

BREEDING BIRD SURVEY REPORT

MAY 2022

Ormskirk Road
Knowsley
Liverpool
L34 9EY

U R B A N
G R E E N



QUALITY MANAGEMENT

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NON-TECHNICAL EXECUTIVE SUMMARY

Caddick Developments are proposing to develop land at Ormskirk Road, Knowsley (hereafter referred to as 'the site'). The proposals include the development of three industrial units, with associated hard and soft landscaping, including two potential attenuation ponds.

Urban Green have been appointed to complete a Breeding Bird Survey and a Report of the site following a Preliminary Ecological Appraisal conducted at the site in May 2021.

The breeding bird surveys recorded a total of 26 bird species, of which:

- One species was confirmed breeding on the site, comprising blackbird.
- Nine species were assessed as probable breeding, comprising blackcap, greenfinch, house sparrow, jay, long-tailed tit, pheasant, robin, whitethroat and wren.
- Twelve species were assessed as possible breeding, comprising blue tit, carrion crow, chaffinch, chiffchaff, coal tit, dunnoek, gold finch, great tit, magpie, song thrush, treecreeper and wood pigeon.
- Four species were assessed as non-breeding on the site, comprising barn swallow, herring gull, lapwing, and oystercatcher.

It was assessed that the site is used by a variety of common and widespread birds as well as notable species for foraging and breeding purposes. Notable species identified as most likely to use the site (based on the surveys conducted) include dunnoek, house sparrow, and song thrush.

The proposed development will cause the loss of suitable breeding and foraging habitats including woodland, scrub, hedgerow and grassland. Though some of these habitats will be retained where feasibly possible. Created habitats (including buildings and attenuation ponds) may provide new nesting opportunities for species that currently do not use the site for breeding, such as barn swallow, herring gull and waterfowl species.

Mitigation measures have been provided to minimise adverse impacts to local birds including timing of works, the implementation of buffer zones, the creation of new habitats and compensation nesting provisions.

Note that only two breeding bird surveys have been conducted in May and June. As such early breeding species may have been missed in the survey. This constraint has been considered within the report.

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1 Introduction

1.1 Background to the Scheme

Caddick Developments are proposing to develop land at Ormskirk Road, Knowsley (hereafter referred to as 'the site'). The proposals include the development of three industrial units, with their associated hard and soft landscaping, including two potential attenuation ponds.

Urban Green have been appointed to undertake breeding bird surveys following recommendations outlined within a Preliminary Ecological Appraisal (PEA), undertaken at the site by Urban Green in May 2021 (see Section 2 for further details).

The author of the report is Jake Matthews, MSc, Consultant Ecologist at Urban Green. Jake has experience providing ecological consulting services for a range of development schemes across the UK, including residential, commercial mineral extraction and road infrastructure schemes. Jake is experienced and competent at bird identification.

1.2 Site Context

The site is located at National Grid Reference SJ 43756 96752 and comprises a total area of approximately 4ha (see Figure 1).



Figure 1 – Site Extent – Hatched area excluded from Red Line Boundary

The site is located upon the edge of an industrial estate approximately 450m north of Knowsley, and 10km to the north-east of Liverpool. The industrial estate is located within the urban rural fringe, with agricultural fields to the east and south, and industrial units to the west. Shared land use lies to the north, comprising both industrial and agricultural land. The A580 major road directly borders the site to the north beyond which lies a small area of woodland, whilst Ormskirk Road and the B5202 road directly borders the site to the south and west.

1.3 Purpose of this Report

This report has been produced to demonstrate the results of nocturnal bat surveys which were completed at the site. The surveys were conducted to record the breeding bird assemblage within the site in order to evaluate its importance with regards the bird populations it supports. Appropriate mitigation is detailed (if required). The report has been produced in support of the proposed planning application.

Relevant UK legislation of the protection of UK birds are detailed in Appendix 1.

2 Previous Surveys

2.1 Preliminary Ecological Appraisal 2021

A PEA was completed at the site by Urban Green in May 2021 (report ref: UG_45_ECO_PEA_01). The PEA identified the site habitats to comprise an arable field, with hedgerows, dense scrub, broadleaved woodland, running water, and bracken also present. The PEA outlines the following in respect to birds:

Ground Nesting Birds

The site habitats were found to provide value for ground nesting birds, with unmanaged hedgerow bases considered suitable for ground nesting birds such as yellowhammer (*Emberiza citrinella*) and grey partridge (*Perdix perdix*). Moreover, red-legged partridge (*Alectoris rufa*) were observed on the site and are anticipated to use the field edges for breeding purposes.

Passerine Birds

The woodland, scrub and hedgerows are anticipated to provide nesting opportunities, for a variety of bird species. Standing deadwood was also observed within the woodland, which could provide suitable nesting habitat for willow tit, with records of this species returned during the desk study.

Barn Owl/Birds of Prey

Four birds of prey species were returned in the data search, comprising goshawk (*Accipiter gentilis*), marsh harrier (*Circus aeruginosus*), hobby (*Falco subbuteo*), and barn owl (*Tyto alba*). The grassland habitat may provide suitable foraging resources, though it is anticipated the wider agricultural fields will be of higher value. No trees were noted with hollows suitable for nesting owls and no owl pellets were observed throughout the site.

2.2 Ecological Assessment 2019

An Ecological Assessment (EA) was completed at the site by Urban Green in June 2019 and is detailed within Report UG_45_ECO_EA_01. The EA identified the site habitats to comprise broadleaved woodland, bracken, standing water, semi-improved grassland, amenity grassland, bare ground, arable land, and coniferous trees. The EA found the site to be suitable for nesting birds through suitable habitats woodland, coniferous trees, scrub, grassland and hedgerow.

The EA recommended that any vegetation removal is undertaken outside the nesting bird season. If this is not possible a suitably qualified ecologist should undertake a nesting bird check no more than 48 hours prior to any vegetation removal.

The EA suggested ecological enhancements to the site through the provision of bird boxes affixed to suitable retained trees. Boxes should be targeted towards local priority species including song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), house martin (*Delichon urbicum*), and swift (*Apus apus*).

3 Methods

3.1 Desk Study

The objective of the desk study is to review the existing information available in the public domain concerning species and habitats to identify the following:

- Internationally designated sites for birds, up to 5km and nationally designated sites for birds, up to 1km from the Site using the Multi Agency Geographic Information for the Countryside (MAGIC) website (NE, 2017);
- Bird records and records of locally designated sites for breeding birds up to 1km from the Site, using the South East Wales Biodiversity Records Centre (SEWBRc);
- Bird species within the Section 7 list of Principal Importance for Conservation of Biological Diversity in Wales;
- Features of ecological interest surrounding the Site, nearby areas of ecological interest and features connecting these habitats (hedgerows, watercourses, etc.).

Sources of information used in the desk study are presented in Table 1.

Table 1 – Desk Study Sources of Information

Source	Date Consulted	Information Sought
Online aerial imagery	13/07/2021	Review of satellite imagery.
MAGIC website (www.magic.gov.uk)	13/07/2021	Review of designated sites for birds within 5km of the site. Review of suitable habitats and areas for birds on the site and adjacent.
Merseyside Biobank	13/07/2021	Records of bats within 1km of the site boundary.

3.2 Breeding Bird Surveys

The breeding bird survey broadly follows the British Trust for Ornithology (BTO) Common Bird Census (CBC) methodology (Gilbert *et al.*, 1998). A transect is walked through the survey area, paying particular attention to features and habitats most likely to be used by birds, such as the ponds and hedgerows. All birds that were visibly and audibly observed were plotted on a plan of the survey area using the standard BTO species codes. The locations and behaviours of birds on the site and adjacent were noted.

Two breeding bird surveys were conducted on days with little or no wind, rain or mist in order to maximise the potential for detection of birds and to avoid the possibility of bird activity being suppressed by inclement weather conditions, where possible. Surveys were completed by personnel with experience of the likely species assemblage for this geography and habitat type. Survey dates, personnel and weather conditions are shown in Table 2.

Species were identified by sight or sound and details of behaviour and activity was recorded. A range of optical equipment including binoculars and telescope were used as required and to minimise disturbance to potentially breeding species. The results were analysed to assess the status of the birds on site as one of the following:

- Non-breeding – Flyover or species observed within unsuitable breeding habitat;
- Possible breeding – Species observed in breeding season in suitable nesting habitat;
- Probable breeding – Pair observed in suitable nesting habitat in breeding season, territorial behaviour observed on at least two occasions, courtship and display observed, observed visiting probable nest site, agitated behaviour or anxiety calls from adults or nest building observed; or
- Confirmed breeding – Used nest or eggshells, distraction display/injury feigning observed, recently fledged young, adults on nest, adult carrying faecal sack or food, nest containing eggs or nest with young seen/heard.

Table 2 – Breeding Bird Survey Details

Survey Date and Time	Survey Personnel	Weather conditions
28/05/2021 - 5:00 – 7:30	Jake Matthews	12°C, overcast (8/8 oktas) with light precipitation and a slight breeze (1 Beaufort).
28/06/2021 - 5:15 – 7:30	Jake Matthews	14°C, little cloud cover (1/8 oktas), no precipitation and a slight breeze (1 Beaufort).

3.3 Constraints to the Survey

There is potential for some birds to be missed or to go unnoticed due to the nature of breeding bird surveys and possibility of birds not vocalising and/or being present in dense vegetation. When combined with previous surveys and given the relatively simple nature of habitats it is considered that the current BBS provides an accurate assessment of the ornithological value of the Project Site to breeding birds.

Short spells of very light precipitation was experienced during the first survey. It is considered that this is not a major constraint on the survey.

The timing of the surveys missed the early bird breeding season. As a result, breeding behaviours of early breeding birds such as tawny owl (*Strix aluco*), long-tailed tit (*Aegithalos caudatus*), and blackbird (*Turdus merula*) may have been missed on the site. This constraint has been considered in the assessment.

All surveys were conducted at dawn. As such, nocturnal species such as tawny owl may, be present on the site but were not recorded. Tawny owl have been considered in the assessment.

Only two breeding bird surveys were conducted as opposed to the six breeding bird surveys recommended under the Bird Survey Guidelines (2021). This constraint has been considered in the assessment.

3.4 Lifespan of Reports

In accordance with the BCT guidance (Collins, 2016), the details of this report will remain valid for a period of **24 months** from the date of the first survey (i.e. until 28th May 2023). After this date, this assessment should be reviewed to determine whether any update surveys are required.

4 Results

4.1 Desk Study

4.1.1 Site Location

The site is located within an urban rural fringe with existing major industrial developments located to the west of the site and agricultural and grassland fields located to the east and south. Woodland is located to the north, extending beyond the A580 road. Additional woodland is located to the south-east.

A range of passerine birds are anticipated to find value within the woodland habitats. Ground nesting and farmland birds are anticipated to find breeding habitat within grassland and agricultural fields. Birds of prey are likely to be present in the local area, nesting in mature trees in woodland and foraging in grassland habitat. The industrial developments to the west are likely to provide limited value for local birds though common and widespread species may still be present.

4.1.2 Designated Sites

No sites within the National Site Network were located within 5km of the site boundary. One statutory site and six non-statutory designated sites were located within 1km of the site and are detailed within Table 3.

Several designated sites comprise habitats of value to local bird species including waterbodies, mature woodland and parkland (see Table 3 for further details).

Table 3 – Designated sites located within the search areas (extracted from the site PEA).

Designated Site	Approx. Distance from Site	Details
Statutory Sites		
Acornfield Plantation Local Nature Reserve (LNR)	670m north	A site predominantly comprising mature broadleaf woodland. The woodland includes oak (<i>Quercus</i> sp.), birch (<i>Betula</i> sp.) and sycamore (<i>Acer pseudoplatanus</i>). The centre of the site includes a lowland basin mire dominated by sphagnum moss (sp.) and soft rush (<i>Juncus effusus</i>). Other habitats include a pond, stream, drainage channels, acidic and neutral grasslands, bracken (<i>Pteridium aquilinum</i>) and rhododendron (<i>Rhododendron</i> sp.) thickets.
Non-Statutory Sites		
Knowsley Park Knowsley Local Wildlife Site (KLWS)	400m south	A site with ancient parkland and estate on a mix of acid and neutral soils with sandstone exposures along brooks. Plants present indicative of ancient semi-natural woodland. Bats have been recorded at the site.
Acornfield Plantation KLWS	670m north	See LNR description above.

Designated Site	Approx. Distance from Site	Details
Knowsley and St Helens Mosslands Nature Improvement Area (NIA)	670m north & 800m east	Two of the 17 Focus Area profiles which, when combined, forms the Liverpool City Region (LCR) Ecological Network Nature Improvement Area. The NIA “provides an LCR-wide opportunity for the strategic delivery of biodiversity outcomes”.
River Alt and M57 Corridor NIA	800m south-west	
Knowsley Brook KLWS	900m west	An open watercourse providing good habitat for water vole (<i>Arvicola amphibious</i>).
Otis Meadow KLWS	1km west	A mix of damp and dry grassland with developing scrub.

4.1.3 Local Bird Records

As detailed in the PEA, the following previous bird records within 1km of the site are provided in Table 4. Whilst rare and notable species, such as turtle dove and cuckoo, were returned these are historical records and such species may no longer be present in the local area. Several birds of prey including hobby, marsh harrier, and barn owl were returned. Ground nesting birds such as yellowhammer, skylark and grey partridge were returned.

Table 4 – Protected or notable birds recorded within 1km (Extracted from the PEA Urban Green, 2021)

Scientific Name	Common Name	Protection	Closest Record to Site	
			Approx. Min. Distance (m)	Date
<i>Acanthis cabaret</i>	Lesser redpoll	BoCC4*, S41****	Within 1km	1999
<i>Accipiter gentilis</i>	Goshawk	Sch.1***	Within 1km	1998
<i>Alauda arvensis</i>	Skylark	LBAP, S41****	Within 1km	1999
<i>Alcedo atthis</i>	Kingfisher	Sch.1***, BoCC**	Within 1km	1999
<i>Apus apus</i>	Swift	LBAP	Within 1km	1998
<i>Circus auruginosus</i>	Marsh harrier	Sch.1***	Within 1km	1999
<i>Coturnix coturnix</i>	Quail	Sch.1***	Within 1km	1998
<i>Cuculus canorus</i>	Cuckoo	S41****	Within 1km	1999
<i>Delichon urbicum</i>	House martin	LBAP	Within 1km	1998
<i>Dendrocopos minor</i>	Lesser spotted woodpecker	S41****	Within 1km	1998
<i>Emberiza calandra</i>	Corn Bunting	LBAP, S41****	Within 1km	1999
<i>Emberiza citrinella</i>	Yellowhammer	BoCC4*, S41****	Within 1km	1999
<i>Emberiza schoeniclus</i>	Reed bunting	S41****	Within 1km	1999
<i>Falco subbuteo</i>	Hobby	Sch.1***	Within 1km	1997

Scientific Name	Common Name	Protection	Closest Record to Site	
			Approx. Min. Distance (m)	Date
<i>Linaria cannabina</i>	Linnet	S41****	Within 1km	1998
<i>Locustella naevia</i>	Grasshopper warbler	S41****	Within 1km	1999
<i>Loxia curvirostra</i>	Common crossbill	Sch.1***	Within 1km	1999
<i>Motacilla flava</i>	Yellow wagtail	S41****	Within 1km	1998
<i>Muscicapa striata</i>	Spotted flycatcher	S41****	Within 1km	1999
<i>Passer domesticus</i>	House sparrow	BoCC4*, S41****, LBAP	Within 1km	1999
<i>Passer montanus</i>	Tree sparrow	S41****	Within 1km	1999
<i>Perdix perdix</i>	Grey partridge	LBAP, S41****	Within 1km	1999
<i>Poecile montana</i>	Willow tit	S41****	Within 1km	1999
<i>Prunella modularis</i>	Dunnock	S41****	Within 1km	1999
<i>Pyrrhula pyrrhula</i>	Bullfinch	BoCC4**, S41****	Within 1km	1999
<i>Streptopelia turtur</i>	Turtle dove	S41****	Within 1km	1999
<i>Sturnus vulgaris</i>	Starling	LBAP, S41****	Within 1km	1998
<i>Turdus philomelos</i>	Song thrush	LBAP, S41****	Within 1km	1999
<i>Tyto alba</i>	Barn owl	Sch.1***, BoCC4*, S41****	Within 1km	1999
<i>Vanellus vanellus</i>	Lapwing	LBAP, S41****	Within 1km	1999

* Listed Red on the Bird of Conservation Concern 4 (2015)

** Listed Amber on the Bird of Conservation Concern 4 (2015)

*** Wildlife & Countryside Act (Sch 1, 5 & 8)

**** Listed on Section 41 (NERC Act, 2009).

4.2 Breeding Bird Surveys

Two breeding bird surveys were conducted at the Project Site on between May and June 2021. The results are summarised in Table 5. Appendix 2 details the locations of the birds recorded.

Table 5 – Breeding Bird Survey Results

Species	Number recorded		Summary	Breeding Status	Species Designation
	Survey 1	Survey 2			
Barn swallow (<i>Hirundo rustica</i>)	2	2	Foraging over site grassland and perched on adjacent telephone wires	Non-breeding	N/a
Blackbird	5	5	Recorded singing in suitable breeding habitat woodland. Fledging observed in woodland	Confirmed breeding	N/a
Blackcap (<i>Sylvia atricapilla</i>)	0	1	Pair recorded in suitable breeding habitat scrub and woodland edge	Probable breeding	N/a

Species	Number recorded		Summary	Breeding Status	Species Designation
	Survey 1	Survey 2			
Blue tit (<i>Cyanistes caeruleus</i>)	1	1	Recorded foraging in hedgerow habitat. Suitable nesting habitat on the site.	Possible breeder	N/a
Carrion crow (<i>Corvus corone</i>)	3	2	Recorded in suitable breeding habitat: woodland. Pair observed adjacent to site. Recorded flying over grassland habitat.	Possible breeder	N/a
Chaffinch (<i>Fringilla coelebs</i>)	2	0	Singing in suitable breeding habitat.	Possible breeder	N/a
Chiffchaff (<i>Phylloscopus collybita</i>)	1	4	Singing in suitable breeding habitat.	Possible breeder	N/a
Coal tit (<i>Periparus ater</i>)	2	1	Singing in suitable breeding habitat.	Possible breeder	N/a
Dunnock	1	0	One bird recorded adjacent to site. Suitable nesting habitat on the site.	Possible breeder	BoCC4**; S.41****
Goldfinch (<i>Carduelis carduelis</i>)	3	1	Several birds recorded foraging in hedgerow. Suitable nesting habitat on the site.	Possible breeder	N/a
Great tit (<i>Parus major</i>)	2	3	Recorded singing in suitable breeding habitat.	Possible breeder	N/a
Greenfinch (<i>Chloris chloris</i>)	3	1	Recorded singing in suitable breeding habitat; pair recorded in hedgerow.	Probable breeding	N/a
House sparrow	1	0	Several birds recorded in suitable breeding habitat on site boundary, adjacent to residential dwellings.	Probable breeding	BoCC4*; S.41****
Herring gull (<i>Larus argentatus</i>)	1	1	Flying over the site.	Non-breeding	BoCC4*; S.41****
Jay (<i>Garrulus glandarius</i>)	0	1	Agitated behaviour within suitable breeding habitat: woodland.	Probable breeding	N/a
Lapwing	1	1	Distraction display over adjacent offsite grassland. Not recorded on the site.	Non-breeding	BoCC4*; S.41****; LBAP
Long-tailed tit	1	0	Pair observed within suitable breeding habitat: hedgerow.	Probable breeding	N/a
Magpie (<i>Pica pica</i>)	1	0	Individual observed within suitable breeding habitat: woodland.	Possible breeder	N/a
Pheasant (<i>Phasianus colchicus</i>)	0	1	Male heard calling in suitable breeding habitat: grassland.	Probable breeding	N/a

Species	Number recorded		Summary	Breeding Status	Species Designation
	Survey 1	Survey 2			
Oystercatcher (<i>Haematopus ostralegus</i>)	1	2	Flying over site and adjacent offsite grasslands.	Non-breeding	BoCC4**
Robin (<i>Erithacus rubecula</i>)	4	5	Singing within suitable breeding habitat: woodland and hedgerow.	Probable breeding	N/a
Song thrush	1	0	Male singing in suitable breeding habitat scrub / woodland edge.	Possible breeder	BoCC4; S.41***; LBAP
Treecreeper (<i>Certhia familiaris</i>)	1	0	One bird foraging within suitable breeding habitat: woodland.	Possible breeder	N/a
Whitethroat (<i>Sylvia communis</i>)	0	1	Male singing within suitable breeding habitat: scrub / woodland edge.	Probable breeding	N/a
Woodpigeon (<i>Columba palumbus</i>)	3	4	Flying over site and perched within suitable breeding habitat: woodland.	Possible breeder	N/a
Wren (<i>Troglodytes troglodytes</i>)	7	7	Males singing within suitable breeding habitat: woodland. Pair observed within woodland.	Probably breeding	N/a

* Listed Red on the Bird of Conservation Concern 4 (2015)

** Listed Amber on the Bird of Conservation Concern 4 (2015)

*** Wildlife & Countryside Act (Sch 1, 5 & 8)

**** Listed on Section 41 (NERC Act, 2009).

4.3 Assessment

The results of the surveys identified that the site to support a variety of mostly common and widespread passerine bird species.

- A total of 26 species were recorded.
- One species was confirmed breeding on the site, comprising blackbird.
- Nine species were assessed as probable breeding, comprising blackcap, greenfinch, house sparrow, jay, long-tailed tit, pheasant, robin, whitethroat, and wren.
- Twelve species were assessed as possible breeding, comprising blue tit, carrion crow, chaffinch, chiffchaff, coal tit, dunnoek, gold finch, great tit, magpie, song thrush, treecreeper, and wood pigeon.
- Four species were assessed as non-breeding on the site, comprising barn swallow, herring gull, lapwing, and oystercatcher.

Species most frequently recorded were blackbird, robin, wren which are assessed to be breeding on the site within the woodland, scrub and hedgerows.

One pheasant was recorded during survey 2 and a red-legged partridge was recorded during the PEA on the site. As such, the grassland may support ground nesting birds. These species may find some nesting value on the woodland edges and hedgerow (Game and Wildlife Trust, 2015).

4.3.1 Species Discounted From Assessment

Notable species herring gull and oystercatcher were recorded during the surveys; however, these species are not anticipated to use the site for breeding purposes and were only recorded flying over the site.

Lapwing are anticipated to be breeding within the local area, and suitable breeding habitat grassland is present on the site. However, lapwing are assessed to find limited breeding value on the site due to the relatively small size of the grassland and the proximity to hedgerow and woodland, which may support terrestrial mammals that would predate lapwing nest. The lapwings that were recorded during the surveys were limited to adjacent offsite grasslands and arable land. It is assessed that this species, and other ground nesting birds are more likely to use these areas over the site. Furthermore, the unmanaged grass was up to 1m tall, and was considered too tall for these species, which prefer a shorter sward (RSPB, n.d.).

Barn owl are not anticipated to use the site for breeding though may use the site for foraging purposes (see Section 4.3.3 for further details).

4.3.2 Notable Species Recorded

Based on the two breeding bird surveys it has been assessed that the site supports the following notable bird species:

- Dunnock
- House sparrow
- Song thrush

Only low numbers of each species was recorded with no confirmed breeding identified though suitable breeding habitats for these species is present on the site through woodland. It is possible that additional breeding activity had occurred on the site prior to the breeding bird surveys commencing; and early breeding species may have been missed. Additionally, no nocturnal survey was conducted. As such nocturnal species such as tawny owl may use the site and were not identified during the surveys.

4.3.3 Birds of Prey

No birds of prey were recorded throughout either survey and no trees suitable for nesting owls were identified on the site. Barn owl may be present in the local area with suitable habitats comprised of agricultural and grassland making up surrounding areas. Moreover, barn owl may find value on the site for foraging as the grassland habitat is likely to support small mammals which barn owls may predate.

The grassland habitat on the site may also support notable birds of prey such as kestrel (*Falco tinnunculus*) and hobby (which were returned in the data search). The woodland could support tawny owl, and the mature trees may support nesting birds of prey such as buzzard (*Buteo buteo*).

5 Impact Assessment and Recommended Mitigation

5.1.1 Impact Assessment

As stated in the PEA of the site, the development proposals include the erection of three industrial units, with associated hard and soft landscaping, including two potential attenuation ponds.

Whilst some woodland and scrub to the north of the site, and much of the hedgerow boundaries will be retained, the development will require the removal of existing habitats on the site including suitable breeding habitat for birds: woodland, scrub and grassland. As such, the development will cause a reduction of suitable breeding habitat and foraging habitat for notable species dunnock, house sparrow and song thrush. Moreover, song thrush and “urban birds” are listed as priority species within Merseyside.

Common and widespread species (listed in Section 4.2), including ground nesting birds such as pheasant and red-legged partridge will experience an overall reduction of suitable breeding and foraging habitat through the development without appropriate mitigation.

Notable birds of prey (that were not recorded during bird surveys) may also use the site for foraging and will be impacted through reduced foraging habitats. Tawny owl may use the woodland for breeding purposes and will experience a reduction in suitable breeding habitat.

Unmitigated removal of habitats comprising the site could result in the disturbance, damage or destruction of bird nests. All birds are protected while nesting and this would cause an offence under the Wildlife and Conservation Act 1981 (as amended).

5.2 Mitigation

5.2.1 Retained and Created Habitats

Woodland and scrub habitat located to the north of the site will be retained in the development, where possible. Some grassland will be retained to the south and west of the site. Hedgerow boundaries will also be retained where possible. As such some suitable breeding habitats for notable birds will be retained.

Replacement tree planting and soft landscaping within the development will help to compensate for the loss of breeding and foraging habitats. This is anticipated to benefit mostly common and widespread birds, though notable species such as dunnock, house sparrow, and song thrush which can show tolerance to anthropomorphic activities may find nesting and foraging value in these retained and created habitats. Tree planting should favour native species that will produce fruits or seeds or attract an abundance of invertebrates. These would provide new foraging habitats for birds and help to mitigate the loss of foraging habitats on the site. Species could include birch (*Betula pendula*), holly (*Ilex aquifolium*), rowan (*Sorbus aucuparia*) and crab apple (*Malus sylvestris*).

The creation of warehouse units may provide nesting opportunities for notable birds such as herring gull, which currently are not anticipated to use the site for breeding purposes. Birds such as barn swallow may also find nesting opportunities within erected buildings.

The creation of attenuation ponds may provide nesting opportunities for waterfowl species. These habitats will also provide a valuable source of drinking water and foraging habitat for birds within the local area. Attenuation ponds should be designed to partially hold water all year round and should also include aquatic vegetation planting to provide cover for birds.

5.2.2 Construction Phase

As detailed in the PEA, a Construction Environment Management Plan (CEMP) should be implemented to protect the retained habitats, and should be adhered to within development, with a particular reference to the protection of woodland to the north of the site. In addition, habitats on site can be enhanced by the inclusion of a locally appropriate and native planting.

The CEMP should identify retained habitats of value to birds (i.e. retained woodland, scrub, hedgerow and grassland) and detail appropriate fencing and buffer zones to protect these retained habitats during the construction phase.

Any vegetation clearance should be undertaken outside the nesting bird season (March to September, inclusive). Refer to Section 5.2.4 for further details.

5.2.3 Nesting Provisions

Compensatory nesting provisions will also be provided to mitigate for the loss of nesting habitat. Nesting provisions should be aimed at notable species identified on the site. However, dunnock and song thrush are not known to regularly use artificial nest boxes.

Open-fronted boxes are most likely to be taken up by these species and may also be used by other common species identified on the site such as robin. In addition, one compensatory nest box for tawny owl will be provided. Table 6 details the recommended nest box provisions to be provided within the site. Appendix 5 details recommended locations of the boxes. Nest boxes suitable for birds of prey could be included on the roof of one of the warehouses.

Table 6 – Recommended Nesting provisions

Box details	Number	Details
Vivara Pro Woodstone owl nest box (or suitable alternative). <u>Specifications</u> Width: 28cm Height: 52cm Length: 30.5cm Colour: Grey Hole diameter: Specific Material: Woodstone <u>Positioning</u> Affix to mature tree at a minimum of 3m above ground and should be in a quiet, secluded area with a clear flight path to the entrance.	1	

Box details	Number	Details
Vivara Pro Barcelona Woodstone open nest box (or suitable alternative). <u>Specifications</u> Width: 19cm Height: 24cm Length: 17.5cm Entrance hole: Open <u>Positioning</u> between 1.5m and 3m high, and open nest boxes should be sited in undergrowth such as ivy to provide cover for the nest.	4	
House sparrow nest box (e.g. https://www.nhbs.com/search?q=house%20sparrow%20box&hPP=60&idx=titles&p=0&fR%5Bdoc_s%5D%5Bo%5D=false&fR%5Bhide%5D%5Bo%5D=false&fR%5Blive%5D%5Bo%5D=true&qtview=163264). <u>Specifications</u> Height: 24cm Width: 13cm Depth: 17cm Weight: 750g Entrance hole diameter: 32mm <u>Positioning</u> These boxes can be sited on either a tree or wall, preferably two to four metres above ground and with a clear flight path to the nest.	4	
<u>Kestrel nest box</u> <u>Specifications</u> Height 34 cm Width 29.5 cm Depth 52 cm Weight 6.5 kg <u>Positioning</u> On the ledge of a building approximately 4.5m from the ground.	1	

5.2.4 Timescales

The proposed vegetation removal should be undertaken outside the nesting bird season (March to September inclusive). If this is not possible a nesting bird check by a suitably qualified ecologist should be undertaken no more than 48 hours prior to the vegetation removal. Any active nests will be protected, and a buffer marked out with appropriate fencing (such as Heras fencing), until the young

have fledged. The Ecological Clerk of Works (ECoW) will determine the required buffer area based on species and status of breeding condition.

6 Conclusion

The Breeding Bird Surveys detailed in this report provides information about the species of birds that are likely to use the site for foraging and breeding purposes and the habitats of highest value to them.

- The results of the breeding bird survey are provided in Section 4.
- Potential impacts caused by the development are provided in Section 5.
- Mitigation to be included within the proposed development, including nesting provisions and timescales are outlined in Section 5.2.

7 References

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Appendix 1 – Relevant Legislation and Conservation Status

There are several different acts of legislation and regulations which refer to the protection of wildlife. Legislation with particular relevance to birds is outlined below.

This is a brief summary of the legislation and is not to be regarded as a definitive legal opinion. When dealing with individual cases, the client is advised to consult the full texts of the relevant legislation and obtain further legal advice.

Statutory Legislation

Key legislation for birds in the UK includes:

- Council Directive 79/409/EEC on the conservation of wild birds (the EC Birds Directive); and,
- Wildlife and Countryside Act 1981 (as amended) [WCA].

Annex 1 of the EC Birds Directive lists rare and vulnerable species of regularly occurring or migratory wild birds that are subject to special conservation measures. The Directive also provides for the designation of SPAs for the protection of these species, which form part of the Natura 2000 network of sites protected by European wildlife legislation.

Part 1 of the WCA sets out how the provisions of the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention'), the EC Birds Directive and the EC Habitats Directive are implemented in Great Britain. Under Part 1, Section 1 of the WCA it is an offence to:

- Kill, injure or take any wild bird intentionally;
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built; and,
- Take or destroy the egg(s) of any wild bird.

Schedule 1 of the WCA lists a number of species which, in addition to the provisions listed above, are protected by special penalties at all times, including against disturbance when breeding.

The WCA requires the prosecuting authority to prove that an offence was intentional, however the Countryside and Rights of Way (CROW) Act 2000 strengthens the provisions of the WCA by introducing an additional offence of “reckless” disturbance, which means that ignorance of the presence of a protected species cannot be used as a reliable defence should a breach of the WCA be committed. The Natural Environment and Rural Communities (NERC) Act 2006 strengthens the WCA further with respect to the protection of the nests of certain birds listed on Schedule Z1A, even when they are not in use. The NERC Act also offers additional protection to birds released into the wild as part of a repopulation programme and provides minor amendments to the WCA with respect to captive birds.

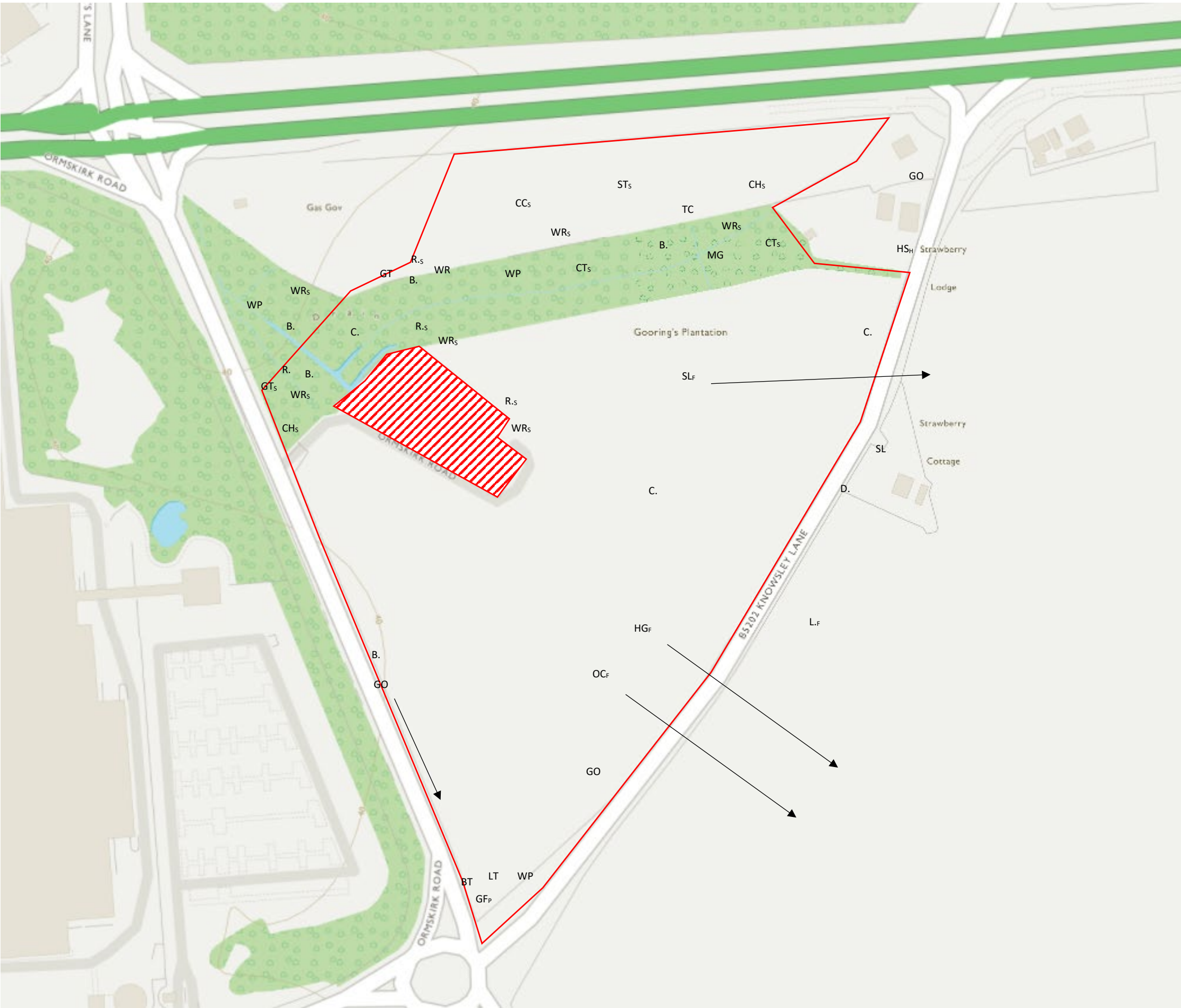
The Environment (Wales) Act 2016 strengthens the duty previously applied under the Natural Environment and Rural Communities Act (2006) placed on planning authorities to have due regard to biodiversity when making decisions. A number of species of bird are listed on the Environment (Wales) Act 2016 Section 7 Priority Species. These are the species found in Wales which were identified as requiring action under the UK Biodiversity Action Plan (BAP) and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. As such, it is targeted for measures necessary to support its conservation status in the UK.

Non Statutory Policy

The RSPB (2009) and Eaton et al. (2009) have published lists of Birds of Conservation Concern (BoCC). Red List species are those whose breeding population or range is rapidly declining (50% or more in the last 25 years), recently or historically, and those of global conservation concern. Amber List species are those whose breeding population is in moderate decline (25 – 49% in the last 25 years), rare breeders, internationally important and localised species and those of unfavourable conservation status in Europe.

These lists confer no legal status; however they are useful when assessing the significance of predicted impacts and determining the level of mitigation that may be required when birds are affected by development or any other activity. Furthermore, inclusion on the Red List is a factor in determining the species which may be added to the list of species of principal importance under the Environment (Wales) Act.

Appendix 2 – Breeding Bird Surveys



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Barn swallow	SW
Blackbird	B.
Blackcap	BC
Blue tit	BT
Carrion crow	C.
Chaffinch	CH
Chiffchaff	CC
Coal tit	CT
Dunnock	D.
Goldfinch	GO
Great tit	GT
Greenfinch	GF
House sparrow	HS
Herring gull	HG
Jay	J.
Lapwing	L.
Long-tailed tit	LT
Magpie	MG
Pheasant	PH
Oystercatcher	OC
Robin	R.
Song thrush	ST
Treecreeper	TC
Whitethroat	WH
Woodpigeon	WP
Wren	WR



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Issue:	01	
Drawn:	JM	Checked: KB Approved: KB
Project:	UG45	Scale @ A:3: NTS Date: 15/07/2021
Dwg No:	UG45_ECO_BBSR_01	01

Appendix 3 – Breeding Status Codes

Non-Breeding

- F Flying over
- M Species observed but suspected to still be on migration
- U Species observed but suspected to be summering non-breeder

Possible breeder

- H Species observed in breeding season in suitable nesting habitat
- S Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat

Probably breeder

- P Pair observed in suitable nesting habitat in breeding season
- T Permanent territory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more part at the same place or many individuals on one day
- D Courtship or display (judged to be in or near potential breeding habitat; be cautious with wildfowl)
- N Visiting probably nest site
- A Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
- I Brood patch on adult examined in the hand, suggesting incubation
- B Nest building or excavating nest-hole

Confirmed breeding

- DD Distraction-display or injury feigning
- UN Used nest or eggshells found (occupied or laid within period of survey)
- FL Recently fledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat
- ON Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest holes, the contents of which cannot be seen) or adults seen incubating
- FF Adult carrying faecal sac or food for young
- NE Nest containing eggs
- NY Nest with young seen or heard

Appendix 4 – Abbreviated Species Code List

Common name	Code
Barn swallow	SW
Blackbird	B.
Blackcap	BC
Blue tit	BT
Carrion crow	C.
Chaffinch	CH
Chiffchaff	CC
Coal tit	CT
Dunnock	D.
Goldfinch	GO
Great tit	GT
Greenfinch	GF
House sparrow	HS
Herring gull	HG
Jay	J.
Lapwing	L.
Long-tailed tit	LT
Magpie	MG
Pheasant	PH
Oystercatcher	OC
Robin	R.
Song thrush	ST
Treecreeper	TC
Whitethroat	WH
Woodpigeon	WP
Wren	WR

Appendix 5 – Nest Box Location Plan



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-  **Tawny owl box**
-  **Kestrel nest box**
-  **Open-fronted box**
-  **House sparrow box**

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G R E E N

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Issue:
01

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Project: UG45	Scale @ A3: NTS	Date: 15/07/2021
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Dwg No: UG_45_ECO_BSR_01	01
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