

Preliminary Ecological Appraisal
Chapel Road
Old Leake
Lincolnshire



Issued to:

Adrian Fox
AF Architecture
65 Robin Hoods Walk
Boston
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PRELIMINARY ECOLOGICAL APPRAISAL CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE

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PRELIMINARY ECOLOGICAL APPRAISAL CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE

EXECUTIVE SUMMARY

Inspired Ecology Ltd has been commissioned by Adrian Fox of AF Architecture to undertake a Preliminary Ecological Appraisal (PEA) of a site off Chapel Road, Old Leake, Lincolnshire. The survey was required in connection with proposals to demolish the existing buildings and construct a single dwelling with associated detached garage, driveway and garden.

An Extended Phase 1 Habitat Survey of the site was undertaken on 10th May 2021 by Director and Principal Ecologist Ian Nixon MCIEEM. A desk study was also carried out, including records of protected species and habitats within 2km of the proposed development obtained from the Lincolnshire Environmental Records Centre (LERC).

Habitats present on site primarily include tall ruderal vegetation and buildings. There is a drain to the north-west of the site, with the south-west bounded by fencing. There are a number of statutory designated nature conservation sites located approximately 6.2km from the site, though given the distance between these sites and the application site, it is considered that the development is unlikely to negatively impact upon these sites. There are no non-statutory sites within 2km of the application site.

In order to enhance biodiversity on the site, appropriate native landscaping has been advised.

A *Cotoneaster* species was identified during the walkover survey. Several species of *Cotoneaster* are listed under Schedule 9 Part 2 of the Wildlife and Countryside Act 1981 (as amended) which, under section 14 of the Act, makes it an offence to plant or otherwise cause these *Cotoneaster* species to grow in the wild. As a precaution, it is recommended that the specimen identified on site is treated as a Schedule 9 species, and appropriate precautionary measures for the removal and disposal of the specimens noted on site have been recommended.

The site is considered sub-optimal to support amphibians, including great crested newt, or reptiles. Precautionary measures have been advised for herptiles on site.

The buildings on site were assessed as having negligible potential to support roosting bats and there were no trees on the site suitable for roosting bats. The site and surrounding area is

considered to offer habitat of low potential suitability to support foraging and commuting bats. In order to avoid impacts on nocturnal bat activity, advice on bat-friendly lighting has been provided which ensures that the boundaries of the site remain are unlit. As a positive conservation measure for bats, it is recommended that an integral bat unit is installed within the development.

No evidence of badger activity was recorded during the survey and it is unlikely that badger would be present on the site. Vigilance for the presence of badger is recommended, along with precautions to safeguard badger and other ground mammals throughout the works.

The drain to the north-west of the site is considered sub-optimal to support water vole. The proposed development will not impact upon the drain and includes a 6m buffer along the drain. If proposals change and the drain is to be impacted by the works, as a precaution, it is recommended that water vole surveys are undertaken at the appropriate time of year.

As a precautionary measure, it is recommended that building demolition and vegetation removal works is scheduled outside of the main nesting bird season (thereby avoiding March to August, inclusive) to prevent impacts to nesting birds. Alternatively, it is recommended that the site is subjected to a pre-works nesting bird survey by an experienced ecologist. In order to enhance the site for nesting birds, it is recommended that a bird box is installed as part of the development.

Appropriate boundary features have been recommended with respect to hedgehog, in order to retain commuting routes for this species.

1 INTRODUCTION

Inspired Ecology Ltd has been commissioned by Adrian Fox of AF Architecture to undertake a Preliminary Ecological Appraisal (PEA) of a site off Chapel Road, Old Leake, Lincolnshire. The survey was required in connection with proposals to demolish the existing buildings and construct a single dwelling with associated detached garage, driveway and garden.

An Extended Phase 1 Habitat Survey of the site was undertaken on 10th May 2021 by Director and Principal Ecologist Ian Nixon MCIEEM. A desk study was also carried out, including records of protected species and habitats within 2km of the proposed development obtained from the Lincolnshire Environmental Records Centre (LERC).

The site is located to the west of Chapel Road in Old Leake, Lincolnshire– central Ordnance Survey Grid Reference (OSGR) TF397524. The location of the surveyed site is shown in Figure 1 at the end of this report.

The purpose of this PEA report (PEAR) is to identify any potential ecological receptors occurring on or adjacent to the works area. These include protected species, habitats and statutory/non-statutory designated nature conservation sites. This PEAR also details any potential ecological constraints to the works (e.g. invasive non-native plants), the requirement for any further ecological survey and/or monitoring works and provides details of proportionate mitigation measures, where appropriate.

1.1 Proposed works

This PEA is required in connection with a planning application to demolish the existing buildings and construct a single dwelling with associated detached garage, driveway and garden (Boston Borough Council planning reference B/21/0197). The current revision of the proposed plan (AF Architecture Drawing 21/198/Pr – 02, dated March 2021) is provided within Appendix 1. The site was previously surveyed by Quants Environmental in 2018 (Bamforth, 2018), however the results of this survey are now out-of-date.

2 PLANNING POLICY AND LEGISLATION

2.1 National Planning Policy Framework

National Planning Policy Framework (NPPF) is the top tier of planning policy and sets out the government's planning policies for England and how these should be applied. NPPF also sets guidance to local authorities on planning policy within the planning system.

Section 15 relates to '*Conserving and enhancing the natural environment*'. Relevant policies in relation to planning applications include:

- Paragraph 170. "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*
 - a) *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
 - b) *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*

- c) *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
 - d) *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
 - e) *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
 - f) *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."*
- Paragraph 174. *"To protect and enhance biodiversity and geodiversity, plans should:*
 - a) *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
 - b) *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*
 - Paragraph 175. *"When determining planning applications, local planning authorities should apply the following principles:*
 - a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
 - b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. 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 Sites of Special Scientific Interest;*
 - c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are*

- wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."*

2.2 South East Lincolnshire Local Plan 2011-2036

The South East Lincolnshire Local Plan was adopted in March 2019. The document was created to "guide development and the use of land in South East Lincolnshire" up to 2036, and it "sets out an overall vision of how South East Lincolnshire and the settlements within it should develop, and the strategic objectives that will ensure key spatial issues are addressed". The relevant policy in relation to this planning application is:

- **"Policy 28: The Natural Environment**

A high quality, comprehensive ecological network of interconnected designated sites, sites of nature conservation importance and wildlife-friendly greenspace will be achieved by protecting, enhancing and managing natural assets:

1. *Internationally-designated sites, on land or at sea:*

- a. *development proposals that would cause harm to these assets will not be permitted, except in exceptional circumstances, where imperative reasons of overriding public interest exist, and the loss will be compensated by the creation of sites of equal or greater nature conservation value;*
- b. *all major housing proposals within 10km of The Wash and the North Norfolk Coast European Marine Site, including the Sustainable Urban Extensions in Boston (site Sou006 & Wes002), Spalding (site Pin024/Pin045) and Holbeach West (site Hob048), will be the subject of a project-level Habitats Regulations Assessment (HRA) to assess the impact of recreational pressure on The Wash and North Norfolk Coast European Marine Site. This should include:*
 - i. *locally-specific information relating to access and site sensitivities;*

Where the project-level HRA concludes that avoidance and/or mitigation measures are required, it is expected that:

- ii. *Suitable Alternative Natural Greenspace (SANGs) should be provided on site Sou006 and Wes002, site Pin024/Pin045 and site Hob048 as part of their package of mitigation measures; or*
- iii. *all other major housing proposals should provide SANGs on-site and/or through a financial contribution to provide and/or enhance natural*

greenspace in the locality;

- iv. *Suitable Alternative Natural Greenspaces should be designed in accordance with capacity and facility requirements in relation to the developments they mitigate for, best practice elsewhere and relevant evidence.*

2. *Nationally or locally-designated sites and protected or priority habitats and species:*

- a. *development proposals that would directly or indirectly adversely affect these assets will not be permitted unless:*
 - i. *there are no alternative sites that would cause less or no harm; and*
 - ii. *the benefits of the development at the proposed site, clearly outweigh the adverse impacts on the features of the site and the wider network of natural habitats; and*
 - iii. *suitable prevention, mitigation and compensation measures are provided.*

3. *Addressing gaps in the ecological network:*

- a. *by ensuring that all development proposals shall provide an overall net gain in biodiversity, by:*
 - i. *protecting the biodiversity value of land, buildings and trees (including veteran trees) minimising the fragmentation of habitats;*
 - ii. *maximising the opportunities for restoration, enhancement and connection of natural habitats and species of principal importance;*
 - iii. *incorporating beneficial biodiversity conservation features on buildings, where appropriate; and maximising opportunities to enhance green infrastructure and ecological corridors, including water space; and*
 - iv. *conserving or enhancing biodiversity or geodiversity conservation features that will provide new habitat and help wildlife to adapt to climate change, and if the development is within a Nature Improvement Area (NIA), contributing to the aims and objectives of the NIA.”*

2.3 **Natural Environment and Rural Communities Act 2006**

The Natural Environment and Rural Communities (NERC) Act 2006 includes a list under Section 41 (S41) of England's rarest and most threatened species and habitats. These are considered to be of 'principal importance' in England. There is a requirement under Section 40(1) and (2) for each Secretary of State to take steps 'to be reasonably practicable to further the conservation of the living organisms and types of habitat' included in the list and there is a legal obligation on public bodies in England to have regard to these organisms and habitats whilst carrying out

their functions. Currently, there are 56 habitats and 943 species of principal importance included on the S41 list.

2.4 Biodiversity Compliance

The United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, was held in Rio de Janeiro in 1992 and produced the 'Biodiversity: The UK Biodiversity Action Plan (BAP)' which lists priority species and habitats in the UK requiring conservation action. The goal of the UK BAP is to '*Conserve and enhance biological diversity within the UK and contribute to the conservation of global biodiversity through all appropriate mechanisms.*' The UK BAP now includes 1,150 species and 65 habitats; these are allocated individual action plan for conservation known as Species Action Plans (SAPs) and Habitat Action Plans (HAPs).

As a signatory to the Convention on Biological Diversity (CBD) which was opened at the Earth Summit and entered into force in 1993, Local Biodiversity Action Plans (LBAPs) were developed by local authorities and counties to conserve fauna, flora and habitats at a local level. LBAPs set out a series of objectives and action plans for the conservation of priority species and habitats within in each district, county or region.

2.5 Species' Legislation

2.5.1 Schedule 9 Part 2 plants

Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) lists non-native species that are already established in the wild, but which continue to pose a conservation threat to native biodiversity and habitats. Although it is not an offence to have Schedule 9 species present on your land, under section 14 of the Wildlife and Countryside Act 1981 (as amended), it is an offence to plant or otherwise cause to grow in the wild any species listed under Schedule 9 Part 2.

2.5.2 Great crested newt

In England, Scotland and Wales, great crested newts *Triturus cristatus* are fully protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CROW) Act 2000. They are also protected by European legislation; the EC Habitats Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017. This has recently been amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which continue the same provision for European protected species, licensing requirements, and protected areas after Brexit. Taken together, this legislation makes it illegal, inter alia to:

- Intentionally or recklessly kill, injure or capture a great crested newt
- Damage or destroy habitat which a great crested newt uses for shelter or protection
- Deliberately disturb a great crested newt when it is occupying a place it uses for shelter and protection

These provisions apply to all life-stages of protected animals, and in the case of amphibians, to both their terrestrial and aquatic habitats.

2.5.3 Common reptile species

All four of the common species of native reptiles, that is common lizard *Zootoca vivipara*, grass snake *Natrix helvetica*, slow worm *Anguis fragilis* and adder *Vipera berus*, are given partial protection under the Wildlife and Countryside Act 1981 (as amended) which prohibits the intentional killing, injury or taking of these species. There is no provision in the Act for licensing works which could give rise to an offence, but it does provide a defence where the otherwise unlawful act can be shown to be the incidental result of an otherwise lawful activity and could not reasonably have been avoided. Permitted development or a development which has received planning permission is clearly a lawful activity but the law does require that a reasonable effort is made to avoid killing or injury of these animals during the implementation of this permission.

2.5.4 Bats

In England, Scotland and Wales, all bats are strictly protected under the Wildlife and Countryside Act 1981 (as amended); in England and Wales this legislation has been amended and strengthened by the Countryside and Rights of Way (CROW) Act 2000. Bats are also protected by European legislation; the EC Habitats Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017. This has recently been amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which continue the same provision for European protected species, licensing requirements, and protected areas after Brexit. Taken together, all this legislation makes it an offence to:

- Deliberately capture (or take), injure or kill a bat
- Intentionally or recklessly disturb a group of bats where the disturbance is likely to significantly affect the ability of the animals to survive, breed, or nurture their young or likely to significantly affect the local distribution or abundance of the species whether in a roost or not
- Damage or destroy the breeding or resting place of a bat
- Possess a bat (alive or dead) or any part of a bat
- Intentionally or recklessly obstruct access to a bat roost

- Sell (or offer for sale) or exchange bats (alive or dead) or parts of bats

A roost is defined as being 'any structure or place that is used for shelter or protection', and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

2.5.5 Badger

Badgers *Meles meles* and their setts are fully protected under the Protection of Badgers Act 1992, which amended and incorporated previous legislation. This Act makes it an offence, inter alia, to:

- Wilfully kill, injure or take, or attempt to kill, injure or capture a badger
- Interfere with a badger sett by doing any of the following things, intending to do any of these things or be reckless as to whether one's actions would have any of these consequences:
 - 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

A badger sett is defined in the Act as any structure or place which displays signs indicating use by a badger. Although a sett may be empty at a certain time it may be used as part of a regular cycle throughout the year, and may therefore be considered to be in use. A sett, which can be shown to have been disused for at least a full year, is considered to fall outwith the Act.

2.5.6 Water vole

The water vole *Arvicola amphibius* is fully protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended). Legal protection makes it an offence to:

- Intentionally kill, injure or take (capture) a water vole
- Possess or control a live or dead water vole, or any part of a water vole
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place
- Sell, offer for sale or advertise for live or dead water voles

2.5.7 Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while it is in use or being built
- Take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

3 METHODS

A PEA was undertaken of the site following guidance produced by Chartered Institute of Ecology and Environment Management (CIEEM, 2017). The assessment included:

- A desk-based search for historic records of protected, notable and invasive non-native species on the site and local vicinity. Data for locally and nationally designated nature conservation sites were obtained
- An ecological walkover survey of the proposed works area (shown in Figure 1). The study area was extended beyond the works area, where appropriate, e.g., to undertake species-specific surveys
- Identification of invasive non-native species
- Assessment of the potential impacts of proposed works on habitat and floral/faunal receptors, as well as designated sites (e.g. Local Wildlife Sites (LWS))

This report details the methods used, describes the species found on the site, discusses the results and makes recommendations for further work. English and scientific names of higher plants are used throughout the text and are those used by Stace (2019).

3.1 Desk study

To supplement the ecological walkover survey, a desktop study was undertaken in January 2021. This included a search of data for protected species and statutory/non-statutory designated nature conservation sites, using the following resources:

- Lincolnshire Environmental Records Centre (LERC); and
- Multi Agency Geographic Information for the Countryside (MAGIC) website (accessed [Inspired Ecology Ltd](#))

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The following geographical extents of the search area for potential zones of influence for nature conservation sites were considered appropriate:

- 10km from the site for sites of International Importance (e.g. Special Area of Conservation (SAC))
- 2km from the site for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI))
- 2km from the site for protected/notable species (including biological records, post-2000), priority habitats and non-statutory designated sites (e.g. Local Wildlife Sites (LWS))

Where applicable, the records of protected species are included within the relevant sections of the report. Records of protected species more than 20 years old are not referred to in this report but were included within the data search. A summary document of the data search results is given in Appendix 2.

3.2 Field survey

An Extended Phase 1 Habitat Survey was completed on 10th May 2021 by Director and Principal Ecologist Ian Nixon MCIEEM (registered to use Natural England Class Licences WML-CL08 to survey great crested newts, WML-CL19 and WML-CL20 to survey bats and WML-CL29 to survey barn owls; registration numbers 2015-16823-CLS-CLS, 2015-12336-CLS-CLS, 2015-12338-CLS-CLS and CL29/00110 respectively). Ian has over 15 years' experience of undertaking ecological walkover surveys.

The survey was undertaken in accordance with the Joint Nature Conservation Committee's (JNCC) '*Extended Phase 1 Habitat Survey*' methodology (JNCC, 2010) and involved identifying notable/protected habitats and evidence of protected species on or adjacent to the surveyed extent of the site as well as determining the potential of the site to accommodate protected species. This was based on habitat quality for fauna/flora and identifying evidence of faunal inhabitancy, including field signs. An assessment was also made of any Habitats of Principal Importance, as listed under Section 41 of the NERC Act 2006. Plant species on site were assessed against the Vascular Plant Red Data List for Great Britain (Cheffings *et al.*, 2005), and the site was assessed against the Local Wildlife Site (LWS) criteria for Lincolnshire (Poole and Fraser, 2013)

A note was made of any species which are local or national Biodiversity Action Plan (BAP)

species/species of principal importance.

A Phase 1 Habitat Map of the surveyed extent, produced by Alexandra Hajok of North Arrow Geospatial, is included as Figure 1 at the end of this report. Areas and features of particular interest have been denoted as Target Notes (TN). Photographs of the site which were taken during the survey are included within the text.

3.3 Species

3.3.1 Amphibians

The site was assessed for its potential to support great crested newt and other common amphibian species including the Section 41 species of common toad *Bufo bufo*. All habitats on the site were assessed for their potential to support amphibians as either breeding or terrestrial habitat. All potential refugia/habitat piles on site which were considered suitable for use as shelter for amphibians were identified.

3.3.2 Common reptile species

All habitats on the site were assessed for their potential to support common reptile species based on factors such as the presence of suitable sites for basking and the presence of refugia or vegetation offering sufficient structure for shelter and hibernation.

3.3.3 Bats

Preliminary roost assessment

In accordance with Collins (2016), a preliminary roost assessment was carried out on the existing buildings to determine whether any features were present that bats could use for entry/exit points and roosting, and to search for signs of bat presence. Ladders, high-powered torches and binoculars were used to search for internal and external features including but not limited to:

- Gaps around windowsills, door frames and lintels
- Lifted rendering, paintwork, shiplap boarding
- Soffit boxes, weatherboarding and fascias
- Lead flashing, hanging tiles and lifted or missing tiles/slate
- Gaps >15mm in brickwork and stonework
- Bat specimens (live or dead)
- Bat droppings and urine staining
- Feeding remains (e.g. moth wings)
- Cobweb-free sections of ridge beam

The buildings were then assigned a measure of potential suitability to determine the extent of future survey work needed. The categories of potential suitability and further survey effort required are as follows:

- Negligible – Negligible features on site likely to be used by roosting bats – no further survey work
- Low – A structure with one or more potential roost sites that could be used by individual bats opportunistically – one survey visit (dusk or dawn)
- Moderate – A structure with one or more potential roost sites that could be used by bats on a regular basis – two separate survey visits (one dusk and one dawn)
- High – A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a regular basis and for longer periods of time – three separate survey visits (one dusk, one dawn and one dusk or dawn)

There were no trees suitable for roosting by bats on the site.

Assessment of commuting and foraging habitats

In accordance with Collins (2016), the surveyed site and adjacent areas were assessed for their potential suitability for commuting and foraging bats and categorised as follows:

- Negligible – Negligible habitat features on site or in surrounding area likely to be used by commuting or foraging bats
- Low – Habitat features that could be used by small numbers of commuting bats such as a gappy hedgerow or small numbers of foraging bats such as a patch of scrub, but that are isolated from other habitat features
- Moderate – Continuous habitat connected to the wider landscape such as lines of trees that could be used by commuting bats or trees, grassland or water features that could be used by foraging bats
- High – Continuous, high-quality habitat that is well connected to the wider landscape for use by commuting and foraging bats such as river valleys, woodland, grassland and parkland

3.3.4 Badger

The site was searched for signs of use by badger *Meles meles* including setts, latrines, dung pits, pathways, hairs, footprints, snuffle holes and scratch marks on trees.

3.3.5 Water vole

The drain channel was assessed for its potential to support water vole *Arvicola amphibius* in accordance with Dean *et al.* (2016) and a search was made of the banks (where access

allowed) for signs of use by water voles including feeding stations, burrows, latrine sites, runs through the vegetation and cropped grass around burrow entrances.

3.3.6 Birds

The surveyed site was searched for signs of use by nesting birds, typically old and active nests and concentrations of faecal deposits associated with a breeding site. All bird species noted on site were recorded.

3.3.7 Other Section 41 species

The site was assessed for its suitability to support a number of species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 41 lists Species of Principal Importance in England. These species include brown hare *Lepus europaeus* and west European hedgehog *Erinaceus europaeus*. A note was made of any other Species of Principal Importance under Section 41 of the NERC Act 2006 that were seen on site.

3.4 Survey constraints and limitations

The information contained in this report was accurate at the time of the survey; however, it should be noted that the status of mobile species such as badgers, birds and bats can alter in a short period of time and any survey only represents a 'snapshot' of the site at one point in the season. There are no definitive guidelines relating to the longevity of an ecology report, however we recommend that the results are updated after 12 months if the proposed work has not commenced.

3.5 Scoped out

Certain protected species were scoped out of the survey; in particular, it was considered that white-clawed crayfish *Austropotamobius pallipes* and otter *Lutra lutra* were highly unlikely to occur on the site due to lack of suitable aquatic habitat. The site is not suitable to support common dormouse *Muscardinus avellanarius* and is geographically distant from areas in which smooth snake *Coronella austriaca* are present.

4 RESULTS

4.1 Desk study

4.1.1 Statutory Designated Nature Conservation Sites

The LERC search and MAGIC website identified three statutory sites within a 10km the site, all

located approximately 6.2km south-east of the site. These are statutory sites which form part of the National Site Network and which are of international importance. Table 1, below, provides further information on the sites of international importance.

Table 1: Internationally important statutory sites within 10km of the application site

Name	Reason(s) for designation
The Wash Ramsar site	<p>Designated as it fulfils Ramsar criteria 1, 3, 5 and 6:</p> <ul style="list-style-type: none"> • Criterion 1: The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels • Criterion 3: There is an inter-relationship between its components, including saltmarshes, intertidal sand and mudflats, and the estuarine waters. • Criterion 5: The site supports an internationally important assemblage of waterfowl, with a five-year peak mean (1998/99 – 2002/03) of 292,541 wintering waterfowl. • Criterion 6: The site supports over 1% of the population of Eurasian oystercatcher <i>Haematopus ostralegus</i>, grey plover <i>Pluvialis squatarola</i>, red knot <i>Calidris canutus islandica</i>, sanderling <i>Calidris alba</i>, Eurasian curlew <i>Numenius arquata arquata</i>, common redshank <i>Tringa totanus tetanus</i> and ruddy turnstone <i>Arenaria interpres interpres</i> in spring/autumn, and of pink-footed goose <i>Anser brachyrhynchus</i>, dark-bellied brent goose <i>Branta bernicla bernicla</i>, common shelduck <i>Tadorna tadorna</i>, northern pintail <i>Anas acuta</i>, dunlin <i>Calidris alpina alpina</i> and bar-tailed godwit <i>Limosa lapponica</i> in winter.
The Wash Special Protection Area (SPA)	<p>The qualifying features of the site include the following:</p> <ul style="list-style-type: none"> • Bar-tailed godwit (non-breeding) • Bewick's swan <i>Cygnus columbianus bewickii</i> (non-breeding) • Black-tailed godwit <i>Limosa limosa islandica</i> (non-breeding) • Common scoter <i>Melanitta nigra</i> (non-breeding) • Common tern <i>Sterna hirundo</i> (breeding) • Curlew (non-breeding) • Dark-bellied brent goose (non-breeding) • Dunlin (non-breeding) • Gadwall <i>Mareca strepera</i> (non-breeding) • Goldeneye <i>Bucephala clangula</i> (non-breeding) • Grey plover (non-breeding) • Knot (non-breeding)

Name	Reason(s) for designation
	<ul style="list-style-type: none"> • Little tern <i>Sternula albifrons</i> (breeding) • Oystercatcher (non-breeding) • Pink-footed goose (non-breeding) • Pintail (non-breeding) • Redshank (non-breeding) • Sanderling (non-breeding) • Shelduck (non-breeding) • Turnstone (non-breeding) • Waterbird assemblage (non-breeding) • Wigeon <i>Mareca penelope</i> (non-breeding)
The Wash and North Norfolk Coast Special Area of Conservation (SAC)	<p>This site is designated due to the presence of the following Annex I habitats and Annex II species:</p> <ul style="list-style-type: none"> • Sandbanks which are slightly covered by sea water all the time • Mudflats and sandflats not covered by seawater at low tide • Large shallow inlets and bays • Reefs • <i>Salicornia</i> and other annuals colonizing mud and sand • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>) • Harbour seal <i>Phoca vitulina</i> <p>The following Annex I habitats and Annex II species are present within The Wash SAC but are not primary reasons for the designation of the site:</p> <ul style="list-style-type: none"> • Coastal lagoons • Otter

Additionally, the site is within 6.2km of the marine components of The Wash SPA and The Wash and North Norfolk Coast SAC.

In view of the nature and interest features forming the above statutory designated sites, and considering the distance between the application site and these sites, no adverse impacts upon the integrity of interest features forming the statutory sites are predicted as a result of the proposed works. As the proposed development is not considered a major housing proposal (i.e. it comprises less than 10 houses), there is no requirement for a project-level Habitats Regulations Assessment (HRA) to be undertaken for this site, as per Policy 28 of the South

East Lincolnshire Local Plan.

4.1.2 Non-statutory Designated Nature Conservation Sites

The LERC search did not identify any non-statutory sites within 2km of the site.

4.1.3 Priority Habitats

The LERC search identified two priority habitats within 2km of the site. These are:

- Lowland mixed deciduous woodland: this habitat is located c.315m north-west of the site; and
- Traditional orchards: the nearest area of this habitat to the site is located c.425m south-west of the site.

Given the distance between these priority habitats and the application site, it is considered unlikely that the proposals will impact upon the above priority habitats.

4.2 Field Survey – Habitats

The following habitats are shown under the JNCC Phase 1 Habitat map under Figure 1 of this report.

C3.1 – Tall ruderal

The majority of the site comprises an area of former arable land which has since been left unmanaged and has developed into an area of tall ruderal vegetation (Photographs 1 and 2). Vegetation noted on the site was dominated by cock's-foot *Dactylis glomerata*, with abundant creeping thistle *Cirsium arvense*, great willowherb *Epilobium hirsutum*, dandelion *Taraxacum* agg., common nettle *Urtica dioica*, perennial rye-grass *Lolium perenne* and wild teasel *Dipsacus fullonum*. There is also occasional spear thistle *Cirsium vulgare*, groundsel *Senecio vulgaris*, cleavers *Galium aparine*, sowthistle species *Sonchus* sp., selfheal *Prunella vulgaris*, curled dock *Rumex crispus*, red dead-nettle *Lamium purpureum*, common chickweed *Stellaria media*, daisy *Bellis perennis* and common ragwort *Jacobaea vulgaris*, and rarely there are specimens of holly *Ilex aquifolium*, ivy *Hedera helix*, horsetail species *Equisetum* sp., bramble *Rubus fruticosus* agg., Leyland cypress *Cupressus x leylandii*, wood avens *Geum urbanum*, red clover *Trifolium pratense*, cut-leaved crane's-bill, *Geranium dissectum* broad-leaved dock *Rumex obtusifolius* and *Cotoneaster* species.

Given that the ruderal species present are common within the local and national landscape, it is considered that the tall ruderal vegetation is of low ecological value at a site and local scale.



Photograph 1: Tall ruderal vegetation on site



Photograph 2: Further view of the tall ruderal vegetation on site

F1 – Swamp

Along the north-western boundary of the site there is a section of shallow drain (Photograph 3). There is a small amount of water at the northern end of the drain, though it dries towards the south. The channel is dominated by yellow iris *Iris pseudacorus* with occasional great willowherb, whilst the vegetation along the banks comprises abundant white dead-nettle *Lamium album*, common nettle, cock's-foot and great willowherb; occasional cow parsley *Anthriscus sylvestris*, dock species *Rumex* sp. and cleavers; and rare specimens of bramble.

Due to the low species diversity and lack of aquatic habitat and/or vegetation within the drain, this area has been assessed as having low ecological value on a site scale. There are numerous other field boundary drains within the local area, thus this drain is considered to be of low ecological value at a local scale.



Photograph 3: Drain adjacent to the north-west of the site

J2.4 – Fence

The south-east of the site is bounded by timber panelled fencing. The fence offers habitat of negligible ecological value at a site scale.

J3.6 – Buildings

Three derelict farm buildings are present on the application site (Photographs 4-6). The buildings are constructed from timber and corrugated metal sheeting and are used for storage. The buildings are in poor condition.

The buildings are considered to be of low ecological value at a local scale.



Photograph 4: Small derelict shed at the north of the site



Photograph 5: Large derelict building in the centre of the site



Photograph 6: Building at the south-east of the site

Surrounding habitats

An arable field is present to the south-west of the site. Chapel Road is present along the north-eastern site boundary. Residential properties and associated gardens are present adjacent to the north-west and south-east of the site.

The proposed works will be confined to the footprint of the site, thus the proposals are unlikely to directly affect the surrounding habitats.

4.3 Field Survey – Species

4.3.1 Plants

A *Cotoneaster* species was noted on site (see TN1). Although a commonly purchased garden shrub, several species of *Cotoneaster* are listed on Schedule 9 Part 2 of the Wildlife and Countryside Act 1981 (as amended); these are *Cotoneaster horizontalis*, *Cotoneaster integrifolius*, *Cotoneaster simonsii*, *Cotoneaster bullatus* and *Cotoneaster microphyllus*. The specimen noted on the site was not identified to species level (as this genus includes numerous species, sub-species and varietals which have been introduced in the UK as garden plants, and *Cotoneaster* species readily hybridise). As a precaution, the specimen noted during the survey must therefore be treated as Schedule 9 plant species.

There are no hedgerows on site that would meet the required criteria to qualify as important under the Hedgerow Regulations 1997. There are no species that are listed in the Vascular Plant Red Data List for Great Britain (Cheffings *et al.*, 2005).

4.3.2 Amphibians

The LERC search returned records of smooth newt *Lissotriton vulgaris* within 2km of the site from 2013. There are no records of great crested newt from within 2km of the site nor of any other amphibian species within 2km of the site within the last 20 years.

There are no ponds on the surveyed site. The tall ruderal vegetation and grassy tussocks would likely provide some small amounts of refugia for amphibians, however the site is limited in its suitability to support amphibians due to the lack of connecting habitats: though the drain to the north-west of the site provides a connecting feature, this is within an arable landscape which is unlikely to support significant amphibian populations.

The MAGIC website identified one pond within 500m of the site, located approximately 295m north-east of the site. The pond is located within a small woodland copse and is surrounded by an amenity grassland garden and arable land. Arable land and the urban area of Leake Commonsides separates the pond identified from the surveyed site.

4.3.3 Reptiles

The LERC search did not return any records of reptiles from within 2km of the site from within the last 20 years.

No reptiles were seen on site during the survey. The site offers sub-optimal habitat for reptiles given the lack of suitable refugia available. There is commuting and foraging potential for grass snake within the drain to the north-west of the site, though this is within an arable landscape which is likely to limit its suitability for grass snake. The drain will not be impacted by the

proposals.

4.3.4 Bats

The LERC search returned several records of bats from within 2km of the site. These include records of common pipistrelle *Pipistrellus pipistrellus* from 2016; pipistrelle species *Pipistrellus* sp. and a single record of Daubenton's bat *Myotis daubentonii* from 2014; and brown long-eared bat *Plecotus auritus* and soprano pipistrelle *Pipistrellus pygmaeus* from 2013. These include records of pipistrelle and brown long-eared roosts from within Old Leake.

Preliminary roost assessment

No signs of roosting by bats were noted on site. No suitable niches were noted within buildings on site. Given the materials from which the buildings are constructed, the buildings on site are considered to offer habitat of negligible potential suitability to support bats.

Assessment of commuting and foraging habitats

The site itself offers habitat of low potential suitability to support foraging and commuting bats, given that it predominantly supports tall ruderal vegetation and is poorly connected to the wider area.

The local area (i.e. within 500m of the site) primarily comprises arable land and urban areas. These areas offer little habitat suitable for use by foraging and commuting bats. The drain adjacent to the site has the potential to support foraging and commuting bats but is within an arable landscape which likely limits its suitability somewhat. The remaining habitats within 500m of the site include grassland, woodland and a pond, all of which offer habitat of high suitability to support foraging and commuting bats. Given that these areas make up a minority of the local area around the site, it is considered that the local area offers habitat of low potential to support foraging and commuting bats.

The wider area (i.e. between 500m – 3km from the site) is dominated by further arable land, with some small urban areas in nearby villages. Satellite imagery shows farm buildings, grassland, small numbers of woodland copses and small areas of parkland also within the wider area, with connectivity provided by field boundary drains, hedgerows and tree lines. Given the dominance of arable land within the landscape, however, the wider area is also considered to offer habitat of low suitability to support foraging and commuting bats.

The proposed development will not directly impact upon the availability of foraging and commuting habitat in areas adjacent to the site, as the works will be limited to the footprint of the site. The foraging and commuting habitat available for bats within the local or wider area is therefore unlikely to be negatively affected by the proposals.

4.3.5 Badger

There are records of badger within 2km of the site from 2017. No signs of occupation by badger, such as sett holes or latrines, were noted on site. The site is considered unlikely to support occupation by badger due to its flat terrain. However, as badger are known to be present within 2km of the site, vigilance for the presence of badgers should be maintained throughout the works as a precaution.

4.3.6 Water vole

Water vole were most recently recorded within 2km of the site in 2017.

No signs of water vole were noted within the short stretch of drain to the north-west of the site. The results of the assessment for the drain are presented in tabular form below:

Table 2: Assessment of the drain to support water voles

Habitat Feature	Observations	Suitability for water voles
Bank profile	Shallow banks (<45°)	Low potential
Bank substrate	Earth	Moderate potential
Water levels and fluctuations	Very low water levels and dry in places, likely to fluctuate	Low potential
Shading from trees/shrubs	None	Low potential
Bankside vegetation type and density	Ruderal vegetation on banks	Low potential
In-channel herbaceous vegetation type, cover and density	Yellow iris in patches within the channel, limited diversity of aquatic vegetation	Low potential
Vegetation management	No visible management	Moderate potential
Other	No burrows or above ground nest sites noted, no evidence of feeding or latrines	Low potential
	Record of water vole within 2km of the site from 2017	Moderate potential

Overall, the drain was considered to provide low potential to support water vole. This is largely limited by the lack of water within the drain, and the shallow nature of the banks. The drain is not expected to be impacted by the proposed works.

4.3.7 Birds

Common bird species

A number of common birds were seen on or flying over the site during the survey. These are listed in Table 3, below, along with their current status as BAP species or Birds of Conservation Concern 4 (Eaton *et al.*, 2015):

Table 3: Common bird species seen on site

English name	Scientific name	BAP	BoCC
pheasant	<i>Phasianus colchicus</i>		Green
wren	<i>Troglodytes troglodytes</i>		Green

The buildings have the potential to support nesting by common species of bird. The site also has the potential to support ground-nesting birds.

Schedule 1 species

The site is not considered suitable to support breeding by Schedule 1 bird species.

4.3.8 Other Section 41 species

The LERC returned records of brown hare within 2km of the site from 2019. The site is not considered suitable for this species given the buildings present, however the surrounding landscape of farmland habitat is likely to support this species.

Records of hedgehog within 2km of the site were returned, most recently from 2017. The site has the potential to support foraging by this species, and the location adjacent to other residential dwellings and associated gardens means that hedgehog may be present within the local area. The site is within a predominantly arable landscape however, which may limit the numbers of hedgehog present in the area.

5 DISCUSSION AND RECOMMENDATIONS

5.1 Designated sites and priority habitats

The desk study found a small number of internationally important statutory sites over 6km from the surveyed site. Given the significant distance between the application site and the identified statutory designated sites, it is considered unlikely that the designated sites will be impacted by the proposed works.

The development is expected to be limited to the footprint of the site, thus the nearby priority

habitats are not expected to be negatively affected by the proposals.

5.2 Habitats

Habitats present on the site primarily include tall ruderal vegetation and derelict buildings, a boundary fence and adjacent drain (swamp vegetation).

The existing buildings and tall ruderal vegetation will be lost to the proposed development, though a 6m buffer for drain maintenance will be retained along the north-west boundary of the site. As such, the drain will not be affected by the works. The development will include the erection of a new dwelling and associated detached garage, as well as the creation of new lawns, landscaped areas, a gravel driveway and patio areas. Trees and a hedgerow will be planted as part of the proposed development.

In order to enhance biodiversity and provide some 'ecological gain' on site and fulfil the Local Planning Authorities obligations under the NERC Act 2006, the following measures are recommended:

- Any hedgerows to be planted should comprise native species such as blackthorn *Prunus spinosa*, common hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, field maple *Acer campestre*, midland hawthorn *Crataegus laevigata*, wild cherry *Prunus avium* and bird cherry *Prunus padus*.
- Once established, hedgerows should be appropriately managed with traditional techniques where possible to maximise their benefit for wildlife using hedgelaying rather than flailing or trimming. If trimming is necessary, ensure it is carried out every 2 to 3 years and in sections so that not all parts of the hedgerow are cut at the same time. Further information on the best practice creation and management of hedgerows can be found on the Management Advice page of www.hedgeline.org.uk.
- Any new trees and shrubs planted on the site as part of a landscaping scheme should comprise native locally appropriate species. If possible, species that provide pollen, nectar and fruit should form part of the landscaping in order to provide a food source for common birds. Species which could be considered include hazel, hawthorn, blackthorn, dog-rose *Rosa canina*, wayfaring tree *Viburnum lantana*, sweet-briar *Rosa rubiginosa*, dogwood *Cornus sanguinea*, common buckthorn *Rhamnus cathartica* and guelder rose *Viburnum opulus*.
- Plant flower borders within any landscaped areas of the site to include night scented

flowers in order to attract moths and other night flying insects (which will provide foraging opportunities for bats). Species should include evening primrose *Oenothera biennis*, sweet rocket *Hesperis matronalis*, honeysuckle species *Lonicera* sp., lavender *Lavendula* sp., white jasmine *Jasminum officinale*, night-scented catchfly *Silene noctiflora*, night-scented stock *Matthiola longipetala* and soapwort *Saponaria officinalis*.

- In order to provide suitable habitats on site to encourage high invertebrate activity, including declining pollinators, the grassed areas on the site should be seeded with appropriate wildflower mixes. Seeding of any amenity areas should use a flowering lawn mixture, such as Emorsgate Seeds EL1 mix (www.wildseed.co.uk), which is resistant to regular mowing. Any areas of longer grass could be seeded with a general wildflower mix such as Emorsgate EM1 mix (basic all-purpose meadow mix). It is recommended that any wildflower areas are cut once a year, in late summer/early autumn and the arisings removed after 7 days to enable the wildflowers to flourish and provide food sources for invertebrates. Details of how to adequately prepare the ground prior to seeding as well as ongoing management can also be found on the Emorsgate website. Increasing the levels of invertebrate activity on site will also provide further foraging opportunities for insectivorous species.

5.3 Plants

A *Cotoneaster* species was noted on the application site. Although this was not identified to species level, as a precaution, the specimens identified should be treated as a Schedule 9 species. The following precautionary measures should be implemented during the works in order to ensure that there are no breaches in the legislation relating to species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Precautionary measures for *Cotoneaster* – Chapel Road, Old Leake

- Should any new areas of *Cotoneaster* infestation be identified within the works area, these must be reported to the site manager.
- When removing the identified *Cotoneaster* specimens, a non-permeable sack should firstly be placed over the plant to contain any berries when removing the plants.
- When removing the identified *Cotoneaster* specimens, the root mass should be excavated, and the entire plant chipped or burnt on site or taken to licensed landfill as controlled waste.

5.4 Amphibians

The site is considered to offer sub-optimal habitat to support a significant population of amphibians, including great crested newt. There is one pond within 500m of the site, which is separated from the site by arable and urban habitats. A Natural England Rapid Risk Assessment was undertaken in order to determine the likelihood that the legislation which protects great crested newt would be breached as a result of the proposed development. The result of the Rapid Risk Assessment are shown in Table 4 below.

Table 4: Natural England Rapid Risk Assessment for Chapel Road, Old Leake

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.001
Individual great crested newts	No effect	0
	Maximum:	0.001
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

The Natural England Rapid Risk Assessment suggests that the proposed development is unlikely to breach the legislation which protects great crested newt.

As a precaution, any construction materials will be stored on pallets to deter amphibians taking shelter underneath them. All site operatives will stay vigilant for the presence of amphibians, particularly great crested newts, during the works. If any amphibians are found, they will be carefully gathered up and relocated to suitable habitat close by. In the unlikely event that any great crested newt are found at any point, the works must stop immediately, and an ecologist should be appointed to advise the way forward.

5.5 Reptiles

The site is considered to offer sub-optimal habitat for reptiles and is poorly connected to areas of optimal habitat. No further surveys or mitigation measures are required in respect of reptiles. As a precaution, all site operatives will stay vigilant for the presence of reptiles during the works, especially along the boundaries. If any reptiles are found, they will be carefully gathered up and relocated to suitable habitat close by.

5.6 Bats

The buildings on site are considered to offer habitat of negligible potential suitability to support roosting bats. No further surveys are required with respect to bats and there will be no

requirement to apply for a Natural England European Protected Species Licence.

The site and surrounding areas are considered to offer habitat of low potential to support foraging and commuting bats. Given that the proposals will be limited to the footprint of the site, it is considered unlikely that the development will result in a loss of foraging and commuting habitat for bats in the local or wider areas.

As the site is considered to offer habitat to low potential suitability to support foraging and commuting bats, and that bats are known to be present within the local area, it is recommended that precautions are taken to ensure bats are not disturbed during the development work. These precautions, together with suggestions for enhancing ecological diversity of the site are detailed below. It is likely that these measures may form the basis of a planning condition. Local Planning Authorities have an obligation to enhance biodiversity and ensure 'favourable conservation status' – the implementation of these measures will ensure legal compliance and ensure that obligations relating to biodiversity are fulfilled.

Precautionary measures and enhancement measures for bats – Chapel Road, Old Leake

- Ensure that dark unlit corridors are maintained around and across the site, allowing bats to pass through and across the site unhindered by artificial light. Any boundary hedgerows and trees planted as part of the development should remain unlit so they can be used as dark corridors by foraging/commuting bats. Any lighting on the edges of the site may require shields or adaptations to minimise light spill.
- As a positive conservation measure to enhance the site for roosting bats, it is recommended that an integral bat roost unit is installed within the new dwelling. This should be placed on the northern or southern elevation of the building and installed following manufacturers' guidelines. Examples of suitable 'Habibat' bat roost units which could be used are given as Appendix 3 – these are unobtrusive roost units which can be faced with a range of products (including brick, block, stone, wood and render) to suit the design of the build and ensure seamless integration of the unit within the fabric of the building. More information and alternative brands can be found at www.wildcare.co.uk. The bat roost unit should be placed in locations that avoid illumination from external lighting.

5.7 Badger

No signs of badger activity were noted on site, thus no further survey work or mitigation is

required in respect of this species. As a precaution, vigilance for the presence of badgers should be maintained throughout the works. If badger activity is suspected at any time then it will be necessary to seek advice immediately, by calling Ian Nixon on 07833 674500, to ensure legal compliance. To safeguard ground mammals (including badgers and hedgehogs) during the development phase, it is essential that no trenches or pipes are left uncovered overnight.

5.8 Water vole

The drain at the north-west of the site is considered to be sub-optimal for occupation by water vole, limited mainly by the lack of water and a shallow bank profile. At present, the proposals for the site will not impact upon the drain, with a 6m buffer included at the north-west of the site to provide access for drain maintenance.

If the proposals for the site are amended and may affect the drain, then, in accordance with Dean *et al.* (2016), dedicated water vole surveys should be undertaken during the appropriate time of year. These should be undertaken by suitably experienced ecologists and will comprise an initial survey during spring/early summer (mid-April – end of June, inclusive), with the possibility of a second follow-up survey in late summer/autumn (July – September, inclusive). Where it is necessary to conduct two surveys, these should be undertaken at least two months apart. This will determine whether water voles are present within or adjacent to the section of drain to be impacted and will therefore inform any advice in relation to water vole within the drain.

5.9 Birds

The buildings and vegetation on the site offer potential nesting habitat for common species of bird. As a precautionary measure and to ensure good practice, it is recommended that any building demolition and vegetation clearance works should commence outside of the active nesting season, which typically runs from March through to late August (inclusive). If work commences during the bird breeding season, a search for nests will need to be carried out by an experienced ecologist before work begins, and active nests should be protected until the young fledge.

Consideration should also be given to the provision of an integrated 25mm hole nest box within the new dwelling or garage. Examples of suitable Habitat nest boxes are given in Appendix 4, with details of other integrated nest boxes suitable for use by a range of common bird species available from www.wildcare.co.uk

5.10 Other Section 41 species

The precautionary measures provided for badger (see section 5.7) would also protect any hedgehog or other ground mammals on site during the development works. In order to maintain potential commuting routes for hedgehog, any fences that are installed as part of the development should have a small hole in the bottom, measuring 13x13cm, or be raised off the ground. Alternatively, hedgehog-friendly gravel boards can be purchased, which are pre-cast or cut with a hole in that allows hedgehogs to pass through. Further information on hedgehog-friendly timber gravel boards can be found at www.jacksons-fencing.co.uk/hedgehog-fencing, with alternative hedgehog-friendly concrete gravel boards available from other suppliers. Ideally, hedges should be used instead of fencing.

6 CONCLUSIONS

No ecological constraints were found to be associated with plans to develop this land.

Some precautionary measures have been advised to prevent any breaches in the legislation relating to any protected and notable species during the development. These will ensure legal compliance. In addition, a number of ecological enhancement measures have been recommended in order to ensure no net loss to biodiversity. These measures are as follows:

- Use of native species in any landscaping scheme
- Precautionary measures when removing *Cotoneaster* specimen from the site
- Precautionary measures and vigilance with respect to amphibians
- Precautionary measures and vigilance with respect to reptiles
- Best practice in relation to bats
- Provision of a bat roosting unit within the new dwelling
- Vigilance and best practice regarding badger and other ground mammals
- Dedicated water vole surveys if the adjacent drain is to be impacted by the proposals
- Appropriate timings with regards to nesting birds and/or pre-works nesting bird survey
- Provision of a 25mm hole bird box within the new dwelling or garage on site
- Appropriate boundary features to maintain potential commuting routes for hedgehog

7 REFERENCES AND BIBLIOGRAPHY

Baker, J., Beebee, T., Buckley, J., Gent, T. and Orchard, D. 2011. *Amphibian Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth.

Bamforth, J. 2018. *Land off Chapel Road, Old Leake, Boston: Preliminary Ecological Appraisal*. Quants Environmental, unpublished.

Cheffings, C.M. & Farrell, L. (ed.), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Preston, C.D., Rumsey, F.J. and Taylor, I. 2005. *The Vascular Plant Red Data List for Great Britain. Species Status 7: 1-116*. Joint Nature Conservation Committee, Peterborough.

CIEEM. 2017. *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London.

Collop, C. (revised Bouic, A.) 2015. *Lincolnshire Biodiversity Action Plan 2011-20*. 3rd edition. Greater Lincolnshire Nature Partnership, Horncastle.

Dean, M., Strachan, R., Gow, D. and Andrews, R. 2016. *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Matthews and Paul Chanin. The Mammal Society, London.

Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R. 2015. *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*. British Birds 108, pp708–746.

JNCC. 2008. *Information Sheet on Ramsar Wetlands (RIS) – The Wash*. JNCC, Peterborough. [Available from: <https://jncc.gov.uk/jncc-assets/RIS/UK11072.pdf>].

JNCC. 2010. *Handbook for Phase 1 Habitat Survey. A Technique for Environmental Audit*. JNCC, Peterborough.

JNCC. 2015. *Natura 2000 – Standard Data Form. For Special Protection Areas – The Wash*. JNCC, Peterborough. [Available from: <https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9008021.pdf>].

JNCC, 2021. *The Wash and North Norfolk Coast Designated Special Area of Conservation (SAC)*. [Online]. [Accessed May 2021]. Available from: <https://sac.jncc.gov.uk/site/UK0017075>.

Mitchell-Jones, A. J. 2004. *Bat Mitigation Guidelines*. English Nature, Peterborough.

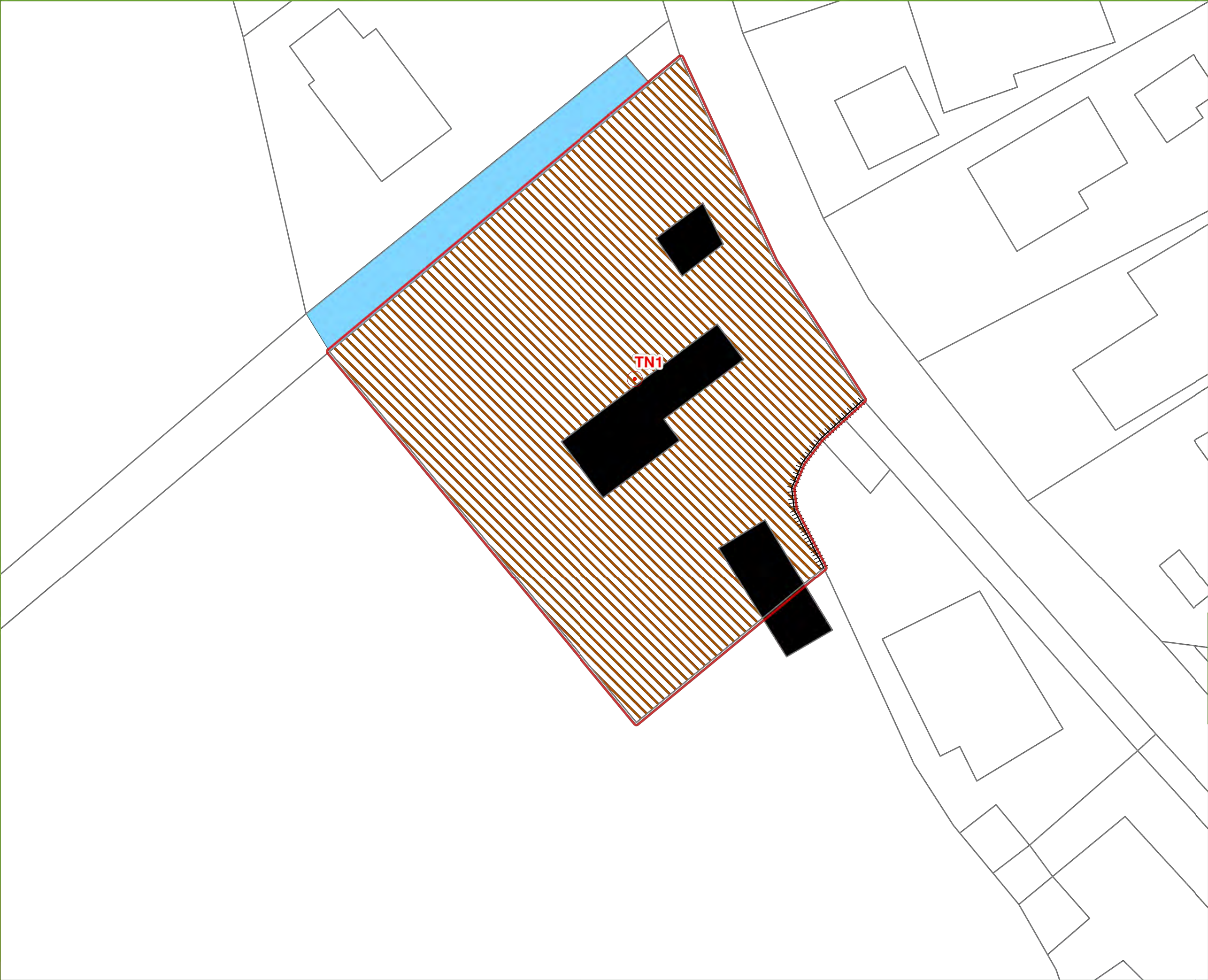
Mitchell-Jones, A. J. and McLeish, A. P. 2004. *Bat workers manual*. Joint Nature Conservation Committee, Peterborough.







Poole, J. and Fraser, J. (ed.) 2013. *Local Wildlife Site Guidelines for Greater Lincolnshire (3rd edition)*. Greater Lincolnshire Nature Partnership, Horncastle.

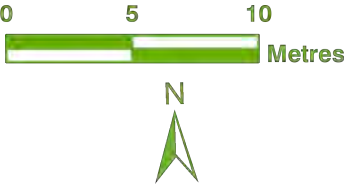
Stace, C. 2019. *New Flora of the British Isles*. 4th Edition. C&M Floristics, Suffolk.

**PRELIMINARY ECOLOGICAL APPRAISAL
CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE**

FIGURE 1
Habitat Map



- Legend**
-  Site Outline
 -  Target Notes
 -  J2.4 Fence
 -  C3.1 Other tall herb and fern - ruderal
 -  F1 Swamp
 -  J3.6 Buildings



Client: Adrian Fox AF Architecture 65 Robin Hoods Walk Boston Lincolnshire PE21 9EX	Project: Chapel Road, Old Leake, Lincolnshire
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Reference: Figure 1	Title: Site Location and Phase 1 Habitat Map
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Malham
Washdyke Lane
Kirton Meeres
BOSTON
Lincolnshire
PE20 1PW
01205 723342

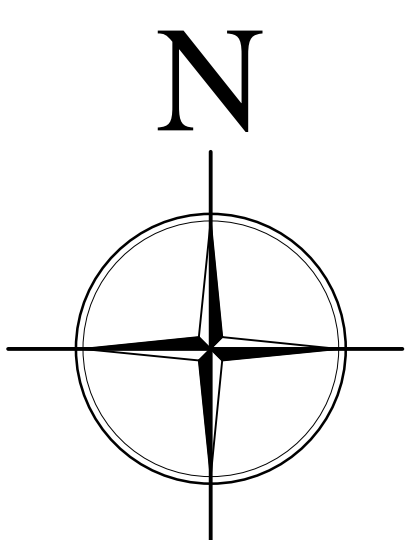
21/05/2021

**PRELIMINARY ECOLOGICAL APPRAISAL
CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE**

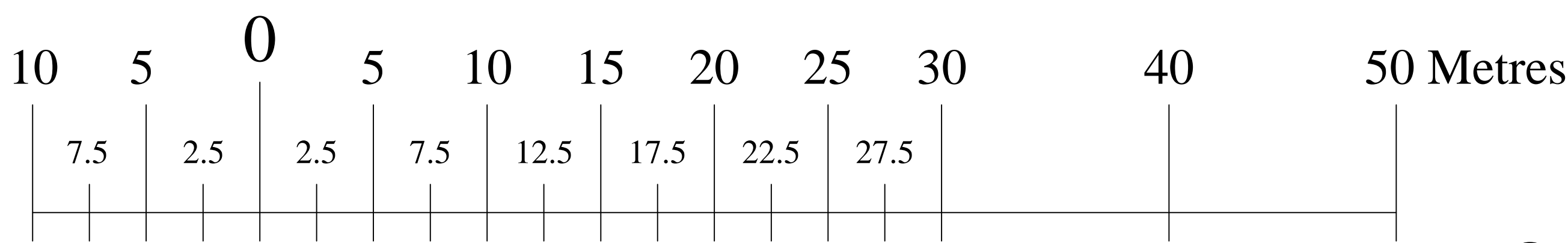
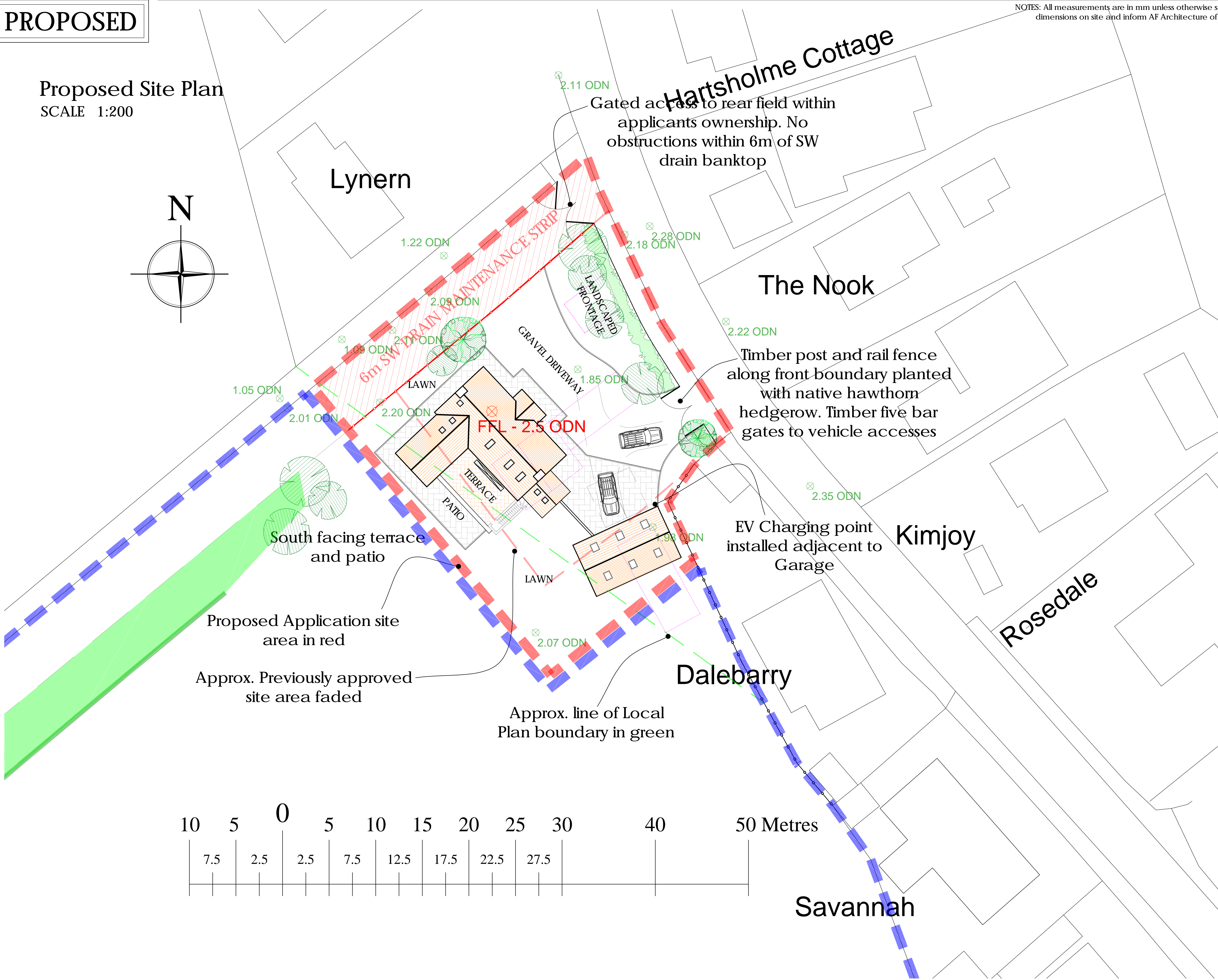
**APPENDIX 1
Proposed Development Plan**

PROPOSED


Proposed Site Plan
SCALE 1:200



NOTES: All measurements are in mm unless otherwise specified. Do not scale from this drawing. Contractor to check dimensions on site and inform AF Architecture of discrepancies if required. This drawing is subject to Copyright.



PLANNING DRAWINGS

PROPOSED PROJECT INFORMATION	AF Architecture 65 Robin Hoods Walk, Boston, Lincolnshire PE21 9EX Tel: 07985635436 E-mail: adrian@afarchitecture.co.uk		 ARCHITECTURE
	APPLICANT NAME: Mr. & Mrs. Mackay		DATE: March 2021
	PROPOSAL: PROPOSED CONSTRUCTION OF 1 No. NEW DWELLING AND DETACHED GARAGE		
	SITE ADDRESS: Land at Chapel Road, Old Leake, Boston, Lincolnshire PE22 9PP		
	DRAWING TITLE: Proposed Site Plan		
	DRAWING NO: 21/198/Pr - 02	SCALE: As shown	REVISION: . A1

**PRELIMINARY ECOLOGICAL APPRAISAL
CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE**

**APPENDIX 2
Data search results**

LERC Search Summary Report

Grid Reference: TF 397 524
Buffer: 2km

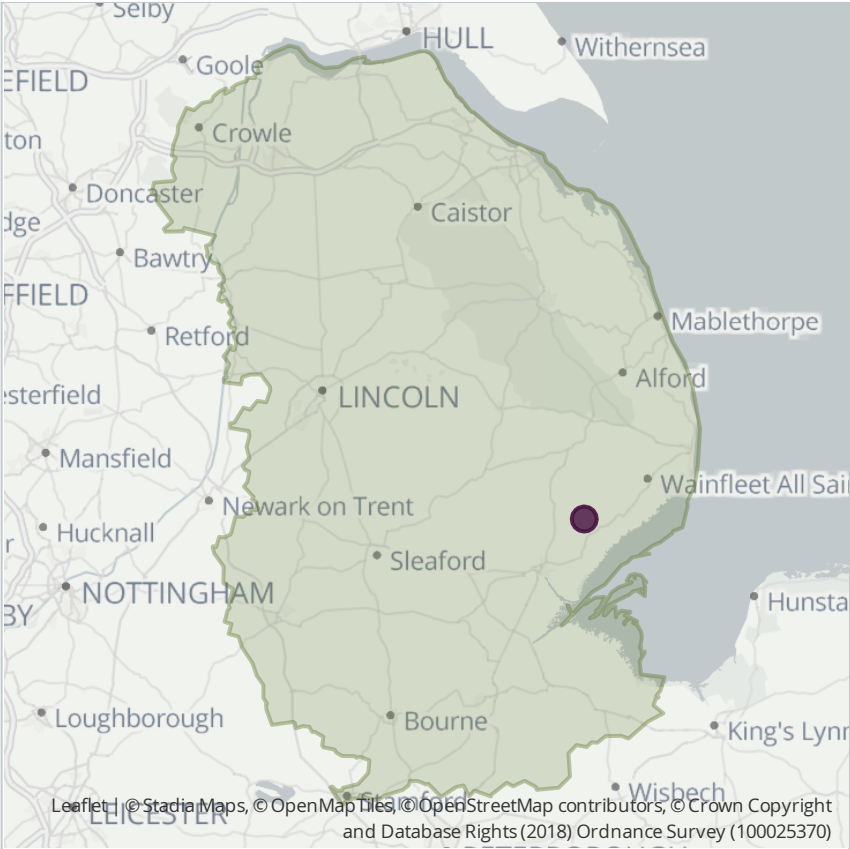
Date of publication: 10/05/2021
Expires: 10/05/2022

Achieving more for nature



GLNP
GREATER LINCOLNSHIRE
NATURE PARTNERSHIP

Report Details

Produced for	Rachel McNally, Inspired Ecology Ltd
Search area	

Terms and conditions

1. The data and reports provided by LERC are only to be used for the specific purpose they were produced.
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This report summarises a search of statutory sites, non-statutory sites, other sites, habitats and species within the specified area; where no information is returned for a section, it is excluded from this summary report.

About the Lincolnshire Environmental Records Centre

The Lincolnshire Environmental Records Centre (LERC) collates wildlife and geological information for Greater Lincolnshire from various sources and makes it available for various uses. This data is crucial to aid conservation management of sites, to help organisations prioritise action, and to understand the distribution of species and trends over time. For more information on LERC or to request a data search, visit the website at <https://glnp.org.uk/partnership/lerc/>



Lincolnshire Environmental Records Centre is an ALERC accredited LRC, meeting the standard level criteria.
For more information on accreditation, see the ALERC website at <http://www.alerc.org.uk/alerc-accreditation.html>

Habitats

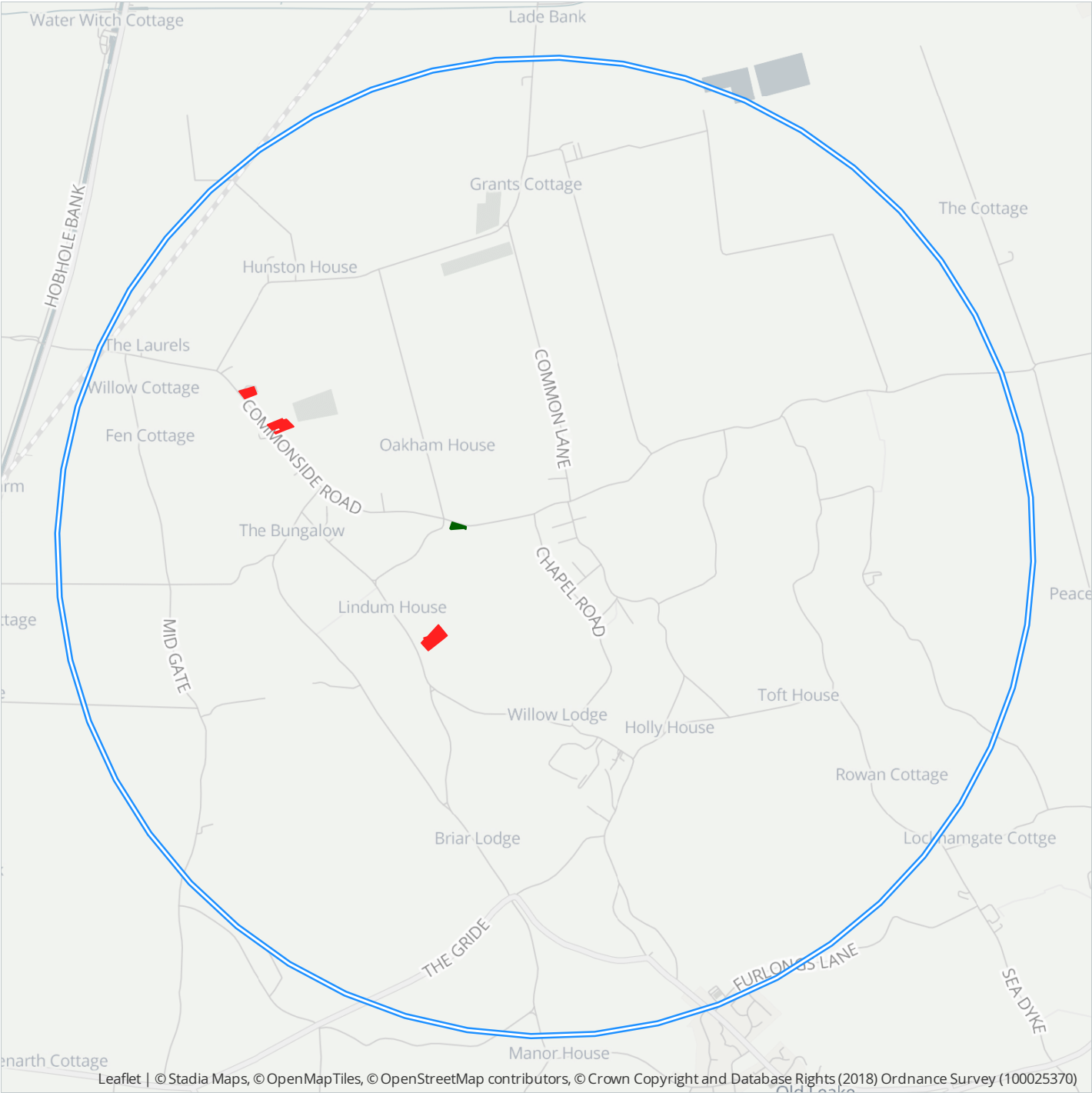
Priority habitats are those identified as being the most threatened and requiring conservation action in the UK. The most-recent list of UK priority species and habitats was published in August 2007 following a 2-year review of the process and priorities, representing the most comprehensive analysis of such information ever undertaken in the UK.

The data presented is the most up-to-date of the data collated by the GLNP and mostly comes from surveys of Local Sites; further historic data and non-Priority habitat data may also be available. Absence of information doesn't mean that the Priority habitat isn't present merely that no information is held.

A number of different datasets have been consulted to produce this report - a summary of attribution statements is available at <https://glnp.org.uk/images/uploads/services/lincolnshire-environmental-records-centre/habitat%20attribution.pdf>.

Type	Habitat	Survey Date	Area (ha)
Priority Habitat	Lowland mixed deciduous woodland	2012	0.11
Priority Habitat	Traditional orchards	2012	1.01

Habitats within the search area



Space restrictions on the map may result in some sites not being labelled.

- Lowland mixed deciduous woodland
- Traditional orchards

Search area

Species

Lincolnshire Environmental Records Centre holds records on the following species within or overlapping the search area. Data shown is as held by LERC; past records of presence of a species does not guarantee continued occurrence and absence of records does not imply absence of a species, merely that no records are held. Confidential data, zero abundance records, data at poorly defined geographic resolutions and data pending validation and/or verification are also excluded from this report. A number of different datasets have been consulted to produce this report - a summary of attribution statements is available at <https://glnp.org.uk/images/uploads/services/lincolnshire-environmental-records-centre/species%20attribution.pdf>

Amphibian (3 taxa)

Common Frog, <i>Rana temporaria</i>	7	1977 - 1977	Protected
Common Toad, <i>Bufo bufo</i>	7	1977 - 1977	Protected, Priority
Smooth Newt, <i>Lissotriton vulgaris</i>	2	2006 - 2013	Protected

Bird (77 taxa)

Barn Owl, <i>Tyto alba</i>	16	2003 - 2012	Protected, Local Priority
Barnacle Goose, <i>Branta leucopsis</i>	4	2009 - 2009	Non-native
Bearded Reedling, <i>Panurus biarmicus</i>	1	2010 - 2010	Protected
Black Tern, <i>Chlidonias niger</i>	1	2001 - 2001	Protected
Black-tailed Godwit, <i>Limosa limosa</i>	13	2006 - 2017	Protected
Brambling, <i>Fringilla montifringilla</i>	6	2005 - 2011	Protected
Brent Goose, <i>Branta bernicla</i>	4	2007 - 2010	Non-native
Bullfinch, <i>Pyrrhula pyrrhula</i>	13	2002 - 2012	Local Priority
Canada Goose, <i>Branta canadensis</i>	99	2005 - 2017	Non-native
Collared Dove, <i>Streptopelia decaocto</i>	56	2005 - 2017	Non-native
Columba livia 'feral', <i>Columba livia</i> 'feral'	61	2010 - 2013	Non-native
Common Scoter, <i>Melanitta nigra</i>	4	2009 - 2014	Protected, Priority
Corn Bunting, <i>Emberiza calandra</i>	21	2000 - 2017	Local Priority
Cuckoo, <i>Cuculus canorus</i>	5	2005 - 2017	Priority
Curlew, <i>Numenius arquata</i>	504	1995 - 2017	Priority
Dark-bellied Brent Goose, <i>Branta bernicla</i> subsp. <i>bernicla</i>	264	1995 - 2017	Priority, Non-native
Egyptian Goose, <i>Alopochen aegyptiacus</i>	2	2011 - 2013	Non-native
Eurasian Whimbrel, <i>Numenius phaeopus</i>	52	1996 - 2017	Protected
European Greater White-fronted Goose, <i>Anser albifrons</i> subsp. <i>albifrons</i>	1	2011 - 2011	Priority, Non-native
Fieldfare, <i>Turdus pilaris</i>	29	2003 - 2013	Protected
Gallinago gallinago subsp. <i>gallinago</i> , <i>Gallinago gallinago</i> subsp. <i>gallinago</i>	2	2012 - 2012	Local Priority
Goldeneye, <i>Bucephala clangula</i>	10	1996 - 2016	Protected
Goshawk, <i>Accipiter gentilis</i>	1	2003 - 2003	Protected, Non-native
Grasshopper Warbler, <i>Locustella naevia</i>	1	2004 - 2004	Priority
Great Northern Diver, <i>Gavia immer</i>	1	2014 - 2014	Protected

Bird (77 taxa)

Green Sandpiper, <i>Tringa ochropus</i>	43	1998 - 2017	Protected
Greenshank, <i>Tringa nebularia</i>	66	1995 - 2017	Protected
Grey Partridge, <i>Perdix perdix</i>	22	2005 - 2012	Priority, Non-native
Greylag Goose, <i>Anser anser</i>	82	2002 - 2017	Protected
Hawfinch, <i>Coccothraustes coccothraustes</i>	1	2005 - 2005	Priority
Hen Harrier, <i>Circus cyaneus</i>	13	2000 - 2017	Protected
Hobby, <i>Falco subbuteo</i>	2	2010 - 2011	Protected
House Sparrow, <i>Passer domesticus</i>	48	2005 - 2013	Priority
Kingfisher, <i>Alcedo atthis</i>	33	1998 - 2015	Protected
Lapwing, <i>Vanellus vanellus</i>	191	1995 - 2017	Priority, Local Priority
Lesser Redpoll, <i>Acanthis cabaret</i>	1	2013 - 2013	Priority
Light-bellied Brent Goose, <i>Branta bernicla subsp. hrota</i>	1	2012 - 2012	Non-native
Linnet, <i>Linaria cannabina</i>	103	2005 - 2017	Local Priority
Little Gull, <i>Hydrocoloeus minutus</i>	1	2012 - 2012	Protected
Little Owl, <i>Athene noctua</i>	21	2003 - 2013	Non-native
Little Tern, <i>Sternula albifrons</i>	1	2000 - 2000	Protected
Marsh Harrier, <i>Circus aeruginosus</i>	22	2006 - 2017	Protected
Merlin, <i>Falco columbarius</i>	14	1998 - 2017	Protected
Montagu's Harrier, <i>Circus pygargus</i>	1	2001 - 2001	Protected
Mute Swan, <i>Cygnus olor</i>	94	2002 - 2017	Non-native
Parasitic Jaeger, <i>Stercorarius parasiticus</i>	2	2000 - 2012	Priority
Peregrine, <i>Falco peregrinus</i>	21	1999 - 2017	Protected
Pheasant, <i>Phasianus colchicus</i>	120	2004 - 2017	Non-native
Pink-footed Goose, <i>Anser brachyrhynchus</i>	27	1996 - 2017	Non-native
Pintail, <i>Anas acuta</i>	8	1996 - 2016	Protected, Non-native
Pochard, <i>Aythya ferina</i>	2	2012 - 2013	Non-native
Purple Sandpiper, <i>Calidris maritima</i>	1	2001 - 2001	Protected
Pyrrhula pyrrhula subsp. pyrrhula, <i>Pyrrhula pyrrhula subsp. pyrrhula</i>	1	2011 - 2011	Local Priority
Quail, <i>Coturnix coturnix</i>	1	2009 - 2009	Protected
Red Kite, <i>Milvus milvus</i>	1	2011 - 2011	Protected
Red-legged Partridge, <i>Alectoris rufa</i>	10	2005 - 2012	Non-native
Red-throated Loon, <i>Gavia stellata</i>	2	1996 - 2002	Protected
Redshank, <i>Tringa totanus</i>	520	1995 - 2017	Local Priority
Redwing, <i>Turdus iliacus</i>	38	2004 - 2013	Protected
Reed Bunting, <i>Emberiza schoeniclus</i>	217	2005 - 2017	Priority, Local Priority
Ring Ouzel, <i>Turdus torquatus</i>	2	2007 - 2008	Priority
Ruff, <i>Calidris pugnax</i>	7	1996 - 2017	Protected
Scaup, <i>Aythya marila</i>	1	2001 - 2001	Protected, Priority
Skylark, <i>Alauda arvensis</i>	368	2005 - 2017	Local Priority
Snipe, <i>Gallinago gallinago</i>	87	1995 - 2017	Local Priority
Snow Bunting, <i>Plectrophenax nivalis</i>	1	2012 - 2012	Protected

Bird (77 taxa)

Song Thrush, <i>Turdus philomelos</i>	51	2004 - 2017	Local Priority
Starling, <i>Sturnus vulgaris</i>	72	2005 - 2013	Local Priority
Swift, <i>Apus apus</i>	6	2006 - 2013	Local Priority
Tree Sparrow, <i>Passer montanus</i>	44	2005 - 2014	Priority
Turtle Dove, <i>Streptopelia turtur</i>	19	1999 - 2012	Priority
Velvet Scoter, <i>Melanitta fusca</i>	1	2002 - 2002	Protected
Western Osprey, <i>Pandion haliaetus</i>	1	2010 - 2010	Protected
White-fronted Goose, <i>Anser albifrons</i>	1	1997 - 1997	Non-native
Whooper Swan, <i>Cygnus cygnus</i>	10	2008 - 2017	Protected, Non-native
Yellow Wagtail, <i>Motacilla flava</i>	50	2006 - 2017	Local Priority
Yellowhammer, <i>Emberiza citrinella</i>	55	2000 - 2017	Priority, Local Priority

Conifer (7 taxa)

Giant Fir, <i>Abies grandis</i>	1	2011 - 2011	Non-native
Lawson's Cypress, <i>Chamaecyparis lawsoniana</i>	1	2009 - 2009	Non-native
Leyland Cypress, <i>Cupressus macrocarpa</i> x <i>Xanthocyparis nootkatensis</i> = <i>X Cuprocyparis leylandi</i>	6	2011 - 2017	Non-native
Monkey-puzzle, <i>Araucaria araucana</i>	1	2010 - 2010	Non-native
Monterey Pine, <i>Pinus radiata</i>	1	2011 - 2011	Non-native
Nootka Cypress, <i>Xanthocyparis nootkatensis</i>	1	2011 - 2011	Non-native
Norway Spruce, <i>Picea abies</i>	2	2007 - 2011	Non-native

Crustacean (1 taxa)

Crangonyx pseudogracilis, <i>Crangonyx pseudogracilis</i>	2	2011 - 2011	Non-native
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Flowering Plant (137 taxa)

Alsike Clover, <i>Trifolium hybridum</i>	1	2011 - 2011	Non-native
American Willowherb, <i>Epilobium ciliatum</i>	3	2011 - 2016	Non-native
Apple, <i>Malus pumila</i>	8	2007 - 2015	Non-native
Arum italicum subsp. italicum, <i>Arum italicum</i> subsp. <i>italicum</i>	1	2016 - 2016	Non-native
Aunt-Eliza, <i>Crocasmia paniculata</i>	1	2011 - 2011	Non-native
Ballota nigra subsp. meridionalis, <i>Ballota nigra</i> subsp. <i>meridionalis</i>	1	2016 - 2016	Non-native
Balm, <i>Melissa officinalis</i>	1	2011 - 2011	Non-native
Barren Brome, <i>Bromus sterilis</i>	13	2007 - 2016	Non-native
Beaked Hawk's-beard, <i>Crepis vesicaria</i>	3	2009 - 2011	Non-native
Black-bindweed, <i>Fallopia convolvulus</i>	3	2007 - 2011	Non-native
Black-grass, <i>Alopecurus myosuroides</i>	7	2007 - 2016	Non-native
Bluebell, <i>Hyacinthoides non-scripta</i>	1	1982 - 1982	Protected
Bluebell, <i>Hyacinthoides non-scripta</i> x <i>hispanica</i> = <i>H. x massartiana</i>	1	2009 - 2009	Non-native
Box-leaved Honeysuckle, <i>Lonicera pileata</i>	2	2012 - 2012	Non-native

Flowering Plant (137 taxa)

Bread Wheat, <i>Triticum aestivum</i>	6	2007 - 2015	Non-native
Bristly Oxtongue, <i>Picris echioides</i>	15	2007 - 2017	Non-native
Broad Bean, <i>Vicia faba</i>	1	2016 - 2016	Non-native
Broad-leaved Everlasting-pea, <i>Lathyrus latifolius</i>	1	2007 - 2007	Non-native
Bullace, <i>Prunus domestica</i> subsp. <i>insititia</i>	2	2010 - 2010	Non-native
Butterfly Stonecrop, <i>Sedum spectabile</i>	1	2011 - 2011	Non-native
Butterfly-bush, <i>Buddleja davidii</i>	1	2011 - 2011	Non-native
Canadian Fleabane, <i>Conyza canadensis</i>	1	2012 - 2012	Non-native
Charlock, <i>Sinapis arvensis</i>	10	2007 - 2016	Non-native
Cherry Laurel, <i>Prunus laurocerasus</i>	2	2009 - 2011	Non-native
Common Field-speedwell, <i>Veronica persica</i>	13	1982 - 2016	Non-native
Common Fumitory, <i>Fumaria officinalis</i>	3	2009 - 2010	Non-native
Common Mallow, <i>Malva sylvestris</i>	13	2007 - 2016	Non-native
Common Poppy, <i>Papaver rhoeas</i>	6	2008 - 2016	Non-native
Common Vetch, <i>Vicia sativa</i> subsp. <i>segetalis</i>	8	2009 - 2016	Non-native
Cornus sanguinea subsp. <i>australis</i> , <i>Cornus sanguinea</i> subsp. <i>australis</i>	2	2009 - 2012	Non-native
Creeping Comfrey, <i>Symphytum grandiflorum</i>	1	2016 - 2016	Non-native
Cut-leaved Crane's-bill, <i>Geranium dissectum</i>	12	2007 - 2016	Non-native
Cut-leaved Dead-nettle, <i>Lamium hybridum</i>	4	2008 - 2011	Non-native
Druce's Crane's-bill, <i>Geranium endressii</i> x <i>versicolor</i> = <i>G. x oxonianum</i>	1	2011 - 2011	Non-native
Equal-leaved Knotgrass, <i>Polygonum arenastrum</i>	4	2007 - 2015	Non-native
Evergreen Oak, <i>Quercus ilex</i>	2	2009 - 2011	Non-native
Fennel, <i>Foeniculum vulgare</i>	1	2011 - 2011	Non-native
Feverfew, <i>Tanacetum parthenium</i>	2	2008 - 2016	Non-native
Field Forget-me-not, <i>Myosotis arvensis</i>	5	2008 - 2016	Non-native
Field Pansy, <i>Viola arvensis</i>	1	2008 - 2008	Non-native
Field Penny-cress, <i>Thlaspi arvense</i>	8	2007 - 2016	Non-native
Field Pepperwort, <i>Lepidium campestre</i>	1	2009 - 2009	Non-native
Fig-leaved Goosefoot, <i>Chenopodium ficifolium</i>	4	2009 - 2015	Non-native
Fox and Cubs, <i>Pilosella aurantiaca</i> subsp. <i>carpathicola</i>	1	2011 - 2011	Non-native
Fox-and-cubs, <i>Pilosella aurantiaca</i>	3	2009 - 2012	Non-native
Fuchsia magellanica, <i>Fuchsia magellanica</i>	1	2011 - 2011	Non-native
Garden Angelica, <i>Angelica archangelica</i>	1	1982 - 1982	Non-native
Garden Asparagus, <i>Asparagus officinalis</i>	2	2012 - 2012	Non-native
Garden Privet, <i>Ligustrum ovalifolium</i>	4	2009 - 2011	Non-native
Grape-hyacinth, <i>Muscari neglectum</i>	2	1982 - 1987	Priority
Greater Burdock, <i>Arctium lappa</i>	1	2010 - 2010	Non-native
Greater Periwinkle, <i>Vinca major</i>	3	2009 - 2016	Non-native
Grey Alder, <i>Alnus incana</i>	1	2009 - 2009	Non-native
Ground-elder, <i>Aegopodium podagraria</i>	2	2010 - 2011	Non-native

Flowering Plant (137 taxa)

Hedge Mustard, <i>Sisymbrium officinale</i>	15	2007 - 2016	Non-native
Hedgerow Crane's-bill, <i>Geranium pyrenaicum</i>	6	2008 - 2015	Non-native
Hemlock, <i>Conium maculatum</i>	2	2012 - 2015	Non-native
Himalayan Honeysuckle, <i>Leycesteria formosa</i>	1	2011 - 2011	Non-native
Hoary Cress, <i>Lepidium draba subsp. draba</i>	2	2009 - 2011	Non-native
Hoary Cress, <i>Lepidium draba</i>	2	2010 - 2016	Non-native
Hollyberry Cotoneaster, <i>Cotoneaster bullatus</i>	1	2011 - 2011	Non-native
Honesty, <i>Lunaria annua</i>	4	2009 - 2016	Non-native
Horse-chestnut, <i>Aesculus hippocastanum</i>	7	2009 - 2016	Non-native
Horse-radish, <i>Armoracia rusticana</i>	11	2007 - 2015	Non-native
Hybrid Balsam-poplar, <i>Populus trichocarpa x balsamifera</i> = <i>P. 'Balsam Spire'</i>	1	2011 - 2011	Non-native
Hybrid Black-poplar, <i>Populus nigra x deltoides</i> = <i>P. x canadensis</i>	3	2007 - 2011	Non-native
Italian Alder, <i>Alnus cordata</i>	1	2011 - 2011	Non-native
Italian Rye-grass, <i>Lolium multiflorum</i>	6	2007 - 2012	Non-native
Ivy-leaved Speedwell, <i>Veronica hederifolia</i>	1	1982 - 1982	Non-native
Ivy-Leaved Speedwell, <i>Veronica hederifolia subsp. hederifolia</i>	4	2010 - 2016	Non-native
Japanese Honeysuckle, <i>Lonicera japonica</i>	1	2011 - 2011	Non-native
Japanese Rose, <i>Rosa rugosa</i>	1	2009 - 2009	Non-native
Kerria japonica, <i>Kerria japonica</i>	1	2011 - 2011	Non-native
Laburnham, <i>Laburnum anagyroides</i>	1	2012 - 2012	Non-native
Large Bindweed, <i>Calystegia silvatica</i>	3	2007 - 2012	Non-native
Lesser Swine-cress, <i>Lepidium didymum</i>	8	1994 - 2012	Non-native
Lilac, <i>Syringa vulgaris</i>	2	2011 - 2012	Non-native
Lucerne, <i>Medicago sativa subsp. sativa</i>	2	2007 - 2009	Non-native
Lungwort, <i>Pulmonaria officinalis</i>	1	2011 - 2011	Non-native
Medium-flowered Winter-cress, <i>Barbarea intermedia</i>	1	2008 - 2008	Non-native
Montbretia, <i>Crocsmia pottsii x aurea</i> = <i>C. x crocosmiiflora</i>	1	2011 - 2011	Non-native
Mugwort, <i>Artemisia vulgaris</i>	9	2007 - 2015	Non-native
Norway Maple, <i>Acer platanoides</i>	1	2011 - 2011	Non-native
Oil-seed Rape, <i>Brassica napus subsp. oleifera</i>	7	2007 - 2016	Non-native
Olive Willow, <i>Salix elaeagnos</i>	1	2009 - 2009	Non-native
Opium Poppy, <i>Papaver somniferum</i>	2	2015 - 2016	Non-native
Oregon-grape, <i>Mahonia aquifolium</i>	1	2011 - 2011	Non-native
Osier, <i>Salix viminalis</i>	2	2011 - 2015	Non-native
Petty Spurge, <i>Euphorbia peplus</i>	3	2012 - 2016	Non-native
Pineappleweed, <i>Matricaria discoidea</i>	9	2007 - 2015	Non-native
Pink-sorrel, <i>Oxalis articulata</i>	1	2009 - 2009	Non-native
Poplar, <i>Populus nigra 'Plantierensis'</i>	1	2019 - 2019	Non-native
Populus nigra 'Gigantea', <i>Populus nigra 'Gigantea'</i>	1	2019 - 2019	Non-native
Potato, <i>Solanum tuberosum</i>	2	2009 - 2010	Non-native

Flowering Plant (137 taxa)

Prickly Lettuce, <i>Lactuca serriola</i>	2	2011 - 2012	Non-native
Primrose-peerless, <i>Narcissus tazetta</i> x <i>poeticus</i> = <i>N. x medioluteus</i>	1	2016 - 2016	Non-native
Purple Toadflax, <i>Linaria purpurea</i>	1	2011 - 2011	Non-native
Red Dead-nettle, <i>Lamium purpureum</i>	13	2007 - 2017	Non-native
Red Oak, <i>Quercus rubra</i>	1	2011 - 2011	Non-native
Red-osier Dogwood, <i>Cornus sericea</i>	1	2011 - 2011	Non-native
Reflexed Stonecrop, <i>Sedum rupestre</i>	2	2008 - 2010	Non-native
Rhubarb, <i>Rheum palmatum</i> x <i>rhaponticum</i> = <i>R. x hybridum</i>	1	2009 - 2009	Non-native
Rose-of-Sharon, <i>Hypericum calycinum</i>	1	2011 - 2011	Non-native
Russell Lupin, <i>Lupinus arboreus</i> x <i>polyphyllus</i> = <i>L. x regalis</i>	1	2011 - 2011	Non-native
Russian Comfrey, <i>Symphytum officinale</i> x <i>asperum</i> = <i>S. x uplandicum</i>	9	2007 - 2015	Non-native
Russian-vine, <i>Fallopia baldschuanica</i>	1	2009 - 2009	Non-native
Scented Mayweed, <i>Matricaria chamomilla</i>	8	2007 - 2015	Non-native
Scentless Mayweed, <i>Tripleurospermum inodorum</i>	7	2007 - 2016	Non-native
Sea Barley, <i>Hordeum marinum</i>	1	1984 - 1984	Priority
Shepherd's-purse, <i>Capsella bursa-pastoris</i>	15	2007 - 2016	Non-native
Slender Speedwell, <i>Veronica filiformis</i>	3	2009 - 2011	Non-native
Small Nettle, <i>Urtica urens</i>	8	2007 - 2017	Non-native
Small Toadflax, <i>Chaenorhinum minus</i>	1	1998 - 1998	Non-native
Snowberry, <i>Symphoricarpos albus</i>	4	2011 - 2012	Non-native
Snowdrop, <i>Galanthus nivalis</i>	14	1982 - 2016	Non-native
Southern Blue-gum, <i>Eucalyptus globulus</i>	1	2011 - 2011	Non-native
Spanish Bluebell, <i>Hyacinthoides hispanica</i>	4	2011 - 2012	Non-native
Springbeauty, <i>Claytonia perfoliata</i>	3	1982 - 1987	Non-native
Stag's-horn Sumach, <i>Rhus typhina</i>	1	2011 - 2011	Non-native
Sun Spurge, <i>Euphorbia helioscopia</i>	5	2007 - 2016	Non-native
Swedish Whitebeam, <i>Sorbus intermedia</i>	1	2011 - 2011	Non-native
Sweet Chestnut, <i>Castanea sativa</i>	2	2009 - 2011	Non-native
Sweet Cicely, <i>Myrrhis odorata</i>	1	2011 - 2011	Non-native
Swine-cress, <i>Lepidium coronopus</i>	14	2007 - 2016	Non-native
Sycamore, <i>Acer pseudoplatanus</i>	19	1982 - 2016	Non-native
Various-leaved Fescue, <i>Festuca heterophylla</i>	1	2011 - 2011	Non-native
Wall Barley, <i>Hordeum murinum</i>	5	2009 - 2015	Non-native
Wall Cotoneaster, <i>Cotoneaster horizontalis</i>	1	2011 - 2011	Non-native
Weeping Crack-willow, <i>Salix euxina</i> x <i>alba</i> x <i>babylonica</i> = <i>S. x pendulina</i>	1	2012 - 2012	Non-native
Weld, <i>Reseda luteola</i>	2	2011 - 2015	Non-native
White Dead-nettle, <i>Lamium album</i>	17	1982 - 2017	Non-native
White Poplar, <i>Populus alba</i>	2	2011 - 2012	Non-native
White Willow, <i>Salix alba</i>	2	2009 - 2011	Non-native

Flowering Plant (137 taxa)

Wild Plum, <i>Prunus domestica</i>	6	2009 - 2016	Non-native
Wild-oat, <i>Avena fatua</i>	8	1998 - 2016	Non-native
Wilson's Honeysuckle, <i>Lonicera nitida</i>	2	2011 - 2011	Non-native
Yellow Corydalis, <i>Pseudofumaria lutea</i>	1	2010 - 2010	Non-native

Insect - Butterfly (1 taxa)

Wall, <i>Lasiommata megera</i>	1	1992 - 1992	Priority
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Mollusc (1 taxa)

Jenkins' Spire Snail, <i>Potamopyrgus antipodarum</i>	4	2011 - 2011	Non-native
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Reptile (1 taxa)

Grass Snake, <i>Natrix helvetica</i>	7	1977 - 1977	Protected, Priority
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Terrestrial Mammal (8 taxa)

Brown Hare, <i>Lepus europaeus</i>	11	1977 - 2019	Priority
Brown Rat, <i>Rattus norvegicus</i>	3	1977 - 1977	Non-native
Eastern Grey Squirrel, <i>Sciurus carolinensis</i>	1	1977 - 1977	Non-native
Eurasian Badger, <i>Meles meles</i>	4	2017 - 2017	Protected
European Rabbit, <i>Oryctolagus cuniculus</i>	8	1977 - 1977	Non-native
European Water Vole, <i>Arvicola amphibius</i>	7	1977 - 2017	Protected, Priority
House Mouse, <i>Mus musculus</i>	1	1977 - 1977	Non-native
West European Hedgehog, <i>Erinaceus europaeus</i>	11	1977 - 2017	Priority

Terrestrial Mammal (bat) (6 taxa)

Bats, <i>Chiroptera</i>	26	1995 - 2017	Protected, Priority
Brown Long-eared Bat, <i>Plecotus auritus</i>	6	1977 - 2013	Protected, Priority
Common Pipistrelle, <i>Pipistrellus pipistrellus sensu stricto</i>	4	2004 - 2016	Protected
Daubenton's Bat, <i>Myotis daubentonii</i>	1	2014 - 2014	Protected
Pipistrelle Bat species, <i>Pipistrellus</i>	6	1994 - 2014	Protected, Priority
Soprano Pipistrelle, <i>Pipistrellus pygmaeus</i>	2	2012 - 2013	Protected, Priority

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**PRELIMINARY ECOLOGICAL APPRAISAL
CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE**

APPENDIX 3

Bat roost units (Habibat)

PRELIMINARY ECOLOGICAL APPRAISAL CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE



Habibat 001 Bat Box Standard Facing



Habibat 003 Bat Box Range



Habibat unfaced bat box

More information available at www.habibat.co.uk/

**PRELIMINARY ECOLOGICAL APPRAISAL
CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE**

APPENDIX 4

Bird box examples (Habibat)

PRELIMINARY ECOLOGICAL APPRAISAL CHAPEL ROAD, OLD LEAKE, LINCOLNSHIRE



Habibat Small Bird Nest Box (integrated, 25mm hole)

More information available at www.habibat.co.uk/