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ECOLOGY, FENCING, ARBORICULTURE, INVASIVE WEEDS

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Preliminary Ecological Appraisal

January 2025



Land at Little Lane, Desford

SmarTech Design



Report for:

SmarTech Design

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Non-Technical Summary

This report presents the results of a Preliminary Ecological Appraisal of a 0.21ha area of land off Little Lane, Desford, LE9 9GP. The proposal is a self-build property with an associated driveway and turning area within what is currently a small woodland.

Two statutory designated sites are situated within 2km of the Site, Botcheston bog SSSI and Rothley brook, a statutory river. Neither are considered likely to be impacted by the proposed development.

Priority habitat native hedgerow is present on Site. No other priority habitats identified in the priority habitat inventory are present within 50m of the Site.

The Site consists of mixed woodland, with a native hedgerow and a non-native hedgerow bordering the northeastern and southeastern boundaries of the Site. Four trees and a small area of priority habitat native hedgerow will be lost according to the current proposals.

The proposals are considered to have a limited impacts on protected species.

Two potential roosting features (PRF) were identified within trees on Site. The proposed development is not expected to remove or affect either feature and have a very low level of impact on foraging habitat, and actually increasing edge habitats.

The woodland and hedgerows on Site offer suitable nesting habitat for birds. Any vegetation removal should be undertaken outside of the nesting bird season.

It is recommended that an ECoW be present for the disturbance of potential refugia/hibernacula on-site as there is potential reptiles, widespread amphibians and hedgehog.

A pre-commencement walk over should be undertaken to check for badgers which were not present at the time of the survey, but could be supported by the habitats present on-site or directly adjacent.

1.0 Introduction

1.1 Background

Three Shires Ltd was commissioned by SmarTech Design in December 2024 to carry out a Preliminary Ecological Appraisal (PEA) for a proposed development on an area of land at Little Lane, Desford, LE9 9GP. The approximate centre of which is British National Grid Reference SK 47726 03699 (**Figure 1**).

1.2 Purpose of this Report

The aim of this report is to provide an assessment of the current biodiversity value of the Site, highlight any other ecological features that have the potential to be impacted by the proposed development, and inform the design of the proposed development. The report follows the good practice guidance and follows the principles of the mitigation hierarchy and British Standard (BS) 42020 2013¹.

1.3 Site Location and Context

The Site consists of approximately 0.21ha of land adjacent to 2 Newbold Road in the village of Desford, Leicestershire, within the Hinckley and Bosworth Borough Council of Leicestershire. The Site consists of an area of woodland bounded on two sides by hedgerows to the southeast and northeast.

The Site lies on the northern edge Desford village. The landscape to the north of the Site is predominantly pastures where the land slopes away. To the east and west, the landscape is arable farmland. To the south of the Site is the village of Desford with a mosaic of housing, gardens and public greenspace. The wider area includes the urban centres of Leicester approximately 11km to the east, Hinckley approximately 10.9km to the southwest, and Coalville approximately 10.9km to the north. The Leicester to Coalville Midland Railway lies 0.75km to the northeast (**Figure 2**).

¹ CIEEM (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester

Figure 1: Site Location

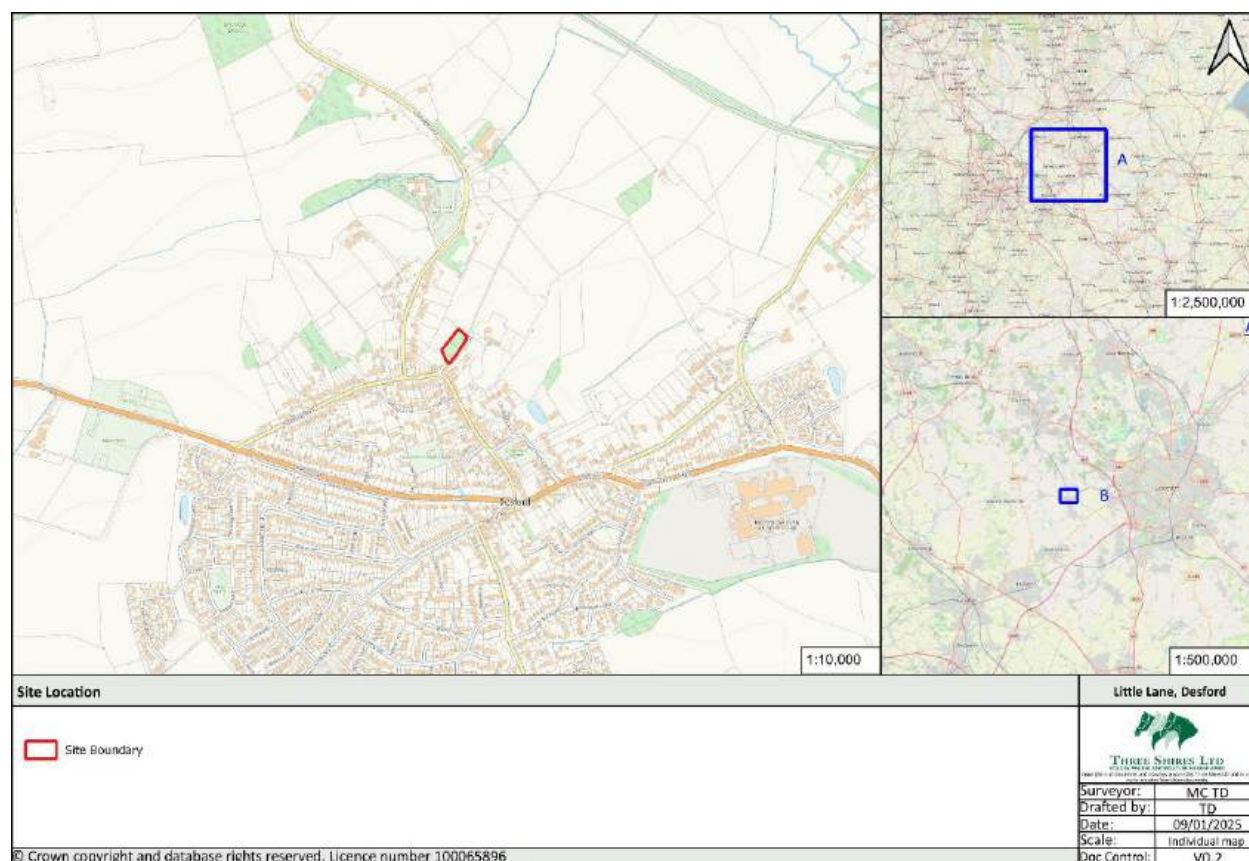
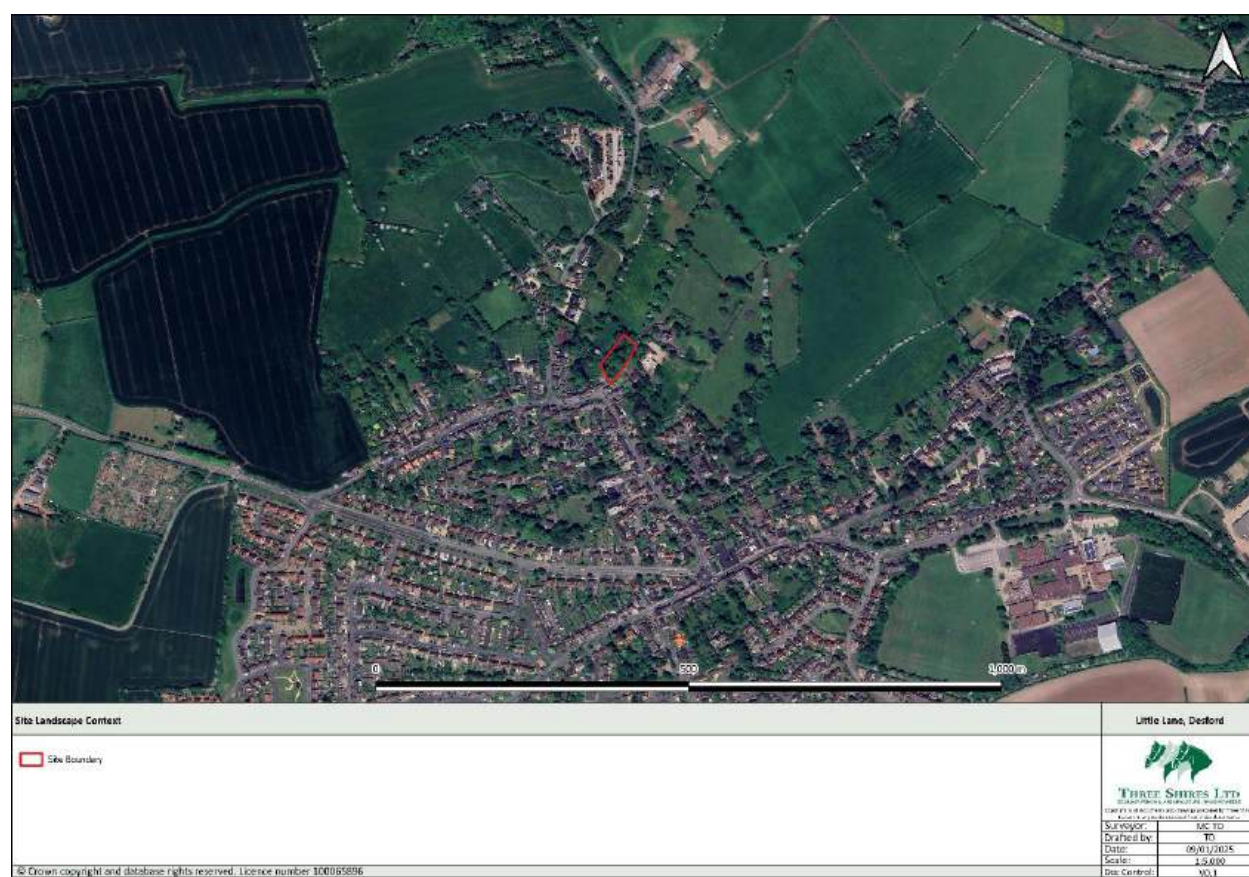


Figure 2: Site Landscape Context



2.0 Relevant Legislation and Local Policy

Relevant legislation and National Planning Policies applicable to the Site can be found in **Appendix A**.

2.1 Local Planning Policies

Local planning policy is set out within the Hinckley and Bosworth Borough Council Local Plan 2006 – 2026 (Site Allocations and Development Management Policies DPD)², adopted July 2016. The relevant policies for this assessment are outlined below.

DM6 – Enhancement of Biodiversity and Geological Interest

“Development proposals must demonstrate how they conserve and enhance features of nature conservation and geological value including proposals for their long-term future management.

Major developments in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services.

Proposals where the primary objective is to conserve or enhance biodiversity or geological interest will be permitted where they comply with other relevant policies in the plan.

On site features should be retained, buffered and managed favourably to maintain their ecological value, connectivity and functionality in the long-term. The removal or damage of such features shall only be acceptable where it can be demonstrated the proposal will result in no net loss of biodiversity and where the integrity of local ecological networks can be secured.

If the harm cannot be prevented, adequately mitigated against or appropriate compensation measures provided, planning permission will be refused.

In addition to the above, where specific identified sites are to be affected the following will be taken into account:

Internationally and Nationally Designated Sites

International and Nationally Designated Sites will be safeguarded.

Development which is likely to have any adverse impact on the notified features of a nationally designated site will not normally be permitted.

In exceptional circumstances, a proposal may be found acceptable where it can be demonstrated that:

- a) A suitable alternative site with a lesser impact than that proposed is not available; and*
- b) The on-site benefits of the proposal clearly outweigh the impacts on the notified features of the site and where applicable, the overall SSSI or habitat network; and the development management process; and*
- c) All appropriate mitigation measures have been addressed through 168 Site Allocations and Development Management Policies DPD DM6 (Continued) Enhancement of Biodiversity and Geological Interest*
- d) Development likely to result in a significant effect on internationally designated sites will be subject to assessment under the Habitats Regulations and will not be permitted unless adverse effects can be fully avoided, mitigated and/or compensated.*

² hinckley-bosworth.gov.uk

Irreplaceable Habitats

Proposals which are likely to result in the loss or deterioration of an irreplaceable habitat would only be acceptable where:

- e) The need and benefits of the development in that location clearly outweigh the loss; and,*
- f) It has been adequately demonstrated that the irreplaceable habitat cannot be retained with the proposed scheme; and*
- g) Appropriate compensation measures are provided on site wherever possible and off site where this not is feasible.*

Locally Important Sites

Development proposals affecting locally important sites should always seek to contribute to their favourable management in the long term.

Where a proposal is likely to result in harm to locally important sites (including habitats or species of principal importance for biodiversity), developers will be required to accord with the following sequential approach:

- h) Firstly, seek an alternative site with a lesser impact than that proposed;*
- i) Secondly, and if the first is not possible, demonstrate mitigation measures can be taken on site;*
- j) Thirdly, and as a last resort, seek appropriate compensation measures, on site wherever possible and off site where this is not feasible."*

3.0 Methodology

3.1 Zone of Influence

The Zone of Influence (Zoi) was defined considering the likely effects arising from the proposals, both during construction and in operation.

It is considered that the following impacts may result from the construction of a single housing unit:

- Temporary and permanent habitat loss;
- Injury or mortality of protected and notable species;
- Habitat degradation (e.g. dust pollution);
- Disturbance to protected and notable species resulting from works – machinery noise, vibration, light, increased human activity.

The distances from the site for these potential impacts are shown in **Table 1**.

Table 1: Zone of Influence used for this Assessment

Ecological Receptors	Zone of Influence
Special Areas of Conservation with bat species as features of interest	Within 10km of the Site boundary
Statutory protected sites	Within 2km of the Site boundary or where any site Impact Risk Zone (IRZ) covers the development site
Non statutory protected sites	Within 1km of the Site boundary
Habitats of Principal Importance and Ancient Woodland boundaries	Within 50m of the Site boundary
Waterbodies	Within 500m of the site boundary
Protected species evidence • Badger • Bat • GCN • Otter • Water vole	Within the Site boundary plus 30m 30m from the location of disturbance 500m from the Site boundary 200m from the Site boundary along watercourses 200m from the Site boundary along watercourses
Habitats	Within the Site boundary plus 50m, where visible

3.2 Desk Study

The following sources were used to provide data for the desk study:

- Aerial photography – in order to aid preliminary ecological and overall assessment of the site;

- Multi-Agency Geographic Information for the Countryside (MAGIC)³ – for statutory sites designated for nature conservation and recently granted (since 2009) European Protected Species (EPS) licences within 2km of the Site; and
- Environment Agency Main River Watercourse database⁴ - to determine whether any waterbodies identified on Site are designated as Statutory Main River.
- GCN Risk Zone (Leicestershire, Rutland, Rushcliffe and South Kesteven)⁵ – to determine if the area is important for GCN populations.
- Hinckley & Bosworth Borough Council Local Development Framework Core Strategy adopted December 2009.

A local record search was not undertaken at this stage, given the scale of the proposals, habitats present enabling a reasonable assessment of likely species presence to be undertaken. The need for a full records search will be considered during the evaluation and conclusions and recommended if considered necessary.

3.3 Field Survey

A field survey was undertaken on 9 January 2025 by two suitably experienced ecologists.

A detailed description of the methodologies for habitats and protected species can be found in Appendix B.

3.4 Survey Constraints / Limitations

The field survey was undertaken in January, outside of the optimum plant survey period (April to September). Some plant species will not be visible at this time of year and others will be harder to identify due to reduced overwintering growth and lack of diagnostic features such as flowers. Although the broad habitat types were mapped confidently, it was possible that some plant species were missed.

Many invertebrates, reptiles and amphibians as well as some birds and mammals are not active or present on site in January. In that case, the habitats on site were assessed for suitability for these species, such as the presence of ponds for amphibians and habitat mosaics for reptiles.

³ magic.defra.gov.uk

⁴ environment.maps.arcgis.com

⁵ naturalengland-defra.opendata.arcgis.com

4.0 Results & Evaluation

4.1 Statutory Nature Conservation Sites

Two statutory designated sites were identified within 2km of the Site (**Figure 4**). Details are given in **Table 2**.

Figure 4: Statutory Protected Nature Conservation Sites within 2km

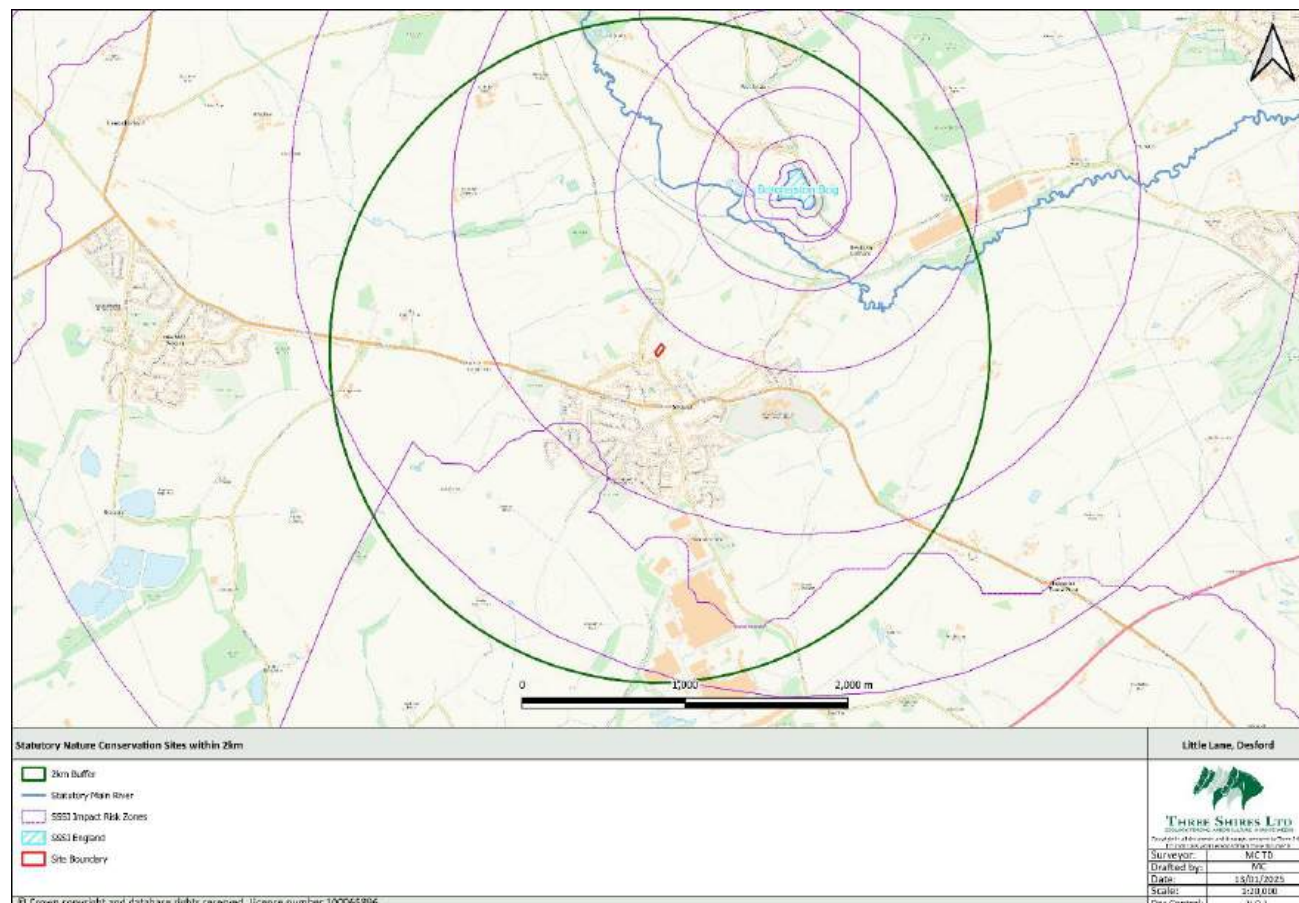


Table 2: Protected Sites within 2km

Protected Site Name	Designation	Description	Location Relative to Site
Rothley Brook	Statutory River	<i>"A tributary of the River Soar"</i>	0.99km NE
Botcheston Bog	SSSI	<i>"One of the best remaining areas of marshy grassland in Leicestershire and is representative of grazed marsh communities on peaty soils"</i>	1.15km NE

The Site lies within 2km of the Botcheston Bog Site of Special Scientific Interest (SSSI), as well as Rothley brook, a Statutory River (**Figure 4**). Due to the nature and scale of the proposals, the Site does not meet the criteria of Operations Requiring Natural England's Consent (ORNEC), and it is unlikely that the proposed development will impact any statutory sites. Therefore, they will not be considered further within this report.

4.2 Non-Statutory Sites

A background search for non-Statutory sites was not conducted at this stage, as it was not considered appropriate for the Site due to the scale of the development, and therefore they will not be considered further within this report.

4.3 Priority Habitats

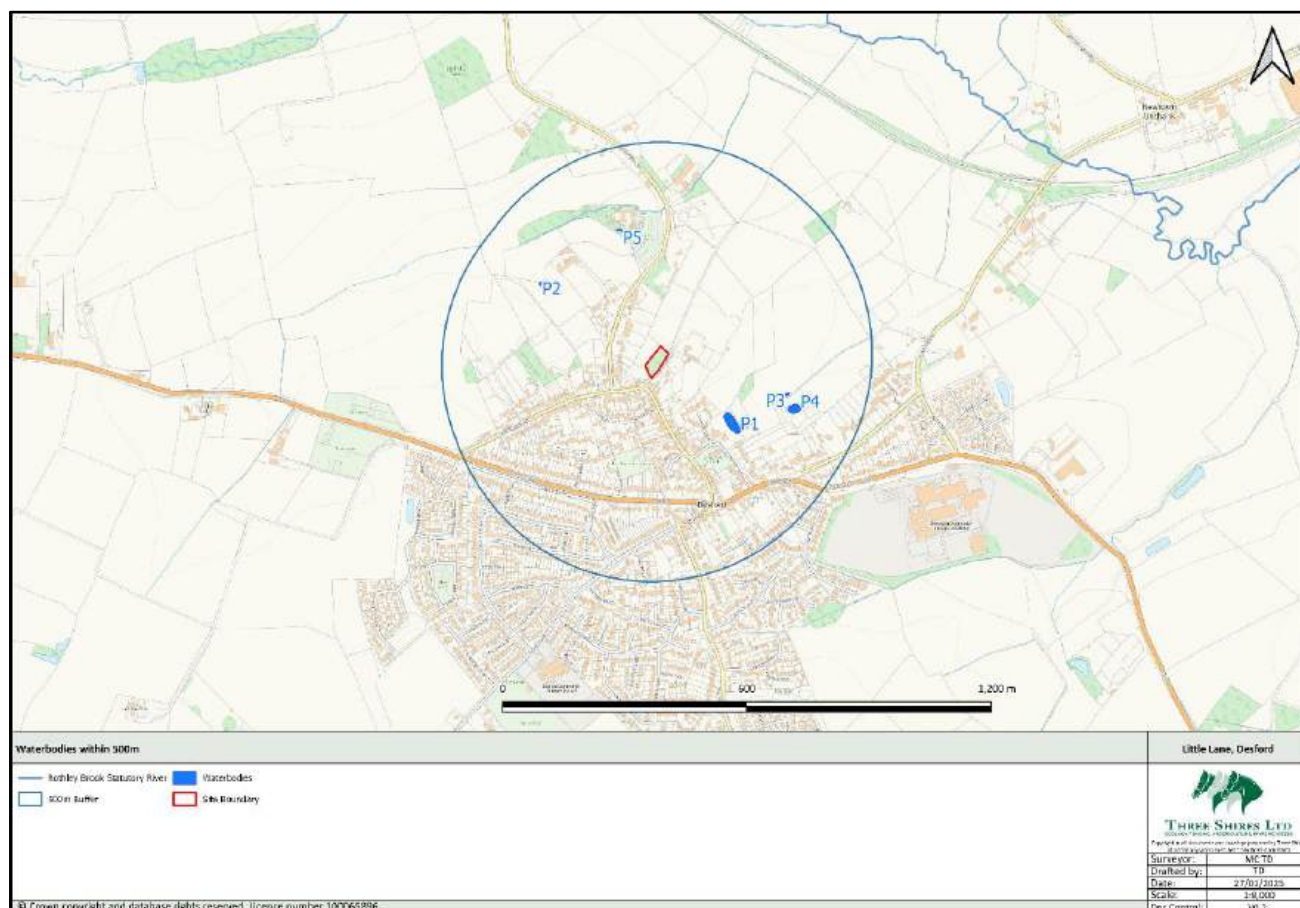
No priority habitats were identified on MAGIC within 50m of the Site.

Two areas of native hedgerow are present at the northeastern boundary of the Site, which qualify as a priority habitat under the UK Biodiversity Action Plan (UKBAP).

4.4 Waterbodies

Five waterbodies (P1–P5) were identified within 500m of the Site. The closest is P1 (**Figure 5**), situated approximately 197 metres southeast of the Site.

Figure 5: Waterbodies within 0.5km and Statutory Rivers within the ZOI



4.5 Habitat Overview

The Site primarily consists of mixed woodland, with hedgerow bordering the northeastern and southeastern boundaries of the site.

A map of the habitats identified on-site is found in **Figure 7**.

4.6 Woodland and Forest

4.6.1 Mixed Woodland

Mixed woodland habitat dominates the Site, with broadleaved species accounting for >70% of the tree cover. The woodland appears to be in a good state, with little signs of disease or damage.

Detailed descriptions of the woodland layers are in the following sections.

For descriptions of all trees on Site, refer to Table 3.3 of the Pre-Development Arboricultural Survey.

4.6.2 Canopy

The canopy consisted of predominantly semi-mature trees, although three mature trees were also present. Species composition in the canopy layer included:

Ash (*Fraxinus excelsior*), common ivy (*Hedera helix*) holly (*Ilex aquifolium*), wild cherry (*Prunus avium*), common lime (*Tilia x europaea*), pedunculate oak (*Quercus robur*), cherry laurel (*Prunus laurocerasus*), Scots pine (*Pinus sylvestris*), silver birch (*Betula pendula*), manna ash (*Fraxinus ornus*), rowan (*Sorbus aucuparia*), poplar (*Populus sp.*), sycamore (*Acer pseudoplatanus*), goat willow (*Salix caprea*) and cherry laurel (*Prunus laurocerasus*).

Two trees were identified as being of notable size and age within this woodland block, as seen below (**Table 3**).

Table 3: Notable Trees

Tree Number	Tree Description	Photograph
T1	A mature ash, ivy clad with a height of approximately 22m and a DBH of approximately 790mm. The tree is located in the east of the Site.	

Tree Number	Tree Description	Photograph
T40	An ivy clad mature ash, with a height of approximately 18m and a DBH of 600mm, situated to the northeast of the Site.	

4.6.3 Understorey

The understorey is composed of hawthorn (*Crataegus monogyna*), crab apple (*Malus sylvestris*) and butterfly bush (*Buddleja davidii*), as well as self-seeded trees from the canopy layer.

4.6.4 Ground Flora

The ground floor was sparse and mostly composed of scrub and leaf litter (**Photograph 1**). Species composition includes:

Dominant bramble (*Rubus fruticosus*), abundant creeping bent (*Agrostis stolonifera*) and perennial ryegrass (*Lolium perenne*), frequent cow parsley (*Anthriscus sylvestris*), common nettle (*Urtica dioica*) and ground-ivy (*Glechoma hederacea*), occasional curled dock (*Rumex crispus*) and rosebay willowherb (*Chamaenerion angustifolium*).

Two log piles, three heaps of woodchips, and a pile of wooden planks and rubble were also present.



Photograph 1: Ground flora within the woodland

4.7 Hedgerows

The hedgerows on-Site consist of >60% native species and have been separated into three separate hedgerows (**Figure 7**).

4.7.1 Native Hedgerow

A native hedgerow (H1a) is present at the northeastern boundary and extends towards the southeastern corner of the Site. The majority of species within this habitat are young/semi-mature, unmaintained and ivy clad in parts (**Photograph 2 & 3**).

The hedge was predominantly ash and ivy running west of the gateway to a large cherry laurel. To the east of the gateway, holly was dominant. Occasional hawthorn, blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*) and field maple (*Acer campestre*) was present throughout.



Photograph 2: Native hedgerow west of gateway



Photograph 3: Native hedgerow west of gateway

A section of native hedgerow (H2) forms the northeastern boundary (**Photograph 4**). This is made up of hawthorn and blackthorn and was gappy and unmanaged.



Photograph 4: Native hedgerow on the northwestern boundary

4.7.2 Non-Native and Ornamental Hedgerow

A non-native hedgerow (H1b) is present from the southeastern corner of the Site towards the northeastern boundary, approximately 40 metres towards the Site entrance (**Photograph 5**). The hedgerow is predominantly garden privet (*Ligustrum ovalifolium*) with occasional ash.



Photograph 5: H1b Garden privet hedgerow

Figure 6: Site Baseline Habitat Map



4.8 Protected and Notable Species

4.8.1 Badger

No evidence of badger (*Meles meles*) presence was recorded on Site.

The Site itself offers potential foraging and commuting opportunities for badger, with some connectivity to farmland and hedgerows.

The development is considered unlikely to impact badger.

4.8.2 Bats

No records of European Protected Species licences for bats within 2km of the Site were returned from MAGIC.

Two trees on Site were identified as having Potential Roost Features (PRFs) suitable to support roosting bats. **T1** is a mature ash near the centre of the Site. **T40** is a mature ash at the northeast boundary. Details of the features are presented in **Table 4**.

Table 4: Bat PRF Survey

Tree No.	PRF Description	Photograph	Potential
T1	Wooden box tied to a mature ash with an entrance hole off the main trunk. Approximately 10m off the base of the tree, and less than one metre in length.		PRF-I Suitable for an individual or a small number of bats
T40	Ivy-clad mature ash offering suitable crevices for an individual, approximately 14m off the base of the tree. The ivy extends up >5m of the tree.		PRF-I Suitable for an individual or a small number of bats

The habitats on Site offer foraging opportunities for bats, and the lines of trees and hedgerows off-Site have potential to be utilised as linear commuting features.

Although there will be loss of a small area of potential foraging habitat, due to the retention of the majority of trees and hedgerows, the overall impact is not considered to be significant.

Increases in artificial light levels during all phases of the development may have an impact on commuting and foraging bats using the Site.

4.8.3 Birds

The habitats on-Site provide suitable nesting opportunities for birds, both with the hedgerow and trees. The following species were observed using the Site:

Blue tit (*Cyanistes caeruleus*), robin (*Erithacus rubecula*), carrion crow (*Corvus corone*), jackdaw (*Coloeus monedula*), magpie (*Pica pica*), blackbird (*Turdus merula*), great spotted woodpecker (*Dendrocopos major*), woodpigeon (*Columba palumbus*) and sparrowhawk (*Accipiter nisus*).

Common buzzard (*Buteo buteo*) was observed flying over the Site.

The development will result in the loss of potential nesting habitat, however due to the retention of the majority of trees and hedgerows, the overall impact is not considered to be significant.

4.8.4 Great Crested Newt and Widespread Amphibians

There are no records of great crested newt (GCN) (*Triturus cristatus*), or European Protected Species applications granted for this species on MAGIC. The Site falls within the Natural England amber GCN risk zone for District Level Licensing of Great Crested Newts in Leicestershire, Rutland, Rushcliffe and South Kesteven.

There are no ponds on Site. although five ponds are located within 500m of the Site none are within 250m and, connectivity (**Figure 5**) is poor. The Site provides suitable foraging habitat and refugia, however, with no nearby watverbodies it is considered unlikely that GCN would be present.

Widespread amphibians such as common frog (*Rana temporaria*) and common toad (*Bufo bufo*) may be present on Site as they can use temporary water sources such as puddles and ditches.

4.8.5 Reptiles

The woodland provides limited suitability for common and widespread reptiles although the pile of wooden planks and rubble, and the two log piles on Site, offer good refugia for these reptiles (**Photograph 6-9**).



Photograph 6: Log pile



Photograph 7: Pile of wood and debris



Photograph 8: Pile of planks and debris



Photograph 9: Woodchip pile

4.8.6 Hedgehog

The Site provides suitable habitat for hedgehog (*Erinaceus europaeus*), with the mix of hedgerow and scrub supporting invertebrate communities. The log piles provide potential hibernation areas for this species.

The Site is suitable for hedgehog to use, and the proposed development may impact this species.

4.8.7 Other Protected or Notable Species

The species below have been excluded from further evaluation for the reasons below.

Table 5: Ecological Receptors Excluded from Further Evaluation

Ecological Receptor	Basis for Exclusion
Hazel Dormouse <i>Muscardinus avellanarius</i>	Hazel dormice are considered absent from Leicestershire ⁶ . The understorey of the woodland lacks the vegetation diversity and structure for this species despite featuring bramble. It is considered highly unlikely that hazel dormouse will be present on this Site and will therefore not be considered further within this report.
Otter <i>Lutra lutra</i>	There are no watercourses on-site. The woodland on-site is not mature enough to provide suitable natal holts.
Water Vole <i>Arvicola amphibius</i>	There are no watercourses on-site
White Clawed-Crayfish <i>Austropotamobius pallipes</i>	There are no watercourses on-site
Freshwater and Migratory Fish	There are no watercourses on-site
Invasive Non-Native Species	No invasive non-native species were identified during the survey.

⁶ ptes.org

Ecological Receptor	Basis for Exclusion
Notable Invertebrates	No notable invertebrates were identified on-site.

5.0 Conclusions and Recommendations

5.1 Habitats

5.1.1 Woodland and Forest

Woodland is the dominant habitat on Site. The current proposed site plans indicate that four trees will be removed to facilitate the development. Due to the scale of this removal, significant impacts are unlikely and with the potential to remove sub optimal species from the shrub layer and improve woodland structure the net effect is likely to be positive.

5.1.2 Hedgerows

Although **H1b** contains ash, the dominant presence of garden privet in a continuous section of hedgerow makes it more appropriate to define it as a separate, non-native hedgerow.

Hedgerow is present on the southeastern and northeastern boundaries of the Site. A section of priority habitat native hedgerow (**H1a**) will be removed to widen the existing Site entrance on the southeastern boundary. Given the scale of this loss and the current state of the hedgerow, significant impacts are unlikely.

5.2 Protected and Notable Species

5.2.1 Badger

No evidence of badger was found on Site, and they are unlikely to be using the Site. However, due to the mobile nature of this species it is recommended a pre-commencement site walkover be undertaken prior to the commencement of works to identify potential occupancy.

5.2.2 Bats

The Site has potential to be used by foraging and commuting bats. It is unlikely that the development will have a direct impact on roosting bats. However, foraging and commuting bats using the Site may be affected. To minimise this impact, works should be limited to daylight hours to keep artificial light to a minimum. Lighting design for the property should be sympathetic to bats and follow measures set out within best practice guidance for lighting at night⁷

5.2.3 Birds

Multiple bird species are using the Site, but of a typical garden/urban woodland assemblage, with very limited amount of loss of breeding habitat likely, with this again, likely to improve with post development landscaping. Removal of potential nesting habitat should ideally be undertaken outside of the active nesting season (March-October inclusive). If it is required to remove nesting habitat in nesting season, then this should be undertaken under supervision by a suitably experienced ecologist.

5.2.4 GCN, Widespread Amphibians and Reptiles

The Site offers suitable terrestrial habitat to support GCN, however, connectivity to ponds is poor and they are considered unlikely to be on-site. The Site offers suitable terrestrial habitat to support widespread amphibians and reptiles. It is likely that if these species are present, they would be using the areas of potential

⁷ Institute of Lighting Professionals/Bat Conservation Trust GN08/23 – Bats and Artificial Lighting at Night

refugia identified (**Photograph 6-9**). If these refuges are to be removed, the works should be carried out under supervision by a suitably qualified Ecological Clerk of Works (ECoW) with works suspended if GCN are found.

5.2.5 Hedgehog

Suitable commuting and foraging habitats are present on Site for Hedgehog to utilise. If suitable habitats are removed, it is recommended that an ECoW is present to check for hedgehog presence.

5.2.6 Enhancements

Post development bat and bird boxes of varying types should be considered for placement within retained trees within and on the edges of the woodland.

Log piles and lying/standing deadwood would also be a valuable enhancement.

Landscape planting should consider the use of either native species to enhance the current woodland, or wildlife friendly ornamental species in more formal landscaped areas.

To achieve BNG it is likely that woodland enhancement will be required and that is covered within the relevant report.

Appendix A: Relevant Legislation and Policies

i. Legislation

The main pieces of legislation regarding the protection of species and habitats in the UK are the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Other legislation is in force which gives protection to certain species, such as the Protection of Badgers Act 1992, specific activities, such as the Wild Mammals (Protection) Act 1996 and specific habitats, such as the Hedgerow Regulations 1997 (as amended).

Invasive non-native species are regulated via a combination of the Invasive Alien Species (Permitting and Enforcement) Order 2019 and Section 14/Schedule 9 of the 1981 Act.

Under the Natural Environment and Rural Communities (NERC) Act 2006, all public bodies are required to have due regard to the conservation of biodiversity when carrying out their function. Under this Act, habitats and species that are of principal importance for the conservation of biodiversity in England are identified and published under the provisions of Section 41 (S41).

ii. Planning Policies

The biodiversity policies which are most relevant on a national level are the National Planning Policy Framework (NPPF)⁸.

National Planning Policies

In terms of planning policy, at a national level, Chapter 15 of the NPPF (which relates to conserving and enhancement the nature environmental) requires Local Authorities to take measures to:

- Refuse planning permission if significant harm to biodiversity results from a development that cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for;
- Develop planning policies and decisions should contribute to and enhance the natural and local environment.
- Not usually permit development on land within or outside a Site of Special Scientific Interest (SSSI), and which is likely to have an adverse effect on it (either individually or in combination with other developments). The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSI;
- Refuse planning permission for development that results in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons, and a suitable compensation strategy exists; and
- Support development whose primary objective is to conserve or enhance biodiversity; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

⁸ National Planning Policy Framework - GOV.UK (www.gov.uk)

Appendix B: Methodology

i. Habitat Survey

This was conducted by undertaking a systematic walkover over of the Site habitats, using a route which allowed all habitats to be viewed, and flora species identified where possible. Habitats were defined and mapped using the 'UKHabs V2.01' classification system.

Dominant plant species were noted, as were any protected, uncommon, invasive species or species indicative of a particular habitat type, but there was no attempt to compile exhaustive species lists for this element of the Site assessment. Botanical nomenclature in this report follows Stace (2019)⁹ for both scientific and common names.

The survey also included:

- A preliminary search for evidence of protected or important species and species groups, and for habitats and features likely to host them if direct evidence is absent;
- The identification of other constraints (e.g., invasive non-native plant species) and any further opportunities for ecological enhancement; and
- An assessment to identify any potential roosting features (PRF) of significant buildings and trees providing bat roost potential.

ii. Protected and Notable Species

Badger

Field signs for badger (*Meles meles*) within or adjacent to the Site (within 30m of the boundary, access permitted) were recorded in accordance with the standard methodology outline (Harris et al 1989) which includes surveying for active sett entrances, as well as spoil, bedding, latrines, hairs, prints, foraging signs and pathways.

A walkover of the whole site (including land, where accessible, within approximately 30m of the Site boundary) was undertaken and signs of badger activity were recorded in accordance with the standard methodology outline¹⁰. Signs of activity include:

- Sett entrances (entrances that are greater than 25cm in diameter with a flattened oval appearance);
- Presence of and size of any spoil heaps outside tunnel entrances;
- Presence of bedding material within or outside tunnel entrances;
- The degree of smoothness, or wear of the tunnel sides;
- The degree of any vegetation covering tunnel entrances, the presence of any debris within the tunnel;
- Faeces;

⁹ Stace, C (2019) *New Flora of the British Isles*. 4th edn. Cambridge University Press, Cambridge, UK.

¹⁰ Surveying Badgers, Harris S. et. al, 1989

- Paths between setts or leading to feeding habitats;
- Areas of scratching at the base of tree trunks or branches;
- Scrapes into the ground (snuffle holes) where badgers have searched for food;
- Bundles of vegetation where badgers may sleep above ground (day nests);
- Hair traces;
- Tracks.

When found, the activity level and status of the sett was based on the number of used, partially used and disused entrances. The definition of a badger setts “current use” is outlined in the Protection of Badgers Act 1992 (as amended) and further in a guidance by Natural England¹¹; mainly smooth-sided entrances, clear of debris and vegetation, with spoil heaps and sometimes bedding material and footprints outside.

If setts were located, then they were categorised according to **Table 5**, with the activity status categorised according to **Table 6**.

Table 6: Sett Categories

Sett Type	Definition
Main	Typically, several active entrances with large spoil heaps and obvious paths leading from and between sett entrances. Signs of frequent and constant high levels of activity. May contain inactive entrances.
Annexe	Normally close to a main sett (<50m), comprising several entrances with well-worn paths between the main and annex sett. May not be in use all the time, even if main sett is very active.
Subsidiary	Usually some distance from main sett (>150m) with several entrances, but no obvious paths connecting to other setts. May only be used intermittently.
Outlier	Often comprise one or two entrances with little spoil outside. No obvious paths connecting to other setts and only used sporadically. May also be used by foxes and rabbits.

Table 7: Entrance and Overall Sett Activity Status Criteria

Sett status	Definition	Field signs
Active	Where field signs indicate that the sett or entrance is currently being occupied by badgers.	Field signs include recently excavated spoil, bedding material, footprints, hairs, fresh latrines and with well-worn paths present between entrances and leading into surroundings, entrances generally clear of vegetation and look well used.
Inactive	Where field signs indicate a strong likelihood of no or limited badger activity within the previous three months.	Absence of fresh spoil, bedding or footprints, leaf build up in tunnel entrances, extensive cobwebs in tunnels, seedlings growing in tunnel entrances etc. Paths may be present but less well defined.
Disused	Where field signs indicate that the sett has not been used for some	Large amount of leaf litter / debris collected at tunnel entrances and vegetation grown up around or inside entrances. No obvious paths visible leading to

¹¹ Guidance on ‘Current Use’ in the definition of a Badger Sett, *Natural England 2009*,
https://webarchive.nationalarchives.gov.uk/ukgwa/20140523111208/http://www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf

Sett status	Definition	Field signs
	considerable time, typically more than 3 months minimum.	and from entrance and spoil heap has dispersed / weathered and become re-vegetated. May be partially collapsed or blocked.

Bats

A Preliminary Roost Assessment (PRA) was undertaken to determine the Potential Roosting Features (PRFs) which could support roosting bats. This was undertaken by suitably qualified and experienced Three Shires Ltd ecologists led by a Natural England (NE) Level 2 Bat Survey Class Licence holder/suitably experienced ecologist for the complexity of the structure being surveyed and the assessment of the buildings and trees and their suitability for roosting bats were carried out from the ground using binoculars and torches (where necessary).

The external surfaces of any buildings were inspected using binoculars to check for loose or lifted roof tiles, soffit boards, fascias, guttering or cracked brickwork. Internal inspections were also undertaken, where access was permitted, to give a broader understanding of the suitability of the building and to identify any potential features that may provide roosting opportunities.

An assessment of the trees and their suitability for roosting bats was also carried out from the ground using binoculars and torches (where necessary). These were assessed for features such as woodpecker holes, fissures, cracks, cavities, and loose bark that could be suitable for use by roosting bats.

Where features were identified, observations of evidence of bat use or activity, such as droppings, urine stains, odour, feeding remains, scratch marks, grease stains, wear marks were recorded.

Table 8 below details the level of suitability for roosts and the features that classify each suitability level.

Table 8: Bat Roost Suitability Levels

Suitability Level	Typical Features / Evidence
Confirmed	Evidence or presence of bats within feature or on/within building/structure
High	A building/structure with one or more potential roost Sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.
Moderate	A building/structure with one or more potential roost Sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
Low	A building/structure with one or more potential roost Sites that could be used by individual bats opportunistically. However, these potential roost Sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity or hibernation).
Negligible	Negligible features present that are unlikely to support roosting bat species

Birds

The species of birds encountered during the survey were recorded and details of suitable habitats for nesting birds during the breeding bird season (March – August inclusive) were noted, with habitat suitability for

notable species or important assemblages being considered, including barn owl. Binoculars were used to aid vision and the presence of nests, where observed, was also recorded.

Great Crested Newt (GCN)

An assessment of all on-site waterbodies and those within the immediate vicinity of the Site boundary were surveyed for their potential to provide suitable habitat for GCN. If available to be surveyed, each pond was also given Habitat Suitability Index¹² (HSI) score. This allowed a numerical value to be given to each pond based on its suitability based on variety of factors. These scores range from < 0.5 being poor to > 0.8 being excellent (Table 9).

Table 9: HSI Scores

HSI score	Pond Suitability
< 0.50	Poor
0.50 - 0.59	Below average
0.60 - 0.69	Average
0.70 - 0.79	Good
> 0.80	Excellent

Reptiles

Suitable habitat for grass snake (*Natrix helvetica*), common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*) and adder (*Vipera berus*) was identified and recorded. Evidence for field signs for reptile (e.g. sloughs, burrows, eggs) and an assessment of habitat potential for reptiles (e.g. edges/ecotones, ridges, hummocks, sunny slopes, brash heaps) were recorded.

Riparian Mammals

The waterbodies on Site were searched for signs of water vole (*Arvicola amphibius*), European otter (*Lutra lutra*) and Eurasian beaver (*Castor fiber*) and evaluated for suitability of habitat using binoculars where surveillance of the opposing bank was not possible. The aim of this survey was to look for and identify any signs of the presence of riparian mammal using field signs such as, visual confirmation by way of seeing the animal, latrines, footprints, (although these on their own do not indicate a positive presence) food caches, burrows, gardens, runways through vegetation, nesting material pulled into and blocking the entrance to burrows.

Otter

The survey for otter was undertaken following best practice guidelines and consisted of a bankside survey 200 metres upstream and downstream of the proposed footbridge on both banks searching for any visible signs of otter activity including visual confirmation by way of seeing the animal, scat, footprints, slides into the river, potential holt locations and any visible feeding remains.

Water Vole

The water vole assessment was undertaken following best practice guidelines and consisted of a bankside survey covering a distance of 200 metres upstream and downstream on both riverbanks. The aim of this survey was to look for and identify any signs of the presence of water vole using field signs such as, visual confirmation by way of seeing the animal, latrines, footprints, (although these on their own do not indicate a positive

¹² <https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file>

presence) food caches, burrows, gardens, runways through vegetation, nesting material pulled into and blocking the entrance to burrows.

White-Clawed Crayfish

A bankside assessment of the river habitat and suitability for white-clawed crayfish (*Austropotamobius pallipes*) was carried out. The stream substrate, form, flow, bankside structure, vegetation was noted, as well as any signs of feeding upon crayfish (in the form of remains on banks).

Freshwater and Migratory Fish

The waterbodies on Site were visually evaluated for suitability of habitat for fish and observed for the presence of any species.

Other Notable Species

The Site was also assessed for suitability for other protected species such as barn owl (*Tyto alba*) and hedgehog (*Erinaceus europaeus*).

Appendix C: A3 Habitat Map

