



Plots 4 & 5, Central Square, City Centre, Cardiff – Ecological Appraisal

DATE:	August 2025	CONFIDENTIALITY:	Public
SUBJECT:	Plots 4 & 5, Central Square, City Centre, Cardiff - Ecological Appraisal		
PROJECT:	UK0040270.4485	AUTHOR:	Amber Martin
CHECKED:	Megan Brenchley	APPROVED:	Nia Bowen

INTRODUCTION

PROJECT BACKGROUND

This report has been prepared in support of the detailed planning application being submitted by REAP 3 Limited ('the Applicant') to Cardiff Council ('the Council') in support of a full planning application for the development of Plots 4 and 5, Central Square, City Centre, Cardiff ('the site').

WSP UK Limited (hereafter referred to as 'WSP')¹ was commissioned by Bluecastle Capital to undertake an ecological appraisal of the 0.21Ha area associated with the site ('the site area') on behalf of the Applicant.

THE PROPOSED DEVELOPMENT

This application seeks full planning permission for the following description of development, hereafter referred to as the 'Proposed Development':

"Mixed-use development to provide residential accommodation, flexible non-residential uses, cycle parking, landscaping and other associated works."

The site sits at the heart of the wider 'Central Square' regeneration area in Cardiff City Centre. Central Square is a strategically important area which the Council consider to be a gateway to the City, and an opportunity to showcase the best that Cardiff has to offer. Given the strategic importance of the location, the Council envisage that the regeneration of Central Square, towards which this development will contribute significantly, will play a key role in attracting investment on other strategically important development sites in the City.

The Proposed Development provides the opportunity to make a significant positive contribution to the ongoing regeneration of this part of Cardiff. The Proposed Development will build upon the success of the wider Central Square area, proposing a development of exceptional architectural and residential quality. The Applicant is fully committed to the delivery of the site, and it is their ambition to create a new iconic landmark for Cardiff and Wales.

As well as the delivery of much needed high-quality homes to address the Council's housing need, the Proposed Development brings with it a wide range of enhanced planning and public benefits. The application aligns with the current Cardiff Local Development Plan (LDP) 2006-2026 – Adopted Plan, which states that "high rise, high density developments at appropriate locations within the site are encouraged". The benefits include the delivery of a strategically important City Centre site, new flexible non-residential floorspace that will activate Central Square, a publicly accessible bike hub and cafe, a new pavilion building that can

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accommodate a restaurant / cafe, extensive public realm landscaping in and around the buildings, highly sustainable and energy efficient buildings, and other significant economic and social benefits for the City.

SITE DESCRIPTION

The site sits within the administrative area of the Council, who are the relevant Local Planning Authority when determining any planning applications within the area.

The site currently comprises a cleared rectangular plot of land, alongside two smaller parcels of land located to the north of Wood Street within the public realm (these smaller parcels will accommodate public cycle parking spaces as part of the Proposed Development). The site is bound by Wood Street to the south, Scott Road to the west, Park Street Lane to the northwest, and a public square to the east. The site was formerly occupied by St David’s House, until it was demolished in late 2018.

The site benefits from full planning permission for the following development (Ref: 21/02984/MJR), which was granted by the Council on 2nd May 2024:

‘Full planning application for a mixed-use building providing commercial uses at ground floor/mezzanine level (Use Classes A1/A2/A3/B1/D1/D2) and residential accommodation above (Use Class C3 and including non C3 Use Class residential), a pavilion (Use Classes A1/A2/A3), public realm, cycle parking, access, drainage and other infrastructure works required for the delivery of Central Square Plots 4 and 5.’

The site sits within the Cardiff Central Square Masterplan area. Whilst this masterplan was never formally adopted, it has catalysed significant development and has led to the transformation of the area in and around Cardiff Central Station. The prevailing building heights range between 7 – 25 storeys, which includes buildings of a variety of land uses and architectural styles.

The Media Wales office building is located at 6 Park Street, immediately adjacent to the northwest of the site. The HMRC building is located immediately adjacent to the northeast of the site. The Millennium Plaza leisure complex is located immediately to the west. To the south, across Wood Street lies the Cardiff University School of Journalism, Media and Culture, and the BBC Cymru building. The Principality Stadium is located further to the north and can be accessed via Central Square.

The site is not within a Conservation Area and does not include any Listed Buildings. The Natural Resources Wales (‘NRW’) Flood Map for Planning (‘FMfP’) identifies the site to be at risk of flooding and falls into Flood Zone 3 (Rivers and Sea) (albeit located in a ‘TAN15 defended zone’).

The site is very well connected by public transport. Cardiff Central Station is within a short walking distance (0.1 miles/2-minute walk). Cardiff Central provides connections to a wide range of locations, including Newport in 13 minutes and Cheltenham Spa in approximately an hour. Adjacent to the site is Wood Street bus stop, with further bus stops along St Mary Street, which is approximately a 2-minute walk from the site.

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SCOPE OF REPORT

Bluecastle Capital commissioned WSP in June 2025 to complete an ecological appraisal of the site. The brief was:

- To provide baseline ecological information about the site and a surrounding study area with particular reference to whether legally protected and/or notable sites, species or habitats are present or likely to be present;
- To provide recommendations to enable compliance with relevant nature conservation legislation and planning policy; and
- If necessary, to identify the need for avoidance, mitigation, compensation or enhancement measures and/or further ecological surveys.

It should be noted that the results presented within this report would be suitable to inform a Building Research Establishment Environmental Assessment Method (BREEAM) assessment.

RELEVANT LEGISLATION AND POLICY

The appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in Wales. The context and applicability of each item is explained as appropriate in the relevant sections of the report and additional details are presented in Appendix A.

Legislation

- The Conservation of Habitats and Species Regulations 2017 (as amended) (Habitats Regulations);
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Town and Countryside (Environmental Impact Assessment) (Wales) Regulations 2017;
- Environment (Wales) Act 2016; and
- The Wellbeing of Future Generations (Wales) Act 2015.

Policy

- The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012);
- UK Biodiversity Action Plan (UKBAP)²;
- PPW (Edition 12) 2024;

² The UK BAP has now been replaced by the UK Post-2010 Biodiversity Framework, however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant.

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- Technical Advice Note 5; Nature Conservation and Planning 2009;
- Cardiff LDP 2006-2026 – Adopted Plan; and
- Cardiff County Council Local Biodiversity Action Plan (LBAP) 2008.

METHODS

OVERVIEW

This appraisal has been prepared with reference to current good practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2017a and 2017b), and Joint Nature Conservation Committee (JNCC, 2016); and guidance contained in the British Standard - Code of Practice for Biodiversity and Development BS42020:2013 (British Standards Institute (BSI), 2013).

This ecological appraisal is based on the following data sources:

- An ecological desk study;
- A Phase 1 habitat survey; and
- A protected/notable species assessment.

DESK STUDY

A desk study was undertaken in July 2025 to review existing ecological baseline information available in the public domain and to obtain information held by relevant third parties. For the purpose of the desk study exercise, records were collated within various search buffer radii around the site. This approach is consistent with current good practice guidance published by CIEEM (2017a and 2017b). The following information was requested from South-East Wales Biological Records Centre (SEWBRc):

- Records of bats within 2km of the site;
- Records of roof-nesting birds within 150m of the site; and
- Special Areas of Conservation (SAC) and Sites of Special Scientific Importance (SSSI) which are designated for bats within 10km of the site.

A desk study search area of 2km for all protected/notable species was not carried out. Due to the highly urban nature of the site and the types of habitats present, this would have been disproportionate to requirements of the Proposed Development.

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Freely downloadable datasets (available from the Welsh Government resource DataMapWales (n.d)) were consulted for information regarding the presence of statutory designated habitats³ within 2km of the site.

Open source 1:25,000 Ordnance Survey mapping was used to identify any mapped water bodies and watercourses within 500m of the site.

The findings of the desk study have been incorporated within the Results section of this report and Appendix B.

The desk study was carried out by a member of CIEEM, who has completed numerous ecological desk studies within the last year.

PHASE 1 HABITAT SURVEY

A Phase 1 habitat survey of the site was carried out on 14 July 2025. This covered the entirety of the site. The survey was carried out by surveyors who are members of CIEEM and have experience of completing Phase 1 habitat surveys within similar urban habitats.

Habitats were described and mapped using field notes on site following the standard Phase 1 habitat survey methodology (JNCC, 2016). Phase 1 habitat survey is a standard technique for classifying and mapping habitats. The dominant plant species are recorded, and habitats are classified according to their vegetation types. Where appropriate consideration was given to whether habitats qualify, or could qualify, as a Priority Habitat⁴ following habitat descriptions published by the Joint Nature Conservation Committee (JNCC, 2008).

A list of plant species was compiled with relative plant species abundance estimated using the DAFOR scale⁵. The scientific names for plant species follow those in the New Flora of the British Isles (Stace, 2019). The list of plant species recorded within the site area is included in Appendix C.

Any invasive non-native (plant) species (INNS) listed on Schedule 9 of the WCA were target noted if present. Detailed mapping of such species; or a full survey of the site for all INNS, is beyond the scope of this commission.

PROTECTED SPECIES ASSESSMENT

The potential for the site to support legally protected and notable species was assessed using the desk study results and combined with field observations during the habitat survey. The assessment of habitat suitability for protected and notable species was based on professional experience and judgement.

³ Special Areas of Conservation (SAC), candidate SACs (cSACs), Special Protection Areas (SPA), Ramsar sites, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR).

⁴ As listed under the provisions of the Environment Wales Act (2016).

⁵ The DAFOR scale has been used to estimate the frequency and cover of the different plant species as follows: Dominant (D) - >75% cover, Abundant (A) – 51-75% cover, Frequent (F) – 26-50% cover, Occasional (O) – 11-25% cover, Rare (R) – 1-10% cover., The term 'Locally' (L) is also used where the frequency and distribution of a species are patchy and 'Edge' (E) is also used where a species only occurs on the edge of a habitat type.

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NOTES AND LIMITATIONS

Every effort has been made to provide a comprehensive description of the site; however, the following specific limitations apply to this assessment:

- Ecological survey data is typically valid for 18-24 months unless otherwise specified, for example if conditions are likely to change more quickly due to ecological processes or anticipated changes in management (CIEEM, 2019).
- Records held by local biological record centres and local recording groups are generally collected on a voluntary basis; therefore, the absence of records does not demonstrate the absence of species, it may simply indicate a gap in recording coverage.
- The Phase 1 habitat survey was carried out over the period of a single day, as such only a selection of all species that occur within the site across a given year will have been recorded. However, due to the small scale of the site and through use of desk study information to supplement survey data, it is considered that an accurate assessment of the potential for the site to support protected species or those of conservation concern was possible.

RESULTS

DESIGNATED SITES

No SACs or SSSIs which are designated for bats were identified within 10km of the site. During the desk study, one locally designated statutory site within 2km of the site was identified. This was Cardiff Bay Wetland and Hamadryad Park Local Nature Reserve (LNR) which was recorded 1.67km south of the site. There was no functional connectivity of habitats between the site and Cardiff Bay Wetland and Hamadryad Park LNR; furthermore, the LNR lies outside of the typical Zone of Influence (ZoI) for impacts resulting from construction dust and noise pollution, which is typically 50m (IAQM, 2014). For these reasons, Cardiff Bay Wetland and Hamadryad Park LNR is not anticipated to be impacted by the Proposed Development and is not discussed further within this report.

OTHER HABITATS OF CONSERVATION IMPORTANCE

A total of ten Ancient Woodland Inventory (AWI) parcels were identified within 2km of the site during the desk study. These comprised eight Restored Ancient Woodland Sites (RAWS) and two Ancient Semi-Natural Woodland (ASNW) parcels, all recorded north of the site within Bute Park. The closest parcel was a RAWS, 480m north of the site.

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The River Taff was recorded 110m west of the site, although there was no functional or hydrological connectivity of habitats between the river and the site. No other water body was recorded within 500m of the site.

Due to the isolated nature of the site from habitats of conservation importance due to the lack of functional and hydrological connectivity, and the distance that the site lies from these habitats (i.e. >50m), no habitat of conservation importance is anticipated to be impacted by the Proposed Development. Therefore, these habitats are not discussed further within this report.

HABITAT SURVEY

One distinct habitat was identified across the site: J1.3 – Ephemeral/short perennial⁶ and hardstanding mosaic.

This habitat was present as low-growing patchy plant associations within gravel bare ground and concrete. The selection of hardy and pioneer species recorded were typical of derelict urban sites and were scattered sparsely throughout the gravel substrate. These species have been listed in Appendix C. The perimeter comprised scattered butterfly bush *Buddleja davidii*, an introduced species which reached up to 3m tall in places. Scattered hart's-tongue fern *Asplenium scolopendrium* and rosebay willowherb *Chamaenerion angustifolium* were also recorded more rarely. Photographs of the perimeter of the site are shown in Appendix A.

In accordance with BREEAM, the distinctiveness of the habitat within the site was low as it is not a semi-natural habitat. Condition was assumed to be moderate, following the simplified calculation method (Bre Global, 2018).

PROTECTED SPECIES ASSESSMENT

The potential for the site to support legally protected and/or notable species has been assessed using the results of the desk study and observations made during the field survey of habitats within the site. A summary of desk study information is included within Appendix B. Desk study records have only been considered below if they are recent (from the last 10 years) and/or if they relate to species that may be supported by habitats within the site. Habitats present within the site are suitable for the following species; further consideration is given below to the likelihood for these species to be present within the site:

- Bats;
- Birds;
- Invertebrates; and

⁶ Alpha-numeric codes used in this section cross-refer to the JNCC Phase 1 habitat survey classification (JNCC, 2016).

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■ INNS of plants.

The site does not provide suitable habitat for other protected or notable species and other species, beyond those listed above, will not be considered further in this report.

Bats

A total of 122 records of at least seven different bat species were returned during the desk study. These were brown long-eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis daubentonii*, greater horseshoe bat *Rhinolophus ferrumequinum*, Nathusius pipistrelle *Pipistrellus nathusii*, noctule bat *Nyctalus noctule* and soprano pipistrelle *Pipistrellus pygmaeus*.

The desk study also returned records of bats that were not identified to species level: myotis bat species *Myotis sp.*, pipistrelle bat species *Pipistrellus sp.* and unknown bat species *Chiroptera sp.*

The closest records were for unknown species which were recorded 192m northwest of the site. They were seen flying inside the Principality Stadium during a rugby match in 2015. The desk study also identified foraging and commuting activity along the River Taff, 110m west of the site. These records of foraging and commuting bats include those of common pipistrelle, soprano pipistrelle, noctule and several unidentified species. Further upstream, approximately 1.8km north of the site, Daubenton's bats were also observed foraging along the River Taff.

The site provided no suitable roosting opportunities for bats due to the limited vegetation cover and lack of trees or buildings present. Some commuting and foraging habitats was recorded, but this was considered to be of poor suitability due to the lack of connectivity to wider suitable commuting habitat, sparse nature of the vegetation and high levels of anthropogenic disturbance including that of street and stadium lighting.

Birds

A total of seven bird species were recorded within the desk study that have potential for roof-nesting within 150m of the site. These included blue tit *Cyanistes caeruleus*, herring gull *Larus argentatus*, house sparrow *Passer domesticus*, lesser black-backed gull *Larus fuscus*, pied wagtail *Motacilla alba*, starling *Sturnus vulgaris* and swift *Apus apus*. Of these, herring gull, house sparrow and starling are listed as Priority Species in accordance with Section 7 of the Environment (Wales) Act 2016. These three species, in addition to swift, are also listed as Local Biodiversity Action Plan (LBAP) species, giving them local/county importance.

The site did not provide suitable nesting habitat for birds. This is due to the limited and patchy vegetation cover, with no dense scrub, trees or buildings present within the site area.

Invertebrates

No desk study search for invertebrates was carried out, however due to their prolific nature it can be assumed that common and widespread species of invertebrates are present within the site, in low levels only due to

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the nature of habitats within the site. The site does not offer suitability for rare or protected species of invertebrate.

INNS

Certain plant species are listed on Schedule 9 of the WCA. It is an offence to plant or otherwise cause these species to grow in the wild.

No desk study search for INNS was carried out, and no INNS of plants were identified during the habitat survey. Due to the small scale of the site, the entirety of the site was searched for INNS of plants. INNS of plants were considered absent at the time of the survey.

RECOMMENDATIONS

Due to the sites' limited potential to support protected and/or notable species, there are no specific further recommendations in the form of further survey work or ecological supervision in support of the Proposed Development. The following general mitigation measures are set out below to enable compliance with relevant legislation and planning policy.

PRELIMINARY AVOIDANCE, MITIGATION AND COMPENSATION MEASURES

The following avoidance, mitigation and compensation measures should be designed into the Proposed Development.

- Works should be carried out as per environmental best practice (see following section).
- Provision of replacement habitat, over and above that which is lost, would be required.
- Ecological enhancements to include planting of pollinator friendly species for any habitat lost which is suitable for invertebrates (see following sections).

ENVIRONMENTAL BEST PRACTICE

General environmental protection measures must be implemented during the construction phase of the Proposed Development. Such measures include best environmental practice guidance outlined in the Guidance for Pollution Prevention produced by NRW, the Northern Ireland Environment Agency (NIEA), the Scottish Environment Protection Agency (SEPA) and the Oil Care Campaign (NRW, 2018) and those outlined by the Construction Industry Research and Information Association guidance (CIRIA, 2015). The following minimum standards must be adhered to prevent ecological impacts beyond the boundary:

- Measures must be taken to prevent dust and other emissions from construction impacting land beyond the site.

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- Chemicals and fuels must be stored in secure containers. Spill kits must be available.
- Excavations must be covered or securely fenced (with no potential access points beneath fencing) when the site construction site is closed (e.g. overnight) to prevent entrapment of animals.
- Noise and vibration must be controlled and kept to the minimum necessary.
- Lighting used for construction must be switched-off when not in use and positioned so as not to spill on to adjacent land, particularly avoiding the River Taff.

ECOLOGICAL ENHANCEMENT OPPORTUNITIES

PPW (Edition 12, 2024) states:

“A Resilient Wales can be supported by protecting and providing sufficient scale, extent, diversity and connectivity within, and between, landscapes and habitats to maintain and enhance biodiversity and the resilience of ecosystems. This support will enable them to withstand the pressures of change, to tackle pollution, to protect and enhance water resources, to protect soils and to enable flood mitigation, the creation of carbon sinks (especially in urban areas), and to promote opportunities for social and economic activity based on valuing and enabling access to the natural, historic and built environment.”

One of the seven goals of the Well-being of Future Generations (Wales) Act (2015) is to create a resilient Wales. This comprises maintaining and enhancing ‘a biodiverse natural environment with healthy functioning ecosystems that support...ecological resilience’.

At a local level, the Cardiff LDP (Cardiff Council, 2016), strives to protect semi-natural habitats and where: *‘the development outweighs the nature conservation importance of the site, it should be demonstrated that there is no satisfactory alternative location for the development and compensatory provision will be made of comparable ecological value to that lost as a result of the development.’*

Net Benefit for Biodiversity (NBB) in association with development is encouraged by PPW (2024) and required under Section 6 of Part 1 of the Environment (Wales) Act. The below recommendations aim to comply with a NBB approach, in the way of delivering an overall improvement in biodiversity. By engaging with these recommendations in the early stages of the Proposed Development, it is hoped that ecosystem resilience and wider ecosystem benefits can be achieved. This approach will support local authorities in achieving their Section 6 duty to “promote the resilience of ecosystems” when determining planning applications.

Planning policy promotes the inclusion of ecological enhancements, accordingly it is recommended that consideration is given to the following enhancement measures:

- Sensitive/low UV lighting during operation, so as to keep visual disturbance of bats to a minimum;

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- Planting of a variety of native species as part of landscaping to encourage invertebrates. It is recommended that these planting areas incorporate wildflower seed of local provenance, or at the least cultivars or genus' of native species;
- Inclusion of green roof landscaping as part of the planting designs. It is noted that the inclusion of the Pavilion green roof was a condition of the previous planning permission (21/02984/MJR);
- Installation of bird and bat boxes to proposed new structures to provide additional refuge sites and nesting opportunities for these species' groups;
- Installation of invertebrate hotels within proposed landscaping areas; and
- Good horticultural practice should be utilised, including the use of peat-free composts, mulches and soil conditioners.

CONCLUSION

The site is located within Cardiff City Centre. During the ecological walkover the site was identified to comprise one habitat comprising a mosaic of ephemeral/short perennial species within a hardstanding gravel and concrete substrate. The perimeter was sparsely vegetated with butterfly-bush.

A desk study identified one statutory designated site (Cardiff Bay Wetland and Hamadryad Park LNR) and habitats of conservation importance (AWI parcels and the River Taff) within 2km of the site. It was determined that due to the isolated nature and distance of the site from these ecological features, they would not be impacted by the Proposed Development.

Desk study records identified at least seven species of bat within 2km of the site and seven typical roof-nesting species of birds within 150m of the site. The site provided no suitable habitat for roosting bats or birds and poor suitability for bat commuting and foraging activities.

Overall, due to the site's low potential to support any protected and/or notable species, there have been no specific further recommendations in the form of further survey work for the Proposed Development. General mitigation measures, including ensuring that works follow environmental best practice, have been set out within this report, to enable compliance with relevant legislation and planning policy.

Ecological enhancement measures are also recommended, such as inclusion of green roof landscaping, to support the delivery of a NBB as is outlined within planning policy as a requirement for all developments.

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PROJECT:	UK0040270.4485	AUTHOR:	Amber Martin
CHECKED:	Megan Brenchley	APPROVED:	Nia Bowen

APPENDIX A – PHOTOGRAPHS

Table A-1 – Photographs taken within the site

Photograph 1	Photograph 2	Photograph 3
		

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Photograph 4



Photograph 5



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APPENDIX B - DESK STUDY RESULTS⁷

Table B-1 – Protected and notable bat species for which records have been identified within 2km

Species common name	Species scientific name	No. records	Distance and orientation of the closest record from the centre of the site	Protection under legislation/policy
Bat (unidentified species)	Chiroptera	9	192m northwest	EPS, WCA5
Brown long-eared bat	<i>Plecotus auritus</i>	1	738m northwest	EPS, HDir, WCA5, S7, LBAP
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	35	429m northwest	EPS, HDir, WCA5, S7, LBAP
Daubenton's bat	<i>Myotis daubentonii</i>	2	1564m northwest	EPS, HDir, WCA5
Greater horseshoe bat	<i>Rhinolophus ferrumequinum</i>	1	1947m west	EPS, AnII, HDir, WCA5, S7, LBAP
Myotis bat species	<i>Myotis sp.</i>	1	1456m north	EPS, HDir, WCA5
Nathusius' pipistrelle	<i>Pipistrellus nathusii</i>	4	882m southeast	EPS, HDir, WCA5
Noctule	<i>Nyctalus noctula</i>	11	429m north	EPS, HDir, WCA5, S7, LBAP
Pipistrelle species	<i>Pipistrellus sp.</i>	15	670m northwest	EPS, WCA5
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	43	429m northwest	EPS, HDir, WCA5, S7, LBAP

Table B-1 – Protected and notable roof-nesting bird species for which records have been identified within 150m

Species common name	Species scientific name	No. records	Distance and orientation of the closest record from the centre of the site	Additional protection under legislation/policy n.b. all nesting birds are protected under the WCA.
Blue tit	<i>Cyanistes caeruleus</i>	2	108m east	NA
Herring gull	<i>Larus argentatus</i>	5	1m south	S7, LBAP
House sparrow	<i>Passer domesticus</i>	1	142m southeast	S7, LBAP
Lesser black-backed gull	<i>Larus fuscus</i>	2	1m south	NA

⁷ Legislation and policy abbreviations are provided as follows: EPS – European Protected Species; WCA5 – Wildlife and Countryside Act, Schedule 5; HDir – Habitats Directive; S7 – Section 7 under the Environment (Wales) Act 2016; LBAP – Local Biodiversity Action Plan species; AnII – Annex II species under the EU Habitats Directive.

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Pied wagtail	<i>Motacilla alba</i>	1	142m southeast	NA
Starling	<i>Sturnus vulgaris</i>	1	142m southeast	S7, LBAP
Swift	<i>Apus apus</i>	1	141m southwest	LBAP

APPENDIX C – BOTANICAL SPECIES RECORDED

Table C-1 – Botanical species recorded

Common name	Scientific name	Frequency (DAFOR) ⁸
American willowherb	<i>Epilobium ciliatum</i>	R
Annual beard-grass	<i>Polypogon monspeliensis</i>	R
Biting stonecrop	<i>Sedum acre</i>	R
Butterfly bush	<i>Buddleja davidii</i>	LD
Canadian fleabane	<i>Erigeron canadensis</i>	R
Dandelion	<i>Taraxacum officinale</i> agg.	R
Hart's-tongue fern	<i>Asplenium scolopendrium</i>	R
Herb-robert	<i>Geranium robertianum</i>	R
Hoary mustard	<i>Hirschfeldia incana</i>	R
Hoary ragwort	<i>Jacobaea erucifolia</i>	R
Perennial sow-thistle	<i>Sonchus arvensis</i>	R
Red valerian	<i>Centranthus ruber</i>	R

⁸ The DAFOR scale has been used to estimate the frequency and cover of the different plant species as follows: Dominant (D) - >75% cover, Abundant (A) – 51-75% cover, Frequent (F) – 26-50% cover, Occasional (O) – 11-25% cover, Rare (R) – 1-10% cover., The term 'Locally' (L) is also used where the frequency and distribution of a species are patchy and 'Edge' (E) is also used where a species only occurs on the edge of a habitat type.

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Rosebay willowherb	<i>Chamaenerion angustifolium</i>	R
Rough meadow-grass	<i>Poa trivialis</i>	R
Spear thistle	<i>Cirsium vulgare</i>	R
Tall melilot	<i>Melilotus altissimus</i>	R
Timothy	<i>Phleum pratense sens.lat.</i>	R
Wall lettuce	<i>Mycelis muralis</i>	R
White clover	<i>Trifolium repens</i>	R
Wild carrot	<i>Daucus carota</i>	R
Yorkshire-fog	<i>Holcus lanatus</i>	R