

## GEOSPHERE ENVIRONMENTAL

REPORT NUMBER:  
SITE:  
DATE:

3709,EC/Bird/TC,JB,KL/21-02-2020/V3  
Land off Fir Covert Road, Taverham, Norfolk, NR8 6HL  
21/02/2020



## DOCUMENT CONTROL SHEET

Report Number: 3709,EC/Bird/TC,JB,KL/21-02-2020/V3  
 Client: M Scott Properties Ltd  
 Project Name: Land off Fir Covert Road, Taverham, Norfolk, NR8 6HL  
 Project Number: 3709,EC  
 Report Type: Bird Survey  
 Status: Final  
 Date of Issue: 21 February 2020

### Issued By:

Geosphere Environmental Ltd, Brightwell Barns, Ipswich Road, Brightwell, Suffolk, IP10 0BJ.  
 T: 01603 298 076 / 01473 353 519. W: [www.geosphere-environmental.co.uk](http://www.geosphere-environmental.co.uk)

### Confidentiality, Copyright and Reproduction:

This document has been prepared by Geosphere Environmental Ltd in connection with a contract to supply goods and/or services and is submitted only on the basis of strict confidentiality. The contents must not be disclosed to third parties other than in accordance with the terms of the contract. Geosphere Environmental Ltd accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

### Time limit of reliance:

Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports can typically be relied on for 18 to 24 months from the date of survey.

### Prepared By:

Tom Cox  
 Ecologist

### Reviewed By:

James Booty  
 Senior Ecologist

### Authorised By:

Katie Linehan  
 Technical Director of Ecology

## REVISION RECORD

Revision	Date	Revision Details	Prepared By:	Admin
V2	20/02/2020	Updated recommendations based on proposals	TC	CJ
V3	21/02/2020	Updated recommendations based on proposals	RF	CJ

## Executive Summary

<b>Report Description</b>	<p>This report has been prepared by Geosphere Environmental Limited for M Scott Properties Limited and details the results of bird surveys undertaken at a site located at Land off Fir Covert Road, Taverham, Norfolk, NR8 6HL.</p> <p>The site is located at National Grid Reference, (NGR), TG 1600 1546, and covers an area of approximately 14.5 hectares (ha).</p> <p>The habitats onsite were confirmed suitable for wintering and breeding birds within the Preliminary Ecological Appraisal undertaken by Geosphere Environmental Ltd, dated December 2018, (ref.<b>R.3</b>).</p> <p>The report relates to the proposed redevelopment of the site for residential use.</p>
<b>Habitat Overview</b>	<p>The site predominantly consists of previously grazed improved grassland, semi-improved grassland, mixed plantation woodland, scattered trees and hedgerows.</p>
<b>Summary of Main Survey Findings</b>	<p>The bird survey included 3 visits; 11 February 2019, 29 March 2019 and 23 April 2019, to provide an overview of the species using the site. The survey involved recording the species, location and activity of any birds seen or heard.</p> <p>A total of 32 species were recorded onsite during the bird survey visits, out of which, 21 were considered to hold breeding territories on the site.</p> <p>The majority of the species using the site are not listed as Birds of Conservation Concern (BoCC) s41 NERC or listed under Schedule 1 of the WCA with the exception of:</p> <ul style="list-style-type: none"> <li>• House Sparrow, Yellowhammer (Red; s41 NERC);</li> <li>• Song Thrush, Skylark (BoCC Red; s41 NERC; Norfolk BAP), Dunnock (BoCC Amber; s41 NERC);</li> <li>• Black-headed Gull, Lesser Black-backed Gull (BoCC Amber).</li> </ul> <p>Of these, Dunnock, Song Thrush, Yellowhammer and Skylark are considered likely to be breeding on or near to the site.</p>
<b>Impact Assessment</b>	<p>The hedgerows, grassland and woodland plantation provide habitat for breeding and wintering birds. These habitats and the assemblage supported are considered important on a local scale, based on the presence of low numbers of likely breeding BoCC red-listed species.</p> <p>The majority of the boundary hedgerows and trees will be retained within the development. No overwintering birds of conservation concern were recorded using the site and the surrounding area provides abundant winter foraging and roosting areas for common and widespread species. Therefore, impacts to wintering birds are unlikely to be significant or require mitigation. Impacts to breeding and foraging birds will include the loss of the grassland fields, field</p>

	<p>margins and boundary features that are lost. The increase in human disturbance and domesticated cats at the site will also cause an impact to breeding birds, in particular low or ground nesting species such as Yellowhammer and Skylark.</p> <p>The impact to birds can be reduced by appropriate mitigation, such as the inclusion and enhancement of habitats for specialist species, ground nesting birds, and foraging birds within the proposed development.</p>
<p><b>Ecological Constraints</b></p>	<p>The constraints to development onsite, will be the removal of habitats suitable for nesting birds and the potential for the development to cause disturbance to birds, such as noise and lighting overspill.</p>
<p><b>Recommendations for Mitigation and Avoidance</b></p>	<p><b>Habitat Removal:</b> To reduce the impacts of habitat removal prior to construction, avoidance measures are required including timing of works, retaining habitat and ensuring any vegetation removal done during the bird nesting season is done under ecological supervision.</p> <p><b>Reduction of Disturbance during Construction Works:</b> To reduce impacts during the construction works, Construction Control Measures need to be put in place including noise control, timing of works and lighting.</p> <p>Mitigation for the reduction in habitat quality for species of conservation concern could include a suitable management plan designed to optimise the retained habitats within the site and provision and management of adjacent land, in the long-term, to provide compensatory nesting habitat.</p>
<p><b>Enhancement Opportunities</b></p>	<p>Bird boxes should be included within the final development. This should include integrated and external boxes, designed to target a mix of species. The inclusion of Swift boxes would provide additional nesting opportunities for this GB Endangered species as well as BoCc red-listed species, adapted to urbanisation, such as house sparrows and starlings.</p>
<p><b>Conclusions</b></p>	<p>Providing the recommendations for mitigation are followed (as detailed within Section 6.2 of this report) no significant impact on the bird species currently using the site is predicted.</p>

---

## CONTENTS

### Page No.

<b>EXECUTIVE SUMMARY</b>	<b>3</b>
<b>1. INTRODUCTION</b>	<b>7</b>
1.1 Objective	7
1.2 Legislative Context	7
<b>2. TECHNICAL APPROACH</b>	<b>9</b>
2.1 Methodology	9
2.1.1 Bird Surveys	9
2.2 Ecological Impact Assessment	10
<b>3. FORMER SURVEYS</b>	<b>12</b>
3.1 Biological Records	12
3.2 Initial Assessment of Habitat Suitability	12
<b>4. RESULTS</b>	<b>13</b>
4.1 Birds Recorded	13
<b>5. ECOLOGICAL EVALUATION AND IMPACT ASSESSMENT</b>	<b>14</b>
5.1 Conservation Status of Birds	14
5.2 Value of Habitats for Birds	14
5.3 Impact Assessment	14
5.3.1 Loss of habitat onsite	14
5.3.2 Human Disturbance	15
5.3.3 Increase in Predation	15
5.3.4 Potential Impact to SPAs and Ramsars	17
<b>6. ECOLOGICAL CONSTRAINTS AND RECOMMENDATIONS FOR ENHANCEMENT</b>	<b>18</b>
6.1 Ecological Constraints	18
6.2 Mitigation	18
6.3 Enhancement Opportunities	19
<b>7. CONCLUSIONS</b>	<b>20</b>

## APPENDICES

APPENDIX 1 – REPORT LIMITATIONS AND CONDITIONS

APPENDIX 2 – REFERENCES

APPENDIX 3 – DRAWINGS

APPENDIX 4 – BIRD SURVEY SUMMARY

APPENDIX 5 – EXAMPLE BIRD BOXES

## CONTENTS

### TABLES

#### Page No.

Table 1: Bird Survey Conditions	10
Table 2: Summary Results of Notable Bird Species Recorded During Survey Visits	13
Table 3: Evaluation of Birds of Conservation Concern	16

---

## 1. INTRODUCTION

This report has been prepared by Geosphere Environmental Limited for M Scott Properties Limited and details the results of a bird survey undertaken at the site located at Land off Fir Covert Road, Taverham, Norfolk, NR8 6HL. The site is located at National Grid Reference TG 1600 1546 and covers an approximate area of 14.5 hectares (ha).

This report has been prepared in accordance with the key principles of the Ministry of Housing, Communities and Local Government (MHCLG) (July 2018) National Planning Policy Framework (NPPF), (ref. **R.1**) and Government Circular 05/06: Biodiversity and Geological Conservation – statutory obligations and their impact within the planning system, (ref. **R.2**).

### 1.1 Objective

The habitats onsite were confirmed suitable for breeding and wintering birds within the Preliminary Ecological Appraisal undertaken by Geosphere Environmental Ltd, dated December 2018, (ref. **R.3**). The report relates to the proposed redevelopment of the site for mixed end use.

The aim of the survey and report is to:

- Identify the presence and distribution of birds onsite;
- Evaluate the importance of local populations;
- Determine how the proposed development might affect wintering and breeding birds of significance in a local or national context, and to recommend appropriate mitigation, if necessary;
- Provide recommendations for appropriate mitigation measures in relation to the proposed development (*if required*).

### 1.2 Legislative Context

Under Section 1 of the Wildlife and Countryside Act 1981 as amended, (WCA), wild birds are protected from being killed, injured or captured, while their nests and eggs are protected from being damaged, destroyed or taken.

In addition to which, certain species are included in Schedule 1 of the Act and are protected against disturbance while nesting and when they have dependent young. Taken together, protection is afforded to birds, their nests and eggs by the WCA 1981 as amended and the Countryside Rights of Way Act 2000, (CRoW), under the following sections:

- Section 1.1: Subject to the provisions of this Part, if any persons intentionally (a) kills, injures or takes any wild bird; (aa) takes, damages or destroys the nest of a wild bird included in Schedule 1, (b) takes, damages or destroys the nest of a wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he/she shall be guilty of an offence;

- Section 1.2: Subject to the provisions of this Part, if any person has in his possession or control (a) any live or dead wild bird or any part of it, or anything derived from, such a bird; or (b) an egg of a wild bird or any part of such an egg, he shall be guilty of an offence;
- Section 1.5: Subject to the provisions of this Part, if any person intentionally or recklessly (a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, or near a nest containing eggs or young; or (b) disturbs dependant young of such a bird, he/she shall be guilty of an offence.

The Natural Environment and Rural Communities, (NERC), Act 2006 imposes an obligation on all public bodies, including local authorities, to consider whether their activities can contribute to the protection of wildlife.



---

## 2. TECHNICAL APPROACH

The Breeding and Wintering Bird survey followed the guidance detailed in the RSPB Bird Monitoring Methods (ref. **R.4**) and Bird Census Techniques (ref. **R.5**). Local Biodiversity Action Plans referred to as LBAP (ref. **R.6**). Conservation status of species is as listed on the Conservation Designations for UK Taxa list published by the JNCC (ref. **R.7**).

The survey was based upon the line transect survey methodology utilised by the British Trust for Ornithology (BTO) Breeding Bird Survey (BBS) (ref. **R.8**). The visits were undertaken at an optimal time of year (ref. **R.9**) and in favourable weather conditions.

Species and bird activity identified during each visit was recorded onto plans. Standard BTO species codes and symbols were used to identify bird species, activity and direction of flight where appropriate and were used as recommended for the Common Bird Census, (CBC), techniques, (ref. **R.10**).

Conclusions and recommendations for further works are given to comply with current legislation and guidance.

### 2.1 Methodology

#### 2.1.1 Bird Surveys

Three visits were undertaken during February, March and April. These timings were designed to provide a sample of winter, migratory and resident breeding birds utilising the site. It is acknowledged that later migrants would potentially have been under-recorded, however, given the habitats present, late migrant species for which the site is considered suitable are common and widespread. Furthermore, the majority of boundary features (likely to be used by such species for breeding, e.g. Whitethroat (*Sylvia communis*) and Lesser Whitethroat (*Sylvia curruca*), will be retained within the development.

Bat Activity surveys were also undertaken at the site during May and June. Surveyors (who also undertook the bird surveys) were present and able to record any additional species which were recorded using the site at these times.

The site was walked at a slow pace in dry weather, ensuring survey days were not significantly windy. Special care was taken not to double record the same individual a short time later.

Birds were recorded as likely breeding, if the following behaviour was noted and nesting habitat was present within or close to the site boundary:

- Birds displaying territorial behaviour, including song, alarm calls and flight displays;
- Aggressive encounters between birds;
- Carrying nesting material or carrying food;
- Hunting in habitats on or near site (birds of prey, hirundines and swifts).

The survey included three visits dated between 11 February 2019 and 23 April 2019.

Weather conditions at the time of the bird surveys are shown in Table 1 below:

<b>Table 1: Bird Survey Conditions</b>			
<b>Date</b>	<b>11 February 2019</b>	<b>29 March 2019</b>	<b>23 April 2019</b>
<b>Start Time</b>	11.00am	6.06am	6.10 am
<b>End Time</b>	12.30am	7.20am	7.30am
<b>Survey Duration</b>	90 mins	74 mins	80 mins
<b>Cloud Cover</b>	10%	5%	40%
<b>Rain</b>	None	None	None
<b>Wind Speed (beaufort scale)</b>	Light (2)	Light (2)	Calm (1)
<b>Temperature °C</b>	7 rising to 9	5	9
<b>Visibility</b>	Good	Good	Good

## 2.2 Ecological Impact Assessment

The conservation value of bird populations has been measured using two separate approaches: conservation status and nature conservation value.

The conservation status of the species recorded was measured against the following criteria:

- Annex 1 of the Birds Directive (Directive 2009/147/EC) - species subject to special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution;
- Schedule 1 of the Wildlife and Countryside Act 1981, (as amended);
- Birds of Conservation Concern, (BoCC), Red List, (ref. **R.11**);
- Natural Environment and Rural Communities Act 2006 – Species of Principal Importance in England (Section 41);
- Essex BAP, (LBAP), list of priority species, (ref. **R.6**).

Assessment of potential impacts on populations of breeding birds is undertaken in accordance with CIEEM guidelines for Ecological Impact Assessment in the United Kingdom (ref. **R.12**). In some cases, professional judgement may be required to confirm the allocation of the specific value, based upon local knowledge and understanding of the site context.

CIEEM Guidelines state that the value or potential value of an ecological resource or feature should be determined within a defined geographical context from an international to site scale as follows:

- On an International scale, e.g. a species which is part of the cited interest of a SPA and which regularly occurs in internationally or nationally important numbers or a species present in internationally important numbers (>1% of international population);
- On a National scale, e.g. a species which is part of the cited interest of an SSSI and which regularly occurs in internationally or nationally important numbers, or a nationally important assemblage of breeding or over-wintering species or a species present in nationally important numbers (>1% of UK

- population), or rare breeding species (<300 breeding pairs in the UK);
- On a Regional scale, e.g. a species listed a priority species in the UKBAP, which is not covered above, and which regularly occurs in regionally important numbers or a species present in regionally important numbers (>1% of regional population – e.g. Essex) or sustainable populations of a species that is rare or scarce within a region or species on the BoCC Red List, and which regularly occurs in regionally important numbers;
  - On a County scale, e.g. species listed as priority species in the UKBAP, which are not covered above, and which regularly occurs in county important numbers or species present in county important numbers (>1% of county population – e.g. Norfolk). This could also include sustainable populations of a species that is rare or scarce within a county or a site designated for its county important assemblage of birds or species on the BoCC Red List and which regularly occurs in county important numbers;
  - On a District scale e.g., species listed as priority species in the UKBAP, which are not covered above, and are rare in the locality or in the relevant Natural Area profile, or species present in numbers just under county importance (<1% of county population – e.g. Essex) or sustainable populations of a species that is rare or scarce within the locality. This could also include a site whose designation is just under for inclusion for its county important assemblage of birds or other species on the BoCC Red List and which are considered to regularly occur in district important numbers;
  - Local or Parish, e.g. other species of conservation interest, (e.g. all other species on the BoCC Red and Amber List and UK BAP which are not covered above), regularly occurring in locally sustainable populations;
  - On a Site scale, e.g. all other Green listed Common and widespread species.

The potential for protected species to use the habitats onsite contributes significantly towards the potential value of the habitats onsite.

---

### 3. FORMER SURVEYS

A Preliminary Ecological Appraisal was undertaken by Geosphere Environmental Ltd dated December 2018, (ref. **R.3**).

#### 3.1 Biological Records

As part of the Geosphere Environmental Limited report, Norfolk Biodiversity Information Service were contacted to provide details of legally protected species within 2km of the site.

The Desk Study identified 30 Schedule 1 birds, including the following species for which the site is deemed suitable for breeding; Red Kite (*Milvus milvus*), Hobby (*Falco Subbuteo*) and Firecrest (*Regulus ignicapilla*).

Numerous BoCC Red list birds were noted including Skylark (*Alauda arvensis*), Yellowhammer (*Emberiza citrinella*) and Herring Gull (*Larus argentatus*).

#### 3.2 Initial Assessment of Habitat Suitability

The Extended Phase 1 Habitat Survey (ref. **R.3**) identified the potential for habitats onsite to be used by breeding birds. The woodland, trees, field margins and scrub were identified as providing suitable nesting and foraging grounds.

The Desk Study identified a European protected site, Broadland (SPA, Ramsar, LNR) located 10km to the east of the site. The survey, therefore, was designed to include survey visits during winter and migratory periods.

## 4. RESULTS

### 4.1 Birds Recorded

A total of 32 species were recorded onsite during the bird surveys.

The findings of the bird surveys are indicated in a plan view on the following Drawings, corresponding to dates the survey was undertaken, and can be found in Appendix 3:

- Drawing ref. 3709,EC/001/ Rev0: Bird Survey Visit 1: 11/02/19;
- Drawing ref. 3709,EC/003/ Rev0: Bird Survey Visit 2: 29/03/19;
- Drawing ref. 3709,EC/008/ Rev0: Bird Survey Visit 3: 23/04/19.

Table 2 below, provides a summary of the notable bird species recorded during survey visits, (BoCC Red and Amber listed bird species, s41 NERC, Local BAP). A full list of all bird species noted onsite is included within Appendix 4.

<b>Table 2: Summary Results of Notable Bird Species Recorded During Survey Visits</b>				
<b>Species</b>	<b>Conservation Status</b>	<b>Max Count</b>	<b>No. of visits seen</b>	<b>Notes and Recent Status within Essex</b>
Black-headed Gull	Amber	1	1	Abundant resident and passage migrant.
Duncock	Amber, s41 NERC	4	2	Abundant and widespread.
Greylag Goose	Amber	3	1	Introduced resident.
House Sparrow	Red, s41 NERC	1	1	Abundant resident.
Lesser-black Backed Gull	Amber	7	3	Common passage migrant, present all year.
Skylark	Red, s41 NERC	7	2	Common resident, passage migrant and winter visitor.
Song Thrush	Red, s41 NERC	2	1	Common resident, passage migrant and winter visitor.
Swift	GB Endangered	1	1 (bat survey June)	Declining long distance migrant due to a range of factors including loss of nest sites.
Yellowhammer	Red	1	1	Common but declining resident.

---

## 5. ECOLOGICAL EVALUATION AND IMPACT ASSESSMENT

### 5.1 Conservation Status of Birds

Broadland (Ramsar, SPA, LNR) is located 10km east of the site. The qualifying features for Broadland are its ability to support large numbers of the following birds: Bittern (*Botaurus stellaris*) Bewick's Swan (*Cygnus columbianus bewickii*), Gadwell (*Anas strepera*) Whooper Swan (*Cygnus cygnus*), Marsh Harrier (*Circus aeruginosus*), Hen Harrier (*Circus cyaneus*) Shoveler (*Anas clypeata*), Wigeon (*Anas penelope*) and Ruff (*Philomachus pugnax*). None of these species were noted onsite during the survey visits. Therefore, the site is not considered to provide functional habitat with Broadland (SPA, LNR, Ramsar).

None of the birds noted to be using the site are species listed in Annex 1 of the Birds Directive, or match qualifying features for the nearby Broadland (Ramsar, SPA, LNR).

Four s41 NERC species birds were recorded using the site including Song Thrush, Skylark, House Sparrow and Dunnock. Three of these are also BoCC Red list species. A full list of the conservation status of species found onsite is included within Appendix 4.

### 5.2 Value of Habitats for Birds

The hedgerows, scrub and tree plantation are valuable for breeding birds onsite and the grassland are used by common and widespread wintering birds.

The assemblages of species found were in relatively low numbers and are found in sustainable populations locally, therefore the habitats onsite are considered to be important on a local scale only, for breeding birds. The assemblages of wintering birds were considered to be of site importance, due to the sole use of habitats by common and widespread species.

The habitats onsite are not considered important for the wintering bird species that are associated with Broadland (Ramsar, SPA, LNR).

### 5.3 Impact Assessment

#### 5.3.1 Loss of habitat onsite

The habitats onsite include scrub, hedgerow, grassland and tree plantation. The majority of the tree plantation is due to be retained within the proposal however, a large portion of the grassland will be lost along with sections of hedgerow to allow for vehicular access. The loss of these habitats has been assessed with particular focus put on s41 NERC and BoCC species, Table 3 provides a detailed ecological impact assessment for these species.

### **5.3.2 Human Disturbance**

The increase in residents to the area will increase the level of disturbance caused to the birds. Mitigation recommendations in Section 6, are designed to minimise this impact where possible.

### **5.3.3 Increase in Predation**

The increase of residential housing will increase the chances of domestic cat predation on breeding birds onsite. Mitigation recommendations in Section 6 are designed to minimise this impact where possible.

**Table 3: Evaluation of Birds of Conservation Concern**

Species	Habitat Requirements	Species Account from Wintering Bird Survey	Nature Conservati on Value	Characterisation of Unmitigated Effect	Suggested Possible Mitigation/Compensation	Residual Effect
House Sparrow	House Sparrows predominantly nest in roof spaces and holes in walls and take advantage of food supplies in the vicinity of houses and farms.	Maximum of 1 seen on a single survey visit. Only during 1 visit.	Local	Only a single bird noted on one survey visit, thought to be part of an offsite colony. Provided the boundary hedgerows are retained there should be no impact to this species.	Nest boxes for house sparrow could be incorporated within the final development plan.	Negligible
Skylark	Associated with grassy habitats including meadows and arable farmland.	Seven noted throughout survey. Noted during 2 survey visits, thought to have a maximum of 3 breeding pairs using the site.	Local	Given the amount of arable habitat within 2km of the site, even the unmitigated loss of habitat onsite is considered negligible.	Wildflower meadows included within public open space will provide some winter foraging habitat. Skylark Plots could be left within any arable land surrounding the site to more easily allow Skylarks to nest in the area.	Negligible
Song Thrush	Song Thrush can exist anywhere with trees or bushes accompanying open grassland. Often found in hedgerows, railway embankments and small gardens.	Maximum of 2 heard on a single visit. Only noted during 1 visit.	Local	Since the majority of boundary hedgerow habitat onsite is likely to remain, it is expected that there will be no adverse effect on the population of Song Thrush.	The residential gardens proposed within the final development as well as any open public space should provide foraging habitat for Song Thrush.	Negligible
Yellowhammer	Associated with farmland, particularly scrubby areas, as well as woodland edge, woodland pasture and heaths.	Maximum of 1 seen on a single survey visit. Only noted during 1 visit.	Local	Yellowhammer are especially susceptible to disturbance and the unmitigated loss and infringement upon hedgerows around the site would likely result in a negative impact for this species.	Retention and enhancement of the dry ditch to the west of the site will be beneficial for breeding Yellowhammer.  Strict cutting timings should be implemented regarding the hedgerows and buffers. Scrub planting and tree thinning within the woodland belt and the addition of waterbodies will increase food sources at the site. For Yellowhammer the most valuable hedgerows to retain and create buffers around will be those adjacent to farmland or semi natural habitats such as the woodland.	Negligible



#### 5.3.4 Potential Impact to SPAs and Ramsars

Broadland (Ramsar, SPA, LNR) is located 10km east of the site. The qualifying features for Broadland are its ability to support large numbers of the following birds: Bittern (*Botaurus stellaris*) Bewick's Swan (*Cygnus columbianus bewickii*), Gadwell (*Anas strepera*) Whooper Swan (*Cygnus cygnus*), Marsh Harrier (*Circus aeruginosus*), Hen Harrier (*Circus cyaneus*) Shoveler (*Anas clypeata*), Wigeon (*Anas penelope*) and Ruff (*Philomachus pugnax*). None of these species were noted onsite during the survey visits and the habitats onsite is not considered to support these species. Therefore, the site is not considered to provide functional habitat with Broadland (SPA, LNR, Ramsar).

The wintering survey visit recorded widespread and common species, therefore no significant impact to Broadland is predicted as a result of the proposals, with regards to disturbance or loss of habitat for designated species.

---

## 6. ECOLOGICAL CONSTRAINTS AND RECOMMENDATIONS FOR ENHANCEMENT

### 6.1 Ecological Constraints

The scrub, hedgerows, grassland and plantation woodland provide roosting/shelter opportunities for foraging and wintering birds, and are considered important on a local scale.

The constraints to development onsite will be the removal of some areas of these habitats, particularly the grassland, due to the extent of habitat loss. The loss of hedgerow and field margins will also impact species of conservation concern, such as Yellowhammer.

### 6.2 Mitigation

To minimise impact on all species of breeding and wintering birds, existing habitats should be retained where possible. It is recommended to retain the plantation woodland, trees, hedgerows and field margins and to retain habitats for the majority of the species encountered onsite. This will reduce the impact for all species except for ground nesting birds and some wintering birds. It is anticipated that some sections of hedgerow and field margins will require removal for the construction of roads throughout the site. There is potential to provide mitigation for the loss of these small sections by replanting and in-filling the existing hedgerows onsite, and replanting new hedgerows within the site boundary.

Ideally, offsite mitigation will be secured in the long-term to provide nesting and foraging habitat for species more sensitive to disturbance, such as Yellowhammer.

A management plan should be prepared and implemented for retained habitats to maximise carrying capacity of the site, post development. This should include retention and strict cutting timings for hedgerows and buffers, scrub planting and tree thinning within the woodland belt, addition of waterbodies to increase food sources at the site and retention and enhancement of the dry ditch to the west of the site for breeding Yellowhammer. A large area of public open space is being left to the south of the site; it is understood that this area may be used for sports pitches. It is recommended that scattered scrub with strips of rough grassland are included where possible around the margins to provide additional habitat for birds. Cat predation could be reduced by encouraging residents to attach bells to pet collars.

Direct impacts on nesting birds should be avoided by carefully timing clearance of the hedgerows, grassland and arable fields, to be outside of the breeding season.

To ensure that any impact on breeding birds is avoided and that no offences occur under the WCA, it is recommended that any vegetation clearance is undertaken outside of the bird nesting season. The bird nesting season is generally regarded to extend between early March and late August, inclusive.

If it is not possible to undertake clearance works outside of the breeding bird season, a suitably qualified ecologist should be employed to determine if nesting birds are using the site, prior to works commencing, to avoid negative impact on protected species.

Planting within the residential gardens and throughout the development should be ideally native and consist of species considered beneficial to wildlife, to provide additional foraging habitat.

### 6.3 Enhancement Opportunities

It is recommended that a combination of integrated and external bird boxes are installed for species found in association with urban and rural to urban fringe habitats, such as Great and Blue Tits, House Sparrow, Song Thrush and Robin. The inclusion of swift boxes would provide additional nesting opportunities for this GB Endangered species recorded foraging above the site during bat surveys, as well as others adapted to urbanisation such as house sparrows and starlings. The boxes should comprise of a number of different styles with differing entrance hole sizes and box dimensions and should be sited within different habitat for specific species. The site management plan should detail precise locations and types of boxes, following the final agreed layout of the site (including location and elevation of plots and land use within public open space).

## 7. CONCLUSIONS

The scrub, hedgerows, grassland and plantation woodland provide habitat for breeding and wintering birds. These are considered important on a local scale.

The mitigation measures outlined in Section 6.2 should be followed to minimise impacts to breeding and wintering birds, in summary:

- Habitats should be retained where possible especially the scrub, hedgerows, grassland and plantation woodland;
- A large area of public open space is being left to the south of the site. This should be planted with scattered scrub with strips of rough grassland left;
- Planting within residential gardens and landscaping should ideally be native and considered beneficial to wildlife;
- Preparation and implementation of a management plan for retained and created habitats within the site. This should also include specific locations of bird box enhancement measures.

Enhancements could include:

- A bird box scheme could be included within the proposals, including swift boxes.

# APPENDICES

---

## Appendix 1 – Report Limitations and Conditions

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the site.

The comments given in this report and the opinions expressed herein, are based upon the readily available information collated for the report and an assessment based upon the current UK guidance.

This report has been prepared for the sole use of the Client for the purposes described and no extended duty of care to any third party is implied or offered. Third parties using any information contained within this report do so at their own risk.

This report is prepared and written for the use stated herein; it should not be used for any other purposes without reference to Geosphere Environmental Limited. The report has been prepared in relation to the proposed end-use should another end-use be intended a further re-assessment may be required. It is likely that over time practises will improve and the relevant guidance and legislation be amended or superseded, which may necessitate a re-assessment of the site.

The accuracy of any map extracts cannot be guaranteed. It is possible that different conditions existed onsite, between and subsequent to the various map surveys appended.

Scientific survey data will be shared with the local biological records centre in accordance with the IEEM professional code of conduct.

The survey is based upon the information available at the time of conducting this assessment and is an interpretative assessment of the conditions at the site.

---

## Appendix 2 – References

- R.1.** Ministry of Housing, Communities and Local Government (MHCLG) (July 2018) National Planning Policy Framework (NPPF).
- R.2.** ODPM (2005) Government Circular: Biodiversity and Geological Conservation – statutory obligations and their impact within the planning system.
- R.3.** Geosphere Environmental Ltd (June 2017) Preliminary Ecological Appraisal referenced 2449,DS,EC-PEA-LT,AS,09-06-17,V1
- R.4.** Gilbert, G., D.W Gibbons and J. Evans (1998) 'Bird Monitoring Methods' RSPB.
- R.5.** Bibby, C.J., Burgess, N.D., Hill D.A and Mustoe, S.H. (2000). Bird Census Techniques, 2<sup>nd</sup> ed. Academic Press, London
- R.6.** Essex Biodiversity Action Plan (LBAP) species list (website):  
[http://www.essexfieldclub.org.uk/portal/p/Essex+BAP+species.](http://www.essexfieldclub.org.uk/portal/p/Essex+BAP+species)
- R.7.** JNCC (2011). Conservation Designations for UK Taxa. Taxon\_designations\_20111020.zip;  
[http://jncc.defra.gov.uk/page-3408.](http://jncc.defra.gov.uk/page-3408)
- R.8.** BTO (2010). '2.1 Breeding Bird Survey' <http://www.bto.org/birdtrends2010/bbs.htm>
- R.9.** CIRIA (2004) Working with wildlife: A resource and training pack for the construction industry C587.
- R.10.** BTO (2006). 2.2 Common Birds Census. <http://www.bto.org/birdtrends2004/cbc.htm>.
- R.11.** Birds of Conservation Concern (BoCC) Red List  
<https://www.bto.org/science/monitoring/psob>
- R.12.** CIEEM, (2016). Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (Second edition dated January 2016).
- R.13.** Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708-746.

## Appendix 3 – Drawings

Drawing ref. 3709,EC/001/Rev0 Bird Survey Visit 1 (11/02/19)

Drawing ref. 3709,EC/003/Rev0 Bird Survey Visit 2 (29/03/19)

Drawing ref. 3709,EC/008/Rev0 Bird Survey Visit 3 (07/06/19)





**LEGEND**

B.	Blackbird
BC	Blackcap
BH	Black-headed Gull
BT	Blue Tit
BZ	Buzzard
C.	Carrion Crow
CH	Chaffinch
GR	Greenfinch
GO	Goldfinch
GT	Great Tit
J.	Jay
JD	Jackdaw
LB	Lesser Black-backed Gull
MG	Magpie
PH	Pheasant
R.	Robin
WP	Woodpigeon
WR	Wren
→	Direction of Flight

**SOURCE**

© OpenStreetMap contributors

**PROJECT**

Land off Fir Covert Road, Taverham, Norfolk, NR8 6HL

**TITLE**

Bird Visit 1

**DRAWING NUMBER**

3709,EC/001/Rev0

**SCALE**

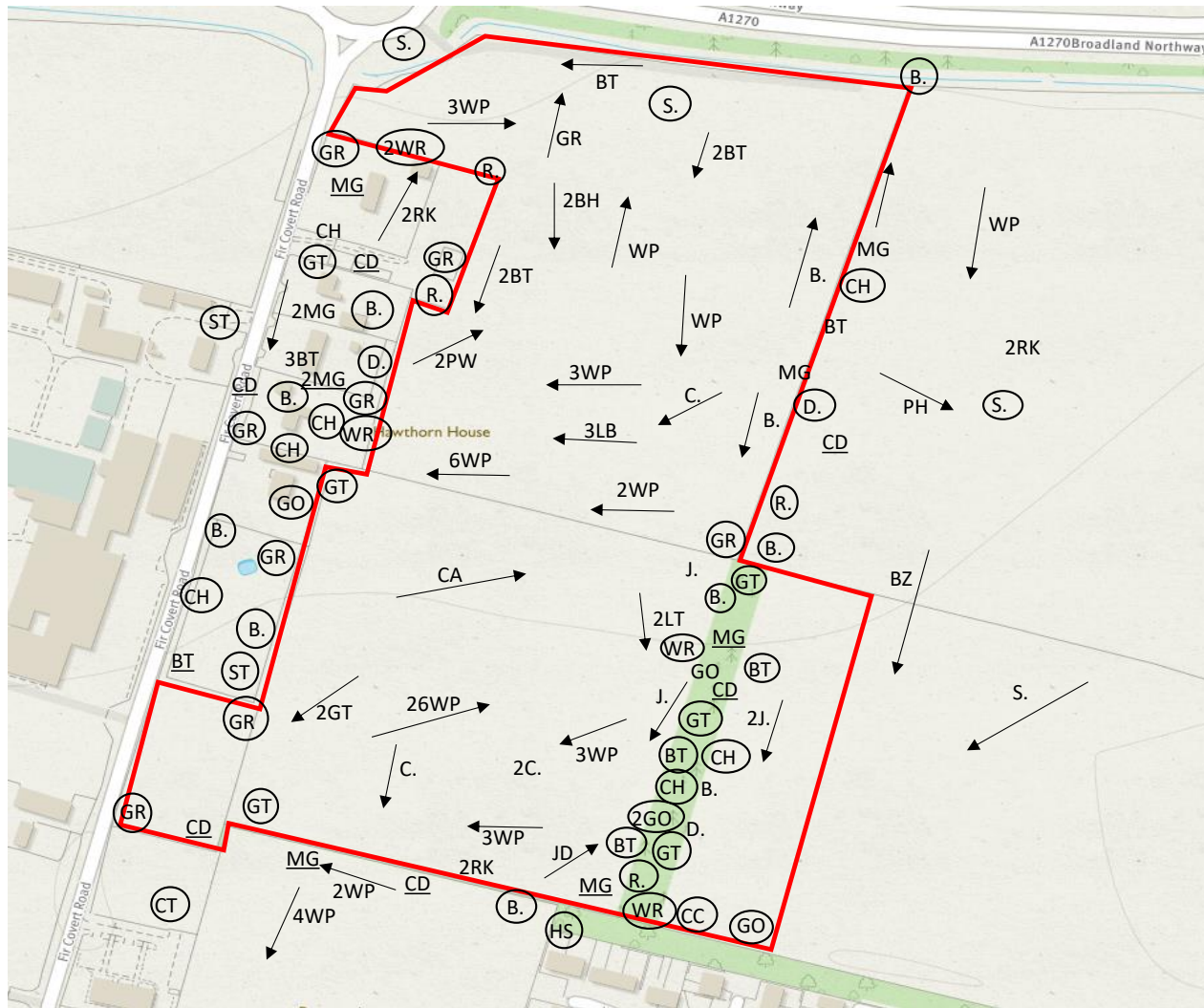
NTS

DRAWN BY  
TC

**DATE**

11/02/2019

CHECKED BY  
JB



→ Direction of flight of bird      ○ Bird that was Singing

**LEGEND**

- B. Blackbird
- BT Blue Tit
- BZ Buzzard
- C. Carrion Crow
- CA Comorant
- CC Chiffchaff
- CD Collared Dove
- CH Chaffinch
- CT Coal Tit
- D. Dunnock
- GC Goldcrest
- GJ Greylag
- GO Goldfinch
- GR Greenfinch
- GT Great Tit
- HS House Sparrow
- J. Jay
- JD Jackdaw
- LB Lesser Black-backed Gull
- LT Long-tailed Tit
- MG Magpie
- PH Pheasant
- PW Pied Wagtail
- R. Robin
- RK Rook
- S. Skylark
- ST Song Thrush
- WP Woodpigeon
- WR Wren

**PROJECT**

Land off Fir Covert Road, Taverham, Norfolk,  
NR8 6HL

**TITLE**

Bird Visit 2

**DRAWING NUMBER**

**3709,EC / 003 / Rev 0**

**SCALE**

Not to scale

**DATE**

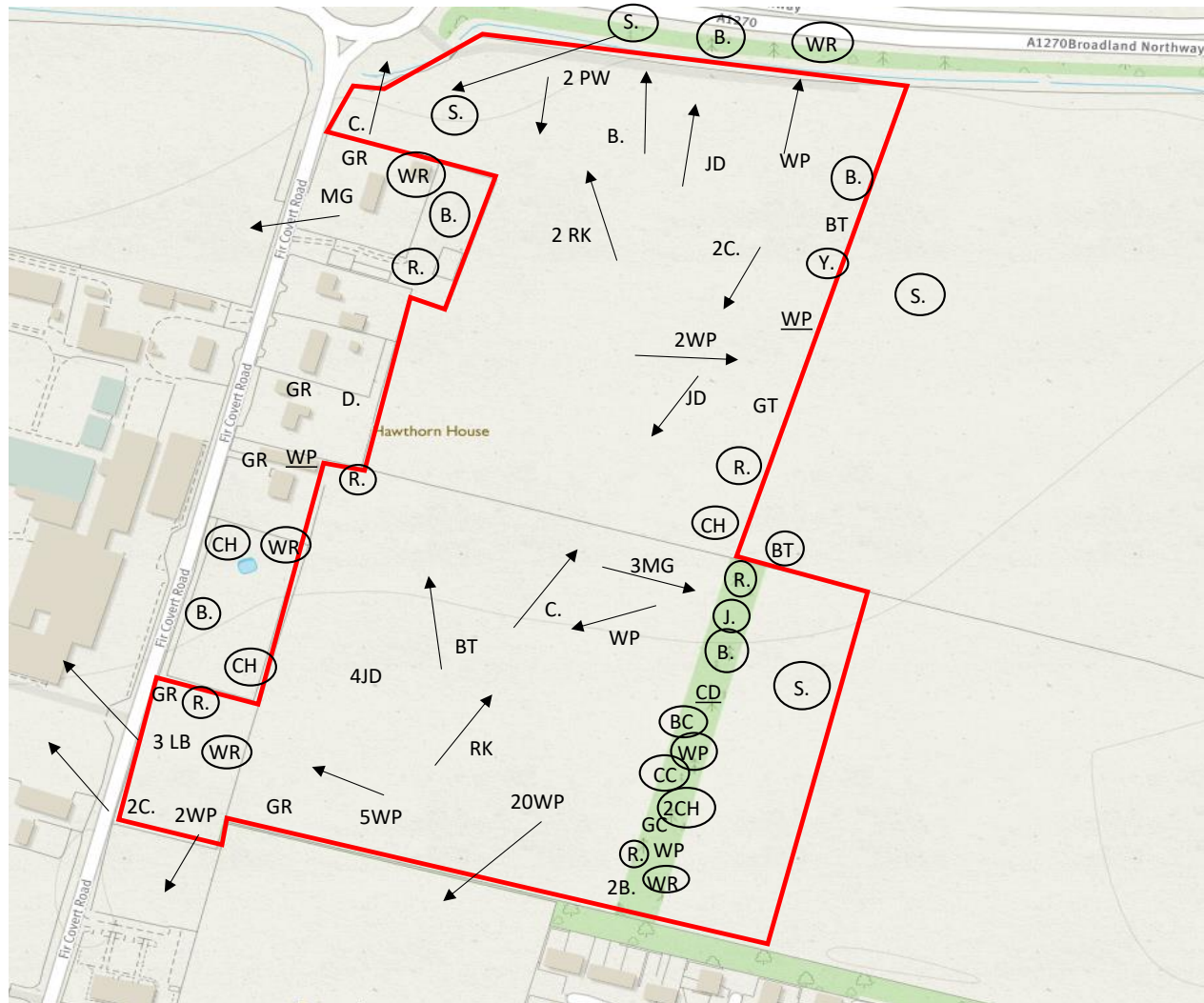
13/05/2019

**DRAWN BY**

TC

**CHECKED BY**

KL



**LEGEND**

- B. Blackbird
- BC Blackcap
- BT Blue Tit
- C. Carion Crow
- CC Chiffchaff
- CD Collared Dove
- CH Chaffinch
- D. Dunnock
- GC Goldcrest
- GR Greenfinch
- GT Great Tit
- J. Jay
- JD Jackdaw
- LB Lesser-black Backed Gull
- MG Magpie
- PW Pied Wagtail
- R. Robin
- RK Rook
- S. Skylark
- WP Woodpigeon
- WR Wren
- Y. Yellowhammer

**SOURCE**

[@ OpenStreetMap contributors](#)

**PROJECT**

Land off Fir Covert Road, Taverham, Norfolk, NR8 6HL

**TITLE**

Bird Visit 3

**DRAWING NUMBER**

3709,EC/008/Rev0

**SCALE**

NTS

**DRAWN BY**

TC

**DATE**

07/06/2019

**CHECKED BY**

JB

→ Direction of flight of bird

○ Bird that was singing



# Appendix 4 – Bird Survey Summary

# BIRD SURVEY RESULTS

**Project Number:** 3709,EC

**Project Name:** Land Off Fir Covert Road, Taverham, Norfolk, NR8 6HL

**Date:** 10/06/2019

Number	Common Name	Scientific Name	Conservation Status (BoCC – red, amber, green)/UK BAP/LBAP/NERC/Sched ule 1)	Species Notes			
				11/02/2019	29/03/2019	23/04/2019	Breeding status
1	Long-tailed Tit	<i>Aegithalos caudatus</i>	Green	N/A	2 seen within plantation.	N/A	Unlikely.
2	Skylark	<i>Alauda arvensis</i>	Red/UKBAP/LBAP/NERC s41	N/A	2 heard offsite. 1 heard singing on site.	4 noted, 2 above northern field and 2 adjacent to the east.	Likely.
3	Greylag Goose	<i>Anser anser</i>	Amber	N/A	3 seen flying across site.	N/A	Unlikely.
4	Buzzard	<i>Buteo buteo</i>	Green	Single bird seen flying over site.	Single bird seen flying over site.	N/A	Thought to be breeding off site.
5	Goldfinch	<i>Carduelis carduelis</i>	Green	3 seen in residential garden.	2 seen in plantation. 1 noted within residential garden.	N/A	Likely.
6	Greenfinch	<i>Carduelis chloris</i>	Green	Heard calling from residential garden.	6 noted within residential gardens. 2 heard and seen within plantation.	5 heard singing from western boundary.	Likely.
7	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Amber	1 seen flying over field to the south.	N/A	N/A	Unlikely.
8	Woodpigeon	<i>Columba palumbus</i>	Green	60+ seen flying over the site.	62 were seen flying over the site.	32 Seen flying over the site.	Likely.
9	Carrion Crow	<i>Corvus corone</i>	Green	6 seen flying over site.	4 seen flying over site.	6 seen flying across site.	Likely.
10	Rook	<i>Corvus frugilegus</i>	Green	22 seen flying over site and foraging in field.	4 seen flying over site.	3 seen flying over fields.	Likely.

# BIRD SURVEY RESULTS

**Project Number:** 3709,EC

**Project Name:** Land Off Fir Covert Road, Taverham, Norfolk, NR8 6HL

**Date:** 10/06/2019

Number	Common Name	Scientific Name	Conservation Status (BoCC – red, amber, green)/UK BAP/LBAP/NERC/Sched ule 1)	Species Notes			
				11/02/2019	29/03/2019	23/04/2019	Breeding status
11	Jackdaw	<i>Corvus monedula</i>	Green	4 seen within grassland.	1 seen in southern field.	3 seeb flying over site.	Likely.
12	Blue Tit	<i>Cyanistes caeruleus</i>	Green	4 seen and heard from hedgerows onsite.	13 noted using the hedgerows around site.	3 heard singing from the boundary features.	Likely.
13	Yellowhammer	<i>Emberiza citrinella</i>	RED	N/A	N/A	1 heard singing from the eastern hedgerow.	Possibly.
14	Robin	<i>Erithacus rubecula</i>	Green	2 heard from residential garden and plantation.	4 heard singing from boundary habitat.	5 heard singing from boundary habitat.	Likely.
15	Chaffinch	<i>Fringilla coelebs</i>	Green	Single bird heard singing from hedgerow.	3 heard from residential gardens. 3 heard from hedgerows and plantation.	3 heard singing from plantation.	Likely.
16	Jay	<i>Garrulus glandarius</i>	Green	2 seen along plantation.	4 seen within the plantation.	1 heard alarm calling from plantation.	Likely.
17	Lesser Black-backed Gull	<i>Larus fuscus</i>	Amber	Single bird noted flying over site.	3 seen flying across site.	3 seen flying over fields.	Unlikely.
18	Pied Wagtail	<i>Motacilla alba</i>	Green	N/A	2 seen flying east across site.	2 seen flying across northern field.	Likely.
19	Great Tit	<i>Parus major</i>	Green	3 seen and heard in hedgerows.	6 heard and seen using boundary features.	2 heard singing from boundary features.	Likely.

# BIRD SURVEY RESULTS

**Project Number:** 3709,EC

**Project Name:** Land Off Fir Covert Road, Taverham, Norfolk, NR8 6HL

**Date:** 10/06/2019

Number	Common Name	Scientific Name	Conservation Status (BoCC – red, amber, green)/UK BAP/LBAP/NERC/Sched ule 1)	Species Notes			
				11/02/2019	29/03/2019	23/04/2019	Breeding status
20	House Sparrow	<i>Passer domesticus</i>	Red	N/A	1 heard singing offsite to the south.	N/A	Unlikely.
21	Coat Tit	<i>Perparus ater</i>	Green	N/A	Single bird heard singing offsite south west.	N/A	Unlikely.
22	Cormorant	<i>Phalacrocorax carbo</i>	Green	N/A	Single bird seen flying over site.	N/A	Unlikely.
23	Pheasant	<i>Phasianus colchicus</i>	Green	1 startled from eastern field	Single bird seen in eastern field.	N/A	Unlikely.
24	Chiffchaff	<i>Phylloscopus collybita</i>	Green	N/A	Single bird heard singing from behind plantation.	1 heard singing from plantation.	Likely.
25	Magpie	<i>Pica pica</i>	Green	5 seen flying over site.	8 noted using boundary features.	4 seen flying across site and residential gardens.	Likely.
26	Dunnock	<i>Prunella modularis</i>	Amber/Nerc S41	N/A	1 heard from residential garden, 1 heard from plantation and 1 heard from eastern hedgerow.	1 heard singing from residential gardens.	Likely.
27	Goldcrest	<i>Regulus regulus</i>	Green	N/A	2 heard singing from plantation.	1 heard singing from plantation.	Likely.

# BIRD SURVEY RESULTS

**Project Number:** 3709,EC

**Project Name:** Land Off Fir Covert Road, Taverham, Norfolk, NR8 6HL

**Date:** 10/06/2019

Number	Common Name	Scientific Name	Conservation Status (BoCC – red, amber, green)/UK BAP/LBAP/NERC/Sched ule 1)	Species Notes			
				11/02/2019	29/03/2019	23/04/2019	Breeding status
28	Collared Dove	<i>Streptopelia decaocto</i>	Green	N/A	6 heard calling from boundary features.	1 heard singing from plantation.	Likely.
29	Blackcap	<i>Sylvia atricapilla</i>	Green	1 seen and heard within scrub.	N/A	1 heard singing from plantation.	Likely.
30	Wren	<i>Troglodytes troglodytes</i>	Green	1 seen and heard within scrub.	5 heard singing from plantation and residential gardens.	8 heard singing from the boundary features.	Likely.
31	Blackbird	<i>Turdus merula</i>	Green	4 seen in total around hedgerows.	11 heard and seen using the boundary features.	8 seen and heard around the boundary features of the site.	Likely.
32	Song Thrush	<i>Turdus philomelos</i>	Red/UKBAP/LBAP/NERC s41	2 heard singing from residential gardens.	N/A	N/A	Unlikely.

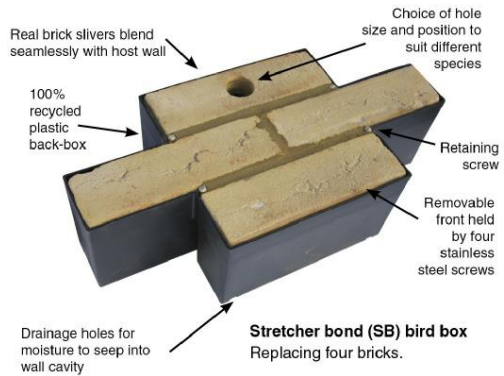
**KEY:** \* Indicates a notable species



## Appendix 5 – Example Bird Boxes

## EXAMPLE BIRD BRICKS & BOXES

### Integrated Bird Brick House: The Standard Box



This standard nesting box is suitable for House Sparrows and members of the Tit family. The single entrance hole allows the entire internal area to be available for nesting and roosting. The aperture size will vary according to the target species. For example, a 48 mm entrance hole can be produced to accommodate Starlings. The ideal internal depth is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm).

#### SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

### Integrated Bird Brick House: Sparrow terrace box



This has the same external dimensions as the standard box but has two entrance holes and two separate compartments – ideal for the sociable nature of house sparrows. The terrace box is also suitable for Redstarts, Black Redstarts and Wagtails.

#### SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

### Integrated Bird Brick House: Swift box



This box has a crescent shaped hole to one side of the box, allowing swifts access but restricting use by starlings. Inside, a rough floor makes it easier for the birds to move around. The centre of the floor has a raised nest cup to assist the birds' nest building. The ideal internal depth of a swift box is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm).

#### TITLE

**Example Bird Bricks and Boxes**

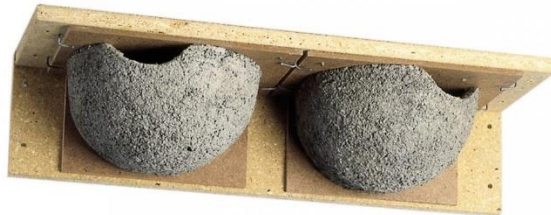
#### DATE

24/06/2019

#### PAGE NO.

1 of 3

### External Bird House: 9A Schwegler House Martin Nest



These boxes should be installed under eaves on the external walls of buildings. Install on the sheltered side (north facing) of the building at a minimum height of 2m above the ground.

These nests can be used for years without cleaning. However, if possible, it is recommended to inspect them frequently and to clean them when necessary. These Woodcrete nest boxes are famous for their durability - lasting for at least 20-25 years.

**SOURCE**

<https://www.nhbs.com/9a-schwegler-house-martin-nest>

### External Bird House: 1SP Schwegler Sparrow Terrace



The Sparrow Terrace has been designed to help redress the balance of falling house sparrow numbers. The current UK population of 6 million pairs is half what it was in 1980 and this is thought to be due to habitat destruction and lack of suitable nesting spaces. Sparrows are social birds and like to nest in company. This terrace provides ideal nesting opportunities for three families and will last many decades. It may also occasionally attract tits, redstarts and spotted flycatchers.

The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of houses in built-up areas, and on industrial and agricultural buildings such as barns, sheds and factories. Due to its weight (15kg), it is not suitable for fences or garden sheds. Ideally place the terrace two metres or more above the ground. Cleaning is advisable but not necessary.

**SOURCE**

<https://www.nhbs.com/1sp-schwegler-sparrow-terrace>

### External Bird House: WoodStone Swift Nest Box



The FSC certified WoodStone Swift Nest Box is constructed entirely out of WoodStone meaning it is long lasting and won't rot away like a traditional wooden nest box.

Swift numbers are declining, in part because of the loss of nesting sites. Installing a swift box is a great way to help these birds and to ensure their continued presence in our surroundings. There is an opening at the back of the box for easy cleaning with the nest entrance on the underside of the box.

This type of entrance is preferred by swifts but discourages house sparrows and starlings from occupying the box. This box should be installed at least five metres above the ground, ensuring that there is unobstructed access for birds entering and leaving. If possible, boxes should be sited under the shelter of eaves or overhanging roofs.

**SOURCE**

<https://www.nhbs.com/woodstone-swift-nest-box>

**TITLE**

**Example Bird Bricks and Boxes**

**DATE**

24/06/2019

**PAGE NO.**

2 of 3

### External Bird House: 1B Schwegler Bird Nest Box (General)



These Woodcrete nest boxes last for at least 20-25 years. Woodcrete is a breathable blend of wood, concrete and clay which will not rot, leak, crack or warp, whilst preventing condensation and maintaining more constant temperatures inside than wooden boxes.

Schwegler bird boxes are backed by conservation organisations, government agencies and forestry experts and experiments have shown that the highest density of bird populations (i.e. breeding pairs per hectare) is achieved with Schwegler nest boxes.

They are carefully designed to provide a stable environment and to mimic natural nest and roost sites with internal brood chamber dimensions that are similar to natural woodpecker cavities. Schwegler have a patented method of installation on trees that prevents the tree trunk from growing over the hanger from which the box is suspended.

#### SOURCE

<https://www.nhbs.com/1b-schwegler-nest-box>

### External Bird House: 1ZA Schwegler Wren Roundhouse



The nest box is designed to encourage Wrens as they like to nest near the ground, in undergrowth. They are not particularly good flyers, preferring to hop about in the undergrowth. They like shady places - in hedges, thickets, heavily overgrown areas and bushes as well as balconies.

Hang the nest box in undergrowth, in a shady place. It can also be placed upon a pile of brushwood or garden clippings, for example. If hung in a totally unobstructed place it will also attract other types of birds that nest in holes and cavities, including Blue-, Coal- and Great Tits, as well as Tree and House Sparrows.

These Woodcrete nest boxes last for at least 20-25 years.

#### SOURCE

<https://www.nhbs.com/1za-schwegler-wren-roundhouse>

#### TITLE

**Example Bird Bricks and Boxes**

#### DATE

24/06/2019

#### PAGE NO.

3 of 3



GEOSPHERE ENVIRONMENTAL

**Ec**

**Ecology.**

**Fr**

**Flood Risk.**

**Ge**

**Geotechnical.**

**En**

**Environmental.**

**Kw**

**Knotweed.**

**GEOSPHERE ENVIRONMENTAL LTD**

Brightwell Barns, Ipswich Road, Brightwell, Suffolk, IP10 0BJ

T: 01603 298076 | 01473 353519 | E: [info@geosphere-environmental.co.uk](mailto:info@geosphere-environmental.co.uk) | W: [geosphere-environmental.co.uk](http://geosphere-environmental.co.uk)