University of Leicester

College Hall, Leicester

ECOLOGICAL APPRAISAL

May 2011

FPCR Environment and Design Ltd
Registered Office: Lockington Hall, Lockington, Derby DE74 2RH
Company No. 07128076. [T] 01509 672772 [F] 01509 674565 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

Rev	Issue Status	Prepared / Date	Approved/Date
-	Draft 1	LR/KJB / 16.03.11	JD / 18.04.11
	Rev A	KJB / 25.05.11	JD / 25.05.11

CONTENTS

TABLES

PHOTOGRAPHS

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Ltd. on behalf of Leicester University and provides details of an Extended Phase 1 Habitat Survey and ongoing badger *Meles meles*, great crested newt (GCN) *Triturus cristatus*, reptile and bat surveys on land at the College Hall, Knighton, Leicestershire in February 2011.

1.2 The site was a former halls of residence for the University, located to the south of Leicester city centre within the area of Knighton and approximately 1 mile from the main University Campus (Central Grid Reference SK 600 016 (Figure 1)). The site largely comprised student accommodation buildings with associated hardstanding and car parking areas. Habitats on site included tussocky semi-improved and improved grassland, a small area of woodland and areas of shrub planting. The site was bounded to the south by an arboretum with residential dwellings on all other aspects.

1.3 The survey was commissioned in order to identify any potential ecological constraints relating to the proposed renovation and development of the site.

2.0 METHODOLOGY

Desktop Survey

2.1 The Government Multi-Agency Geographical Information for the Countryside (MAGIC) website (www.magic.gov.uk) was searched for information regarding the location of statutory nature conservation sites. The National Biodiversity Network (NBN) website (www.searchnbn.net) was also used to search for records of protected species. Consultations for existing ecological data regarding statutory and non-statutory protected species were undertaken with the Leicestershire Amphibian and Reptile Group and the Leicestershire Environmental Resource Centre (LERC).

Extended Phase 1 Survey

2.2 A walkover assessment was undertaken on 11th February 2011 by ecologists from FPCR Environment and Design Ltd. and followed the standard Extended Phase 1 survey methodology (JNCC, 2003). This has enabled the broad classification of habitat types; identification of any features of interest and an initial nature conservation assessment. In addition a species list was recorded for all accessible habitats.

Protected Species

2.3 During the survey, observations, signs of, or suitable habitat for, any species protected under Part 1 of the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2010 and the Protection of Badgers Act 1992 were noted. Throughout the survey, consideration was also given to the existence and use of the site by other notable fauna such as Biodiversity Action Plan (BAP) or Red Data Book (RDB) species.

Bats

External/Internal Building Assessment for Bats

2.4 The exteriors of the buildings were visually assessed for potential access points and evidence of bat activity. Features were sought such as small gaps under barge/soffit/fascia boards, raised or missing roof/ridge tiles and gaps at gable ends, having the potential to be used as access points/ bat roost sites. Evidence that bats actively used such potential access points would include staining within gaps and bat droppings or urine staining under gaps; a note being made wherever such evidence was present. Indicators that potential access points had not recently been used included the presence of cobwebs and general detritus within the access points.

2.5 The interior of the buildings, including any accessible roof voids where present, were also visually assessed for evidence of bat activity and/or for the potential to be used by bats. Evidence sought which would indicate a roost comprised the presence of dead or live bat(s), concentrated piles or scattered droppings, food remains such as insect wing fragments as well as scratch marks and/or staining.

2.6 These surveys were completed by a Licensed bat worker from FPCR in February 2011 (Licence Reference Number: 20111496).

2.7 The trees on site were assessed for their potential to support roosting bats. Features which could provide suitable roost sites includes: cracks, fissures, cavities, beneath loose bark, woodpecker/rot holes or cavities formed by missing limbs. Presence of dense, mature ivy cover with woody stems was also noted as this can provide limited opportunities to support low numbers of bats and/or obscure other features suitable for bat use. The number, size and condition of these features is then used to give an assessment of potential for bat occupation (see Table 1).

Table 1.0 – Classification of bat potential in trees

Roost Potential	Description of Feature
Confirmed roost site	The presence of bats within features or the presence of bat evidence in association with suitable features.
High	Features of particular significance, offering conditions that are uncommon in the local area such as large cavities or multiple woodpecker holes.
Moderate	Features which provide a more secure form of roost for small groups of bats or individuals.
Low	One or two minor opportunities offered to individual bats that are easily replaced elsewhere, including features such as minor branch splits and small sections of loose bark.
None	No access points/potential roost sites.

2.8 Where features suitable to be used as a roost site were identified, evidence that bats had used the site as a roost was sought. This evidence comprises live or dead bats, droppings, urine staining, and grease /scratch marks on wood.

Nocturnal Survey

2.9 Nocturnal bat surveys were undertaken by suitably experienced ecologists including Licensed bat workers (Natural England Licence numbers 20111496 and 20110391) on 23rd (dusk survey on B2) and 24th (dawn survey on B1) May 2011. During the survey, the surveyors were positioned from 30 minutes prior to and 75 minutes following sunset, and 75 minutes prior to and 30 minutes following sunrise (this methodology takes into account the BCT guidelines).

2.10 The surveys were undertaken when weather conditions were suitable i.e. when the ambient air temperature exceeded 10°C and when there was little/no wind or rain. Bat box duet bat detectors were used during this survey to aid species identification.

Great Crested Newts

Field Survey

2.11 Survey methods followed those recommended by Natural England as detailed in the Great Crested Newt Mitigation Guidelines (English Nature, 2001). To determine the presence or absence of great crested newts, a total of four individual survey visits are required between mid-May and mid-June 2011 (three of these have been completed to date). On each survey occasion three of a possible four different techniques (egg search, sweep net, bottle-trap and torch) were used where suitable. A summary of each is provided below:

Bottle Trapping

2.12 Bottle traps were set within the water-body in the evening at densities of one trap per two metres of shoreline (where feasible) and left overnight for inspection in the morning within 17 hours of setting. Traps were partially submerged in the water leaving an air bubble in the bottle and secured by a cane marked with a high visibility tape to ensure relocation the following day. Care was taken to ensure that trapping did not occur during excessively warm weather, when the temperature inside the trap could rise considerably, reducing oxygen levels and potentially suffocating the newts.

Sweep Netting

2.13 Long handled sweep-nets were used to sample the margins of the pond for great crested newts, with approximately 15 minutes of netting per 50 m of shoreline.

Torching

2.14 Torching involves searching the waterbody after dusk using high-powered torches to scan the margins and potential display areas for newts. The perimeter of the pond is walked slowly recording any newts observed. Torch surveys are unsuitable within heavily vegetated and/or turbid ponds or after periods of heavy rain as visibility is diminished.

Egg Searching

2.15 Newts lay single eggs on leaves of aquatic plants or other suitable pliable material, after which the material is folded over the egg to protect it. Great crested newt eggs can be distinguished from those of the other newts by their size, shape and colour. Submerged vegetation was examined for newt eggs and folded leaves gently opened to check for eggs. Once a great crested newt egg is identified, no further leaves need to be examined to minimise any further potential disturbance.

Reptiles

2.16 A reptile presence/absence survey is currently ongoing at the site in specific locations identified as offering potential habitat. The survey was undertaken based on methodology detailed in the Herpetofauna Workers Manual (Gent and Gibson, 1998) and the Froglife Advice Sheet 10 - Reptile Survey (Froglife 1999). Methods involved a search for basking reptiles on/under naturally occurring and strategically positioned artificial refugia over seven separate occasions. These were placed in locations that offered the most suitable habitat for common reptiles, i.e. structurally diverse grassland habitats with areas of bare ground/short vegetation and wetland features.

3.0 RESULTS

Desktop Survey

3.1 Two statutorily designated sites of nature conservation interest were present within 2km of the site boundary (MAGIC) (Figure 1.0). Knighton Spinney Local Nature Reserve (LNR) was situated approximately 0.8km to the south of the site boundary and designated for its oak *Quercus sp.* and ash *Fraxinus excelsior* plantation woodland. In addition to the above, Aylestone Meadows LNR was located 2km to the west of the site and designated for its mosaic of grassland, wetland and woodland. No other sites of statutory interest were noted.

3.2 LERC have provided records of several non-statutory designated sites within close proximity of the survey area. These sites are summarised in Table 1 below:

Table 1. Statutory & Non-statutory sites of Nature Conservation Interest

Site	Designation	Distance and direction from site	Description
Saffron Brook	LWS	0.5km to the south	Designated for its importance as a wildlife corridor.
Knighton Spinney	LWS	0.8km to the south	Designated for its oak and ash plantation woodland
Ivanhoe Mainline Railway	LWS	1.1km to the north-west	A major walking trail and important wildlife corridor.
Race Course Meadow	LWS	1.2km to the south-east	No description available
Victoria Park Parkland	pLWS	1.2km to the north	A 69 acre park comprising traditional parkland, woodland and open space.
Leicestershire Golf Course	LWS	1.7km to the north-east	A mosaic of habitats including grassland, ponds, tree planting. A brook also runs through the site.

CONFIDENTIAL – (TO BE REMOVED PRIOR TO RELEASE TO THE PUBLIC DOMAIN)

3.3 Searches of the NBN Gateway and information provided by LERC have highlighted a number of protected and BAP species within 2km of the site (Figure 1.0). These include multiple records of badger *Meles meles* within the local area with setts recorded in the arboretum to the south of the site and within surrounding residential gardens (these records have also been confirmed by the Leicestershire Badger Group). Sightings of grass snake *Natirx natrix* have been noted within the arboretum and to the east of Race Course Meadow LWS. Great crested newts *Triturus cristatus* have also been recorded in ponds in Clarendon Park to the north of the site and in residential ponds in west and south Knighton.

3.4 LERC also hold records of a number of UK BAP bird species within the Stoneygate area, including hobby *Falco subbuteo*, fieldfare *Turdus pilaris* and spotted flycatcher *Muscicapa striata.* Records of bats are also held such as common pipistrelle *Pipistrellus pipistrellus* bats in South Knighton to the south-east of the site and brown long-eared *Plecotus auritus* bats in Stoneygate to the north-east.

3.5 The Leicestershire Amphibian and Reptile Group did not hold any records relevant to this search area. No records of any other protected or notable species were held by NBN.

Extended Phase 1 Survey (Figure 2.0)

3.6 The majority of the site comprised a series of five former student accommodation blocks (Blocks A – E) known as College Hall, owned by Leicester University. The accommodation blocks were connected by a network of paved courtyards, paths, roads and areas of car parking that were surrounded by improved grassland. Latimer House in the east of the site and a cottage with associated outbuildings in the south of the site, were set within gardens dominated by more established semi-improved grassland. Other habitats recorded included semi-natural broad-leaved woodland, mixed plantation, native scrub, introduced scrub and individual trees.

Improved Grassland

3.7 Improved grassland was a managed, short sward of limited species diversity, dominated by perennial rye-grass *Lolium perenne* but also included other grass species; cock's-foot *Dactylus glomerata*, annual meadow-grass *Poa annua* and red fescue *Festuca rubra* which occurred occasionally. Few broad-leaved species were recorded and occurred infrequently throughout the sward included dandelion *Taraxicum officinale agg.*, white clover *Trifolium repens* and creeping buttercup *Ranunculus repens*.

Semi-improved Grassland

3.8 Grassland elsewhere across the site was recorded in areas of established gardens and landscaped areas associated with the cottage in the south of the site and Latimer House in the east. Semi-improved grassland was classified as species poor as it retained a significant content of perennial rye-grass, however herbaceous species were more frequent and included common cat's-ear *Hypochaeris radicata*, common sorrel *Rumex acetosa*, yarrow *Achillea millefolium*, selfheal *Prunella vulgaris*, creeping cinquefoil *Potentilla reptans* and ribwort plantain *Plantago lanceolata*. Localised patches of lady's bedstraw *Galium verum* were recorded to the south of Latimer House and wood anemone *Anemone nemorosa* and bulbs including snowdrop *Galanthus nivalis* and daffodil *Narcissus sp.* were recorded beneath trees T1 and T2.

Semi-natural Broad-leaved Woodland

3.9 A strip of semi-natural broad-leaved woodland flanked the western boundary of the site, screening Knighton Road. The canopy was dominated by ash and sycamore *Acer pseudoplatanus* with beech *Fagus sylvatica*, field maple *Acer campestre*, hornbeam *Carpinus betula*, Norway maple *Acer platanoides* and silver birch *Betula pendula* also occurring. Hawthorn *Crataegus monogyna*, hazel *Corylus avellana* and elder *Sambucus nigra* were recorded in the shrub layer and ivy *Hedera helix*, cow parsley *Anthriscus sylvestris* and bramble *Rubus fruticosus agg.* noted at ground level.

Mixed Plantation

3.10 A group of trees cherry *Prunus sp*, cypress *Chamaecyparis sp.* and cedar *Thuja plicata* trees, separated Block D of College Hall from the main car park. Two areas of mixed plantation were recorded towards the southern edge of the site that were dominated by yew *Taxus baccata* and Lawson's cypress *Chamaecyparis lawsoniana.*

Native Scrub

3.11 Native scrub was recorded in the south of the site and comprised holly *Ilex aquifolium*, elder, hawthorn, yew and bramble *Rubus fructicosus agg.*. At ground layer, occasional tall herb and ruderal were recorded including broad leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, cow parsley and cleavers *Galium aparine*.

Introduced Scrub & Ornamental Planting

3.12 Introduced scrub was recorded within contained landscaped boarders within the courtyards of the College Hall complex and as boundary screening at the peripheries of the College Hall complex. Species recorded here included forsythia *Forsythia sp.,* rosemary *Rosmarinus officinallis*, Oregon grape *Mahonia aquifolium,* hebe sp *Hebe sp*, shrubby St John's-wort *Hypericum prolificum* and sage *Salvia officinalis*. Parts of the gardens associated with Latimer House included ornamental planting and non native tree and shrubs within the rockery garden to its west, which included New Zealand privet *Grissolina littoralis* and magnolia *Magnolia sp*.

Individual Trees

3.13 Several large, mature prominent trees were located within the site. A mature horse chestnut *Aesculus hippocastanum* was recorded to the south of College Hall Block A, which was in apparently good condition, although with several cavities that provided potentially suitable microhabitats for epiphytes and saprophytes. Two large mature beech trees stood centrally within the site both of which had failed limbs, minor dead wood and ivy growth also offering microhabitats. A large leaved lime *Tilia platyphyllus* and a copper beech *Fagus sylvatica "Purpuria*" were also present in the north western corner of the site, which too had minor dead wood, epicormic growth and some ivy. A cluster of thirteen silver birch were recorded within an area of amenity grassland to the east of Block C. Overall, the trees within the site provided a variety of vegetation structure and overall enriched the nature conservation value of the site. None of the trees within the site were veteran or near veteran (full details in FPCR Tree Report).

Hedgerows

3.14 Four hedgerows were recorded within the site, all of which were slow growing single species hedges, which provided screening around areas of buildings and hard-standing. None were UK BAP habitats as they did not comprise native species. Hedges were managed to a height of approximately 1.5m and had a uniform "box" like form.

Buildings and Hard-standing

3.15 The areas of hard-standing were a mixture of tarmac, paved and concreted and were of no ecological value. Building descriptions are provided in the section below.

Fauna

Bats

3.16 Latimer House (Building 1 (B1)) was a brick-built, three storey house, with hipped/pitched clay tile roof sections and clay ridge tiles (Photo 1a). Features of note included gables, barge boards, fascias, ornate chimneys, over hanging eaves, hanging tiles and flashing. The structure also supported a single-storey flat roofed section with parapet walls to the rear of the property. Potential bat access points were limited and comprised occasional gaps under slipped roof/hanging tiles, missing mortar and occasional gaps under lifted flashing. Dense ivy cover was also present on the eastern wall of the building which may provide some bat roosting opportunity. The external brickwork was observed to be in good condition and the fascias were noted to be flush to the wall offering no potential to roosting bats

3.17 Internally, the building supported a traditional wooden beam roof structure approximately 2m in height and 3m in width with additional smaller voids on the northern and eastern aspects. Features of note included air vents on the gable walls and wooden sarking which was observed to be in good condition and tightly sealed. Exposed roof beams and insulation was also present. Very little light spill entered into the void and potential bat access points were limited to a large gap between the gable brick wall and roof structure at the apex on the western aspect.

Photo 1. a. View of the western aspect of B1 with B1a in the foreground (left), 1b. Internal structure of B1 (right).

Photograph: FPCR Environment and Design Ltd 2011

3.18 B1a was a single-storey outhouse on the northern aspect of B1. The structure was brick built with a pitched clay roof and clay ridge tiles. Features of note included gables, barge boards, soffits and flashing. Potential bat access points included missing mortar at the ridge, missing/slipped roof tiles and a wooden slat vent on the western aspect. Evidence of nesting birds was also noted. Internally, B1a supported a roof void approximately 1m in height and 2m in width. Access to this void was restricted, however, the void appeared to be very dusty and cobwebbed.

3.19 No evidence of roosting bats was observed externally or internally in association with B1 and B1a during the survey.

3.20 Building two (B2) was a three storey cottage with a pitched/hipped slate roof (Photo 2). Features of note included gables, barge boards, overhanging eaves, chimneys and vents in the wall. Three adjoining outbuildings were also noted on the northern aspect, all of which were one storey, brick built structures with pitched slate roofs. Potential bat access points were noted in association with lifted flashing around the base of the chimneys, occasional missing roof tiles and gaps under the ridge. A number of old bird nests were also observed on top of the walls under the overhanging eaves. Internally, the cottage had a very small void, approximately 1m in height and 1m in width. The void was heavily insulated with an exposed ridge beam which had mould growth indicating damp/humid conditions. No evidence of roosting bats was observed in association with this building.

Photo 2. View of the northern aspect of B2

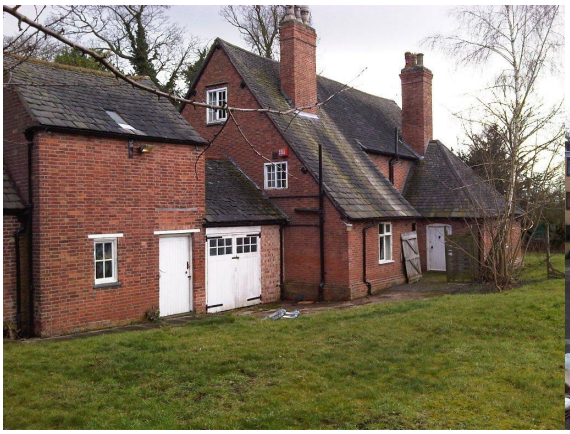

Photo 3. Halls of residence, structure B3d

Photograph: FPCR Environment and Design Ltd 2011

3.21 Structures B3a – f (Photo 3) comprised the majority of the buildings on site and formed the old halls of residence. The buildings were similar in structure and were observed to be three-storey, pre-fabricated, concrete built buildings with a flat concrete/felted roof. Features present were limited to areas of metal fascias, occasional flashing and skylights. The buildings were considered to have a very low potential to bats with possible bat access points limited to occasional gaps under the metal fascias (which on closer inspection were observed to be shallow and heavily cobwebbed). No roof void was present within the structures and no evidence of roosting bats was observed internally or externally in association with Ba – Bf.

Bats in Trees

3.22 A full arboricultural assessment of all the trees on site can be found within the Tree Assessment Report (FPCR, March 2011). Two trees were considered to offer potential roosting features to bats. Tree T1 (Figure 2) was a mature beech *Fagus sylvatica* tree with dense ivy cover. It was considered that there was some limited potential for the ivy to be obscuring possible cavities or cracks in the tree which may provide potential to bats (the ivy was not considered to offer much potential in itself) and the tree was therefore determined to offer low potential for bats. T2 was also a beech with 3 branch socket cavities (one each on the western, northern and southern elevation) approximately 20cm x 20cm in size. Dead wood and lifted bark was also observed in areas. This tree was considered to offer moderate potential for bat use. No evidence of bat occupation was observed in association with either of the above trees during the survey.

Nocturnal Assessment

Dusk Survey

3.23 Weather conditions during the dusk survey on B2 were as follows; little wind, no rain, 40% cloud cover and a temperature of 15°C. During the survey, no bats were observed to emerge. In addition to this, very little bat activity was recorded around the building. Activity was limited to one common pipistrelle *Pipistrellus pipistrellus* bat commuting south from the residential garden on the western boundary of the site into the arboretum at 21:25. No further bat activity was noted.

Dawn Survey

3.24 Weather conditions during the dawn survey on B1 were as follows; little wind, no rain, 20% cloud cover and a temperature of 10°C. During the survey, no bats were recorded entering B1 to roost. In addition to this, no bats were noted to be foraging or commuting within the vicinity of the building.

Amphibians

3.25 There are no aquatic habitats suitable to support breeding amphibians (including great crested newts) present within the site boundary. The trees, scrub and semi-improved grassland habitats were however considered to provide some suitable terrestrial and hibernation opportunity to these species. The improved grassland, buildings and hard-standing on site was considered sub-optimal and did not provide suitable terrestrial habitat conditions for this group.

3.26 Ordnance survey maps and aerial photography were checked for waterbodies within 500m of the site. Two ponds were noted within the arboretum to the south of the site, P1 was located 250 m to the south of the site boundary and was approximately 30 m x 10 m in size. The pond had gently sloping banks and was shaded by surrounding mature trees. Aquatic vegetation included yellow iris *Iris pseudacorus*, common duckweed *Lemna minor* and ivy-leaved duckweed *Lemna trisulca*. Heavy leaf litter and detritus was also noted.

3.27 P2 was also located within the arboretum, approximately 210 m to the south-east of the site boundary. The pond was approximately 4 m x 8 m in size with gently sloping banks. Water depth was low at the time of survey and the pond was heavily shaded by trees, no aquatic vegetation was present.

3.28 The presence of a third ornamental waterbody was noted with the garden of Knighton Hall to the east of the site. This feature was a small, shallow metal circular feature (approximately 2 m diameter) with steep metal sides approximately 30 cm high and is not considered to provide potential newt habitat due to its structure and form.

Field Survey

3.29 Great crested newt surveys were undertaken on P1 and P2. To date, following completion of three full surveys, no great crested newts have been recorded in association with P1 or P2. Smooth newts have been observed during the bottling and torching methods in P1 on all survey occasions. No other amphibian species were recorded. Table 3 below presents a summary of these results;

Table 3. Newt surveys; summary of results

Survey	Date	Weather	Results
1	12.05.11	14°C, no wind, no rain.	No GCN recorded. 7 smooth newts captured in bottle traps within P1. No newts observed in P2.
2	18.05.11	13°C, light wind, no rain.	No GCN recorded. 2 smooth newts captured in P1. No other newts observed.
3	23.05.11	15°C, light wind, no rain	No GCN recorded. 8 smooth newts captured in bottle traps within P1. No other newts observed.
4	Survey to be undertaken week commencing 30th May 2011.		

Reptiles

3.30 Some of the habitats present within the site boundary (semi-improved grassland, rockery garden associated with introduced scrub and scrub and woodland edge habitats) were considered to be potentially suitable for reptiles, although the urban context limits its suitability as viable habitat to a degree. The habitats surrounding the site to the north east and west included busy main roads, limiting migrations and domestic cats were observed within the site, which potentially would prey upon any reptiles present. To the south however the arboretum and large gardens provide potential linkage to the Saffron Brook corridor to the south which would provide a safer and more suitable linking habitat for migration.

3.31 A total of 40 artificial refugia were located within the site in habitats considered most suitable for reptiles to confirm presence/absence. The surveys are currently ongoing with no reptiles observed thus far.

Birds

3.32 Opportunity for nesting birds within the site boundary was noted in the semi-natural broadleaved woodland, mixed plantation, native scrub, introduced scrub, individual tree and hedgerow habitats. The habitats provided good structural habitat for nesting and foraging. Several nests were observed, particularly in the native scrub and mixed plantation to the south and east of the cottage (B2) and under the eaves of B2.

Badgers (CONFIDENTIAL – TO BE REMOVED PRIOR TO RELEASE TO THE PUBLIC DOMAIN)

3.33 An active badger sett was recorded within the site. It was classified as a subsidiary sett with four active entrance holes. The sett was considered to be occupied at the time of survey with recently formed spoil mounds and clear paths connecting the four entrance holes and fresh bedding at one of the entrances. Paths led away from the sett to the north, east and south east. Associated foraging was present within surrounding semi-improved grassland and mixed plantation habitats. Two badger latrines were also recorded within the site: one single use latrine very close to the sett and a second in the native scrub to the south west of the sett, which was regularly used, recorded in conjunction with signs of foraging, paths and prints. Evidence of badger was relatively localised around the sett and no evidence was recorded in the improved grassland / hard-standing / College Hall block complex, which provides limited habitat of value to badgers.

Other species

3.34 No evidence of or potential habitat for any other protected species was recorded within the site boundary.

4.0 DISCUSSION & RECOMMENDATIONS

Statutory Sites of Importance to Nature Conservation

4.1 Two statutorily designated and six non-statutorily designated sites of nature conservation interest were identified within 2km of the site, with the closest 0.5km distant. Due to the intervening distance between the site and surrounding areas of nature conservation interest and the localised nature and limited extent of the proposed works, there will be no impact on any statutorily or non-statutorily protected sites within the local area from the proposed works.

Habitats

4.2 The areas of hard-standing provided no ecological merit and improved grassland was of limited nature conservation value due to its low botanical species diversity and short managed sward. These habitats were of no constraint to the proposals.

4.3 The semi-improved grassland was less frequently managed and comprised a greater diversity of herbaceous species, providing habitat for small mammals, nectar sources for invertebrates and foraging for various other fauna, including badgers which were recorded using the grassland.. This habitat is therefore considered to enhance the biodiversity value of the site and to be of moderate nature conservation value, worthy of retention. The proposals involve the renovation of existing buildings, therefore are anticipated to involve minimal disturbance to other habitats and ecological impacts on these are therefore considered to be minimal.

4.4 In the event that proposals significantly alter, it is recommended that further consultation is sought with a suitably qualified ecologist to re-assess potential impacts and propose any necessary mitigation / compensation.

Fauna

Bats

4.5 No evidence of bat use was observed in association with B1, B1a, B2 and B3a-f during the internal and external surveys. However, a number of potential bat access/roosting features were noted in association with B1, B1a and B2. These features included the presence of missing mortar, slipped/missing roof tiles, lifted flashing and open vents.

4.6 All species of bats are listed on the Conservation of Habitats and Species Regulations 2010 making it illegal to deliberately disturb any such animal or damage/destroy a breeding site or resting place of any such animal. Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection.

4.7 During the nocturnal surveys on the 23rd and 24th May, no bats were observed to be roosting within B1, B1a or B2. In addition to this, very little bat activity was recorded within the surrounding area and the site is considered likely to be limited value to the local bat population.

4.8 An additional nocturnal survey will be undertaken on B1, B1a and B2 between the months of June - July to confirm these results. This report will be updated once the survey has been completed.

4.9 In the unlikely event that a bat roost was present within B1, B1a or B2, a European Protected Species Licence from Natural England may be required to legitimise the renovation works. This would require the provision of mitigation/compensation within the buildings retained/created. Further surveys would be undertaken to determine the size and status of the roost and inform the mitigation strategy. Opportunities within other areas of the site could be utilised to provide additional habitat to further enhance the site for use by bats in the long term, thereby promoting the conservation of any bats within the local area and provide habitat enhancement for these species in accordance with national and local planning policy. This can be discussed at a later date if required.

4.10 B3 was not considered to offer any potential features or opportunity to roosting bats and thus will not pose a statutory constraint to the development proposals.

Bats in Trees

4.11 During the survey, two trees (T1 and T2) on site were considered to offer potential roosting features to bats including branch cavities, dead wood and ivy. Where possible, these trees should be retained. If removal is required, both trees and should be climbed and inspected by a licensed bat worker prior to the removal to confirm the presence/absence of bats. Further advice would be provided if necessary.

Amphibians

4.12 No ponds or waterbodies were present within the development area and the hardstanding and improved grassland habitat on site was considered largely unsuitable for these species. Some potentially suitable terrestrial habitat was associated with the woodland and semi-improved grassland habitat within the eastern and southern sectors of the site. These areas were also considered to be well connected to a pond observed in the arboretum located 250 m to the south of the site. The suitability of this pond to the great crested newt is currently unknown.

4.13 LERC hold multiple records of great crested newts within the surrounding area. Due to this, and the good connections between the site and the pond, it is recommended that four presence/absence great crested newt surveys are carried out on this pond to confirm the presence/absence of this species. The surveys should follow Natural England guidelines and be undertaken during the recommended season for great crested newts (mid-March to mid-June) with at least half of the surveys undertaken during the peak breeding season (mid-April to mid-May).

4.14 To date, no great crested newts have been recorded within P1 or P2 located within the arboretum to the south of the site. A small number of smooth newts have been observed on all survey occasions during the torching and bottle methods in P1. These results indicate a small population of smooth newts is present within the P1 which would not be a statutory constraint to development. It is considered unlikely that great crested newts will be present within the ponds and that there will be no constraints to development from the presence of this species, however the fourth survey will be completed in compliance with Natural England Great Crested Newt Mitigation Guidelines and the final results will be submitted once complete.

Reptiles

4.15 The semi-improved grassland, rockery garden with associated introduced scrub and scrub and woodland edge habitats, have the potential to support reptile species including common lizard *Lacerta vivipara*, slowworm *Anguis fragilis* and grass snake through their varied vegetation structure and habitat mosaic. In addition to this, consultation results have highlighted records of grass snake within the arboretum to the south of the site.

4.16 Common lizard, slowworm and grass snake are partially protected under the Wildlife and Countryside Act 1981 (as amended) in that it is an offence to intentionally kill or injure the species. In order to ensure that none of the above offences are committed, it is recommended that specific reptile surveys are undertaken on site.

4.17 A total of 40 artifical refugia have been laid in suitable areas within the site boundary to confirm the presence/absence of reptiles. Thus far no reptiles have been observed and the report will be updated once the surveys have been completed.

4.18 Should the presence of the species be confirmed within the site, dependent on areas affected and size of population recorded, mitigation may be required. Further advice on the level and type of mitigation would be provided once constraints were understood. The level of protection afforded to these animals does not require a licence to be in place, however in principle agreement of any mitigation strategy with the local Wildlife Trust and also Natural England should be sought.

Breeding Birds

4.19 The semi-natural broadleaved woodland, mixed plantation, native scrub, introduced scrub, individual tree and hedgerow habitats provides suitable habitat for nesting birds. It is recommended that any woody vegetation removal required is undertaken outside of the nesting season (March – August inclusive) as all birds are protected whilst on the nest under the Wildlife and Countryside Act 1981 (as amended). Where this is not possible, vegetation to be removed should be checked for the presence of nesting birds by an experienced ecologist prior to removal. Where nesting birds are present an exclusion zone should be set around the nest (suitable for the species nesting) within which no works can occur until the birds have fully fledged.

Badgers (CONFIDENTIAL – TO BE REMOVED PRIOR TO RELEASE TO THE PUBLIC DOMAIN)

4.20 Consultation results illustrated a high activity of badgers within the local area. In addition to this, a badger sett was observed on site which comprised four holes and showed evidence of recent use in the form of fresh digging, badger prints and a single latrine located close to the sett. The evidence observed was significantly greater than that in March 2010 where the sett was observed to consist of a single hole only (a number of other disused setts to the south of the site were also observed).

4.21 It is therefore considered that the sett is a subsidiary to a larger main sett nearby, with the recent extension of the sett suggesting a greater current level of habitation, possibly as a result of a female leaving the main sett in order to give birth or young male cubs moving/ousted out of the main sett as they reach maturity. The site provided suitable badger foraging habitat in the form of wooded areas and grassland, as did the arboretum to the south of the site boundary.

Proposed Mitigation Strategies

4.22 Mitigation associated within any development would focus on ensuring that badgers were not disturbed and suffered no unnecessary harm or stress during any development process. Current legislation requires a Natural England Protected Species Licence to be in place if badgers are to be disturbed by works even if there is no direct interference or damage to the sett. Natural England issues guidance outlining the types of work within which would be expected to cause disturbance and are therefore licensable. In addition, they recognise that levels of disturbance differ based on the status, current use and existing levels of disturbance as well as the proposed works at an individual sett. The requirement for a Licence is therefore based on a number of site specific factors such as distance to the sett, type of works, noise levels and machinery to be used.

4.23 Current site proposals show the loss of the badger sett. As a result of this, works would require a Licence from Natural England to enable full closure of the sett. Licences are issued only between July to November inclusive. Full details of likely requirements and mitigation can be provided once the exact nature and extent of the proposals are understood. Should closure be required, either temporarily or permanently, the disused setts to the south of the site could be re-excavated by the badgers, providing more than sufficient habitat to re-accommodate badgers currently using the on-site sett, permanently or in the interim. Additional on-site landscaping (easily accessible by badgers) would be recommended in order to mitigate for any potential badger foraging areas that may be lost to the proposals.

4.24 No evidence of other protected species or habitat suitable for their use was recorded on site.

Enhancements

4.25 It is recommended that bird boxes are erected at the perimeter of the site upon the mature trees and that a variety of types of box are introduced to attract differing species of bird to the site. Bat or insect boxes in suitable locations would also provide additional habitat opportunities for these species groups. Bat boxes could be incorporated at differing heights and aspects, affixed to trees and would maximise potential roosting opportunities within the site. Insect houses at discrete locations at the perimeter of the site should also be considered.

4.26 Development proposals should ensure the use of locally native species or species known to attract wildlife wherever feasible, including within the grassland mixes. Planting should aim to create a tussocky structure utilising climbers, trees, shrubs and ground cover.

5.0 SUMMARY

5.1 The majority of the site comprised a series of five former student accommodation blocks (Blocks A – E) known as College Hall, owned by Leicester University. Other habitats recorded across the site included semi-natural broad-leaved woodland, mixed plantation, native scrub, introduced scrub and individual trees. Botanical species present were considered to be common and typical of the habitats present. No sites designated for their nature conservation interest are currently thought to be present on site or within the local area.

5.2 Habitats suitable to support a number of protected or notable species were present on site, as a result the following surveys have been / are to be undertaken;

- One bat nocturnal survey has been carried out. No bats were observed to be roosting within B1, B1a or B2. A second nocturnal survey is to be undertaken and the results will be submitted once completed.
- If they are to be removed, trees T1 and T2 should be climbed and inspected for bats prior to removal.
- Three full great crested newt surveys have been carried out in P1 and P2. To date, no great crested newts have been recorded. One further survey is to be carried out however, it is considered extremely unlikely that great crested newts will be found.
- Artificial reptile refugia have been laid and reptile surveys are ongoing

5.3 A badger sett is present on site which will be affected by the development proposals. A Licence from Natural England would be required in order to close this sett down..

5.4 Woody vegetation should be removed outside of the bird nesting season where possible.

5.5 Habitat enhancements in the form of bat and and bird boxes and a strengthened boundary habitat, such as a native species rich hedgerow is recommended to enhance the site's biodiversity for both flora and fauna interest. Any trees removed should be compensated for by replacement planting in a suitable location with native tree species.

Appendix A: Botanical Species Lists

Semi-Natural Woodland

Common Name	Scientific Name
Alder	*Alnus glutinosa*
Ash	*Fraxinus excelsior*
Beech	*Fagus sylvatica*
Bramble	*Rubus fructicosus agg.*
Cow parsley	*Anthriscus sylvestris*
Creeping buttercup	*Ranunculus repens*
Elder	*Sambucus nigra*
Field maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Herb bennet	*Geum urbanum*
Hornbeam	*Carpinus Betula*
Ivy	*Hedera helix*
Norway maple	*Acer platanoides*
Sycamore	*Acer pseudoplatanus*
Silver birch	*Betula pendula*
Yew	*Taxus baccata*

Mixed Plantation

Common Name	Scientific Name
Bird cherry	*Prunus padus*
Box elder	*Acer negundo*
Bramble	*Rubus fructicosus agg.*
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Common toadflax	*Linaria vulgaris*
Creeping buttercup	*Ranunculus repens*
Creeping thistle	*Cirsium arvense*
Elder	*Sambucus nigra*
Foxglove	*Digitalis purpurea*
Herb bennet	*Geum urbanum*
Ivy	*Hedera helix*
Lawson cypress	*Chamaecyparis lawsoniana*
Purple plum	*Prunus pissardii cerasifera*
Snowberry	*Symphoricarpos albus*
Snowdrop	*Galanthus nivalis*
Western red cedar	*Thuja plicata*
Wild cherry	*Prunus avium*
Yew	*Taxus baccata*
Yorkshire-fog	*Holcus lanatus*

Native Scrub

Common Name	Scientific Name
Bramble	*Rubus fructicosus agg.*
Broad-leaved dock	*Rumex obtusifolius*
Common nettle	*Urtica dioica*
Cow parsley	*Anthriscus sylvestris*
Elder	*Sambucus nigra*
Hawthorn	*Crataegus monogyna*
Holly	*Ilex aquifolium*
Lime	*Tilia x europaea*
Sycamore	*Acer pseudoplatanus*

Introduced Shrubs

Common Name	Scientific Name
Box	*Buxus sempervirens*
Cherry sp.	*Prunus sp.*
Cypress	*Chamaecyparis sp*
Deadly nightshade	*Atropa belladonna*
Elder	*Sambucus nigra*
Forsythia sp.	*Forsythia sp*
Gorse	*Ulex europaeus*
Hebe sp.	*Hebe sp*
Holly	*Ilex aquifolium*
Hornbeam	*Carpinus betula*
Ivy	*Hedera helix*
Leyland cypress	*X Cupressocyparis leylandii*
Lavender sp.	*Lavandula sp*
Magnolia	*Magnolia sp*
Oregon Grape	*Mahonia aquifolium*
New Zealand privet	*Grissolina littoralis*
Rosemary	*Rosmarinus officinalis*
Sage	*Salvia officinalis*
Scots pine	*Pinus sylvestris*
Shrubby St John's-wort	*Hypericum prolificum*
Spindle	*Euonymus europaeus*
Sycamore	*Acer pseudoplatanus*
Wild cherry	*Prunus avium*

Individual trees

Common Name	Scientific Name
Ash	*Fraxinus excelsior*
Beech	*Fagus sylvatica*
Bird cherry	*Prunus padus*
Box	*Buxus sempervirens*
Broadleaved lime	*Tilia platyphyllus*
Cherry sp.	*Prunus sp.*
Crab apple	*Malus sylvestris*
Deodar cedar	*Cedrus deodara*
Flowering cherry	*Prunus kanzan*
Horse-chestnut	*Aesculus hippocastanum*
Japanese maple	*Acer palmatum*

Lime	*Tilia x europaea*
London plan	*Platanus x hispanica*
Maidenhair tree	*Ginkgo biloba*
Red Horse chestnut	*Aesculus x carnea*
Silver birch	*Betula pendula*
Smooth leaved holly	*Ilex x altaclerenis*
Tibetan cherry	*Prunus serrula*
Whitebeam	*Sorbus aria*
Wild cherry	*Prunus avium*

Improved Grassland

Common Name	**Scientific Name**
Annual meadow-grass	*Poa annua*
Cock's-foot	*Dactylis glomerata*
Creeping buttercup	*Ranunculus repens*
Dandelion	*Taraxacum officinale agg.*
Perennial rye-grass	*Lolium perenne*
Red fescue	*Festuca rubra agg.*
White clover	*Trifolium repens*

Semi-improved Grassland

Common Name	**Scientific Name**
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Common Cat's-ear	*Hypochaeris radicata*
Common Field-speedwell	*Veronica persica*
Common mouse-ear	*Cerastium fontanum ssp. vulgare*
Common Ragwort	*Senecio jacobaea*
Common Sorrel	*Rumex acetosa*
Creeping Buttercup	*Ranunculus repens*
Creeping Cinquefoil	*Potentilla reptans*
Creeping Thistle	*Cirsium arvense*
Daffodil	*Narcissus pseudonarcissus*
Daisy	*Bellis perennis*
Dandelion	*Taraxacum officinale agg.*
Herb Bennet	*Geum urbanum*
Lady's Bedstraw	*Galium verum*
Perennial Rye-grass	*Lolium perenne*
Red Fescue	*Festuca rubra agg.*
Ribwort Plantain	*Plantago lanceolata*
Selfheal	*Prunella vulgaris*
Snowdrop	*Galanthus nivalis*
a violet	*Viola sp.*
White Clover	*Trifolium repens*
Wood Anemone	*Anemone nemorosa*
Yarrow	*Achillea millefolium*
Yorkshire-fog	*Holcus lanatus*

Victoria Park Parkland

Ivanhoe Mainline Railway

Leicestershire Golf Course

Race Course Meadow

Knighton Spinney

Saffron Brook

- Site boundary
- Local Wildlife Site (LWS)
- Potential Wildlife Site (pWS)
- Multiple species records
- Badger record
- Badger sett
- Pipistrelle bat
- Chiroptera bat
- Brown long-eared bat
- Hedgehog
- Grass snake
- Smooth newt
- Great crested newt

UKBAP Protected Species

- Spotted flycatcher
- Fieldfare
- Hobby

University of Leicester

College Hall Site
Knighton, Leicester

DESIGNATED SITES/PROTECTED SPECIES PLAN AND LOCATION PLAN

Not to Scale @ A3 HSK/KJB 12.04.2011

Figure 1

FPCR Environment and Design Ltd, Lockington Hall, Lockington, Derby, DE74 2RH ▪ t: 01509 672772 ▪ f: 01509 674565 ▪ e: mail@fpcr.co.uk ▪ w: www.fpcr.co.uk ▪
masterplanning ▪ environmental assessment ▪ landscape design ▪ urban design ▪ ecology ▪ architecture ▪ arboriculture ▪

J:4600/4602/Consultation results plan

- Site boundary
- Semi natural broadleaved woodland
- Mixed plantation
- Native scrub
- Introduced shrubs & ornamental planting
- Individual tree
- Improved grassland
- Species poor semi-improved grassland
- Hedgerow
- Fence
- Wall
- Hard standing
- Building with reference (B1)
- Bare ground
- Tree with bat potential
- Badger sett/latrine

Leicester University

College Hall
Knighton Road, Leicester

PHASE 1 HABITAT PLAN

N

Not to Scale LR / JD 14.02.2011

Figure 2

FPCR Environment and Design Ltd, Lockington Hall, Lockington, Derby, DE74 2RH ▪ t: 01509 672772 ▪ f: 01509 674565 ▪ e: mail@fpcr.co.uk ▪ w: www.fpcr.co.uk ▪
masterplanning ▪ environmental assessment ▪ landscape design ▪ urban design ▪ ecology ▪ architecture ▪ arboriculture ▪

J:\4600\4602\Phase 1 Habitat Plan.cdr