of the clubhouse. Internal access to this structure was not possible.

4.5.6 Adjacent to the south east corner of the golf course was a two storey residential property of brick construction, with a pitched, tiled roof. The roof had numerous missing and slipped tiles. Direct access to the exterior of this property was not possible.

4.5.7 A small, flat-roofed, single-storey, brick-built cow shed was present immediately west of Beeby Road, on the eastern edge of Scraptoft LNR. There was no door present within the door portal. An internal inspection of this structure was not possible due to livestock presence.

Standing water

4.5.8 There are seven ponds within the northern section of the golf course. An additional pond is present within the LNR. The majority of the ponds present on the golf course had moderate water quality. There were varying amounts of emergent and aquatic vegetation present. Fish presence was only confirmed within one of the ponds. Frogspawn was noted in several ponds. The smaller ponds were shallow in depth and contained a deep leaf litter base.

Semi-improved Grassland

4.5.9 The site supported semi-improved grassland within three main land use categories.

4.5.10 Intensively horse-grazed paddocks were present across the south western corner of site, between New Romney Crescent to the north and Scraptoft Lane to the south. Common

grass species such as Yorkshire fog *Holcus lanatus*, cock's foot *Dactylis glomerata*, sheep's fescue *Festuca ovina* and Perennial ryegrass *Lolium perenne* were dominant; no notable botanical species were noted, although no detailed botanical survey was conducted as part of the PEA survey.

4.5.11 The golf course comprised closely mown grass with longer grassland areas around margins and within central areas. The grassland structure across most of the golf course was uniform and lacked diversity as a result of the intensive management regime. Grass species recorded within the margins and other golf course 'rough' areas included common and widespread species such as cock's foot, perennial ryegrass, meadow fescue *Schedonorus pratensis* and sheep's fescue.

4.5.12 Within the north western corner of the site, west of Hamilton Lane, the semi-improved grassland was closely mown with evidence of recent vegetation cuttings.

Hedgerows and Scattered Trees

4.5.13 Mature tree lines (predominantly ash *Fraxinus excelsior,* but with frequent oak *Quercus* sp.) were present around the golf course margins. The tree lines had a narrow, loose hawthorn *Crataegus monogyna* understorey. These scrubby understoreys also supported frequent elder *Sambucus nigra*, and occasional blackthorn *Prunus spinosa*, dog rose *Rosa canina* and bramble *Rubus fruticosus* agg. The central path through the golf course had dense continuous hawthorn scrubby 'hedges' with frequent hedgerow trees including oak and ash.

4.5.14 Land east of Hamilton Lane had a central row of tall poplars and native hedges which were managed on the road side but left unmanaged on the western side. Again, hawthorn was dominant over many of these hedgerow lengths.

4.5.15 There were lines of scattered trees throughout golf course, mostly mature, native broad-leaved trees including ash, oak and cherry *Prunus sp*. Leyland cypress trees were present within the eastern half of the golf course. A dead broad-leaved tree monolith was also located within the grounds of the golf course.

4.5.16 Dense and scattered scrub patches were present across the site, habitats were dominated by bramble, hawthorn and occasional elder.

Invasive Flora

4.5.17 No presence of Japanese knotweed, or other non-native invasive plants listed under Schedule 9 of the WCA, was observed during the site survey.

4.6 Invertebrates

Terrestrial habitats

4.6.1 The scrub, hedgerow and standing deadwood are likely to be the habitat features of greatest value to invertebrate populations. The structural diversity will provide shelter and forage opportunities for a broad range of species, including pollinators such as bees, wasps and flies.

Aquatic habitats

4.6.2 The ponds offer habitat for a range of aquatic invertebrate species due to the presence of emergent and marginal vegetation and deep leaf litter layers. Further assessment of the value of these ponds for aquatic invertebrates will be undertaken during the great crested newt surveys.

White clawed crayfish

4.6.3 No records of white clawed crayfish *Austropotamobius pallipes* were obtained from the Leicestershire and Rutland Environmental Records Centre. The onsite ponds are considered unsuitable for this species, which prefers rivers, lakes, streams and ponds with a higher water quality.

4.7 Reptiles

4.7.1 The scrub vegetation, hedgerows and some pond margins provide isolated patches of suitable habitat that have potential to support reptiles.

4.7.2 There are occasional, historic records of grass snake *Natrix natrix* and slow worm *Anguis fragilis* within 2km of the site.

4.7.3 The majority of the site consists of closely grazed or managed grasslands which are of negligible potential to support reptilian species. However, the marginal areas of 'rough' grassland and hedgerows provide habitat for reptiles. Frogspawn within the ponds indicates the presence of a breeding common frog *Rana temporaria* population on site, which represents a potential food source for grass snake.

4.8 Amphibians, including great crested newt

4.8.1 The site contains limited suitable terrestrial habitat for amphibians, mainly within the small patches of dense scrub habitat, some pond margins, and hedgerows. The closely grazed and managed grassland areas that dominate the site offer poor terrestrial habitat for amphibians in general.

4.8.2 Using Promap, Google Earth and aerial photographs, seven ponds were identified on site, with a further eight ponds located within a 500m radius; the nearest being located 103m from the eastern boundary.

4.8.3 Research carried out by Cresswell Associates for English Nature in 2004 concluded that *'at distances greater than 200-250m from breeding ponds, capturing great crested newts will hardly ever be appropriate'*. They also found that capture rates for great crested newts decreased significantly away from ponds to a distance of 200-250m. There are three offsite ponds within 250m of the application site.

4.8.4 The ponds onsite and three offsite ponds within 250m of the application site were inspected for their potential to support great crested newts. Two of the offsite ponds were found to no longer exist.

4.8.5 Features such as shading, water quality, terrestrial habitat, fish and fowl presence were noted during the survey. These features were then used in the HSI to assess the potential of the ponds to support a population of great crested newt. The overall quality of the habitat connecting the application site and ponds was also assessed in terms of its value as potential foraging and/or commuting habitat for great crested newt.

4.8.6 The full HSI survey results can be found in Appendix 3.

4.8.7 The desk study revealed three records of great crested newts within a 2.5km radius. The records were from 2007, 2008 and 2009; the closest record was located between 700m – 1.7km from the site boundary/central grid reference (exact location was not provided).

4.9 Birds

4.9.1 The scattered trees, scrub and vegetation on-site provides suitable nesting and foraging habitat for breeding birds. Several bird species were recorded on or adjacent to site during the survey included common and widespread species including blackbird *Turdus merula*, robin *Erithacus rubecula*, dunnock *Prunella modularis* carrion crow *Corvus corone*, feral pigeon *Columba livia domestica*, and wood pigeon *Columba palumbus*. A kestrel *Falco tinnunculus* was noted eating prey on site.

4.9.2 Dunnock is a national SPI, listed under Section 41 of the NERC Act.

4.9.3 There are several records of numerous bird species within a 2km radius. There are two observation records from 1998 and 2012 of Schedule 1 species barn owl from Scraptoft Golf Club.

4.10 Bats

4.10.1 Records of brown long-eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, whiskered *Myotis mystacinus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, Daubenton's *Myotis daubentonii* and Natterer's *Myotis nattereri* have been received from the Leicestershire and Rutland Environmental Records Centre within 2.5km of the application site.

4.10.2 The vegetated site boundaries, including the scrub, hedgerow and strip of woodland provide foraging and commuting potential for bats.

Bat roosting opportunities: Buildings

4.10.3 The house west of Beeby Rd (Oak Lodge), contains several slipped roof tiles and is deemed to be of high bat roost potential.

4.10.4 The club house building and shed were classified as having negligible bat roosting potential.

Bat roosting opportunities: Trees

4.10.5 Several of the mature trees across the site have potential to support roosting bats.

4.11 Badger

4.11.1 There are several records, both recent and historic, of badger within 2km of the site. A badger sett was identified 700m east of the site.

4.11.2 No evidence of badger setts were found on site or in survey areas - where access was possible - within 30m of the site. The site does however provide suitable foraging habitat for badgers.

4.12 Hazel Dormouse

4.12.1 No records of hazel dormouse *Muscardinus avellanarius* have been received from the Leicestershire and Rutland Environmental Records Centre within 2km of the application site and the site is outside of the known UK distribution for this species. Historic survey results suggest that dormice have been absent from Leicestershire since the 1970's.

4.12.2 As a precautionary measure, during the survey the potential for hazel dormice to be present on the site was assessed. This included observations for suitable habitat such as well-layered woodland, scrub and linking hedgerows, particularly those species offering suitable food sources such as honeysuckle and hazel.

4.12.3 The less intensively managed hedgerows provided limited suitability for dormouse. The hedgerows across site provide connectivity in the unlikely event that dormice are present within the local area. However, the hedgerows were dominated by hawthorn which does not offer a diverse food source.

4.13 Riparian Mammals: Water vole and Otter

4.13.1 There are several records of water vole *Arvicola amphibius* and otter *Lutra lutra* within a 2km radius of the application site.

4.13.2 The ponds on site are suitable for water voles. However, these ponds are isolated from any wider network of waterways. No diagnostic water vole field signs – such as droppings, latrines and feeding stations, were recorded during the pond assessments. Therefore, the likelihood of water voles being present is considered to be low to negligible.

4.13.3 The onsite habitats provide sub-optimal foraging habitat for otters and are not located close to any waterways that otters may frequent. No diagnostic otter filed signs – such as spraints (faeces) and prints, were recorded during the pond assessments. The likelihood of otter presence on site is therefore considered to be low to negligible.

4.14 Other Legally Protected and Priority Species

4.14.1 Due to a lack of suitable habitats the site is not considered likely to support any other legally protected or notable species.

4.14.2 There are records of hedgehog *Erinaceus europaeus* within a 2km radius of the site. The dense scrub may provide suitable habitat for hedgehogs, a priority species listed under Section 41 of the NERC Act.

5.0 Conclusions and Recommendations

5.1 Designated Sites

5.1.1 There are no European designated sites within 5km of the application site.

5.1.2 There is one UK statutory designated site, a LNR, located on site. The LNR is very heavily grazed by horses. The eastern half is dominated almost entirely by closely cropped grass with a very sparse structure. This area has low ecological value. The western half supports large 'islands' and bands of mature scrub vegetation, which are dominated by three common scrub species - hawthorn, bramble and elder. The western half is therefore more ecologically valuable than the eastern half, but is not currently considered to be of high ecological value.

5.1.3 It is suggested that, if the eastern half of the LNR is to be used for development, enhancement of the western half could be used to mitigate for this loss of low quality habitat. Enhancement of the western half could include: reduction of grazing pressure to allow rougher grass sward to establish; supplementary planting of a broader range of native, locally appropriate scrub species; creation of new wetland features at the southern extent of the retained LNR section. In this instance, a full Ecological Enhancement Strategy for the western half of the LNR would need to be designed and implemented.

5.2 Habitats of Principal Importance

5.2.1 The onsite/boundary hedgerows qualify as HPI. Recommendations for hedgerow protection and enhancement are provided below.

5.2.2 If the further assessment work currently underway on the onsite ponds concludes that these water bodies qualify as HPI, then any potential impacts upon these HPI habitats will be avoided / mitigated for, as per the recommendations provided below.

5.3 Other Habitats and Flora

Conclusion

5.3.1 Mature boundary trees and general hedgerow network across the site are important at a landscape scale. However, many of the hedgerows are currently heavily managed; there is scope for enhancement through the relaxation of management regimes and increasing the width of existing hedgerows with the addition of grassland buffers and scrub habitat.

5.3.2 The closely cropped grass areas that dominate the site are considered to be of low ecological value. Areas of the site - namely ponds, hedgerows, mature boundary trees, and extensive blocks of dense scrub habitat, are considered to be of moderate ecological value. These areas of moderate ecological value are mostly restricted to the site boundaries and linear habitat corridors within the site.

5.3.3 The site is not considered likely to support any flora species of conservation significance. No further survey work is recommended in respect of habitats or plants.

Recommendation

5.3.4 There is potential for site enhancement by the planting or restoring / infilling of native species rich hedgerows along the boundaries. Any new hedge plantings should comprise locally appropriate native and wildlife-beneficial species.

5.3.5 One suggested mix option for a native species hedge is: hawthorn (50%); field maple (30%); hornbeam *Carpinus betulus* (10%); guelder rose *Viburnum opulus* (3%); dogwood *Cornus sanguinea* (3%); spindle *Euonymus europaeus* (2%); and dogrose *Rosa canina* (2%). If appropriate, 'feathered' or 6-8cm girth trees should be added at 4m spacing. Any new hedge should utilise 'open ground' or 'bare rooted' plants that do not come pre-rooted in soil. Once established, any new hedges or hedge sections should be allowed to grow to a height of at least 2m and a width of at least 2m to ensure that they represent robust and substantial habitat features.

5.3.6 The soft landscaping scheme for the new development should include planting native tree species such as ash, oak, beech *Fagus sylvatica*, silver birch *Betula pendula*, elder, hawthorn and field maple *Acer campestre*. If any existing trees are to be felled then these should be replaced within the site landscaping. Hawthorn is a particularly valuable species to include due to its dense growth, which provides cover for nesting birds, its flower and berry production that provide foraging opportunities for birds and bats. Non-thorny hawthorn varieties are widely available.

5.3.7 Plantings of native and wildlife-beneficial herbs and shrubs should be incorporated into the soft landscaping scheme for built environment areas and should include species such as lavender *Lavandula* sp, *Hebe* (especially late-autumn / winter flowering varieties such as 'Autumn Glory' and 'Great Orme'), rosemary *Rosemarinus officinalis*, elder, and teasel *Dipsacus fullonum*.

5.3.8 Plantings of climbers can be attached to sections of trellis on external walls of buildings, sections of fence and other walls and structures. Climber plantings should incorporate at

least three species, such as honeysuckle *Lonicera periclymenum* or *Lonicera japonica*; ivy *Hedera helix* (including varieties of); common jasmine *Jasminum officinale*; and golden hop *Humulus lupulus* 'Aureus'.

5.3.9 Prior to planting, more detailed horticultural instructions should be referred to for each plant species selected. This will help to ensure that the plantings are suitably located and managed and thus will remain viable post-development.

5.3.10 Plantings of nectar and berry producing species can provide a food source that may benefit a variety of animals within a site, including invertebrate and bird species. The invertebrates attracted to such plantings can themselves provide a food source for foraging bats and insect-eating birds. Such plantings also present an opportunity to provide residents with an aesthetically pleasing environment.

5.4 Invertebrates

Conclusion

5.4.1 Invertebrate terrestrial habitats are generally limited to the site margins and boundaries which should aim to be retained and enhanced by the site proposals. The site is considered likely to support common and widespread invertebrate species typical of the habitats present.

Recommendation

5.4.2 Depending on the proposals, further invertebrate assessments/surveys may be required if the ponds are to be destroyed, or large section of hedgerow removed.

5.4.3 The provision of nectar and berry producing plantings and the use of woodchip mulch will provide food and shelter for invertebrates across the site. This will in turn increase the forage resource available to birds and bats.

5.5 Amphibians, including great crested newt

Conclusion

5.5.1 Great crested newts and their breeding and resting places are protected under The Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended).

5.5.2 The HSI for great crested newts is a measure of habitat suitability. In general, ponds with a high HSI score are more likely to support great crested newts than those with lower

scores. The calculation is based on a number of indicators that were assessed during the survey. Using the HSI, the ponds assessed scored the following:

Table 2: HSI results. See Appendix 3 for full HSI results.

Pond	HSI Rating	Pond Suitability
1 (on site)	0.58	Below Average
2 (on site)	0.63	Average
3 (on site)	0.66	Average
4 (on site)	0.64	Average
5 (on site)	0.85	Excellent
6 (on site)	0.61	Average
7 (on site)	0.40	Poor
14 (off site)	0.78	Good

5.5.3 Following the results of the HSI assessment, great crested newts presence/likely absence surveys of pond 1, 2, 3, 4, 5, 6 and 14 are recommended. For ponds requiring great crested newt survey, four surveys are initially undertaken between mid-March to mid-June with 50% of visits during mid-April to mid-May. If great crested newts are found to be present, then a further two surveys are undertaken to determine the population size.

5.5.4 It is recognised that the HSI survey results indicate that pond 1 is below average in terms of its suitability to support great crested newts. However, due to the close location of pond 1 to other ponds it is recommended to be included within the great crested newt presence/likely absence survey scope.

5.5.5 Depending of the exact nature of the works, if great crested newts are found to be present then a European Protected Species Mitigation (EPSM) licence may be required.

Recommendations

5.5.6 *Great crested newt presence/likely absence surveys of the ponds have begun in May 2016.*

5.5.7 The ponds should be retained and incorporated within the scheme. As stated earlier in this report, further assessment work is currently being undertaken on these ponds to determine whether or not they qualify as HPI. Regardless of their HPI status, these ponds are likely to be of some local conservation importance for amphibians. These

ponds can be enhanced to improve their overall value to amphibians and a broad range of other species, for example through the expansion of marginal habitats.

5.5.8 Maintaining and enhancing habitat connectivity between ponds and boundary features such as hedgerows will further increase the usefulness of the ponds for a broad range of species, including amphibians. This habitat connectivity can be achieved through the inclusion of wildlife corridors that include features such as hedgerows, rough grass and scrub, and well vegetated roadside swales and ditches.

5.5.9 Any direct pond loss should be mitigated against via the creation of new ponds located within wider networks of wildlife habitat.

5.6 Reptiles

Conclusion

5.6.1 All British reptiles are protected from killing or injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and therefore care should be taken to avoid causing harm to any reptiles during the proposed works.

5.6.2 Whilst the majority of the application site is of negligible suitability to support reptiles, the marginal areas of 'rough' grassland and hedgerows provide habitat for reptiles.

Recommendation

5.6.3 A reptile presence/absence survey is recommended to be undertaken during the active season, April – September, prior to the commencement of any works on site.

5.6.4 If reptiles are found to be present on site, it may be possible to retain them on site through careful design of suitable reptile habitats which would link into existing hedgerows. Appropriate habitat creation includes grassland with scrub, where the grassland is not kept short or managed too intensively. Any scrub planting should include species already present in the current boundaries. Additional features of use to reptiles should be provided including refuges and purpose built hibernation sites. Refuges could be provided by the placement of log piles with the logs held in place by wire mesh. Hibernacula are mounds constructed of materials, such as logs and hardcore, that provide cavities for reptiles to penetrate during winter, for hibernation.

5.6.5 The creation and enhancement of boundary hedgerows will provide additional habitat through which local reptile populations can disperse.

5.7 Birds

Conclusion

5.7.1 All nesting birds and their nests, eggs and chicks are protected under the Wildlife and Countryside Act 1981 (as amended). Schedule 1 protected birds are further protected from disturbance when they are breeding.

5.7.2 The site provides high potential for nesting birds, particularly within the scattered trees, hedgerows and scrub.

5.7.3 Retention and enhancement of exiting hedgerows and tree lines will ensure that the site continues to provide high quality bird nesting habitat. However, if significant losses of hedgerows are unavoidable, then it is recommended that a breeding bird survey is conducted across the site within the period April to June. This survey would provide an ecological baseline for this species group and quantify impacts of development, to inform appropriate mitigation. Exact spacing of survey visits across the April to June period would need to be informed by the extent and nature of habitat loss proposed.

5.7.4 Recommendations

5.7.5 Any scrub and tree removal should be undertaken during October to February (inclusive) to avoid the bird nesting season and once all other protected species surveys have been completed, factoring in any further protected species considerations established through these surveys.

5.7.6 If the scrub and trees on site are to be removed during the nesting bird season, March-September inclusive, a site visit by a suitably experienced ecologist should be conducted immediately prior to works starting, to identify whether birds are nesting on site. Any active nests will need to be left *in situ* until the birds have stopped using them.

5.7.7 Depending on the proposals, it is recommended that a combination of traditional wooden bird boxes and open-fronted bird boxes are erected on trees or buildings across the site. These will provide alternative nesting provision and supplement the existing nesting habitat available within retained vegetation.

5.7.8 Bird boxes should be installed two to four metres above ground. There should be a clear flight path to the entrance hole and the boxes should be placed so that the entrance is not exposed to strong sunlight or winds. The boxes should therefore either be positioned on northern or eastern building/tree aspects, or on southerly aspects that are shielded from strong sun, or westerly aspects that are sheltered from wind.

5.7.9 Barn owls are generally most active around dusk and dawn. Therefore, any presence of barn owls foraging across the site (during the bat activity surveys recommended below) will be recorded and factored into the ecological impact assessment process.

5.8 Bats

Conclusion

5.8.1 All species of British bats and their resting places (roosts) are fully protected under The Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence for anyone to intentionally or recklessly kill, injure or handle a bat, to possess a bat (whether live or dead), disturb a roosting bat, or sell or offer a bat for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not. Under certain circumstances, licences can be granted by Natural England to permit activities that would otherwise constitute an offence.

5.8.2 As the site provides suitable foraging habitat for bat species along hedgerows, it is recommended that a combination of transect surveys and static/automated bat surveys are undertaken during the bat active season, April to October. Transect surveys aim to survey habitats likely to support bats and to examine how bats use the habitats on site, and in particular the linear boundary features.

5.8.3 Several mature trees and Oak Lodge are considered to have high bat roosting potential. Depending on the proposals, further bat emergence/re-entry surveys of these trees and structures may be required during the active season, May to August/September. An internal inspection of the building is also likely to be required. If any evidence of bat roosting is recorded during these surveys, then an EPSM licence is likely to be required to cover the relevant works. Any such licence will require the provision of replacement roosting features.

Recommendations

5.8.4 Proposal should aim to retain the hedgerows across the site. The results of the transect surveys should be used to inform the master planning and detailed design phase. Depending on the use of the boundary vegetation for bats, enhancements could focus on retaining and improving the existing hedgerow by planting native species to extend and connect the hedgerows to bat foraging and roosting habitat offsite.

5.8.5 In addition, bat roosting opportunities should be provided across the site through the installation of bat boxes and tubes. The locations of new roosting features would be

informed by the results of the bat activity surveys, as well as the results of any bat emergence / re-entry surveys that may be required to account for specific losses of trees and buildings suitable for roosting bats.

5.8.6 The planting and enhancement of the boundary hedgerows, and incorporation of a biodiverse landscaping scheme, will enhance the foraging potential of the site for local bat populations.

5.8.7 Due to the foraging potential of the site, artificial lighting should be kept to a minimum, particularly along the boundaries, hedgerows and scattered trees. Motion sensitive security lighting is optimal and it is advised that lighting along the southern boundary should be hooded, cowled or shielded and directed to the ground to avoid light spillage onto potential bat commuting or foraging habitats (BCT/ILE 2009).

5.8.8 Bat boxes are recommended within the development proposal to ensure that roosting bat potential is provided and acts as an enhancement within the application site. Suitable bat boxes include the 1FR Schwegler Bat Tube, 2FR Schwegler Bat Box and 1FQ Schwegler Bat Roost (for external walls) (all available on nhbs.com). Bat boxes are best positioned at a height of between 3 to 6 metres, away from sources on artificial light. Bat boxes should ideally be sited in open sunny positions and in groups of 3 to 5 boxes facing different directions to provide a variety of micro-habitats.

5.9 Hazel Dormouse

Conclusion

5.9.1 Hazel dormouse is a European Protected Species and as such is afforded full legal protection under the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2010 (as amended).

5.9.2 Hazel dormouse has a known preference for large woodland stands and dense continuous hedgerows, and is often associated with stands of coppiced hazel *Corylus avellana*.

5.9.3 The site is considered unlikely to support dormice, predominantly due to the fact that dormice have not been recorded within the County since the 1970's.

Recommendations

5.9.4 Due to the negligible risk of hazel dormouse presence on site, no specific recommendations are made with regards to this species.

5.10 Badgers

Conclusion

5.10.1 Badgers and their setts are afforded protection under the Protection of Badgers Act 1992 (as amended). This legislation includes protection against damage to badger setts and against interference and disturbance of badgers whilst they are occupying a sett.

5.10.2 The site provides suitable badger foraging habitat and there are numerous records of badger within 2km of the site. A badger sett was noted approximately 700m east of site during the survey. However, no badger setts or other badger field signs were recorded on site or within accessible survey areas within 30m of the boundary.

Recommendations

5.10.3 As no badger setts or other field signs were identified on site or within 30m of site, no further constraints currently apply with regard to this species and no further surveys are recommended. Should a badger sett be discovered on site at any point, all works within 30m of the sett entrance should cease immediately and a suitably experienced ecologist should be contacted for advice.

5.10.4 Suitable badger foraging habitat should be retained by the proposals. This can be achieved through the retention and enhancement of hedgerows within broad wildlife corridors.

5.11 Water Vole, Otter and White Clawed Crayfish

Conclusion

5.11.1 No further surveys are required.

5.12 Other Legally Protected Species

Conclusion

5.12.1 Mammal species not of primary conservation importance (e.g. foxes, deer, rabbits) do receive a degree of protection within the Wild Mammals (Protection) Act 1996. This includes offences which have implications for site clearance (particularly in the case of burrowing species such as rabbits and foxes) such as crushing or asphyxiation of any wild mammal with intent to cause unnecessary suffering.

5.12.2 It is therefore recommended that where these species are present careful excavation of burrows (or efforts to exclude these animals from burrows) takes place to avoid offences under this legislation. This excludes badger setts, which receive stricter legal protection.

5.12.3 As a precautionary measure, any areas of dense leaf litter, or any piles of brash, logs or other vegetation that require removal to facilitate site works should be carefully picked apart by hand or using unpowered hand tools. If any active hedgehogs are discovered during the removal of such vegetation or other cover, they should be carefully transported to areas of retained scrub habitat elsewhere on site or at the site margins. Any hibernating hedgehogs discovered during such works should be carefully re-covered and the pile left *in situ* until mid-April. If retention of such piles *in situ* until mid-April is not possible, then any uncovered hibernating hedgehogs should be transferred to an experienced local animal welfare organisation.

6.0 References

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Appendix 1:

Site Photographs

To Be Added

Appendix 2:

Habitat Map


Bionomique

Appendix 3:
Habitat Suitability Index Results

Great Crested Newt Survey

1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	1
OS Grid reference	
Location details	On golf course
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	6	
		width (m)	5	
		OR estimate (m^2) if irregular		
		area (m^2) =	*23.55*	*0.05*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	sometimes	*0.50*
SI4.	Water quality	**good/moderate/poor/bad**	moderate	*0.67*
SI5.	Shade	% of margin shaded 1m from bank	20	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	possible	*0.67*
SI8.	Pond density	number of ponds within 1km	9	*0.93*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	*0.67*
SI10.	Macrophyte cover	%	90	*0.90*

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.58**

Pond suitability = **below average**

Great Crested Newt Survey

1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	2
OS Grid reference	
Location details	On golf course
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	8	
		width (m)	10	
		OR estimate (m^2) if irregular		
		area (m^2) =	*62.8*	*0.13*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	rarely	*1.00*
SI4.	Water quality	**good/moderate/poor/bad**	moderate	*0.67*
SI5.	Shade	% of margin shaded 1m from bank	50	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	possible	*0.67*
SI8.	Pond density	number of ponds within 1km	8	*0.90*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	*0.67*
SI10.	Macrophyte cover	%	40	*0.71*

***Note** : Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.66**

Pond suitability = **average**

Great Crested Newt Survey

1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	3
OS Grid reference	
Location details	On golf course
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	8	
		width (m)	6	
		OR estimate (m^2) if irregular		
		area (m^2) =	*37.68*	*0.08*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	sometimes	*0.50*
SI4.	Water quality	**good/moderate/poor/bad**	good	*1.00*
SI5.	Shade	% of margin shaded 1m from bank	30	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	possible	*0.67*
SI8.	Pond density	number of ponds within 1km	7	*0.87*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	*0.67*
SI10.	Macrophyte cover	%	80	*1.00*

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.63**

Pond suitability = **average**

Great Crested Newt Survey

1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	4
OS Grid reference	
Location details	On golf course
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	irregular	
		length (m)	8	
		width (m)	6	
		OR estimate (m^2) if irregular	30	
		area (m^2) =	*30*	*0.06*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	sometimes	*0.50*
SI4.	Water quality	**good/moderate/poor/bad**	moderate	*0.67*
SI5.	Shade	% of margin shaded 1m from bank	50	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	absent	*1.00*
SI8.	Pond density	number of ponds within 1km	7	*0.87*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	good	*1.00*
SI10.	Macrophyte cover	%	80	*1.00*

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.64**

Pond suitability = **average**

Great Crested Newt Survey

1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	5
OS Grid reference	
Location details	On golf course
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	irregular	
		length (m)	8	
		width (m)	6	
		OR estimate (m^2) if irregular	228	
		area (m^2) =	*228*	*0.46*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	rarely	*1.00*
SI4.	Water quality	**good/moderate/poor/bad**	good	*1.00*
SI5.	Shade	% of margin shaded 1m from bank	20	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	possible	*0.67*
SI8.	Pond density	number of ponds within 1km	7	*1.00*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	good	*1.00*
SI10.	Macrophyte cover	%	80	*1.00*

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.85**

Pond suitability = **excellent**

Great Crested Newt Survey

1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	6
OS Grid reference	
Location details	On golf course
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	9	
		width (m)	4	
		OR estimate (m^2) if irregular	228	
		area (m^2) =	*28.26*	*0.06*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	sometimes	*0.50*
SI4.	Water quality	**good/moderate/poor/bad**	good	*1.00*
SI5.	Shade	% of margin shaded 1m from bank	50	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	absent	*1.00*
SI8.	Pond density	number of ponds within 1km	7	*0.87*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	*0.67*
SI10.	Macrophyte cover	%	30	*0.61*

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.61**

Pond suitability = **average**

Great Crested Newt Survey — 1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	7
OS Grid reference	
Location details	On golf course, adjacent to club house
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	22	
		width (m)	6	
		OR estimate (m^2) if irregular		
		area (m^2) =	*103.62*	*0.21*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	rarely	*1.00*
SI4.	Water quality	**good/moderate/poor/bad**	poor	*0.33*
SI5.	Shade	% of margin shaded 1m from bank	5	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	major	*0.01*
SI8.	Pond density	number of ponds within 1km	8	*0.90*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	*0.67*
SI10.	Macrophyte cover	%	10	*0.41*

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.40**

Pond suitability = **poor**

Great Crested Newt Survey

1. Pond Details

Project	**DFCP 3788 Scraotoft North, Leicester**
Project number/reference	
Site	

Pond number/reference	14
OS Grid reference	
Location details	On adjacent housing estate
Access instructions	

Landowner name	
Address/email	
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	*1.00*
SI2.	Surface area	**rectangle/ellipse/irregular**	ellipse	
		length (m)	22	
		width (m)	30	
		OR estimate (m^2) if irregular	228	
		area (m^2) =	*518.1*	*1.00*
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	never	*0.90*
SI4.	Water quality	**good/moderate/poor/bad**	moderate	*0.67*
SI5.	Shade	% of margin shaded 1m from bank	0	*1.00*
SI6.	Waterfowl	**absent/minor/major**	minor	*0.67*
SI7.	Fish population	**absent/possible/minor/major**	possible	*0.67*
SI8.	Pond density	number of ponds within 1km	8	*1.00*
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	*0.67*
SI10.	Macrophyte cover	%	20	*0.51*

***Note**: Guidance in undertaking the HSI is available at www.narrs.org.uk.*
HSI calculation formulae adapted from Rob Oldham

HSI score = **0.79**

Pond suitability = **good**

Appendix 4:

Proposed Scheme

To Be Added

Appendix 5:

Summary of Relevant Wildlife Legislation and National Planning Policy

Legislation

The Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats & Species Regulations 2010 (as amended) and the Protection of Badgers Act 1992 (as amended) confer various degrees of legal protection on species including bats, reptiles, great crested newts, otters, dormice, water voles, badgers, birds, and various plant and invertebrate species. (For a full list of protected species and more comprehensive detail of their specific legal protection, the relevant schedules of the legislation should be consulted directly).

This legal protection overrides all planning decisions.

The level of protection afforded to protected species varies dependent on the associated legislation.

In general, European Protected Species (EPS) (e.g. bats, great crested newt, dormice and otter) are afforded the highest level of protection. Any person who deliberately captures, injures or kills an EPS, deliberately disturbs an EPS, or who damages or destroys a breeding site or resting place of an EPS is guilty of an offence. Furthermore, any person who intentionally or recklessly disturbs an EPS animal while it is occupying a structure / place used for shelter / protection or who obstructs access to any structure / place that an EPS uses for shelter / protection is also guilty of an offence.

The level of protection afforded to species listed on the Wildlife and Countryside Act 1981 (as amended) varies considerably. 'Fully protected species', such as water vole, are afforded the highest level of protection. Any person who intentionally kills, injures, or takes a 'fully protected species', or who: intentionally or recklessly damages or destroys a structure or place used for shelter / protection; disturbs the animal whilst occupying a structure / place used for shelter and protection; or obstructs access to any structure / place used for shelter or protection is likely to have committed an offence. Other species, such as common reptiles, are afforded less protection and for these species it may only be an offence to intentionally or recklessly kill or injure animals. All nesting birds and their eggs, young and active nests are protected from destruction. Schedule 1 listed birds are also protected from disturbance whilst breeding.

Badgers are protected under the Protection of Badgers Act 1992 (as amended). This legislation includes protection against damage to badger setts and against interference and disturbance whilst badgers are in their sett, and prohibits various activities that may result in harm being caused to badgers. Of particular relevance to development activities are the offences of 'interfering with a badger sett' (which includes: damaging a badger sett or any part of it; destroying a badger sett; obstructing access to, or any entrance of, a badger sett; disturbing a badger when it is occupying a badger sett; or acting in a manner that is considered reckless and likely to result in any of the aforementioned actions), and; wilful killing or injury of a badger.

Under certain circumstances, licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful under The Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats & Species Regulations 2010 (as amended) and the Protection of Badgers Act 1992 (as amended).

In addition to the above legislation, the Protection of Mammals Act (1996) provides protection for all wild mammals from certain cruel acts including crushing and asphyxiation, which can have relevance for methods employed during site clearance works.

Schedule 9 of the Wildlife and Countryside Act (as amended) refers to invasive species such as signal crayfish, grey squirrel and Japanese knotweed and makes it an offence to release them or, in the case of plants, to cause them to grow in the wild.

National Planning Policy

The UK Post-2010 Biodiversity Framework forms the government response to the 2010 Convention on Biological Diversity, and replaces the UK Biodiversity Action Plan with five internationally agreed strategic goals and targets, including reducing pressures on biodiversity and safeguarding ecosystems, species and genetic diversity. The government's Biodiversity 2020 strategy aims to halt the loss of biodiversity and the degradation of ecosystem services by 2020, to include restoration where feasible. These are used as a guide for decision makers such as local authorities to fulfil their obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties.

The National Planning Policy Framework (NPPF) states *the planning system should contribute to and enhance the natural and local environment by...**minimising impacts on biodiversity and providing net gains where possible***. Furthermore, the NPPF states that *when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity...* and *opportunities to incorporate biodiversity in and around developments should be encouraged.*

Effectively, this means that the total biodiversity value of a site rather than its value purely in relation to protected species should be considered prior to determining a planning application, and councils are recommended to refuse planning permission where inadequate information is provided.

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Arboriculture and Ecology