

Cardiff Parkway Developments Ltd  
**Cardiff Hendre Lakes**  
2017 Breeding Bird Survey Report

Environmental Statement Appendix 7.16

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 252199

**Ove Arup & Partners Ltd**  
63 St Thomas Street  
Bristol BS1 6JZ  
United Kingdom  
[www.arup.com](http://www.arup.com)

**ARUP**

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# 1 Introduction

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Ove Arup & Partners Ltd has been commissioned by Cardiff Parkway Developments Ltd to undertake a range of consultancy services for the proposed new station at St. Mellons on the Bristol to South Wales railway line.

This report provides information to inform the development of the project; it determines the presence breeding birds within the site, to inform any additional survey or mitigation measures that may be required. The report also details other species incidentally recorded during the surveys.

## 1.1 Project Background

Cardiff Parkway Developments Ltd are proposing to develop a scheme that is an employment led development including a new railway station and park & ride facility. The site, centred on National Grid Reference (NGR) ST251808, and surrounding area are shown on Figure 1.

The site currently consists of predominantly arable and pastoral farming on the western edge of St. Mellons. The site's field boundaries are formed by hedge and tree lines with reens throughout. There is a lake, recreational grassland and woodland to the west of the site. The wider landscape comprises residential and commercial properties, and broad-leaved woodland to the north and west. To the south the land is bisected by the railway line with further neighbouring agricultural land. To the east there is agricultural land.

An extended Phase 1 habitat survey was undertaken in January 2017<sup>1</sup> to establish the habitats present on site and to assess the potential for legally protected species to be present. As a result of that survey and a desk study of available records, it was considered that there was the potential for bird species to be present nesting within the site and therefore detailed species-specific surveys were required.

## 1.2 Aims and Objectives

This report presents the baseline survey results recorded during breeding bird surveys undertaken in 2017. The breeding bird surveys were conducted with the following objectives:

- To gain an understanding of the breeding bird assemblage present using a transect survey methodology within representative habitats within the study area, assessing the species present and relative abundance within different habitat types;
- To highlight any key species of particular conservation value that may influence the design of the project.

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<sup>1</sup> Arup (2017) Cardiff Hendre Lakes | 2017 Extended Phase 1 Habitat Survey Report



- To provide a sufficient information to inform the assessment of impacts on dormice from the proposed development as part of the Environmental Impact Assessment.

### 1.3 Relevant Legislation & Biodiversity Framework

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981(as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs.

In addition, bird species listed under Schedule 1 of the Act receive extra protection. The Act states that ‘it is an offence to intentionally or recklessly disturb any wild bird listed in Schedule 1 while it is nest building, or at (or near) a nest containing eggs or young or disturb the dependent young of such a bird’.

Some bird species are listed as features of European designated sites, notably Special Protection Areas (SPAs) and Ramsar sites. European Sites are afforded protection in relation to development through the provisions of the Conservation of Habitats and Species Regulations 2017. As a result, appropriate consideration needs to be made of the potential effects on the populations of birds which are features of SPAs or Ramsar sites caused by development plans or projects. Birds can also be listed as features of nationally statutory designated sites, notably Sites of Special Scientific Interest (SSSI).

Section 6 of the Environment (Wales) Act 2016 includes a duty on all public authorities to “seek to maintain and enhance biodiversity” so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to “promote the resilience of ecosystems”. This duty applies to government bodies, local authorities and statutory undertakers.

To assist in complying with this duty, public authorities must have regard to relevant evidence provided in the State of Natural Resources Report and any relevant area statement for an area in which the authority exercises functions, as well as having regard to the list of living organisms and habitats published under Section 7 of the Act. Species and habitats listed on Section 7 are considered to be of principal importance for the conservation of biological diversity.

Local Biodiversity Action Plans (LBAPs) continue to provide a list of habitats and species of conservation significance for their relevant area. Particular attention has been paid to the Cardiff LBAP<sup>2</sup> and the Species Action Plans listed within this, which includes two species of bird (hawfinch *Coccothraustes coccothraustes* and pied flycatcher *Ficedula hypoleuca*).

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<sup>2</sup> Cardiff Council, 2008. Cardiff Local Biodiversity Action Plan.

## 1.4 Conservation Status of Birds

The conservation status of birds in the UK is set out in Birds of Conservation Concern <sup>3</sup> in which birds are classified in three lists described as follows:

- Red List: species that are globally threatened, whose population or range has declined rapidly in recent years, and those whose populations have declined historically and not exhibited any signs of recovery. Species that have experienced a population decline of >50%;
- Amber List: species with an unfavourable conservation status in Europe, whose populations have declined moderately in recent years, including species that show a historical decline but whose populations have shown a substantial increase, species that are rare, with localised populations and those species of international importance with UK populations and species that have experienced a population decline or breeding range decline of 25% to 49%; and,
- Green list: All regularly occurring species that do not qualify under any of the Red or Amber criteria are green listed. The Green list also includes those species listed as recovering from historical decline in the last review that have continued to recover and do not qualify under any of the other criteria.

The Population Status of Birds in Wales <sup>4</sup> sets out the revised population status of birds regularly found in Wales, assessing their status on data specific to Wales, where possible.

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<sup>3</sup> Eaton, M. A. (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 108, 708 - 746.

<sup>4</sup> Johnstone, I., & Bladwell, S., 2016. Birds of Conservation Concern in Wales 3: the population status of birds in Wales. *Welsh Birds* 13: 3-31.

## 2 Methodology

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### 2.1 Desk Study

A desk study has been undertaken and reported in the Extended Phase 1 Habitat Survey. Protected and notable species, and non-statutory site data within 2km were obtained from South East Wales Biodiversity Records Centre (SEWBRcC). Online searches for statutory designated sites within 5km for European sites and 2km for national sites from the site centre were carried out using the Multi Agency Geographic Information Centre (MAGIC)<sup>5</sup> website.

### 2.2 Survey Methods

The survey methods were derived from current best practice as described in Bird Census Techniques<sup>6</sup> and Bird Monitoring Methods<sup>7</sup>, and conform to the recommendations of the Royal Society for the Protection of Birds (RSPB), the British Trust for Ornithology (BTO) and the Joint Nature Conservation Committee (JNCC). Surveys consisted of walking pre-defined transect routes in all accessible habitat types, as described within the Breeding Bird Survey methodology contained within the above references. The survey transect route is shown on Figures 2 – 7.

All breeding bird surveys were carried out by a team of two surveyors, with at least one experienced in undertaking ornithological survey work and able to identify birds by calls and songs, as well as visually. The transect route was walked at a slow pace, pausing briefly at intervals to listen for song and to scan for birds flying overhead or taking flight from the surrounding area. All birds seen and heard were mapped in accordance with the BTO standard activity recording codes.

Survey results were captured using tablet devices in order to improve data collection efficiency and mapping precision, and include details of weather data, species present, numbers of individuals and their behaviour.

Survey were undertaken on three occasions in April, May and June 2017, with at least two weeks between surveys. The transect route was walked in the morning, between dawn and 10am, when levels of avian activity (particularly singing) are likely to be at their highest. On one of the three visits the routes were walked in the opposite direction to the previous visit, to balance any temporal variation in behaviour levels.

Birds were considered to be breeding where they were recorded if any of the following applied:

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<sup>5</sup> MAGIC. <http://magic.defra.gov.uk/> Accessed online 24/10/17.

<sup>6</sup> Bibby, B. B. (2000). *Bird Census Techniques*. London: Academic Press.

<sup>7</sup> Gilbert, G. G. (1998). *Bird Monitoring Methods: A manual of techniques*. Bedfordshire: RSPB.

- Birds were heard singing with habitat suitable for that species to breed within;
- A pair of birds were recorded in or near habitat suitable for that species to breed within;
- Birds exhibited territorial behaviour *e.g.* displaying or prolonged agitation;
- Birds were seen carrying food, nest material or the faecal sacs of young; or
- Nests, eggs and/or young were found to be present.

Where breeding signs were recorded, it is assumed that a 'breeding pair' was present and this term is used from this point forward within this report. However, professional judgement was used when determining whether a species was likely to have bred within the site based on species distributions and local abundance as well as anthropogenic effects such as nesting disturbance from roads, public rights of way and grazing animals.

Determination of the number of breeding pairs on site is reported as a range, reflecting the precautionary approach adopted given multiple registrations or signs of breeding across survey visits within suitable breeding habitat.

## 2.3 Transect Selection

The transect route was devised in order to encompass a range of representative habitats on site which had the potential to support breeding birds. Primary predominant habitats for selection included woodland, scrub, waterbodies and grasslands, including edge habitat.

The transect did not cover the entirety of all breeding bird habitat on site, given the size of the site. The number of breeding birds reported on site may therefore be an under-estimation. No attempt has been made to extrapolate the number of breeding birds present outside of the transect area, given the number of variables associated with breeding, *e.g.* territory size and habitat quality.

The total length of the transect route was 14.5km (Figures 2-7). The transect route was not continuous given the nature of the site, containing numerous impassable reens and being bisected by a railway.

## 2.4 Reporting Methods

The data gathered during field survey work has been displayed on Figures 2-7, combining that obtained from each survey visit in order to reveal patterns of breeding bird activity. Figures 8 and 9 shows the likely territory locations of breeding birds, based upon the criteria in Section 2.2.1. These results are then discussed within the Results section of this report. Results are discussed in the following order:

- An initial overview of all results gathered, including total species recorded within the study area;

- Results are then discussed in relation to the conservation status of the birds present and whether they are considered to be within the Zone of Influence<sup>8</sup> with regards to potential impacts of protected site populations, namely:
  - Individual breeding features of the SPA/Ramsar site with a Zone of Influence considered to be 5 km from the designated site boundary. Species designated as winter features are not considered in this report and are to be discussed in the winter bird survey report (surveys ongoing);
  - Breeding bird features of SSSI with a Zone of Influence considered to be 2km from the designated site boundary;
  - Breeding birds listed on Schedule 1 of the Wildlife and Countryside Act 1981;
  - Other species which are Red or Amber listed within Birds of Conservation Concern 4 (BoCC3)<sup>1</sup> and The Population Status of Birds in Wales 3<sup>3</sup>, but not included in the above groups; and,
  - A summary of Section 7 species of principal importance.

## 2.5 Evaluation

Notable bird species are those which are listed on:

- Annex 1 of the Birds Directive;
- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
- Section 7 of the Environment (Wales) Act 2006 (species of principal importance);
- Birds of Conservation Concern 4 (UK Red and Amber List species);
- The Population Status of Birds in Wales 3 (Welsh Red and Amber List species);
- Cardiff Local Biodiversity Action Plan; and
- The Gwent Ornithological Society county list<sup>9</sup> reports the status of breeding resident birds as either “abundant”, “common”, “fairly common”, “locally common”, “uncommon”, “scarce”, “rare” or “very rare”.

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<sup>8</sup> The ‘zone of influence’ for a project is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond site boundaries. Determining the zone of influence of the project and which important ecological features could be significantly affected is a key activity of the Scoping process (taken from CIEEM, 2016 – Chartered Institute of Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater and Coastal (Second edition January 2016)).

<sup>9</sup> <http://www.gwentbirds.org.uk/index.php/county-list/county-list> Accessed online 18/01/2018.

Breeding birds of importance in South Wales were determined based upon the *Guidelines for the Selection of Wildlife Sites in South Wales* selection criteria for Wildlife Sites of county importance<sup>10</sup>.

## 2.6 Limitations and Assumptions

Given that surveys were undertaken on three occasions a precautionary approach has been taken when assuming likely breeding of species. When any bird was recorded showing signs of breeding as defined above, it was assumed to represent a likely breeding attempt. This may have led to over-estimation of likely breeding numbers on the transect if any such birds were on migration, but this precautionary approach is considered appropriate given the spacing of the survey effort.

It should be stressed that the transects were not located within well-known key migration areas and therefore most/all birds recorded were considered likely to be breeding locally. Furthermore, most migrant species should not have been present by the second survey at least.

The breeding bird surveys were carried out at appropriate times of the year and weather conditions on all visits were considered suitable. The dates of the surveys and weather conditions are shown in Appendix A.

The findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of species, such as weather conditions, migration patterns and behaviour.

Nevertheless, these surveys were conducted at the optimal survey periods. Every effort has been made to ensure that the findings of the study present as accurate an interpretation as possible of the status of breeding birds within the study area.

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<sup>10</sup> The South Wales Wildlife Sites Partnership, 2004. Guidelines for the Selection of Wildlife Sites in South Wales.

## 3 Results

### 3.1 Desk Study

#### 3.1.1 Designated Sites

The search using MAGIC highlighted two European sites and three national statutory designated sites within 5km and 2km of the site boundary. Table 1 identifies the statutory designated sites within the search area.

Table 1. Statutory designated sites within 5km and 2km, for European and national sites, respectively.

Site Name	Location and Approximate Distance	Reason for Notification
European level Designated Sites		
Severn Estuary Ramsar	1.1km south	<p>Designated for:</p> <p>Assemblages of international importance:</p> <ul style="list-style-type: none"> <li>- Species with peak counts in winter (waterfowl) (Ramsar criterion 5).</li> </ul> <p>Species/populations occurring at levels of international importance with peak counts in winter (Ramsar criterion 6).</p> <p>Bewick's swan <i>Cygnus columbianus bewickii</i>, white-fronted goose <i>Anser albifrons</i>, shelduck <i>Tadorna tadorna</i>, gadwall <i>Mareca strepera strepera</i>, dunlin <i>Calidris alpina alpina</i> and redshank <i>Tringa totanus</i>.</p> <ul style="list-style-type: none"> <li>- Future species for consideration:</li> </ul> <p>During the breeding species: lesser black-backed gull <i>Larus fuscus graelsii</i>.</p> <p>With peak counts in spring/autumn: ringed plover <i>Charadrius hiaticula</i>.</p> <p>With peak counts in winter: teal <i>Anas crecca</i> and pintail <i>Anas acuta</i>.</p>
Severn Estuary SPA	1.1km south	<p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:</p> <p>Over winter Bewick's swan <i>Cygnus columbianus bewickii</i>.</p> <p>This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>On passage ringed plover <i>Charadrius hiaticula</i>.</p> <p>Over winter: curlew <i>Numenius arquata</i>, dunlin, pintail, redshank and shelduck.</p> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl over winter, including gadwall, shelduck, pintail, dunlin, curlew, redshank, Bewick's swan, wigeon <i>Mareca penelope</i>, lapwing <i>Vanellus vanellus</i>, teal, mallard <i>Anas platyrhynchos</i>, shoveler <i>Anas clypea</i>, pochard <i>Aythya farina</i>, tufted duck <i>Aythya fuligula</i>,</p>



Site Name	Location and Approximate Distance	Reason for Notification
		grey plover <i>Pluvialis squatarola</i> , white-fronted goose and whimbrel <i>Numenius phaeopus</i> .
Nationally designated sites <sup>11</sup>		
Gwent Levels – Rumney and Peterstone SSSI	Within site boundary	The Gwent Levels constitute the lowlands between Cardiff and Chepstow and are designated only for plants and invertebrates.
Severn Estuary SSSI	1.1km south	The Severn Estuary lies on the south west coast of Britain at the mouth of four major rivers (the Severn, Wye, Usk and Avon) and many lesser rivers. The immense tidal range (the second highest in the world) and classic funnel shape make the Severn Estuary unique in Britain and very rare worldwide. The intertidal zone of mudflats, sand banks, rocky platforms and saltmarsh is one of the largest and most important in Britain. The estuarine fauna includes: internationally important populations of waterfowl. The SSSI is of international importance for wintering and passage wading birds, with total winter populations averaging about 44,000 birds. Numbers can be considerably higher during severe winters when owing to its mild climate, the Severn supports wader populations that move in from the colder coasts of Britain. Species include curlew, redshank, ringed plover and grey plover. Other waders include snipe <i>Gallinago gallinago</i> , knot, whimbrel and turnstone. In late winter and early spring the SSSI supports nationally important numbers of shelduck, following the partial dispersal from their moulting grounds in Bridgewater Bay. Wigeon numbers are also significant.
Gwent Levels – St. Brides SSSI	1.3km east	The information above (for the Gwent Levels – Rumney and Peterstone SSSI) is applicable here with regards to the general ecology of the Gwent Levels SSSI.

### 3.1.2 Bird Records

SEWBRc provided a large volume of bird data (7914 records) pertaining to both Schedule 1 species<sup>12</sup> and species of principal importance<sup>13</sup>.

With regards to Schedule 1 species, a number of species were recorded from within the 2km search area from SEWBRc: kingfisher, garganey, scaup *Aythya*

<sup>11</sup> Further detail on the full citation is reported within the Phase 1 report; only the relevant text regarding birds is included (Arup, 2017. Extended Phase 1 Habitat Survey Report)

<sup>12</sup> Schedule 1 species of the Wildlife and Countryside Act 1981 (as amended).

<sup>13</sup> The UK level Biodiversity Action Plan (UKBAP) no longer exists, having been replaced by the UK Post-2010 Biodiversity Framework which focuses on the four individual countries of the United Kingdom and Northern Ireland. Priority species and habitats for Wales are now listed under Section 7 of the Environment (Wales) Act 2006. Local Biodiversity Action Plans (LBAPs) continue to provide a list of species and habitats of conservation significance for their relevant area. The Section 7 list is used to guide decision-makers such as public bodies, including local and regional authorities to have regard to the conservation of biodiversity in Wales, when carrying out their normal functions.



*marila*, bittern, Lapland bunting, ruff *Calidris pugnax*, Cetti's warbler, little ringed plover *Charadrius dubius*, black tern *Chlidonias niger*, marsh harrier *Circus aeruginosus*, corncrake, Bewick's swan, whooper swan *Cygnus cygnus*, merlin *Falco columbarius*, peregrine *Falco peregrinus*, hobby *Falco subbuteo*, brambling *Fringilla montifringilla*, little gull *Hydrocoleus minutus*, Mediterranean gull *Larus melanocephalus*, black-tailed godwit *Limosa limosa*, woodlark, common scoter *Melanitta nigra*, red kite *Milvus milvus*, whimbrel, osprey *Pandion haliaetus*, honey-buzzard *Pernis apivorus*, black redstart *Phoenicurus ochruros*, snow bunting *Plectrophenax nivalis*, avocet *Recurvirostra avosetta*, firecrest *Regulus ignicapilla*, greenshank *Tringa nebularia*, green sandpiper *Tringa ochropus*, redwing *Turdus iliacus*, fieldfare *Turdus pilaris* and barn owl *Tyto alba*.

Species of principal importance found within the 2km search area include: lesser redpoll *Acanathis cabaret*, skylark *Alauda arvensis*, kingfisher *Alcedo atthis*, garganey *Anas querquedula*, tree pipit *Anthus trivialis*, bittern *Botaurus stellaris*, dark-bellied brent goose *Branta bernicla bernicla*, Lapland bunting *Calcarius lapponicus*, ringed plover *Charadrius dubius*, black-headed gull *Chroicocephalus ridibundus*, hen harrier *Circus cyaneus*, hawfinch *Coccothraustes coccothraustes*, corncrake *Crex crex*, cuckoo *Cuculus canorus*, Bewick's swan *Cygnus columbarius bewickii*, lesser spotted woodpecker *Dendrocopos minor*, yellowhammer *Emberiza citronella*, reed bunting *E. schoeniculus*, kestrel *Falco tinnunculus*, pied flycatcher *Ficedula hypoleuca*, linnet *Linaria cannabina*, twite *L. flavirostris*, grasshopper warbler *Locustella nivalis*, woodlark *Lullula arborea*, yellow wagtail *Motacilla flava*, spotted flycatcher *Muscicapa striata*, curlew *Numenius arquata*, whimbrel *N. phaeops*, nightjar *Caprimulgus europaeus*, house sparrow *Passer domesticus*, grey partridge *Perdix perdix*, golden plover *Pluvialis apricaria*, dunnoek *Prunella modularis*, bullfinch *Pyrrhula pyrrhula*, turtle dove *Streptopelia turtur*, starling *Sturnus vulgaris*, song thrush *Turdus philomelos*, ring ouzel *T. torquatus* and lapwing *Vanellus vanellus*.

## 3.2 Field Surveys

### 3.2.1 Summary of Results

Full survey results are shown on Figures 2 – 9. The results table in Appendix B collates all results, showing the species recorded from the three visits, and the likely number of breeding pairs on site. The survey transect route is shown on Figures 2-7.

A total of 59 species were recorded during the three breeding bird surveys across April to June. 36 species were considered to have bred on site.

No species were recorded on site during the breeding season, which are listed as qualifying features of nearby designated SPA and Ramsar sites. Lesser black-backed gulls *Larus fuscus* were recorded on site, however are only considered for future consideration on the Severn Estuary Ramsar site.

Only shelduck was noted on site which is listed as both a wintering and passage species of the Severn Estuary SSSI.

One species, Cetti's warbler, was recorded that is included on Schedule 1 of the Wildlife and Countryside Act 1981.

A total of seven bird species were recorded that are placed on the UK Red List and six species that are recorded on the Welsh Red List. Twelve species were recorded on the UK Amber List and eighteen species on the Welsh Amber List. The remaining species are Green Listed. Nine species of principal importance were recorded.

No species were recorded, which are listed on the Cardiff LBAP. Five species were listed as of County Importance, with regards to the designation of Wildlife Sites. One species was recorded as being uncommon or rarer, with regards to the Gwent Ornithological Society's county status.

Results are now discussed in detail by conservation status.

### 3.2.2 Results by Conservation Status

#### 3.2.2.1 SPA/Ramsar Features

Shelduck and mallard were observed on site, however they are only considered as winter features of the Severn Estuary SPA and Ramsar and are not considered further in this report. Lesser black-backed gulls *Larus fuscus*, which were recorded twice (a flock of 15 in a field to the south and a flight of two individuals across the south of the site) are noted as a breeding species for future consideration on the Severn Estuary Ramsar site.

#### 3.2.2.2 SSSI Features

Only shelduck was noted on site which is listed as both a wintering and early spring species of the Severn Estuary SSSI.

#### 3.2.2.3 Schedule 1 Species

It is estimated that there are between 13 and 20 breeding pairs of Cetti's warbler *Cettia cetti* at the site.

#### 3.2.2.4 Red and Amber List Species

A total of seven bird species were recorded that are placed on the UK Red List. These are discussed individually below:

1. Herring gull *Larus argentatus*, a flock of ten seen in May in fields to the south. Birds are likely to use the site for foraging. Breeding does not occur on site.
2. House sparrow, seen in all months predominantly around Hendre Lake and associated with the residential area. Birds were also observed in lesser numbers to the north-west and north-east of the site. One to two pairs are assumed to be breeding on site.

3. Linnet, observed in all months across the site with a flock of 20 in June foraging in fields. Breeding is assumed to not occur on site.
4. Mistle thrush *Turdus piscivorus*, a single observation of a pair in May. Given the habitat on site breeding is likely to occur.
5. Skylark, two registrations of two single birds in song from a field in the north and south of the site. Breeding is assumed likely, given the habitat on site. Two pairs are assumed.
6. Song thrush, observations of birds across the site with most focussed in the northern section, associated with woodland and scrub. Breeding is assumed likely, given the habitat on site. Eight pairs are assumed on site.
7. Starling, numerous observations across the site including a flock of 50 in April in a northern field. Birds were noted to forage on site and then fly westwards to residential areas carrying food. Breeding is however assumed to not occur on site,

A total of six bird species were recorded that are placed on the Welsh Red List<sup>7</sup>. These are discussed individually below:

1. Bullfinch, two registrations noted; one a calling bird to the north of the site and the other of a calling bird around Hendre Lake. Breeding is assumed to not occur on site.
2. Whitethroat *Sylvia communis*, numerous observations across the site. Breeding is confirmed on site given the observations of an individual carrying food. Twenty to twenty-four pairs are assumed on site.
3. Herring gull, as above.
4. Linnet, as above.
5. Starling, as above.
6. Willow warbler *Phylloscopus trochilus*, numerous observations predominantly to the east of Hendre Lake across the site, associated with the scrub habitat. Breeding is assumed likely, given the habitat on site. Four to nine pairs are assumed.

A total of 12 bird species were recorded that are placed on the UK Amber List. These are discussed individually below:

1. Dunnock, numerous observations across all three months from across the site. Observations concentrated to the west of the site, associated with the woodland and scrub habitat. Breeding is assumed likely on site, given the habitat. Twelve to fifteen pairs are assumed.
2. Greylag goose *Anser anser*, two observations in May: four individuals were recorded on Hendre Lake and one hybrid Canada x Greylag goose was noted to the east of Hendre Lake. Breeding is not likely to occur on site.

3. Mallard *Anas platyrhynchos*, numerous records across the site in all three months. Breeding is confirmed on site, given the presence of young on site. Six to nine pairs are assumed.
4. Mute swan *Cygnus olor*, recorded in April and June with breeding confirmed on site on the large reed running north-south into Hendre Lake. One to two pairs are assumed on site.
5. Reed bunting, numerous records in May and June in habitat associated with reedbeds. Breeding confirmed on site, from an observation of an individual carrying nest material. Four to five pairs are assumed.
6. Swift *Apus apus*, two observations of birds flying near Hendre Lake in May and June. Breeding is not assumed to occur on site.
7. House martin *Delichon urbicum*, small flocks observed flying over the site, presumably foraging. Breeding is not assumed to occur on site.
8. Jay *Garrulus glandarius*, one individual flew over the north of the site in May. Breeding is not assumed to occur on site.
9. Bullfinch, as above.
10. Shelduck, as above.
11. Lesser black-backed gull, as above.
12. Willow warbler, as above.

A total of 18 bird species were recorded that are placed on the Welsh Amber List. These are discussed individually below:

1. Coal tit *Periparus ater* a single observation of a juvenile on site to the north in June. Breeding is assumed to not occur on site.
2. Coot *Fulica atra*, four sight records including a pair, on Hendre Lake. Breeding is assumed likely on site, given the habitat. One pair is assumed to breed on site.
3. Cormorant *Phalacrocorax carbo*, a single sighting of an individual on Hendre Lake in June. Breeding is assumed to not occur on site.
4. Garden warbler *Sylvia borin*, a single observation of a singing male in a wet woodland to the south of the site. Breeding is assumed likely on site, given the habitat.
5. Goldcrest *Regulus regulus*, four singing males in woodland habitat. Breeding is assumed likely on site, given the habitat. Four pairs are assumed on site.
6. Grey heron *Ardea cinerea*, five sight records with a maximum of two individuals observed, to the west of the site. Breeding is assumed to not occur on site.
7. Greenfinch *Chloris chloris*, four observations of birds on site, comprising three singing males to the west of the site in April. Breeding

is assumed likely on site, given the habitat. Three pairs are assumed to breed on site.

8. Long-tailed tit *Aegithalos caudatus*, four observations of birds on site, including singing males and juveniles in attendance. Breeding is assumed likely on site, given the habitat. One to two pairs are assumed on site.
9. Swallow *Hirundo rustica*, observations of small flocks (maximum 10 individuals) in May and June. Presumably foraging on site. Breeding is assumed to not occur on site.
10. House sparrow, as above.
11. Lesser black-backed gull
12. Mallard, as above.
13. Mute swan, as above.
14. Reed bunting, as above.
15. Shelduck, as above.
16. Skylark, as above.
17. Song thrush, as above.
18. House martin, as above.

### 3.2.2.5 Species of Principal Importance

There are nine species of principal importance that were recorded on site. The aforementioned species are also included on the UK and/or Welsh Red or Amber list<sup>7</sup> and have been described in previous sections.

Species of principal importance recorded on site include: bullfinch, dunnoek, herring gull, house sparrow, linnet, reed bunting, skylark, song thrush and starling.

### 3.2.2.6 Cardiff Species Action Plan

No species were recorded that have a Species Action Plan within the Cardiff LBAP.

### 3.2.2.7 Species of County Importance

Using the Guidelines for the Selection of Wildlife Sites in South Wales five species were observed on site, which are considered to be of conservation significance. Cetti's warbler was the only species of breeding bird on site of such significance to allow the designation of a Wildlife Site. Species which would contribute to that designation which were recorded potentially breeding on site include reed bunting, skylark, house sparrow and song thrush.

### 3.2.2.8 Gwent Ornithological Society County Status

Using the county status of breeding birds assigned to just “uncommon”, “scarce”, “rare” or “very rare” the following species were recorded potentially breeding on site: lesser whitethroat, an uncommon summer visitor.

## 4 Conclusions

---

A total of 56 species were recorded during the breeding bird surveys between April and June 2017. 36 of the total 56 species (64 %) were considered to be likely breeding on site, based upon their behaviour.

One species, Cetti's warbler, was recorded that is included on Schedule 1 of the Wildlife and Countryside Act 1981. It is estimated that there are between 13 and 20 breeding pairs on site. Cetti's warblers are a resident, common species in wetlands<sup>9</sup>, with the population considered to be of local importance.

A total of seven bird species were recorded that are placed on the UK Red List and six species that are recorded on the Welsh Red List. Twelve species were recorded on the UK Amber List and eighteen species on the Welsh Amber List. The remaining species are Green Listed. Nine species of principal importance were recorded.

No species were recorded, which are listed on the Cardiff LBAP.

One species was recorded as being uncommon or rarer, with regards to the Gwent Ornithological Society's county status. Five species were listed as of County Importance, with regards to the designation of Wildlife Sites. The value of the site is such that it could be considered for selection as a county Wildlife Site given the presence of breeding birds of conservation significance (Cetti's warbler), and possibly due to the presence of populations of species that collectively contribute towards site designation (although the exact number of species is unquantified).

In general, the species recorded on site are a typical assemblage of breeding birds associated with agricultural land, woodland, scrub and wetlands.

The most important habitat for breeding birds on site is deemed to be Hendre Lake, the western scrub/woodland and the numerous reens, reedbeds and hedges. These are considered the most important due to the high density of notable species and breeding territories in these locations.

It should be noted that this breeding bird survey did not include specific searches for species that are typically crepuscular or nocturnal, notably owls. Barn owl, a Schedule 1 species on the Wildlife and Countryside Act 1981, has been recorded previously within 2km of the site. Nevertheless, no suitable nesting locations have been identified for barn owl on site. Consideration should be given to barn owl should any trees be subsequently identified as potentially suitable (such as following storm damage).

## 5 Recommendations

---

The presence of wintering birds using the site as features of designated sites, i.e. Severn Estuary SPA/Ramsar, will be the focus of wintering bird surveys over the winter of 2017/2018. Impacts to designated sites from the proposed works will be discussed fully in the Environmental Statement to support the planning application following appropriate guidelines<sup>14</sup>.

It is recommended that during the design process habitat retention, protection and if necessary replacement and enhancement measures are implemented. Opportunities should be sought by the during the design process to specifically enhance habitats of importance for notable bird species, e.g. reedbeds, reens, woodland etc.

Furthermore, standard construction mitigation should be adopted following best practice guidance, in particular avoiding vegetation clearance when birds are most likely to be nesting (between March and August), where possible. If this is not possible, then an ecologist who is experienced in searching for bird nests will be required to provide advice about how and when vegetation clearance should take place.

---

<sup>14</sup> Chartered Institute of Ecology and Environmental Management (CIEEM), 2016. Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal. Second Edition. CIEEM, Winchester.



## Figures

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Figure 1. Statutory designated sites for European and national sites within 5km and 2km of the site boundary, respectively.

Figure 2. Breeding bird survey results from April (North).

Figure 3. Breeding bird survey results from April (South).

Figure 4. Breeding bird survey results from May (North).

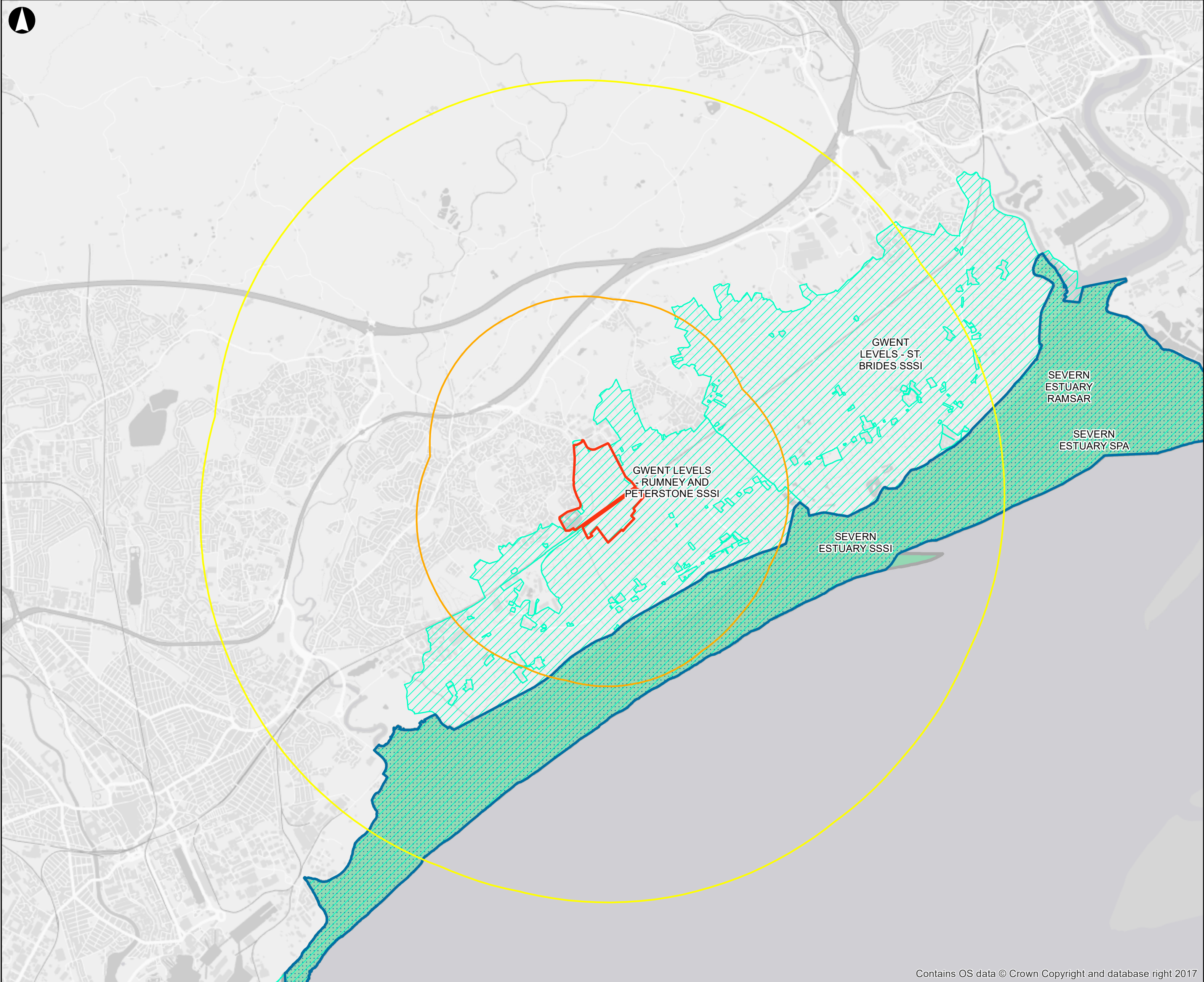
Figure 5. Breeding bird survey results from May (South).

Figure 6. Breeding bird survey results from June (North).

Figure 7. Breeding bird survey results from June (South).

Figure 8. Likely territory locations of breeding Red and Amber listed birds of conservation concern (North).

Figure 9. Likely territory locations of breeding Red and Amber listed birds of conservation concern (South).

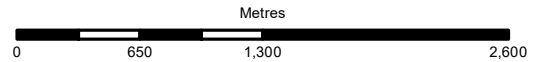


Legend

- Site Boundary
- Red Line Boundary - 2km Buffer
- Red Line Boundary - 5km Buffer
- Statutory Sites
  - Special Protection Areas (SPA)
  - Sites of Special Scientific Interest (SSSI)
  - Ramsar

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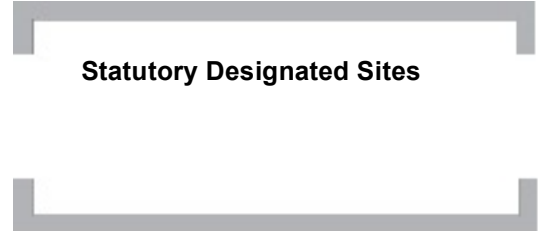
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Issue	Date	By	Chkd	Appd



ARUP

Client  
**Cardiff Parkway Developments Ltd**

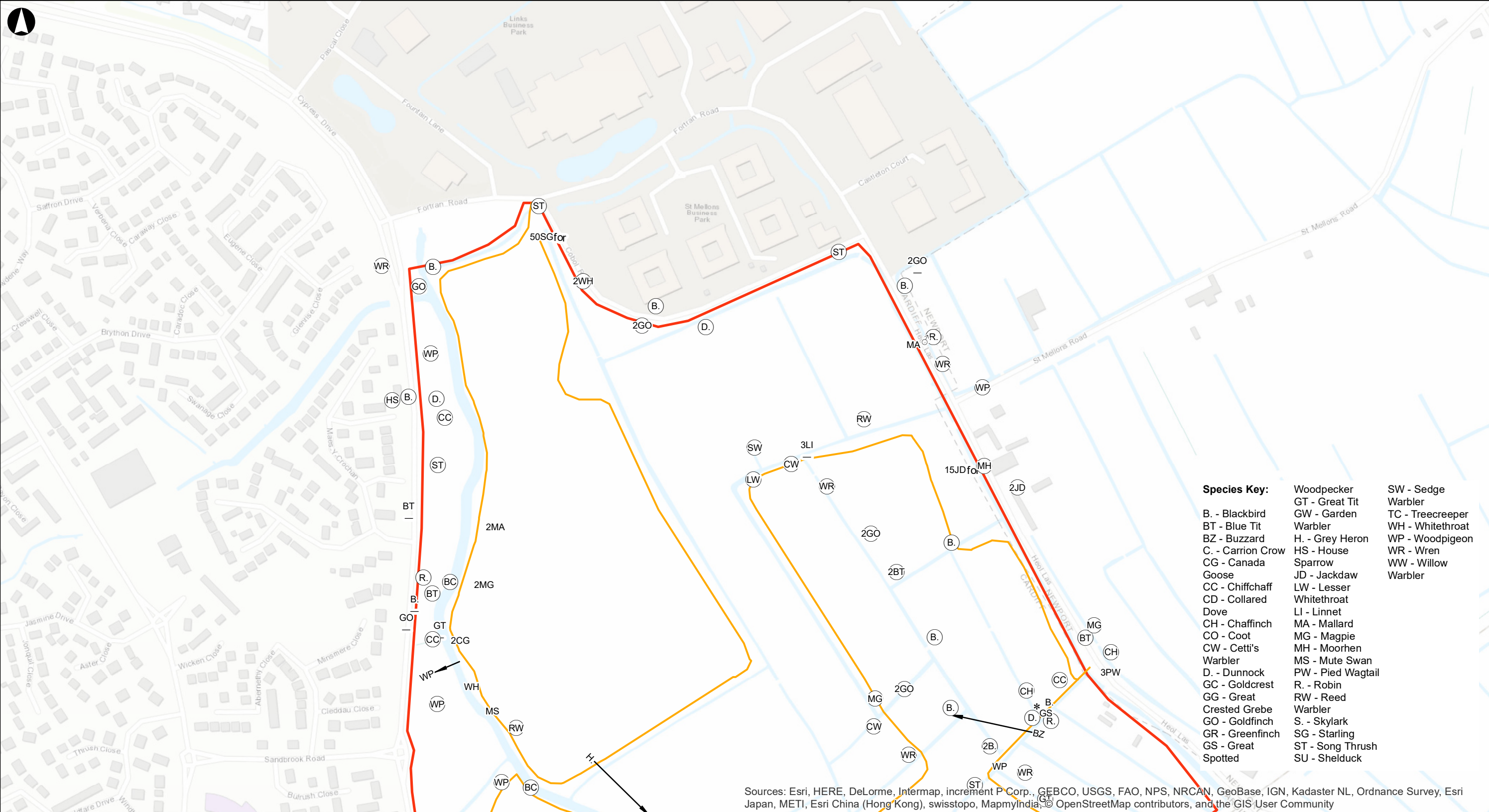
Job Title  
**Cardiff Hendre Lakes**



Scale at A3  
**1:50,000**

Job No <b>252199</b>	Drawing Status <b>For Issue</b>
Drawing No <b>001</b>	Issue <b>F1</b>





Site Boundary

BBS Transect

Calling

Foraging

Juvenile

Male

Occupier Nest

Sight record of a pair

In song

Male in flight

Flight

R.Flying in and landing, first seen in flight

Perched bird flying away not seen to land

F2

2017-10-17

FH

AC

PC

Issue

Date

By

Chkd

Appd

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(T) +441179765432 (F) +4411797635433

0200200

Metres

Client

Cardiff Parkway Developments Ltd.

Job Title

Cardiff Hendre Lakes

Breeding Bird Survey - April (North)

Scale at A3

1:4,000

Job No

252199-00

Drawing Status

For Issue

Drawing No

002

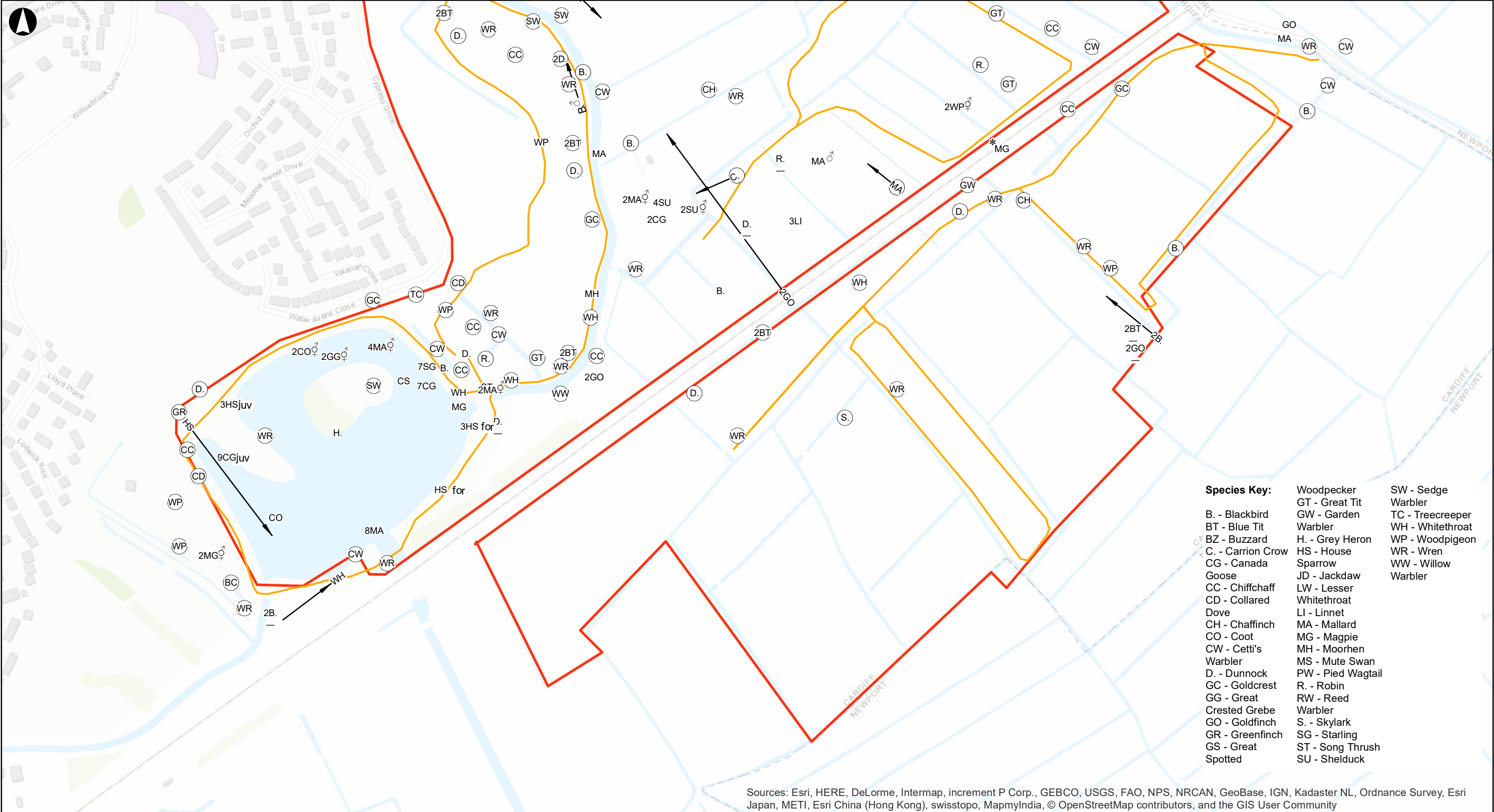
Issue

F2

I:\Global\Europe\Bristol\Jobs\252xxx\252199-00\4\_30\_Drgs\2\_GIS\04\_Map Documents\ENV\_Environment\BBS\_V2.mxd

© Arup





Legend

- Site Boundary
- BBS Transect

Behaviour

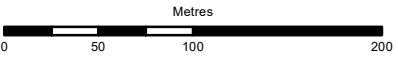
- Calling
- Foraging
- Juvenile
- Male
- Occupier Nest
- Sight record of a pair
- In song
- Male in flight
- Flight
- R.Flying in and landing, first seen in flight
- Perched bird flying away not seen to land

F2	2017-06-08	FH	AC	PC
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Issue	Date	By	Chkd	Appd
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Job Title

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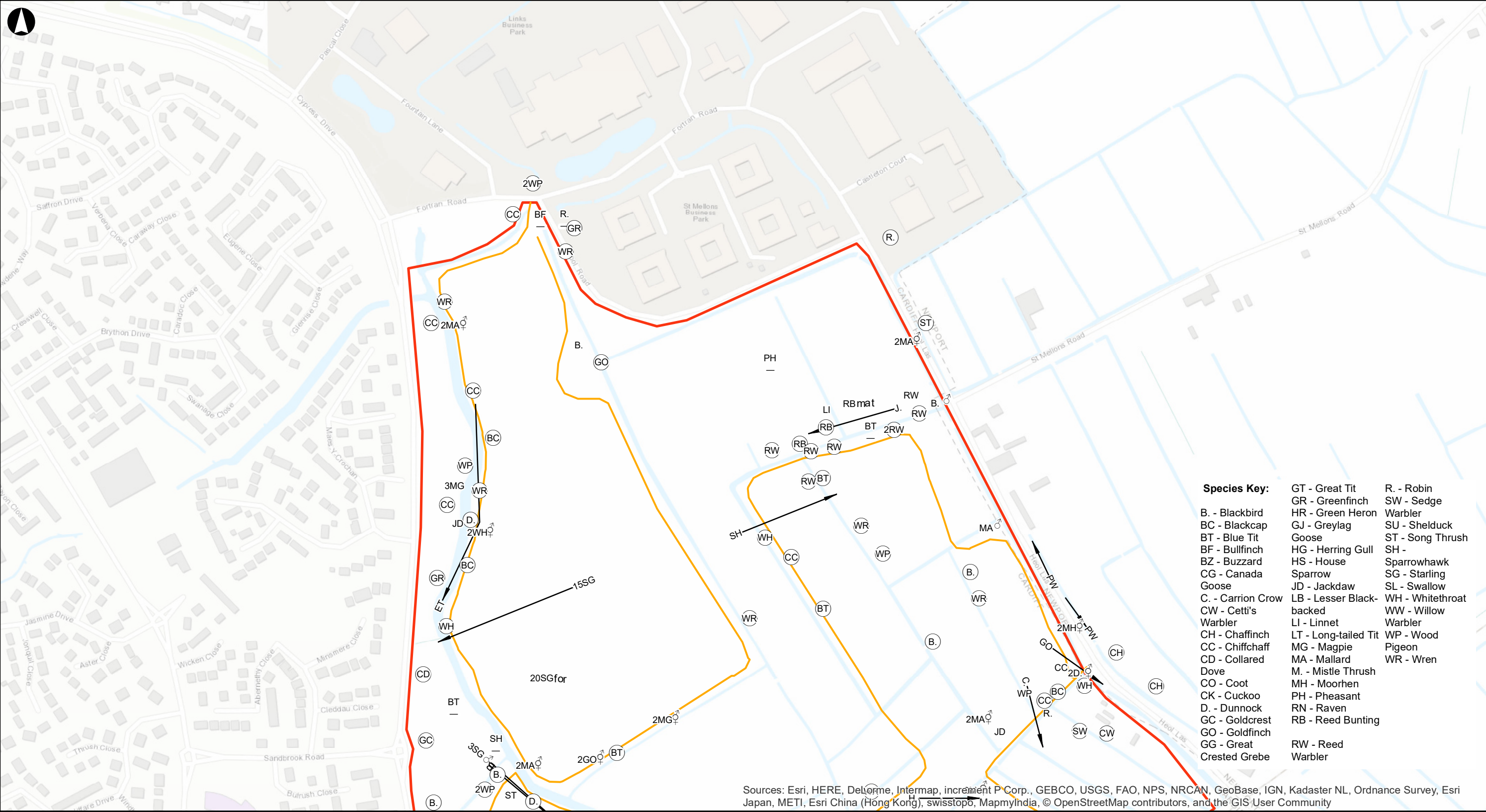
Breeding Bird Survey - April  
(South)

Scale at A3

1:4,000

Job No	Drawing Status
252199-00	For Issue
Drawing No	Issue
001	F2





Legend

- Site Boundary

BBS Transect

Behaviour

Calling

Carrying food

Carrying nest material

Female bird
- for

In song

Juvenile with parents in attendance

Male bird

Sight record

Sight record of a pair
- Calling bird flying over

Male in flight

Flight

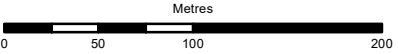
RFlying in and landing, first seen in flight

Perched bird flying away not seen to land

F2	2017-10-17	FH	AC	PC
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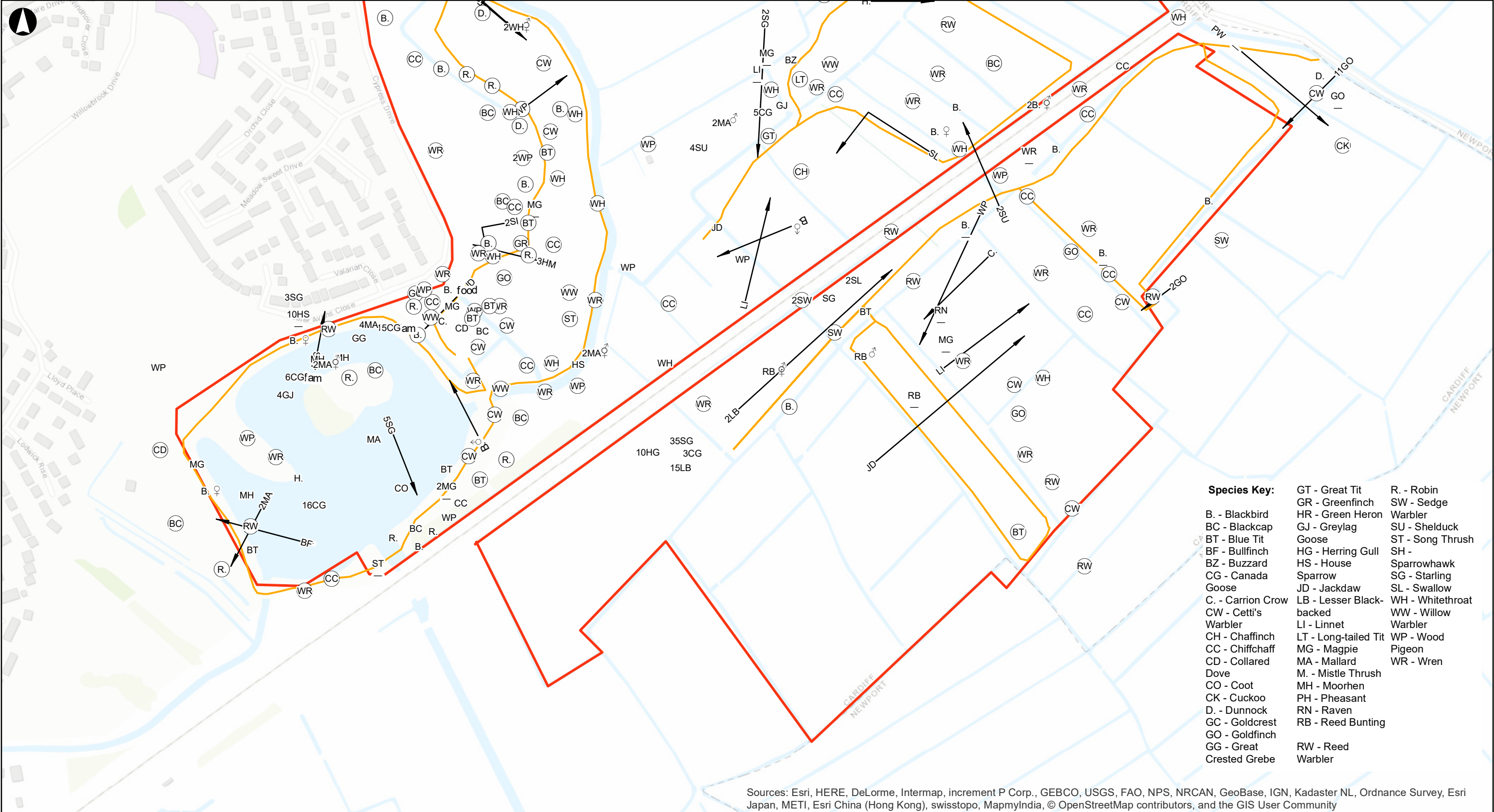
Job Title  
**Cardiff Hendre Lakes**

Breeding Bird Survey - May  
(North)

Scale at A3  
**1:4,000**

Job No <b>252199-00</b>	Drawing Status <b>For Issue</b>
Drawing No <b>004</b>	Issue <b>F2</b>





Legend

- Site Boundary
- BBS Transect

Behaviour

- Calling
- Carrying food
- Carrying nest material
- Female bird

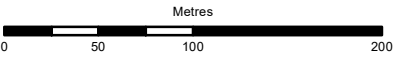
- for Foraging
- In song
- Juvenile with parents in attendance
- Male bird
- Sight record
- Sight record of a pair

- Calling bird flying over
- Male in flight
- Flight
- RFlying in and landing, first seen in flight
- Perched bird flying away not seen to land

F2	2017-10-16	FH	AC	PC
Issue	Date	By	Chkd	Appd

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Job Title  
**Cardiff Hendre Lakes**

Breeding Bird Survey - May  
(South)

Scale at A3  
**1:4,000**

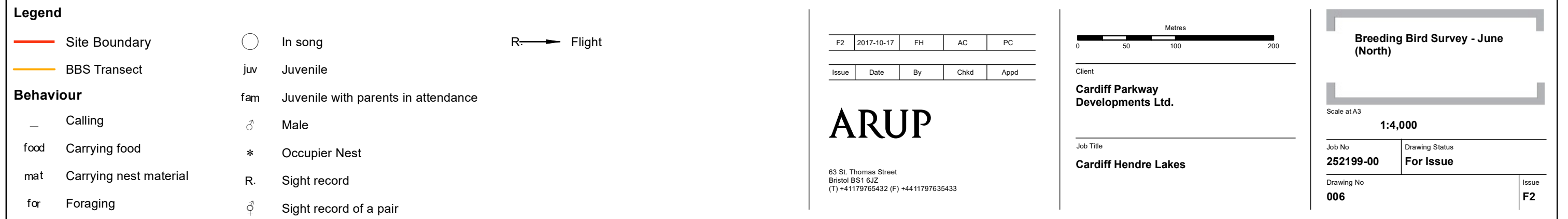
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Drawing Status  
**For Issue**

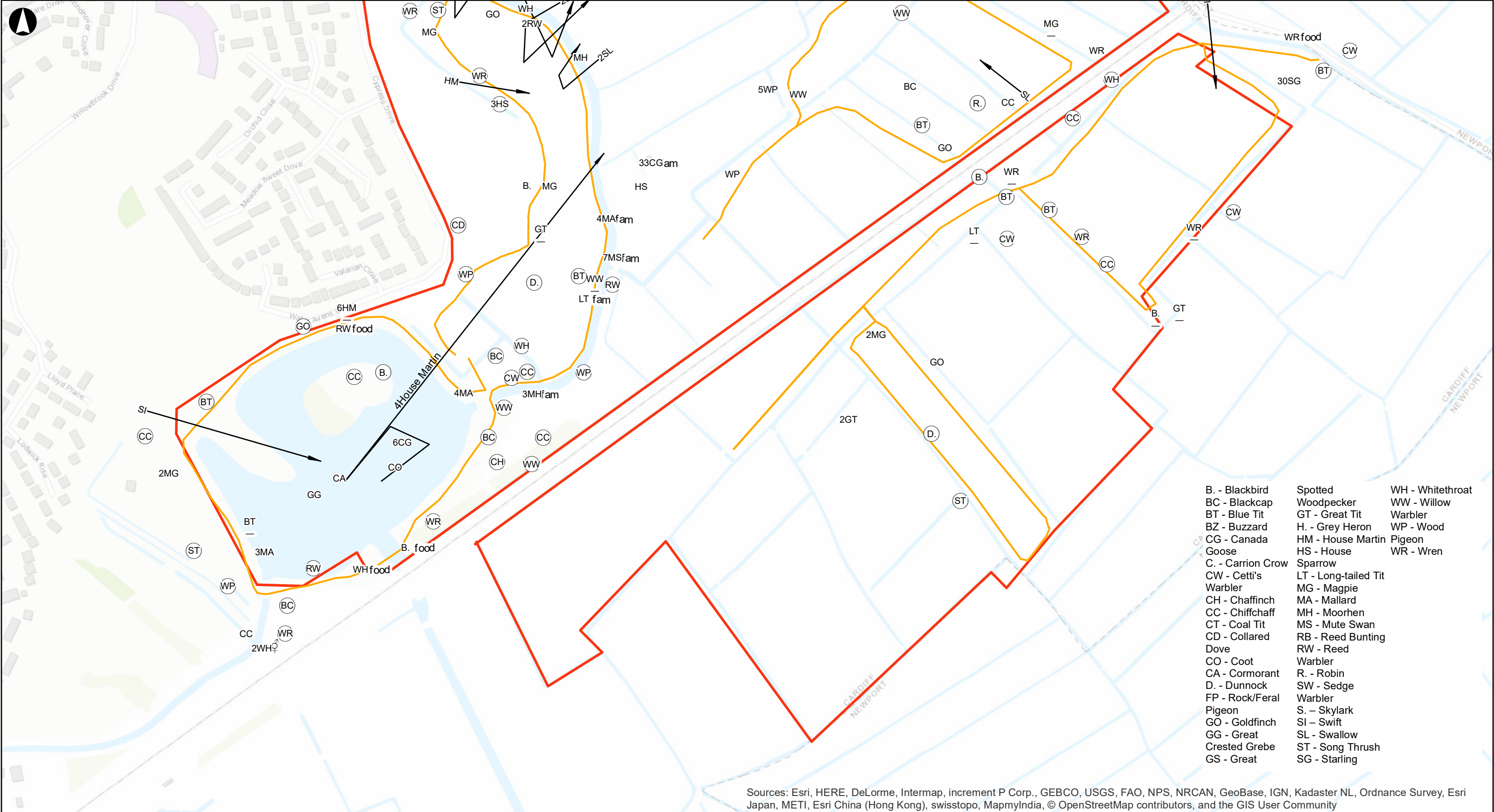
Drawing No  
**003**

Issue  
**F2**









Legend

- Site Boundary
- BBS Transect

Behaviour

- Calling
- food Carrying food
- mat Carrying nest material
- for Foraging

- In song
- juv Juvenile
- fam Juvenile with parents in attendance
- ♂ Male
- \* Occupier Nest
- R. Sight record
- ♂ Sight record of a pair

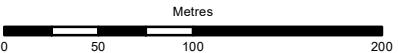
R → Flight

F2	2017-10-16	FH	AC	PC
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Issue	Date	By	Chkd	Appd
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Job Title

Cardiff Hendre Lakes

Breeding Bird Survey - June  
(South)

Scale at A3

1:4,000

Job No	Drawing Status
252199-00	For Issue
Drawing No	Issue
005	F2



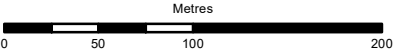
- Legend**
- Site Boundary
  - Potential breeding bird territory

**Species Key:**  
CO - Coot  
CT - Coal Tit  
D. - Dunnock  
GC - Goldcrest  
GR - Greenfinch  
GW - Garden Warbler  
HS - House Sparrow  
LT - Long-tailed Tit  
LW - Lesser Whitethroat  
M - Mistle Thrush  
MA - Mallard  
S. - Skylark  
ST - Song Thrush  
WH - Whitethroat  
WW - Willow Warbler

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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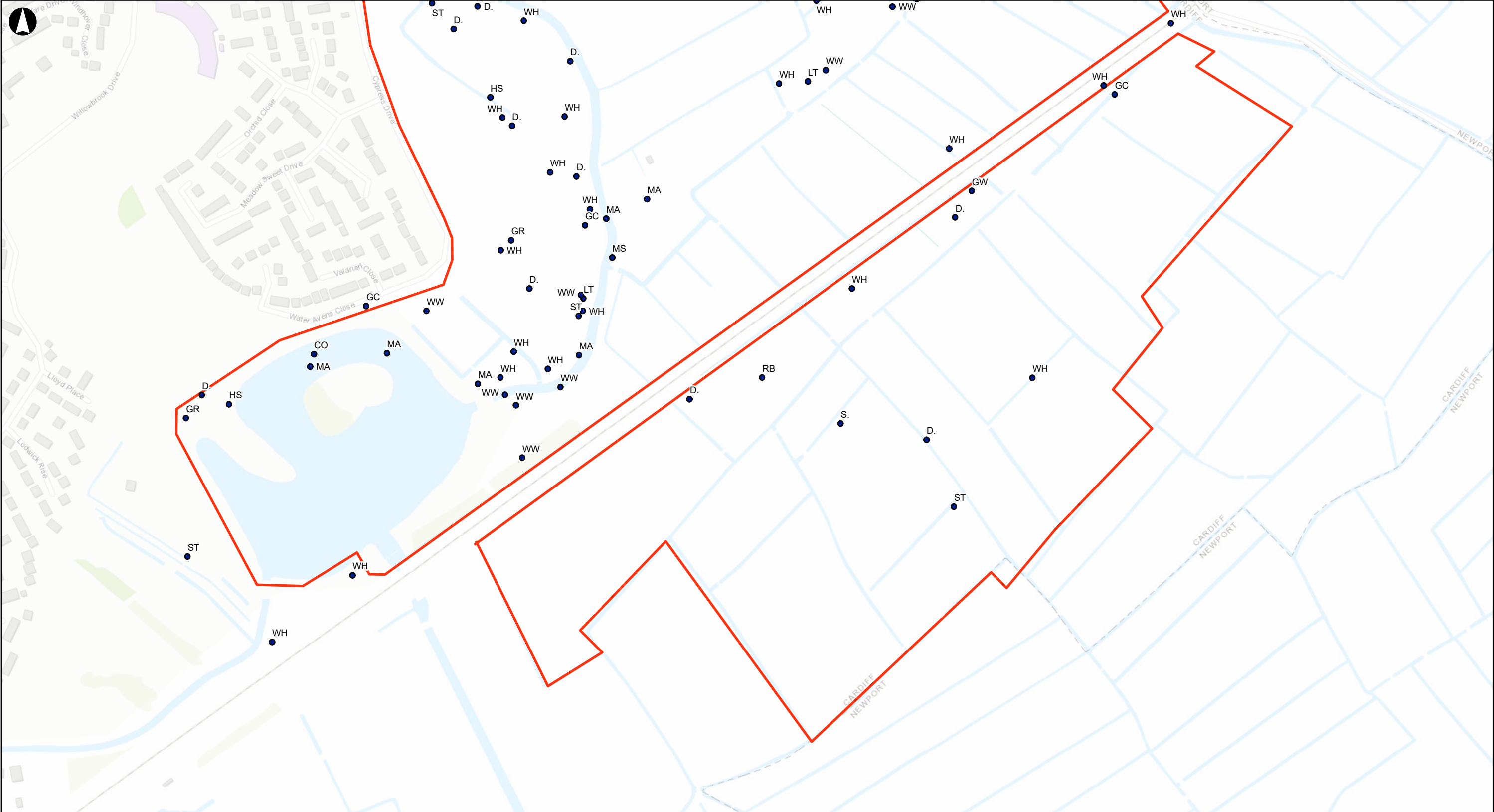
Job Title  
**Cardiff Hendre Lakes**

**Breeding Birds of Red and Amber Conservation Concern North**

Scale at A3  
**1:4,000**

Job No <b>252199-00</b>	Drawing Status <b>For Issue</b>
Drawing No <b>002</b>	Issue <b>F1</b>





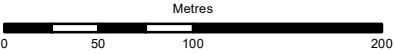
- Legend**
- Site Boundary
  - Potential breeding bird territory

**Species Key:**  
CO - Coot  
CT - Coal Tit  
D. - Dunnock  
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GR - Greenfinch  
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HS - House Sparrow  
LT - Long-tailed Tit  
LW - Lesser Whitethroat  
M - Mistle Thrush  
MA - Mallard  
S. - Skylark  
ST - Song Thrush  
WH - Whitethroat  
WW - Willow Warbler

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

F1	2017-11-28	FH	AC	PW
Issue	Date	By	Chkd	Appd

ARUP



Client  
**Cardiff Parkway Developments Ltd.**

Job Title  
**Cardiff Hendre Lakes**

**Breeding Birds of Red and Amber Conservation Concern South**

Scale at A3  
**1:4,000**

Job No <b>252199-00</b>	Drawing Status <b>For Issue</b>
Drawing No <b>001</b>	Issue <b>F1</b>

## Appendix A

### Weather Conditions

## A1 Weather Conditions

---

Visit	Date	Temp (°C)	Wind Speed (Beaufort Scale)	Wind Direction	Cloud Cover (%)	Conditions
1	26/04/17	5	3	NE	90	Dry
2	10/05/17	11	1	E	40	Dry
3	09/06/17	14	2	W	80	Dry

## Appendix B

### BBS Survey Results

## B1 BBS Survey Results

Species Name		Species Code	Status* UK / Wales	Potentially Breeding on Site (Y/N) and Estimated Number of Breeding Pairs	Comment
Vernacular Name	Scientific Name				
Blackbird	<i>Turdus merula</i>	B.	Green	Y, 15 – 24	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows. Juvenile bird observed, including an observation of two individuals carrying food.
Blackcap	<i>Sylvia atricapilla</i>	BC	Green	Y, 12 – 17 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.
Blue tit	<i>Cyanistes caeruleus</i>	BT	Green	Y, 15 – 21 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows. Two juveniles observed in June.
Bullfinch	<i>Pyrrhula pyrrhula</i>	BF	Amber / Red, S7	N	Single calling bird in May.
Buzzard	<i>Buteo buteo</i>	BZ	Green	N	Single observations in May and June.
Canada goose**	<i>Branta canadensis</i>	CG	na	Y, 2 – 5 pairs	33 juvenile observed in June.
Cetti's warbler	<i>Cettia cetti</i>	CW	Green, Schl	Y, 13 – 20 pairs	Numerous registrations across the site, associated with scrub habitat, waterbodies and hedgerows.
Chaffinch	<i>Fringilla coelops</i>	CH	Green	Y, 5 – 6 pairs	Numerous registrations across the southern extent of the site predominantly, associated with scrub habitat and hedgerows.
Chiffchaff	<i>Phylloscopus collybita</i>	CC	Green	Y, 20 – 36 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.
Coal tit	<i>Periparus ater</i>	CT	Green / Amber	N	One observation of a juvenile in June

Species Name		Species Code	Status* UK / Wales	Potentially Breeding on Site (Y/N) and Estimated Number of Breeding Pairs	Comment
Vernacular Name	Scientific Name				
Coot	<i>Fulica atra</i>	CO	Green / Amber	Y, 1 pair	One sight record of a pair at Hendre Lake.
Collared dove	<i>Streptopelia decaocto</i>	CD	Green	Y, 3 – 5 pairs	Numerous registrations across the western extent of the site, associated with scrub habitat and hedgerows.
Cormorant	<i>Phalacrocorax carbo</i>	CA	Green / Amber	N	One sight record in June at Hendre Lake.
Crow	<i>Corvus corone</i>	C.	Green	N	Sight records in May and June of single birds.
Dunnock	<i>Prunella modularis</i>	D.	Amber / Green, S7	Y, 12 - 15 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.
Feral pigeon	<i>Columba livia</i>	FP	Green	N	Sight record in June of single bird.
Garden warbler	<i>Sylvia borin</i>	GW	Green / Amber	Y, 1 pair	One singing male in woodland to the south of the site in April.
Goldcrest	<i>Regulus regulus</i>	GC	Green / Amber	Y, 4 pairs	Four singing males across May and April.
Goldfinch	<i>Carduelis carduelis</i>	GO	Green	Y, 8 – 10 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.
Greenfinch	<i>Carduelis chloris</i>	GR	Green / Amber	Y, 3 pairs	Three singing males across April and May.
Great tit	<i>Parus major</i>	GT	Green	Y, 4 pairs	Four singing males across April and May.
Great crested grebe	<i>Podiceps cristatus</i>	GG	Green	N	Sight record in April.



Species Name		Species Code	Status* UK / Wales	Potentially Breeding on Site (Y/N) and Estimated Number of Breeding Pairs	Comment
Vernacular Name	Scientific Name				
Great spotted woodpecker	<i>Dendrocops major</i>	GS	Green	Y, 1 pair	Presumed nest; hole in tree. Single bird heard calling in June.
Grey heron	<i>Ardea cinerea</i>	H.	Green / Amber	N	Sight records in April and June.
Greylag goose	<i>Anser anser</i>	GJ	Amber / Green	N	Five individuals, including a hybrid GJ x CJ
Herring gull	<i>Larus argentatus</i>	HG	Red, S7	N	Sight records of 10 individuals in May to the south of the site.
House martin	<i>Delichon urbicum</i>	HM	Amber	N	Small flocks (max. 6 individuals) observed flying over the site.
House sparrow	<i>Passer domesticus</i>	HS	Red / Amber, S7	Y, 1 – 2 pairs	Singing male in April. Parents with juveniles in attendance in June. All to the west of the site.
Jackdaw	<i>Corvus monedula</i>	JD	Green	N	Observed foraging on site.
Jay	<i>Garrulus glandarius</i>	J.	Amber / Green	N	One individual flew over the north of the site in May.
Lesser black-backed gull	<i>Larus fuscus</i>	LB	Amber	N	Fifteen observed on site in field to the south and a flight of two individuals across the south of the site.
Lesser whitethroat	<i>Sylvia curruca</i>	LW	Green	Y, 1 pair	Singing male in April to the north of the site.
Linnet	<i>Linaria cannabina</i>	LI	Red, S7	N	Sight records across the site.

Species Name		Species Code	Status* UK / Wales	Potentially Breeding on Site (Y/N) and Estimated Number of Breeding Pairs	Comment
Vernacular Name	Scientific Name				
Little egret	<i>Egretta garzetta</i>	ET	Green	N	One flew over the north of the site.
Long-tailed tit	<i>Aegithalos caudatus</i>	LT	Green / Amber	Y, 1 – 2 pairs	Singing male in April. Parents with juveniles in attendance in June.
Magpie	<i>Pica</i>	MG	Green	Y, 5 pairs	Observations include two nests and two sight records of pairs across the site.
Mallard	<i>Anas platyrhynchos</i>	MA	Amber	Y, 6 – 9 pairs	Numerous sightings of pairs across the western side of the site predominantly. One pair observed to the north and east. Family of mallard observed in June.
Mistle thrush	<i>Turdus viscivorus</i>	M.	Red / Amber	Y, 1 pair	Single pair observed in May to the east of the site.
Moorhen	<i>Gallinula chloropus</i>	MH	Green	Y, 4 pairs	Associated with water bodies across the site, except the far south. Nest and family recorded in June.
Mute Swan	<i>Cygnus olor</i>	MS	Amber	Y, 1 - 2 pairs	A nest and a family of seven were noted in June.
Pheasant**	<i>Phasianus colchicus</i>	PH	Na	N	Calling individual in May.
Pied wagtail	<i>Motacilla alba yarelli</i>	PW	Green	N	Sight records of three individuals in April.
Raven	<i>Corvus corax</i>	RN	Green	N	Sight records of one individual in May
Reed bunting	<i>Emberiza schoeniculus</i>	RB	Amber, S7	Y, 4 – 5 pairs	Nest building observed to the north of the site. Numerous registrations to the north and south of the site, associated with reedbeds.
Reed warbler	<i>Acrocephalus scirpaceus</i>	RW	Green	Y, 16 – 22 pairs	Numerous registrations across the site, associated with reedbeds.

Species Name		Species Code	Status* UK / Wales	Potentially Breeding on Site (Y/N) and Estimated Number of Breeding Pairs	Comment
Vernacular Name	Scientific Name				
Robin	<i>Erithacus rubecula</i>	R.	Green	Y, 9 pairs	Numerous registrations across the site, associated with woodland edge, scrub and hedgerows. Predominantly to the west of the site.
Sedge warbler	<i>Acrocephalus schoenobaenus</i>	SW	Green	Y, 8 – 9 pairs	Numerous registrations across the site, associated with scrub and reedbeds.
Shelduck	<i>Tadorna tadorna</i>	SU	Amber	N	Sight record of six individuals in April.
Skylark	<i>Alauda arvensis</i>	S.	Red / Amber, S7	Y, 2 pairs	Two singing males from the north and south of the site in April and June.
Song thrush	<i>Turdus philomelos</i>	ST	Red / Amber, S7	Y, 8 pairs	Numerous registrations across the site associated with woodland, hedges and scrub.
Sparrowhawk	<i>Accipiter nisus</i>	SH	Green	Y, 1 pair	One calling individual in May over woodland to the east.
Starling	<i>Sturnus vulgaris</i>	SG	Red, S7	N	Family of 40 recoded in June. Site used frequently for foraging.
Swallow	<i>Hirundo rustica</i>	SL	Green / Amber	N	Sight record of small flocks (maximum 10 individuals) in May and June.
Swift	<i>Apus apus</i>	SI	Amber / Green	N	One and two individuals flew over the site in June and May, respectively.
Treecreeper	<i>Certhia familiaris</i>	TC	Green	Y, 1 pair	One individual in song to the west of the site in April.
Whitethroat	<i>Sylvia communis</i>	WH	Green / Red	Y, 20 – 24 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.

Species Name		Species Code	Status* UK / Wales	Potentially Breeding on Site (Y/N) and Estimated Number of Breeding Pairs	Comment
Vernacular Name	Scientific Name				
Willow warbler	<i>Phylloscopus trochilus</i>	WW	Amber / Red	Y, 4 – 9 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.
Woodpigeon	<i>Columba palumbus</i>	WP	Green	Y, 10 – 22 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.
Wren	<i>Troglodytes troglodytes</i>	WR	Green	Y, 31 – 48 pairs	Numerous registrations across the site, associated with woodland edge, scrub habitat and hedgerows.
Total Species / Likely Breeding				36 species	

\* Status = Red, Amber, Green = Status of each species on the BOCC4 or The Population Status of Birds in Wales 3; S7 = Species of principal importance, listed on Section 7 of the Environment (Wales) Act 2016; Schedule 1 = species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

\*\* Canada goose, as a non-native species is excluded from the Birds of Conservation Concern listings.