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Ref:2014/0012/ePH1hs

Extended Phase 1 Habitat Survey

Land & buildings at Quadring Eaudyke, Spalding, Lincolnshire. PE11 4PZ

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Wildlife Discovery

Protected Species Licenses

Bats - England: 2014-470-CLS-CLS

Scotland: 2014 32653

Wales: 55600:OTH:CSAB:2014

Extended Phase 1 Habitat Survey

Mr M Clark

15th May 2014

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Executive Summary

Wildlife Discovery was commissioned by Mr Michael Clark to undertake an Extended Phase 1 Habitat at the land and buildings, off Water Gate, Quadring Eaudyke, Spalding, Lincolnshire PE11 4PZ.

The survey took place 15th May 2014. This type of survey can be conducted at any time of year but optimally between May – October.



Summary of recommendations & results

If all protected species and/or their habitats are confirmed absent from the site as a result of the Extended Phase 1 Habitat survey, then no further survey effort needs to be performed.

However, if this is not the case, and the Extended Phase 1 Habitat survey identifies protected species, and/or their habitats or potential habitats, this is usually considered insufficient and further 'specific' surveys may be required to measure the extent of any presence of protected species and/or any potential impacts upon those protected species.

Taking into consideration the desk study and site survey findings, this report concludes that the proposed development of the site presents a *low to moderate* probability of harm to bats and/or birds (especially active avian nest sites) at this time.

The client may feel it prudent to commission further investigative surveys to conclusively elevate potential impacts on potential protected species at the site.

- No physical evidence of bats currently using the site was discovered during the survey; however it was found that there is a low to moderate probability that bats could be using some of the buildings at the site to roost within. There are suitable bat commuting routes and foraging habitat immediately surrounding the site with plenty of roosting opportunities in close proximity.
- Several bird species were noted around the site displaying breeding behaviour with at least two individual birds seen carrying nesting material into the buildings and two individual birds were observed carrying food into another suggesting they were feeding dependent chicks.

It is the opinion of this report that:

- ❖ The likelihood of bats being encountered at the site at this time is low to moderate. However, as with any re-development, restoration, or demolition site, prior to works starting it is recommended that this is investigated further before any works on said buildings begins to avoid potential impact on a protected species.
- ❖ Birds are nesting within the site. However, harm to birds and/or active nest sites can easily be avoided by developing the site outside the bird nesting season.
- ❖ There are no other protected species (fauna or flora) upon the site.

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A. Wildlife Discovery: contact & survey information

- Site surveyor and author of this report: **Anthony Bird** BSc PGDip MCIEEM
Trading as: Wildlife Discovery
Consultant Ecologist and Senior Ecological Surveyor
Natural England Bat Licence N^o: 2014-470-CLS-CLS
Scottish Natural Heritage Licence N^o: 2014 32653
Natural Resources Wales Licence N^o: 55600:OTH:CSAB:2014
Direct Telephone N^o: 07715 931826
Email: wildlifediscovery@btinternet.com
Website: www.wildlifediscovery.co.uk
- Client: **Mr Michael Clark**
Site Address: **LAND AND BUILDINGS off WATER GATE, QUADRING EAUDYKE, SPALDING, LINCOLNSHIRE.**
Proposed Development: **of the land and buildings at the site.**
- Survey Brief: Mr Clark commissioned Wildlife Discovery to undertake an Extended Phase 1 Habitat Survey upon the land and buildings at Quadring Eaudyke, to confirm or refute the presence or absence of protected species both flora and fauna.
- All surveys were conducted within the best practice guidelines as cited by:
 - The Bat Conservation Trust's Bat Surveys; Good Practice Guidelines: L. Hundt, 2012
 - The Joint Nature Conservation Committee, (2010). Handbook for Phase 1 habitat survey a technique for environmental audit.
 - Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing.
 - National Planning Policy Framework, 2012. NPPF.
 - British Trust for Ornithology (2001) Bird Survey Techniques.
 - Paul Edgar, Jim Foster and John Baker (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation.
 - Tom Langton, Catherine Beckett and Jim Foster (2001). Great Crested Newt Conservation Handbook. Froglife.
 - The Chartered Institute of Ecology and Environmental Management. CIEEM.
- Data Searches
The survey preparation was enhanced by the use of a desk study:
Aerial satellite imagery sourced from Google Earth
Data sourced from MAGIC
Data sourced from the National Biodiversity Network Gateway
Data sourced from Natural England's nature on the map website
All using grid reference TF240 337 and postcode PE11 4PZ
The Local Biological Records were sourced from the local records office Greater Lincolnshire Nature Partnership (The Lincolnshire Environmental Records Centre).
- Date of survey: 13th May 2014 (*An extended Phase 1 Habitat Survey can be conducted at any time of year – Optimal between May and October*).

B. Introduction

The client: (Mr M Clark) commissioned Wildlife Discovery to undertake an Extended Phase 1 Habitat Survey; referring to a method of ecological assessment outlined in the Joint Nature Conservation Committee ("JNCC") Handbook for Phase 1 Habitat Survey a technique for environmental audit (2010).

These guidelines state that the aim of the Phase 1 Survey is to observe, map and catalogue "the potential value of the habitat." Since its publication the ecological consultancy industry has adapted the survey to make recommendations for further survey work as appropriate. An Extended Phase 1 Habitat Survey also takes into consideration the presence of potential protected species within the initial survey, identifying any likely impacts upon said species.

- Controls: This survey provides a 'snap-shot' of the potential habitat and wildlife value of the sites at the time of survey only and may require further survey effort to provide robust, scientifically valid evidence of species absence or presence.
- Data Searches: Wildlife Discovery always advises the client that the incorporation of third party biological records data (BRD) into the desk study element of our survey is very important.
We further advise that depending upon the type of report, BRD is frequently required to comply with the NPFF, BS:42020 and CIEEM's reporting Standards. If BRD is not referred to in this report, it is because the client has not authorised Wildlife Discovery to purchase BRD.
- Date of the Survey: 13th May 2014.
- Site Grid Ref: TF240 337.
- Weather conditions at time of survey:
 - ❖ Temperature: 18 °C.
 - ❖ Cloud Cover: 50%.
 - ❖ Precipitation: None.
 - ❖ Wind: 2/8 constant.
- The main buildings are of a traditional construction; red brick, stone, timbers and a terracotta tile roof, with other buildings being constructed of timber and corrugated metal sheeting.
- A summary of the legislation relating to this survey and the protected species associated with this survey can be found in Appendix F4.
- The Extended Phase 1 Habitat Survey was conducted to establish whether the site is; **A:** not in current use **B:** is in current use or **C:** is potentially in use by any protected species, dependent on further investigation.
The presence and location of these species, if any, are identified and confirmed within this report.
Any likely impact resulting from the proposed development and operation of the site upon these species is also identified within this report.
The client should be aware that any protected species identified during this survey or any areas which potentially could be in current use by protected species, could be subject to further review regarding their specific use, identifying the species, any mitigation and/or compensatory measures deemed necessary by the Local Planning Authority. This could result in additional inspections and/or further in-depth surveys being undertaken over several weeks or months.

C. Survey introduction

C1 Pre-existing Information of protected species on Site

Pre-existing information on the protected species related with this site was gleaned from local sources and other ecological data held by the local records office and/or other appropriate bodies.

The survey took into consideration data utilising: - aerial satellite images from Google Earth, MAGIC and other freely available information e.g. Natural England's nature on the map website using grid reference TF240 337 and postcode PE11 4PZ as well as plans and drawings supplied by the client's architect; Jenny McIntee Architectural Design.

Local Biological Records Data search was purchased from Greater Lincolnshire Nature Partnership (The Lincolnshire Environmental Records Centre). Any relevant records are to be found within the appendix (H).

C2 Objectives

The objective of the survey was to confirm the presence or absence of protected species within the constraints of both the deadlines set by the client and the timing of the survey. Surveys of this type can be conducted at any time of year (optimal between May and October).

The survey was undertaken in accordance with the Bat Mitigation Guidelines: (*English Nature 2004*), Bat Surveys Good Practice Guidelines: (*Bat Conservation Trust 2012*), Bat Workers' Manual: (*Joint Nature Conservation Committee 2004*) and industry best practise as cited by the Chartered Institute for Ecology and Environmental Management.

C3 Field survey methodology

The combined series of surveys at the site involved several different techniques to determine the presence or absence of protected species within the site. In order to fully assess the potential value of habitats at the site, the surveyor observed widely accepted national standards set out in the JNCC (2010) publication Handbook for Phase 1 Habitat Survey: a technique for environmental audit.

The survey includes a mapping exercise (found at Appendix F1), in addition to a full species list and target notes (found at Appendix F3.)

The survey made use of binoculars and cameras where appropriate.

The survey was performed during daylight hours and provided an opportunity to exclude the need for further survey work, if the following species and features suitable for use by the following species can be confirmed absent from the site of proposed development:

1. Amphibians.
2. Bats.
3. Birds.
4. Reptiles.
5. Terrestrial mammals e.g. badger, dormouse and water vole.

If evidence of recent activity and or features suitable for the species cannot be confirmed absent from the site of proposed development, this report will make recommendations for further survey work and or mitigation where this is consistent with national guidelines and considered appropriate by the surveyor in the context of the proposed development.

C3i Species Potential

Species potential as defined by integrating the national guidelines 2012.

CONFIRMED

Species are found to be present during the survey and/or Evidence of species' activity is found to be present during the survey.

HIGH

Any buildings, trees or other structures with features of particular significance, e.g. opportunities for protected species re: nesting habitat, roosting opportunities or ponds.

Any habitat deemed of a high quality, e.g. for foraging such as; broadleaved woodland, tree-lined watercourses, grazed parkland, site connectivity with the wider landscape, commuting routes e.g. river or stream valleys and hedgerows.

Site is close to known locations of records for protected species.

MODERATE

There are on site several potential habitat opportunities in buildings, trees or other structures.

Habitat could be used for foraging e.g. trees, shrub, grassland or water.

Site is connected with the wider landscape by linear features that could be used by commuting e.g. lines of trees and scrub or linked back gardens.

LOW

A small number of less significant habitat opportunities.

An isolated habitat for instance such as a lone tree or patch of scrub used for foraging or shelter.

An isolated site not connected by prominent linear landscape features.

NEGLECTIBLE

No suitable habitats observed.

The levels of concern above present a scale continuum against which the significance of habitat value and opportunities for protected species at the site can be graded. By referring to this continuum and using their expert judgment, the ecologist classified features such as habitats; buildings etc. as representing low, moderate, high value and/or confirmed a presence.

Equipment used:

The ecologist used varying equipment to aid the surveys which included:

- Binoculars (Leica BN 8x32): to examine higher parts of the building.
- A high powered one million candle power torch to aid vision around the building's darker recesses.
- A Canon 700D camera to record the findings.

During the surveys the ecologist used the correct and established methods and equipment as is expected by industry best practice.

C3ii Timing

All field surveys were conducted 09/05/2014 in good weather. The survey also included a desk-based search. This was completed prior to and during the period of the report being produced.

C3iii Constraints

No surveys were conducted in wet or adverse weather.

All parts of the site around the building were accessed by the surveyor.

Access was not fully gained in to Building N^o 1 as the doors were locked and it is considered unsafe by the owners.

C3iv Personnel

The ecologist on site was: Anthony Bird BSc PGDip MCIEEM.

He is an established, qualified and experienced consultant ecologist, trading under the name of Wildlife Discovery, registered ecologist with CIEEM and holder of a current Natural England Bat Licence: Number: 2014-470-CLS-CLS, Scottish Natural Heritage Bat Licence: 2014 Number – 32653 and Natural Resources Wales Bat Licence: 55600:OTH:CSAB:2014.

The visiting ecologist's conduct on site conformed at all times with industry best practice guidelines as cited by CIEEM.

D. Results

- All the surveys of the site encompassed the land and buildings as specified by the client and as shown in aerial photograph (figure 3).

Maps of the site



Fig 1: 10km Ordnance Survey 2012



Fig 2: 2km Ordnance Survey 2012

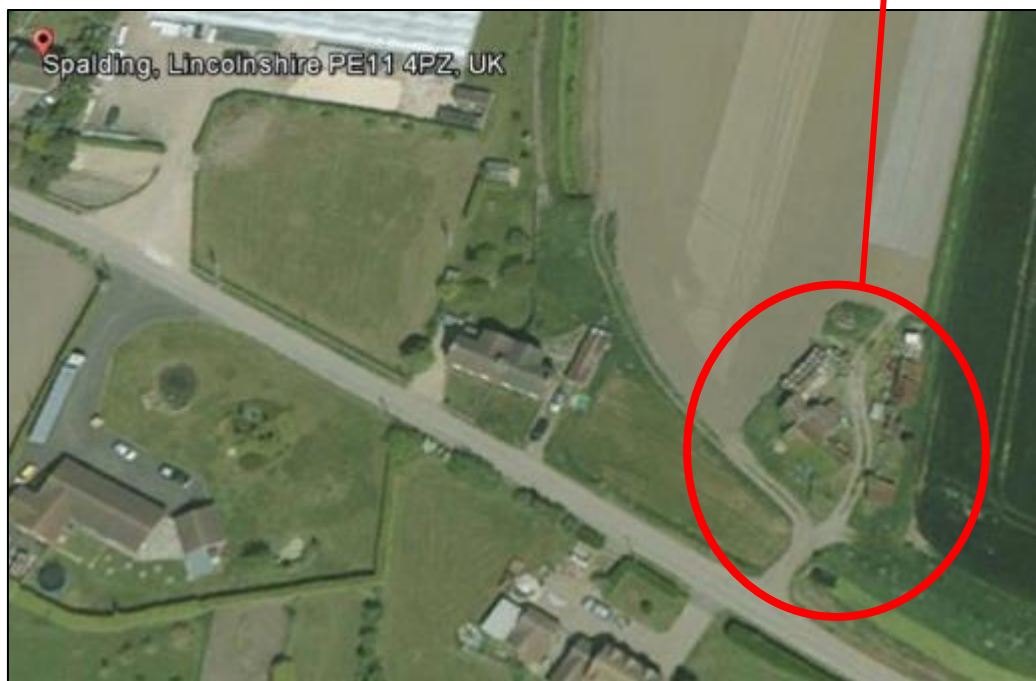


Fig 3: Google Earth 2012: Showing site with the building of interest

D1 Desk-based search (May 2014)

The survey preparation was enhanced by the use of a desk study utilising: - aerial images from Google Earth, MAGIC and other freely available information e.g. Natural England's nature on the map website, and OS Opendata 2010 using grid reference TF240 337 and postcode PE11 4PZ. Drawings and plans were supplied by the client's architect Jenny McIntee Architectural Designs.

Biological Records and Data were sourced from Greater Lincolnshire Nature Partnership (The Lincolnshire Environmental Records Centre) and their report, as mentioned in Appendix H, is attached as a separate document: **Lincolnshire Environmental Records data search report. Quadring Eaudyke, Spalding. 21 May 2014.**

D2 Local environment

The site is situated to the east of the village of Quadring Eaudyke on a quiet country road; Water Gate. The site is in a very rural setting surrounded by arable fields. There are a scattering of trees and woods in the local and wider local area, with other buildings, dwellings and glasshouses in close proximity. There is a stream/dyke at the Water Gate road end of the site, which is very slow moving with a thick layer of Greater bladderwort *Utricularia vulgaris* on the water's surface. These features are not part of the site or survey and were not investigated further.

D3 Habitats

D3i Buildings

There are two distinct sets of buildings within the site; those built from brick, the others are of a timber and corrugated metal sheet construction.

The buildings are in a very poor state generally, some are considered derelict; some are missing most of their walls and roofs. However, all the buildings are considered to have differing degrees of potential for harbouring protected species. The main building (mapped as 1 – 3) is three different connected parts of the same building. They are all of one storey; brick built with terracotta tiled roof construction and are used for storage.

- Building N° 1: This building is considered unsafe by the owners of the site and as a consequence has locked double wooden doors to its south east aspect. These doors are ill fitting with 10cm gap at the top. It also has a window to its south west aspect which has no glass in the frame. Building N° 1 also has a side door which is totally bonded to the building by the tendrils of the ivy *Hedera helix* which covers almost 70% of this building. The roof has many gaps within its tiles and mortar missing from the walls, gable end and ridge. All in all Building N°1 offers moderate to low potential for bats and was a confirmed habitat for nesting wrens *Troglodytes troglodytes*.



Fig 4: Building N°1 south east aspect



Fig 5: Building N°2 south east aspect

- Building N° 2: is connected to the north side of building 1. Building N° 2 has double wooden doors which are open and ill fitting. This building is used for storage of boxes and farm machinery. It has 2 windows, one with no glass in the frame and one which has broken glass. Inside the building the roof is felted, which seems quite new (within the last ten years). There is an old swallow *Hirundo rustica* nest in the rafters. (Swallows were observed flying around the buildings during the survey). Again, as with building N° 1 there is a moderate to low potential for bats, with a high potential for birds.
- Building N° 3 is a lot smaller than the first two and is open fronted. It is full of boxes floor to ceiling, but its roof is not felted and is open to the tiles above. This building offers a negligible potential for bats, but has a high potential for nesting birds.

All three parts of this building are heavily covered in ivy, which again adds to the attraction for bats and birds.



Fig 6: Building N° 3 north east aspect



Fig 7: The main building from Water Gate

The other buildings on the site (mapped 4 – 7) are of mainly a timber and corrugated metal sheet construction. All these buildings are in varying stages of collapse and decay.

- Building N° 4 is open fronted, with its three walls and roof intact. This building is filled with wooden boxes. There is negligible potential for bats, however, high potential for nesting birds.



Fig 8: Building N° 4



Fig 9: Building N° 5 Just a frame left with an elder tree within

There is a gap between buildings N° 4 and 5 which is filled with wooden pallets. These were searched for potential protected species, however, this was found to be negligible.

- Building N° 5 is again metal corrugated sheets on timber, most of which has rotted and fallen, with just the timber frame and the back wall still standing. There is a semi-mature elder tree *Sambucus nigra* growing within that takes up the whole structure. There is negligible potential for bats; however, there is a high potential for the use by birds. A pair of Linnets *Carduelis cannabina* was observed displaying, moving in and out of the elder and in to the building no. 5. This could signify that they are planning to use the building for a nest site.



Fig 10: Building N° 6



Fig 11: Building N° 7 has a roof but is totally overgrown with ivy

- Building N° 6 is partially roofed and is used for storing large bags and wooden seed trays. There is negligible potential for bats within but, again, there is a high potential for use by birds.
- Building N° 7 is totally over-grown with ivy; the interior too is partially covered. This building is used for storing wooden pallets. There is a negligible potential for roosting bats, however, it was confirmed as being used by a pair of blackbirds *Turdus merula* for nesting. It is assumed that they have chicks within a nest inside building N° 7 as both male and female blackbird were observed entering with beaks full of food and chicks could be heard from within.

D3ii Boundary structures

There are no definitive boundary structures; however, the east boundary of the site is marked by the timber framed metal sheeted buildings. The site is defined in the immediate landscape by its overgrown appearance.

D3iii Trees

There are two semi mature trees on site; a holly and an elder, both of which are to be found in or adjacent to building N° 5.

D3iv Hedgerows

There are no hedgerows on site or within the immediate local area.

D3v Grasslands

There is one type of grassland actually on site; classed as '*tall herb and fern*' and defined as '*tall ruderal*'. There are three other types immediately adjacent to the site, classed as; 1) '*Cultivated and disturbed*' defined as '*Amenity grassland*', 2) Classed as '*Cultivated and disturbed*' defined as '*semi-improved grassland*', and 3) classed as '*Grassland/Marsh*' defined as '*marshy grassland*'. (*Handbook for Phase 1 habitat Survey a technique for environmental audit*. JNCC. 2010).

D3vi Water features

There are no water features on site, however, there is a very slow moving stream immediately adjacent to the site, running alongside the Water Gate road. No open water was observed.

D3vii Bare ground

A broad path leads from the road onto the site and extends through the middle of the site. This bare ground also extends northwest to neighbouring glasshouses and south east along the field/ditch side.

D3viii Ornamental specimen trees or shrubs

There are no ornamentals, specimen or vintage trees on site.

D4 Species:

Species potential as defined in C3ii. A description of all features suitable to support a population or external habitat connectivity to the site in regard to that species.

D4i Amphibians

Although there is a stream immediately adjacent to the site, and a 'marshy' ditch to the immediate north of the site, these are not suitable to harbour protected amphibians due to no open water being available that harbours beneficial aquatic plants.

There is no bank side vegetation suitable for amphibian foraging and refuge. The site is also surrounded by unsuitable arable fields.

THE POTENTIAL OF AMPHIBIANS ON THE SITE IS NEGLIGIBLE

D4ii Badgers

There is no evidence of badgers within the site. No setts, latrines, droppings, paw prints, hairs etc. were discovered during the survey.

THE POTENTIAL OF BADGERS ON THE SITE IS NEGLIGIBLE

D4iii Bats

Although there was no definitive evidence of bats found during the survey, there was enough evidence for their potential occupation in the main building, such as open windows, gaps above doors and under roof tiles, etc. to prompt further investigations, especially in such a rural environment. Hundt (2012) states that "*If a building or built structure is considered to have a moderate or high likelihood of use by bats, the preliminary roost assessment, even if negative for bats, should be followed by several presence/absence surveys.*"

THE POTENTIAL OF BATS ON THE SITE IS MODERATE

D4iv Barn owl

Despite the main building representing ideal potential for barn owl, no evidence of barn owl was discovered at the site. The site's grassland and that surrounding the site is not of sufficient quality to sustain a small mammal population upon which barn owls rely.

THE POTENTIAL OF BARN OWL ON THE SITE IS NEGLIGIBLE

D4v Birds

There is plenty of suitable cover on site in which birds could nest; the buildings (all), trees, tall ruderal plants and old farm machinery, etc. Three species of bird were observed displaying nesting behaviour. Two species of bird were observed carrying food items. There are two potential nests on site, with others suspected. In all there were nine species of bird observed on site.

THE POTENTIAL OF BIRDS AND ACTIVE AVIAN NESTS ON THE SITE IS CONFIRMED

D4vi Other terrestrial mammals e.g. otter, water vole & dormouse

No evidence of any other protected mammal was found. The stream is not suitable for water vole. There were no signs of water vole or otter on site. The habitat is not suitable for dormouse.

THE POTENTIAL OF OTHER TERRESTRIAL MAMMALS ON THE SITE IS NEGLIGIBLE

D4vii Reptiles

The grassland present on site is not of a suitable quality to support a reptile population. There was no evidence of reptiles e.g. shed skins found.

THE POTENTIAL OF REPTILES ON THE SITE IS NEGLIGIBLE

E. Conclusion & Recommendations

E1 Conclusion

The NPPF (National Planning Policy Framework) and ODPM (Office of the Deputy Prime Minister) Circular 06/05 require that planning decisions are based on complete and timely ecological information. Further, it is required by Natural England's 'Standing Advice' that protected species information must be available before a decision can be made.

Following this guidance, it is highly unlikely that the local planning authority will defer the provision of further protected species survey work as a condition of any planning consent.

At this time we have no reason to believe the local planning authority will consider that this level of survey will provide them with inadequate information or that it lacks scientific rigour. On occasion though, it can become necessary to perform further surveys even after planning consent is given, where there are extenuating circumstances e.g. if protected species or habitats are found at a later date.

However, separately to mitigating and compensating for unavoidable ecological impacts, government has made it clear through the NPPF and circular 06/05 that development requires the enhancement of the quantity and quality of biodiversity and habitat.

Where the local planning authority is minded to grant consent for the proposed development, some basic and cost effective forms of ecological enhancement could be adequately secured through the use of an appropriately worded condition. Suggestions for such measures are referred to below in E1i.

E1i: Species/Habitats conditions and enhancements under NPPF and Circular 06/05

Habitats

Negligible: All species and habitats found are common and widespread, no rare or unusual plants or habitats were found.

The works are not close enough to or large enough in scope to affect any statutory sites.

No further surveys necessary.

Amphibians

Negligible: There are no water bodies on the site, only the one stream adjacent to the site which is unsuitable for amphibians.

No further surveys necessary.

Badgers

Negligible: No badger setts were found to be present on site. No other badger evidence, e.g. latrines, runs or hair were found to be present.

No further surveys necessary.

Bats

Moderate: There are buildings on site that do offer a potential for roosting bats. The potential for bats to access these buildings is too great to be neglected. Several gaps in the roof were observed that could provide potential for access underneath the tiles by bats. The gaps within the doors and windows could also provide access.

Emergence surveys could conclusively determine the presence or absence of bats on the site.

Barn Owl

Negligible: There is no evidence within the site to suggest that barn owls use it, despite the isolation of the buildings.

No further surveys necessary.

Birds

Confirmed: There is plenty of suitable cover on site in which birds could nest and it was evident that birds are nesting within the site. The bird nesting season according to Natural England is March – June, therefore unless the proposed development work at the site is to be done within this period, birds and active avian nest sites will remain undisturbed.

No further surveys necessary.

Other mammals

Negligible: No evidence of any other protected mammal was found.

No further surveys necessary.

Reptiles

Negligible: The grassland within the site and the grassland immediately adjacent to the site is not of a suitable quality to support a reptile population. No evidence of reptiles was found e.g. shed skins etc.

No further surveys necessary.

E1ii Recommendations

It is the professional opinion of Wildlife Discovery that the likelihood of bats being encountered at the site at this time is moderate to low, and therefore it is recommended that a series of emergence/return surveys would be prudent to conclusively prove the absence or presence of bats at the site before any works to develop the site begin.

There are birds and active avian nests within the site, however, it is believed that if the development work is done at the right time of year (July / August – February) birds and/or active nests will not be disturbed.

It is always prudent to search a site thoroughly before any development, at any time of year, for the presence of wildlife.

Wildlife Discovery always recommends at all re-development/restoration/demolition sites, prior to any works starting that:

- 1) A tool box directive should be given to the workforce working upon the site, instructing them of what to do if protected wildlife is discovered; e.g. *Bats: all works must cease immediately until a suitably qualified ecologist has inspected and advised accordingly.*
- 2) A watching brief should be kept at the site by site management and a strategy put in place in case wildlife is discovered within the building.
- 3) A suitably licensed, experienced ecologist or Natural England licensed bat-worker should be on site at such times as when roofs are being stripped, lead removed, etc. to adequately and legally deal with the situation.

Conservation gain and development site wildlife enhancement:

Wildlife Discovery always recommends the enhancement of any development site in favour of possible wildlife conservation gain.

It is believed that the Quadring Eaudyke development and the local wildlife would benefit from:

- 1) Bat panels, bat tiles, bat tubes and/or bat bricks being incorporated into the proposed development. A combination of these methods could benefit several species.
- 2) Bird nest boxes being erected within the grounds of the site.

Notable Information:

- Bat Surveys—Good Practice Guidelines authored by L. Hundt, 2012, states that the aim of the initial assessment bat survey is to observe and catalogue “informing and identifying the type and extent of further bat survey work needed (if any)” (Hundt 2012).
- A bat roost is defined by L Hundt (2012) as “the resting place of a bat”. Generally however, the word roost is interpreted to mean “any structure or place, which any wild bat uses for shelter or protection.”
- L Hundt (2012) states that “If a building or built structure is considered to have a moderate or high likelihood of use by bats, the preliminary roost assessment, even if negative for bats, should be followed by several presence/absence surveys.”
- If bats are discovered emerging from any of the buildings during surveys, the survey effort may need to be appropriately increased pursuant to table 8.5, Bat Surveys—Good Practice Guidelines (L Hundt 2012).
- Active bird’s nests: According to the Wildlife & Countryside Act 1981 (as amended), “It is an offence to disturb a bird’s nest whilst it is in occupation”. Guidance from Natural England stipulates the bird breeding/nesting season generally falls between March and June, but can begin earlier and extend beyond August; again we recommend a watching brief with this in mind as to nests within the site in regard to the development.

F. Appendix

F1 Extended Phase 1 Habitat Map.

AGRICULTURAL BUILDINGS & SURROUNDING SITE:
QUADRING EAUDYKE - SPALDING - LINCOLNSHIRE.
EXTENDED PHASE 1 HABITAT SURVEY PLAN: OS GRID REF: TF240 337

KEY

- B2.1: Unimproved neutral grassland
- B5: Marshy grassland
- C3.1: Tall ruderal herbage
- G1.1 - E: Eutrophic standing water
- J1.1 - A: Arable
- J1.2 - A: Amenity grassland
- J3.4: Bare ground



Building

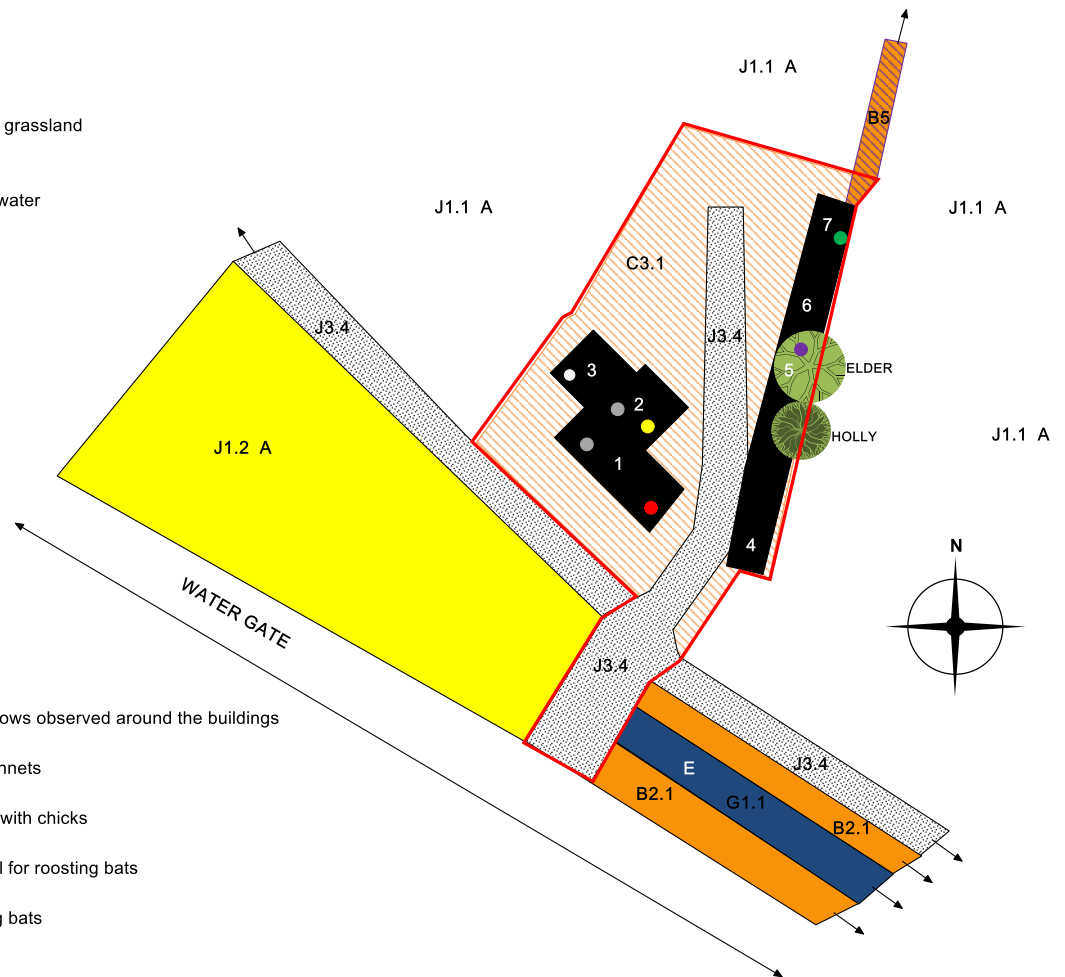
Tree



Site boundary

TARGET NOTES

- Possible nesting wrens
- Old swallows nest. Swallows observed around the buildings
- Possible future nesting linnets
- Positive blackbirds nest, with chicks
- Moderate to low potential for roosting bats
- Low potential for roosting bats



F2 Photographs of the site.



Fig 12: The site from the road looking north



Fig 13: The site looking south



Fig 14: The site looking south east



Fig 15: The site looking north west



Fig 16: Showing dry ditch running from the north of the site



Fig 17: Showing the stream choked with greater bladderwort



Fig 18: showing possible bat access



Fig 19: Showing possible bat access



Fig 20: Potential bat habitat



Fig 21: Potential bat habitat



Fig 22: Evidence that the buildings are used by birds for nesting



Fig 23: Blackbirds observed carrying food to chicks within.

F3 Species List at the site.

➤ Flora:

Greater bladderwort <i>Utricularia vulgaris</i>	Creeping Thistle <i>Cirsium arvense</i>
Ivy <i>Hedera helix</i>	Perennial Sow Thistle <i>Sonchus arvensis</i>
Holly <i>Ilex aquifolium</i>	Dandelion <i>Taraxacum officinale</i>
Burdock <i>Arctium lappa</i>	Grasses <i>Poaceae (Gramineae) spp.</i>
Chamomile <i>Chamaemelum nobile</i>	Honesty <i>Lunaria annua</i>
Common cleavers <i>Galium aparine</i>	Common Vetch <i>Vicia sativa</i>
Snowberry <i>Symphoricarpos albus</i>	White Clover <i>Trifolium repens</i>
Wild raspberry <i>Rubus idaeus</i>	Rosebay Willowherb <i>Chamerion angustifolium</i>
Bramble <i>Rubus fruticosus agg</i>	Cow Parsley <i>Anthriscus sylvestris</i>
Wild oats <i>Avena fatua</i>	Field Bindweed <i>Convolvulus arvensis</i>
Common reed <i>Phragmites communis</i>	White Dead-nettle <i>Lamium album</i>
Daisy <i>Bellis perennis</i>	Bugle <i>Ajuga reptans</i>
Meadow buttercup <i>Ranunculus acris</i>	Greater Plantain <i>Plantago major</i>
Field Horsetail <i>Equisetum arvense</i>	Ribwort Plantain <i>Plantago lanceolata</i>
Broad-leaved Dock <i>Rumex obtusifolius</i>	Hawthorn <i>Crataegus monogyna</i>
Wild Teasel <i>Dipsacus fullonum</i>	Elder <i>Sambucus nigra</i>
SpearThistle <i>Cirsium vulgare</i>	

➤ Fauna:

Blackbird *Turdus merula*
 Linnet *Carduelis cannabina*
 Rook *Corvus frugilegus*
 Wood pigeon *Columba livia*
 House sparrow *Passer domesticus*
 Goldfinch *Carduelis carduelis*
 Swallow *Hirundo rustica*
 Wren *Troglodytes troglodytes*
 Collard dove *Streptopelia decaocto*

Large white butterfly *Pieris brassicae*
 Small tortoiseshell butterfly *Aglais urticae*

F4 Summary of Legislation for Various Species

➤ Bats

All 18 species of bat common in the U.K (17 known to be breeding) are fully protected under the Wildlife and Countryside Act 1981 as amended through inclusion in Schedule V. All bat species in the UK are also included in Schedule II of the Habitats Regulations 2010 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive") which defines European protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

1. Intentionally or deliberately kill, injure or capture bats.
2. Deliberately disturb bats, whether at roost or not.
3. Damage, destroy or obstruct access to bat roosts.
4. Possess or transport bats, unless acquired legally.
5. Sell, barter or exchange bats.

A bat roost is defined by the Bat Conservation Trust publication *Bat Surveys—Good Practice Guidelines* 2nd Edition as “the resting place of a bat” (BCT 2012). Generally however, the word roost is interpreted as “any structure or place, which any wild bat uses for shelter or protection.”

Bats tend to re-use the same roosts; therefore legal opinion is guided by recent case law precedents, that a roost is protected whether or not the bats are present at the time. This can include for summer roosts, used for breeding; or winter roosts, used for hibernating.

➤ Common Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981.

This legislation makes it an offence to:

1. Kill, injure or take wild birds.
2. Take, damage or destroy the nest of wild birds while it is in use or being built.
3. Take or destroy the eggs of wild birds.

Certain rare breeding birds are listed on Schedule I of The Wildlife and Countryside Act 1981. 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 and or unfledged young e.g. Barn Owl *Tyto alba*.

➤ Reptiles

There are six species of reptiles in Great Britain (Edgar et al. 2010) and four of these are commonly found; the grass snake *Natrix natrix*, adder *Viper aberus*, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis* (“common reptiles.”)

All native British species of reptiles are legally protected through their inclusion in Schedule V of the Wildlife and Countryside Act 1981. As such, all species are protected from deliberate killing or injury. Therefore, where development is permitted, and there will be a significant change in land use, a reasonable effort must be undertaken to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without appropriate licensing.

Two species of reptile; the smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis*, are further protected through their inclusion in Schedule II of the Habitats Regulations 2010 which transposes Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“EC Habitats Directive”), which defines European protected species of animals (“rare reptiles.”)

This legislation makes it an offence to:

1. Intentionally or deliberately kill, injure common and rare reptiles.
2. Deliberately disturb or capture rare reptiles.
3. Damage, destroy or obstruct access to rare reptile habitat.
4. Possess or transport a rare reptile or any part of a rare reptile, unless acquired legally.
5. Sell, barter or exchange common and rare reptiles.

Rare reptile species occupy only highly restricted ranges in the extreme south east of costal England, with isolated populations of sand lizard in e.g. costal Wales and Cornwall. Smooth snake populations are isolated to lowland heaths in e.g. Surrey, Hampshire, Dorset and West Sussex.

➤ Badgers

Badgers *Meles meles* are vulnerable to baiting, hunting and the detrimental impacts of development on their habitat. Both the badger and its habitat are protected under The Protection of Badgers Act 1992, Schedule V of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention 1979.

This legislation makes it an offence to:

1. Kill, injure, take or possess a badger.
2. Interfere with, damage or destroy a badger sett including e.g. obstruct access to a badger sett.
3. Cruelly treat or harm a badger.
4. Disturb a badger in a sett.

Penalties for offences are documented (NE 2010) as fines of up to £5,000 and imprisonment for each illegal sett interference or damage or death to a badger.

➤ Great Crested Newts

Populations of great crested newts *Triturus cristatus* declined considerably in the late twentieth century (Langton et al. 2001) due to the intensification of agriculture. They require ponds with good water quality and as they spend most of their life on land these ponds must be surrounded by high quality terrestrial habitat.

Great crested newts are listed in both Annex IV of the EC Habitats Directive and in Schedule V of the Wildlife and Countryside Act 1981.

GCN are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

1. Deliberately kill, injure or capture a great crested newt.
2. Deliberately disturb a great crested newt.
3. Damage, destroy or obstruct access to a structure used for shelter or protection by a great crested newt.
4. Possess or transport a great crested newt.

H. Local Biological Records Data Search

- ❖ The Local Biological Records Data for the area surrounding the site for a 1 km radius, were sourced from Greater Lincolnshire Nature Partnership (The Lincolnshire Environmental Records Centre) and accompany this report in the separate document: **Lincolnshire Environmental Records Centre data search: Quadring Eaudyke, Spalding. 21 May 2014**
- The highlights of that report are that the majority of records are over 5 years old and therefore considered out of date.
- There are no records of any protect species or habitats within the site or within 1km of the site.
- ❖ *Wildlife Discovery advises all our clients that the incorporation of third party biological records data (BRD) into the desk study elements of our surveys is very important. Depending upon the type of report, BRD is frequently required to comply with the NPFF, BS:42020 and CIEEM's reporting standards.*

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- Tom Langton, Catherine Beckett and Jim Foster (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk.

Local Biological Records: Lincolnshire Environmental Records Centre data search. Quadring Eaudyke, Spalding. 21 May 2014

Local information re: the site, habitats and protected species sought from several different sources including:

- Greater Lincolnshire Nature Partnership (LWT) <http://www.glnp.org.uk>
- Jenny McIntee Architectural Designs.
- Aerial images from Google Earth
- MAGIC and other freely available information e.g. Natural England's nature on the map website
- Ordnance Survey MapWise 50 England 2012: using grid reference TF240 337 and postcode PE11 4PZ.

Limitations:

Anthony Bird (Wildlife Discovery) conducted the survey/s and authored the resulting report for the client and/or his agent/s in accordance with Wildlife Discovery's General Terms and Conditions. It is deliberately stated that the results of the survey/s of which the above report concludes were correct at the time of writing. This report may not be relied upon by any other persons without the prior and express written agreement of Anthony Bird (Wildlife Discovery). The conclusions and recommendations contained within this report are also based upon information provided by third parties (as cited above). Information obtained from third parties has not been independently verified by Anthony Bird (Wildlife Discovery) and was taken as read.

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