



Cardiff Edge Life Sciences Park

Ecological Impact Assessment

August 2022

Waterman Infrastructure & Environment Limited

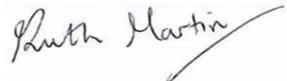
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This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

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Comments



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- A. Summarised Ecological Planning Policy and Legislation
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1. Introduction

- 1.1. Waterman Infrastructure & Environment Ltd (Waterman) was commissioned by Jones Lang LaSalle Ltd (JLL) on behalf of Trinity Investment Management ('the client'), to carry out Ecological services at Cardiff Edge Life Sciences Park, Longwood Drive in Cardiff (hereafter referred to as the 'Wider Site'). The purpose of this report is to provide an Ecological Impact Assessment (EclA) which is required to be submitted in support of a planning application for a small area of land within the Wider Site, as outlined by the purple lined application boundary contained within the Pre-application Submission Document¹. For this report, it is this smaller area that is considered the 'Site'.

Site Setting

- 1.2. The Site is approximately 0.59ha in area, centred on Ordnance Survey Grid Reference ST 13269 81171, located approximately six miles to the north-west of Cardiff City Centre. The Site comprises a number of buildings separated by areas of tarmacked carparks, roads and modified grassland. Longwood Drive surrounds the Wider Site to the north, south and west with Junction 32 of the M4 located further north. The Wider Site is bound by the River Taff to the west separated by a landscape buffer. Long Wood Nature Reserve is located adjacent to the east of the Wider Site and approximately 0.13km to the east of the Site. The Site is surrounded by habitats within the Wider Site consisting of tarmacked carparks, roads and modified grassland (see **Figure 1** for Site Location Plan, which also depicts wider landscape and features of the desk study).

Proposed Development

- 1.3. Proposals for the Site include demolition of a single building (known as Units 19 and 20²) on Site, creation of a new lab building and supporting office space, a hub building and an additional 145 parking spaces (hereafter referred to as the 'Development').

Objectives of this EclA

- 1.4. This EclA has been created in line with industry guidance^{3,4} and includes the methodologies and results of an ecological data search, an 'Extended' UKHab field survey, a preliminary bat roost inspection of buildings (external) and trees (ground based), a bat emergence survey at buildings and a survey for non-native invasive plant species.
- 1.5. Based on the findings of the surveys detailed above, this EclA provides an assessment of any Important Ecological Features (IEFs) present within the Zone of Influence (Zol) and assesses any potential significant effects that the Development may have on any such features identified. Environmental measures would be incorporated into the Development to provide mitigation, compensation and/or enhancement, as required.
- 1.6. The purpose of this EclA is to:
- Identify all IEFs present within the identified Zol and describe any resulting constraints to, or significant ecological effects from, the Development;
 - Set out the environmental measures in line with the Mitigation Hierarchy to ensure compliance with nature conservation legislation and planning policy (refer to **Appendix A**) and to address any potential significant ecological effects;

¹ Corstorphine & Wright (2022) Cardiff Edge Life Sciences Park Pre-application Submission, 21430 - 8006 - 01

² Corstorphine & Wright (2022) Cardiff Edge Life Sciences Park Pre-application Submission, 21430 - 8006 - 01

³ Chartered Institute of Ecology and Environmental Management (2017). *Guidelines for Preliminary Ecological Appraisal*. Technical Guidance Series.

⁴ BSI (2013) BS 42020:2013. Biodiversity - Code of Practice for Planning and Development

- Identify how the environmental measures will be secured; and
- Provide an assessment of the significance of any residual effects.

2. Methodology

Zone of Influence and Important Ecological Features

- 2.1. The Zol is the area(s) over which ecological features may be impacted by the biophysical changes caused by any proposed development. Based on the scale and nature of the Development, it has been assessed that the Zol arising from these works is unlikely to be greater than 2km from the Site. Therefore, these distances have been used to collect the ecological desk study information for protected/notable species and non-statutory designated sites.
- 2.2. The Zol has been extended to 10km for International/European statutory designated sites due to the interim guidance issued by Natural Resource Wales (NRW). Therefore, these distances have been used to collect the ecological data search information for statutory designated sites.
- 2.3. The Field survey area comprised primarily the Site (within the provided purple line application boundary). However, adjacent land was viewed where possible from the Site and aerial photography for the area has also been reviewed.
- 2.4. As referenced in industry guidance, IEFs that are anticipated to be affected by the Development have been identified and subject to assessment. In this report, designated sites, habitats and species have been assessed against the categories in **Table 1**. Those features at Local level or above have been identified as being ecologically important and/or legally protected/controlled and form the scope of data gathering during the desk study and the Site survey.

Table 1: Geographical Scale of Important Ecological Feature Categories

Geographical Level of Importance	Category
International	Statutory designated sites: Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites (including candidate SACs and proposed SACs, SPAs and Ramsar sites)
National	Statutory designated sites: Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR); Ancient Woodland; Habitats and species of principal importance for the conservation of biodiversity as listed on Schedule 42 of the NERC Act, 2006, including ecologically important hedgerows under the Hedgerow Regulations 1997; and Red List (using IUCN criteria ⁵) and nationally rare or scarce species and Birds of Conservation Concern (Red List ⁶)
County	Local Nature Reserves (LNR); Non-statutory designated wildlife sites: known as Sites of Importance to Nature Conservation (SINCs) in Cardiff; Areas which meet the published selection criteria for county site designations, but which are not themselves designated as such; Species – where the conservation status or distribution are critical at the county scale; This may include locally significant populations of a species listed in a County BAP on account of its rarity or localisation Cardiff Local Biodiversity Action Plan (CLBAP) habitats and species.
Local	Non statutory designated sites of local value (i.e., Site of Local Importance for Nature Conservation (SLINC));

⁵ <http://www.iucnredlist.org/technical-documents/categories-and-criteria>

⁶ https://www.rspb.org.uk/birds-and-wildlife/bird-and-wildlife-guides/bird-guide/status_explained.aspx

Geographical Level of Importance	Category
	<p>Areas of habitat considered to appreciably enrich the habitat resource within the local context (e.g., species-rich hedgerows, ponds etc.). It may also include sites that retain other elements of semi-natural vegetation that due to their size, quality or the wide distribution of such habitats within the local area are not considered for local designations; and</p> <p>Populations/assemblages of species that appreciably enrich the biodiversity resource within the local context. Populations of county level important species that are not threatened or rare in the county and are not integral to maintaining those populations.</p>
Site	<p>Habitats and/or species that are of limited ecological importance due to their size, species composition or other factors. Areas of heavily modified or managed vegetation of low species diversity. Low numbers of common and widespread species.</p>
Legislation	<p>Species included on Schedules II and V of The Conservation of Habitats and Species Regulations 2017 (as amended);</p> <p>Species included on Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended), excluding species that are only protected in relation to their sale (Section 9[5] and 13[2]); and</p> <p>Badgers, which are protected under the Protection of Badgers Act 1992.</p>

Ecological Desk Study

- 2.5. The aim of the ecological desk study is to collate existing ecological records for the Site and adjacent areas. Obtaining existing records is an important part of the evaluation process, as it provides additional information that may not be apparent during a site survey.
- 2.6. An ecological desk study was undertaken in June 2022, during which all records of protected species, and/or other notable fauna and flora within 2km of the Site were requested from South East Wales Biodiversity Records Centre (SEWBRc).
- 2.7. Records of important non-statutory sites designated as referred to in **Table 1** for their nature conservation value within 2km of the Site were also requested from SEWBRc and searched for on the Multi-Agency Geographic Information for the Countryside (MAGIC)⁷ and Natural Resources Wales (NRW) interactive map⁸. A further search for important statutory designated sites was conducted within a buffer of 10km from the Site using MAGIC and the NRW interactive map.
- 2.8. In addition, the following resources were also consulted to assign an ecological context to the Site:
 - Lists of habitats of Principal Importance (HoPI) and Species of Principal Importance (SoPI) listed under Section 42 (S42) of the NERC Act 2006;
 - HoPIs as mapped under the Priority Habitat Inventory on MAGIC;
 - SSSI Impact Risk Zones (to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites) as mapped on MAGIC;

⁷ Magic.defra.gov.uk. (2014). *Magic*. [online] Available at: <http://magic.defra.gov.uk/> [Accessed June 2022].

⁸ Natural Resource Wales (2022). *Interactive Map*. [online] Available at: https://maps.cyfoethnaturiolcymru.gov.uk/Html5Viewer210/Index.html?configBase=https://maps.cyfoethnaturiolcymru.gov.uk/Geocortex/Essentials/REST/sites/External_Map_Browser/viewers/EMB_Address/virtualdirectory/Resources/Config/Default&locale=en-gb [Accessed June 2022].

- Habitat Action Plans (HAPs) and Species Action Plans (SAPs) listed under the CLBAP⁹; and
 - Aerial photography¹⁰.
- 2.9. The above data (excluding species) was then mapped to show features within the Zol, as depicted within **Figure 1**.

Field Survey

- 2.10. An 'Extended' UK Habitat Classification (UK Hab)¹¹ survey (known as 'the Field Survey') of the Site was undertaken on 15th of June 2022. UK Hab supersedes previous systems such as JNCC Phase 1¹², allowing for direct interpretation of baseline habitat survey data into Priority Habitat Types and Annex I Habitat¹³ types.
- 2.11. The Field Survey methodology was 'Extended' by undertaking an assessment of the Site to support protected and notable faunal and flora species. A 'small site' Minimum Mapping Unit (MMU) was deemed an appropriate level for mapping habitats i.e. a habitat area was mapped if the habitat was greater than 5m² or 5m in length.
- 2.12. Each habitat was assigned a Primary Code of the Professional Edition of the UK Hab Field Key¹⁴ at a minimum of the Level 3 hierarchy, using the UK Hab Habitat Definitions¹⁵ for reference. Secondary Codes (SC) were then applied to provide additional context to the habitats, with no more than six Secondary Codes being assigned.
- 2.13. All habitat types within the Site were mapped (see **Figure 2** for UKHab mapping) using Geographical Information Systems (GIS) software, with target notes taken where appropriate. An assessment of the Site to support protected and notable fauna and flora species was also undertaken.
- 2.14. The field survey of the Site was conducted under conditions deemed appropriate for survey, being dry and sunny and at the optimal time of year (April – September).

Preliminary Roost Assessment (PRA)

- 2.15. As part of the PRA, an external building and ground-based tree assessment for bats was undertaken at the Site on 15th June 2022 (see Limitations section). The survey was based on current best practice guidelines (Collins, 2016)¹⁶.
- 2.16. An assessment of each building and tree was made in terms of its suitability to support roosting bats. The survey consisted of a visual inspection (including the use of binoculars and torches where required) of the exterior of the building and trees for evidence of bat use (e.g. droppings, scratch marks, staining and sightings). A number of factors were considered, including internal conditions, presence of features suitable for use by roosting bats, proximity to foraging habitats or

⁹ Cardiff Local Biodiversity Action Plan (Outdoor Cardiff): Available from: <https://www.outdoorcardiff.com/wp-content/uploads/Cardiff-LBAP-2008.pdf#:~:text=In%202001%20Cardiff%20Council%20adopted%20%E2%80%9CWild%20About%20Cardiff%E2%80%9D,and%20species%20of%20UK%2C%20Wales%20and%20local%20importance>. Accessed 28/06/2022

¹⁰ Google Earth

¹¹ UK Habitat Classification Working Group (2018). *UK Habitat Classification User Manual* at <https://ukhab.org/ukhab-documentation/>.

¹² JNCC. (2010). *Handbook for Phase 1 Habitat Survey*. Nature Conservancy Council

¹³ Habitats listed in Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora.

¹⁴ UK Habitat Classification Working Group (2018). *UK Habitat Field Key*

¹⁵ UK Habitat Classification Working Group (2018). *UK Habitat Classification Definitions V1.0* at <https://ukhab.org/ukhab-documentation/>

¹⁶ Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

cover, lighting and potential for disturbance. Notes were made relating to relevant characteristics of features providing potential access points and roosting opportunities for bats.

- 2.17. **Table 2** details the assessment guidelines for bat roost potential at buildings and trees.

Table 2: Adapted Building and Tree Assessment Guidelines

Assigned Bat Roosting Potential	Description
Known or confirmed roost	Evidence of roosting bats within the building/tree.
High	A building/tree with one or more Potential Roost Features (PRFs) that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.
Moderate	A building/tree with one or more PRFs that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only).
Low	A building/tree with one or more PRF that could be used by individual bats opportunistically. However, these PRFs do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Negligible	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. Negligible habitat features at building/tree likely to be used by roosting bats.

Bat Emergence Survey

- 2.18. As a result of the PRA in 2022, building **B1** was deemed to have low bat roosting potential (refer to **Figure 2** for building references).
- 2.19. In accordance with industry guidance for bats (as detailed above), a single dusk emergence survey was carried out on B1 on the 17th of August 2022.
- 2.20. The evening emergence survey commenced at least fifteen minutes prior to sunset and continued for two hours thereafter. The surveys were undertaken during optimal weather conditions, considered to be wind levels 4 or below on the Beaufort wind force scale (i.e. less than a moderate breeze) and temperatures $\geq 10^{\circ}\text{C}$.
- 2.21. Surveyors were positioned to cover all potential roosting features (PRFs) and any activity by bats was recorded during the survey. Surveys were led by an experienced and NRW licenced bat worker (Licence number ref: S090977/1).

Invasive Non-Native Species (INNS) Assessment

- 2.22. The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including aquatic habitats.

- 2.23. The field survey checked for the presence of common terrestrial invasive species, including; Japanese knotweed *Reynoutria japonica*, giant knotweed *Fallopia sachalinensis*, hybrid knotweed *Fallopia baldschuanica*, giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera*.

IEF Assessment

- 2.24. Data gathered as part of this EclA has been used to identify potential IEFs (i.e. designated sites, habitats and species as listed in **Table 1**) that are anticipated to be affected by the Development within the ZoI (up to 10km for international designated sites, 2km for all other designated sites, species and habitats).
- 2.25. However, not all the IEFs within the ZoI have the potential to be significantly affected by the Development, or the legislation pertaining to them to be contravened. Therefore, where features are unlikely to be affected by the Development, or where any effects that impact IEFs are unlikely to be significant, for the reasons¹⁷ listed below, such features have been scoped out of the assessment:
- No pathway of effect has been identified, for example the feature is of sufficient distance from the Site or there is the presence of a barrier between its location and the Site¹⁸; or
 - The feature is of insufficient biodiversity conservation value within the ZoI, due to its quality, extent or population size¹⁹.
- 2.26. For all remaining features scoped into the assessment, the pathway of effect (e.g., habitat loss, lighting, noise etc.) and the potential impact of this on the feature have been identified.

Constraints and Limitations

- 2.27. Full access was available to meet the scope, but it was deemed unnecessary to carry out an internal building inspection due to the lack of internal loft spaces or internal dark areas suitable for roosting bats.
- 2.28. All other contractors, designers and the client should be aware of the following: The design recommendations within this report are assessed to be the most effective ecological solution at this initial stage of the project. No other pre-construction information has been provided, obtained or referred to during the preparation of this report (including, but not limited to, services information, geotechnical reports and ordnance reports). In deciding whether and how to progress with this project, it will be incumbent upon the client, designers and contractors to obtain and refer to relevant pre-construction and maintenance information, as required by the Construction (Design and Management) Regulations to ensure compliance. Waterman can assist with the development and co-ordination of this design to support effective risk management on this project upon request.

¹⁷ Positive or negative effects on ecological features that have the potential to influence a planning decision are considered to be significant

¹⁸ Whilst the ZoI of potential effects arising from the development is up to 2km from the Site, the ecological ZoI (within which the feature could be affected) for each feature may vary and for some features may be much less, e.g. great crested newts generally move up to a maximum of 500m from a breeding pond and movement can be restricted by barriers such as busy roads and fast flowing rivers

¹⁹ E.g. whilst a Priority Species such as skylark *Alauda arvensis* or house sparrow *Passer domesticus* is of National importance (**Table 2**), the impact of development on individual or a small population of such a species, which are generally commonly found, is unlikely to be assessed as significant

3. Results

Desk study

Statutory Designated Sites

- 3.1. The Site is not located within any statutory designated site but is located approximately 0.11km west of Glamorgan Canal/ Long Wood SSSI. In addition, two SACs, one SPA (**Figure 1**) and a Ramsar are located within the extended 10km Zol from the Site. All international statutory designated Sites located within 10km, and national statutory designated sites located within 2km are detailed in **Table 3** below. Three Local Nature Reserves (LNRs) are located within 2km of the Site, one (Glamorganshire Canal LNR) being located immediately adjacent to the eastern boundary of the Site.
- 3.2. The Site's 10km buffer does fall within an Impact Risk Zone for the Severn Estuary SSSI located on the south-east edge of the buffer. However, the proposed development type does not trigger the requirement for the Local Planning Authority to consult with Natural England, as the Site is not outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.

Table 3: Summary of Data Search Records of Statutory Designated Sites within 10km of the Site

Site Name	Designation	Distance from Site (km)	Description
Glamorganshire Canal	LNR	0.24 E	Glamorganshire Canal contains standing water supporting fauna and flora typical in nutrient-rich open water.
Long Wood	SSSI	0.36 E	Long Wood is a SSSI due to its Semi-natural broadleaved woodland dominated by beech.
Cardiff Beech Woods	SAC	0.99 NW	Cardiff Beech Woods contains one of the largest concentrations of <i>Asperulo-Fagetum</i> beech forests in Wales. Mosaics are present with more acidic beech woodland and oak <i>Quercus</i> and ash <i>Fraxinus excelsior</i> woodland. Species of ground flora include ramsons <i>Allium ursinum</i> , sanicle <i>Sanicula europaea</i> , bird's-nest orchid <i>Neottia nidus-avis</i> and yellow bird's-nest <i>Monotropa hypopitys</i> . Threats – recreational activities, invasive species and Interspecific floral relations
Garth Wood	SSSI	0.99 NW	Garth Wood SSSI supports semi natural broad-leaved woodland and a population of cave dwelling spider <i>Porrhoma. rosenhaueri</i> found within Lesser Garth Cave.
Castell Coch Woodlands and Road Section	SSSI	1.26 NE	An ancient mature beech woodland supporting herbaceous species such as dog's mercury <i>Mercurialis perennis</i> , ramsons <i>Allium ursinum</i> and sanicle <i>Sanicula</i> . The woods also support ancient ground flora such as bird's-nest orchid <i>Neottia nidusavis</i> , greater butterfly-orchid <i>Platanthera chlorantha</i> and yellow bird's nest <i>Monotropa hypopitys</i> .

Site Name	Designation	Distance from Site (km)	Description
Cwarrau Ton Mawr A Ffynnon Taf – Ton Mawr and Taffs Well Quarries	SSSI	1.27 NW	Designated as a SSSI due to mineralisation on the quarry walls.
Hermit Wood	LNR	1.36 SE	N/A
Fforestganol A Chwm Nofydd	SSSI	1.99 N	A semi natural broad-leaved woodland designated for its wildlife.
Cwm Nofydd and Fforest Ganol	LNR	1.99 N	A protected area due to its importance in nature conservation. The forest is managed with sporadic thinning and creation of glades with tree species such as oak, ash and hornbeam present. Due to the management ground flora such as Wood Anemone, Bluebells, Wild Garlic, Solomon's Seal and Herb Paris are present.
Severn Estuary	SAC	9.9 SE	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (99%) Salt marshes, Salt pastures, Salt steppes (1%) Threats - human induced changes in hydraulic conditions, changes in abiotic conditions, modification of cultivation practices, other urbanisation, industrial and similar activities and outdoor sports and leisure activities, recreational activities.

Non-Statutory Sites

- 3.3. The Site is not located within any non-statutory designated sites, however there are 28 SINCS located within the 2km Zol from the Site. The Severn Estuary has also been identified as an important bird area.

Table 4: Summary of Data Search Records of Non-Statutory Designated Sites within 2km of the Site

Site Name	Designation	Approximate Distance from Site (km)
River Taff	SINC	0.19km W
Melingriffith & Melingriffith Feeder	SINC	0.27km S
Mynydd Woods	SINC	0.28km W
Coryton Interchange	SINC	0.63km NE
Whitchurch Green Fields	SINC	0.65km E
Coryton Heronry Wood	SINC	0.68km E
Radyr Cricket Ground and Fields	SINC	0.79km SE
Radyr Community Woodlands	SINC	0.96km S
Cwm Farm Pond & Streamside Copse	SINC	1.00km NW

Site Name	Designation	Approximate Distance from Site (km)
Greenmeadow Wood	SINC	1.07km NE
Maerdy Woods	SINC	1.07km SW
Coed Pant Tawel/Coedgae-fach	SINC	1.15km W
Pant Mawr Cemetery	SINC	1.16km NE
Former Penrhos Branch Line	SINC	1.19km
Cwmffynnonau Field	SINC	1.21km NW
Tongwynlais Oldfield Rd	SINC	1.40km NE
Goitre-Fawr Ponds	SINC	1.49km W
Hailey Park	SINC	1.51km SE
Nant-y-Fforest	SINC	1.51km N
Coed-y-Goetre	SINC	1.57km SW
Cwmrhyddgoed	SINC	1.65km NW
Pentyrch Drove Track	SINC	1.68km W
Fforest-fawr	SINC	1.70km N
Coedgae Fawr	SINC	1.71km W
Whitchurch Golf Course Pond	SINC	1.73km E
Gwern-y-Cegyrn	SINC	1.78km SW
Coed-y-Gof	SINC	1.95km SW
Coed-y-Trenches	SINC	1.95km SW

Notable Habitats

3.4. Long Wood Nature Reserve (HoPI) was identified by the dataset directly adjacent to the Site. HoPIs and HAPs present within 2km of the Site include:

- 54 records of Ancient Semi Natural Woodland HoPI (the nearest of which is located adjacent to the west and east of the Site).
- 21 records of Restored Ancient Woodland Site HoPI (the nearest of which is located approximately 0.12km east of the Site).
- 6 records of Plantation on Ancient Woodland Site HoPI (the nearest of which is located approximately 1.5km south-west of the Site).
- 3 records of Ancient Woodland Site of Unknown Category HoPI (the nearest of which is located approximately 1.11km south-east of the Site).
- 6 NRW Priority Area (Woodland - PAWS) HoPI (the nearest of which is located approximately 1.5km south-west of the Site).

Protected, BAP and Other Notable Species

3.5. Records of legally protected or otherwise notable species of flora and fauna within 2km of the Site

were provided by SEWBRcC. A summary of the most significant results of relevance to the Site are provided in **Table 5** below. Full results can be obtained from the data providers but cannot be presented in this report as a result of copyright. It should be noted that the distances provided in **Table 5** below are taken from the central grid reference of the Site and therefore are approximate.

Table 5: Summary of Data Search records of flora and fauna within 1km of the Site

Species	Category of Importance*	Number of Records	Date Range of Records	Location of records relevant to the study area (km)
Terrestrial Mammals				
Badger, <i>Meles meles</i>	PBA	41	01/09/1991-01/09/2009	0.44 E
Hazel Dormouse <i>Muscardinus avellanarius</i>	WCA	9	2002-03/11/2021	0.50 SE
Hedgehog, <i>Erinaceus europaeus</i>	WCA, SAP	84	01/05/1977- 09/07/2021	0.40 N
Otter <i>Lutra lutra</i>	WCA	36	1937- 23/11/2021	0.24 W
Red Squirrel <i>Sciurus vulgaris</i>	WCA	4	1950- 01/04/1976	0.63 S
Water Vole <i>Arvicola amphibius</i>	WCA	17	1965-24/01/2009	0.40 E
Terrestrial Mammals- Bats				
Common Pipistrelle, <i>Pipistrellus pipistrellus</i>	HabsRegs WCA SAP	237	01/05/2003- 17/07/2021	0.19 W
Myotis sp, <i>Myotis</i>	HabsRegs WCA, SAP	14	1973- 21/05/2019	0.30 SW
Brown Long Eared, <i>Plecotus auritus</i>	HabsRegs WCA, SAP	11	1987- 2020	0.47 N
Daubenton's Bat <i>Myotis daubentonii</i>	HabsRegs WCA	10	17/03/1973- 29/01/2020	0.19 W
Natterer's Bat <i>Myotis nattereri</i>	HabsRegs WCA, LBAP	3	30/08/2012- 29/01/2020	1.35 NW
Noctule, <i>Nyctalus noctula</i>	HabsRegs WCA SoPI SAP	19	08/05/1985- 17/07/2021	0.25 W
Nyctalus sp, <i>Nyctalus</i>	SAP WCA HabsRegs	20	08/05/1985- 17/07/2021	0.25 W
Serotine, <i>Eptesicus serotinus</i>	WCA HabsRegs SAP	7	12/07/2005- 31/05/2020	1.37 NW
Soprano Pipistrelle, <i>Pipistrellus pygmaeus</i>	Habs Regs WCA, SAP	233	04/06/2013 – 12/06/2020	0.19 W
Western Barbastelle	HabsRegs WCA	1	24/10/2012	1.79 NW

Species	Category of Importance*	Number of Records	Date Range of Records	Location of records relevant to the study area (km)
<i>Barbastella barbastellus</i>				
Whiskered Bat <i>Myotis mystacinus</i>	HabsRegs WCA	5	1982- 18/08/2015	0.63 S
Birds				
Barn Owl <i>Tyto alba</i>	WCA (S1) SAP	23	1957 – 09/06/2020	0.60 SE
Black Headed Gull <i>Chroicocephalus ridibundus</i>	S42	26	1962- 18/07/2016	0.19 W
Black Redstart <i>Phoenicurus ochruros</i>	WCA	3	14/10/1996- 20/11/2014	0.63 S
Black Tern <i>Chlidonias niger</i>	WCA	2	15/05/1990- 15/09/1990	1.36 SE
Brambling <i>Fringilla montifringilla</i>	WCA	58	27/12/1931- 08/11/2018	0.40 SE
Bullfinch <i>Pyrrhula pyrrhula</i>	SoPI Amber,	100	01/01/1978 – 01/01/2015	0.26 SW
Canada Goose <i>Branta canadensis</i>	WCA	13	15/06/1971- 10/04/2020	0.25 E
Cetti's Warbler <i>Cettia cetti</i>	WCA	2	2015- 13/04/2020	0.63 S
Common Firecrest <i>Regulus ignicapilla</i>	WCA	19	1960- 18/10/2015	0.47 SW
Cuckoo <i>Cuculus canorus</i>	Red, S42	23	1962- 10/05/2020	0.45SE
Dunnock <i>Prunella modularis</i>	Amber, LBAP	100	01/07/1971 - 01/02/1975	0.26 SW
Eurasian Bittern <i>Botaurus stellaris</i>	WCA, Amber	9	13/01/2003- 20/2/2012	0.63 SW
Eurasian Hoopoe <i>Upupa epops</i>	WCA	2	23/04/1977-1985	0.60 SW
Eurasian Whimbrel <i>Numenius phaeopus</i>	WCA	2	21/09/1934- 06/04/1993	1.6 S
Fieldfare <i>Turdus pilaris</i>	WCA Amber	29	01/10/1981-04/01/1997	0.51 SE
Goldeneye <i>Bucephala clangula</i>	WCA Amber	8	1981- 2013	0.26 SW
Goshawk <i>Accipiter gentilis</i>	WCA	5	2001-01/03/2020	0.63 S
Grasshopper Warbler	S42	10	1960-1971	0.48 SE

Species	Category of Importance*	Number of Records	Date Range of Records	Location of records relevant to the study area (km)
<i>Locustella naevia</i>				
Green Sandpiper <i>Turdus iliacus</i>	WCA Amber	3	1990- 31/10/2018	0.60 E
Grey Partridge <i>Perdix perdix</i>	Red	4	01/10/1981 – 01/03/1982	0.51 SE
Grey wagtail <i>Motacilla cinerea</i>	WCA Amber	80	01/07/1998 - 01/02/2020	0.22 E
Hen Harrier <i>Circus cyaneus</i>	WCA	1	21/03/2000	0.86 NW
Herring Gull <i>Larus argentatus</i>	Red, S42	86	1962- 23/03/2020	0.26 S
Hobby <i>Falco subbuteo</i>	WCA	11	30/08/1986- 03/06/2013	0.47 SW
Honey Buzzard <i>Pernis apivorus</i>	WCA, Amber	2	1955- 11/05/1991	1.42 S
House sparrow <i>Passer domesticus</i>	Red, LBAP	122	01/09/1978-01/01/2020	0.27 W
Kestrel <i>Falco tinnunculus</i>	S42	51	1963- 08/03/2020	0.40 E
Kingfisher <i>Alcedo atthis</i>	WCA Amber	103	10/06/1905-01/10/2020	0.19 W
Lapwing <i>Vanellus vanellus</i>	Red	11	01/12/1971 – 04/03/1999	0.40 SE
Lesser Redpoll <i>Acanthis cabaret</i>	Red, S42	19	1960 – 17/10/2015	0.44 SE
Lesser Spotted Woodpecker <i>Dryobates minor</i>	Red, S42	31	19/01/1947- 25/05/2008	0.47 NE
Linnet <i>Linaria cannabina</i>	WCA, S42	23	1800- 10/02/2015	0.4 N
Mediterranean Gull <i>Ichthyaeus melanocephalus</i>	WCA, Amber	2	22/01/1991-22/07/1991	1.36 SE
Merlin <i>Falco columbarius</i>	WCA, Red	5	11/03/1982- 20/03/1992	0.60 SE
Peregrine <i>Falco peregrinus</i>	WCA	44	10/9/1978- 21/04/2020	0.60 SW
Red-backed Shrike <i>Lanius collurio</i>	WCA, Red	5	1890- 22/05/1937	0.86 NW
Red Crested Pochard <i>Netta rufina</i>	WCA	2	17/11/1977	0.31 SW
Red Crossbill <i>Loxia curvirostra</i>	WCA	12	1898- 15/03/2020	0.47 SW
Red Kite	WCA, Amber	7	16/04/1976- 25/05/2017	0.63 S

Species	Category of Importance*	Number of Records	Date Range of Records	Location of records relevant to the study area (km)
<i>Milvus milvus</i>				
Red-Throated Loon <i>Gavia stellata</i>	WCA	2	10/02/1985	0.26 S
Redwing <i>Turdus iliacus</i>	WCA, Amber	58	1960- 2020	0.27 W
Reed bunting <i>Emberiza schoeniclus</i>	Amber, S42	32	01/02/1982 – 01/09/2009	0.27 W
Ringed Plover <i>Charadrius hiaticula</i>	SoPI Red, S42	1	21/02/1998	1.60 S
Scaup <i>Aythya marila</i>	WCA Amber	1	1998	0.63 SW
Skylark <i>Alauda arvensis</i>	WCA, Red, S42	11	01/05/2008 - 2016	0.60 E
Song thrush <i>Turdus philomelos</i>	Amber	140	01/03/1967- 01/02/1975	0.20 E
Spotted Fly Catcher <i>Muscicapa striata</i>	Red	29	03/09/1982 – 01/05/203	0.47 SW
Starling <i>Sturnus vulgaris</i>	Red	106	01/11/1971-10/05/2020	0.27 W
Tree Pipit <i>Anthus trivialis</i>	WCA, Red, S42	18	1963- 03/5/2017	0.51 SE
Tree Sparrow <i>Passer montanus</i>	Red	15	12/01/1970- 01/09/1978	0.4 E
Turtle dove <i>Streptopelia turtur</i>	Red	6	25/06/1947- 1962	0.04 SE
Western Osprey <i>Pandion haliaetus</i>	WCA Amber	9	07/04/1973-26/03/2015	0.47 NW
Wood Duck <i>Aix sponsa</i>	WCA	2	2005-2006	0.47 SW
Wryneck <i>Jynx torquilla</i>	WCA	2	1971	1.36 SE
Yellowhammer <i>Emberiza citrinella</i>	SoPI Red, S42	14	1800-18/10/2010	0.48 SE
Yellow Wagtail <i>Motacilla flava</i>	SoPI Red	6	1983- 01/03/2019	0.35 S
Amphibians & Reptiles				
Adder <i>Vipera berus</i>	WCA, S42	6	1912- 02/08/2010	0.7 E
Common Lizard <i>Zootoca vivipara</i>	WCA, S42	12	1958- 22/07/2015	0.6 S
Common Toad <i>Bufo Bufo</i>	WCA, S42	56	1962- 19/05/2021	0.21 W

Species	Category of Importance*	Number of Records	Date Range of Records	Location of records relevant to the study area (km)
Frog <i>Rana temporaria</i>	WCA	50	01/04/1976- 2020	0.18 S
Great Crested Newt <i>Triturus cristatus</i>	WCA, S42	26	1937- 03/05/2016	0.54 SE
Grass Snake <i>Natrix helvetica</i>	WCA, S42	31	1962-28/12/2020	0.42 S
Lissotriton <i>Lissotriton</i>	WCA	53	1960- 03/05/2016	0.23 SW
Palmate Newt <i>Lissotriton helveticus</i>	WCA	23	1960-03/05/2016	0.45 SE
Slow Worm <i>Anguis fragilis</i>	WCA, S42	30	27/03/1936- 08/09/2021	0.36 N
Smooth Newt <i>Lissotriton vulgaris</i>	WCA	12	17/05/1966- 09/06/2018	0.58 E
Invertebrates				
Chalk-Hill Blue <i>Polyommatus coridon</i>	WCA	2	1916- 15/07/2002	1.42 N
Cinnabar <i>Tyria jacobaeae</i>	S42	24	08/08/1986- 12/08/2020	0.40 N
Large Tortoiseshell <i>Nymphalis polychloros</i>	WCA	1	1916	1.36 SE
Marsh Fritillary <i>Euphydryas aurinia</i>	WCA	4	1909- 08/06/2016	1.36 SE
Pearl-Bordered Fritillary <i>Boloria euphrosyne</i>	WCA	4	1909-1945	1.36 SE
Sea Knotgrass <i>Polygonum maritimum</i>	WCA	2	1921	0.63 S
Silver-Studded Blue <i>Plebejus argus</i>	WCA	1	1912	1.36 SE
Small heath <i>Coenonympha pamphilus</i>	S42	4	09/06/1975- 2000	0.40 N
Stag Beetle <i>Lucanus cervus</i>	WCA	1	06/06/2006	0.58 SE
Wall <i>Lasiommata megera</i>	S42	4	1963- 04/08/1994	0.53 SE
White- Letter Hairstreak <i>Satyrrium w-album</i>	WCA, S42	16	23/07/2000- 24/06/2020	0.41 NE

Species	Category of Importance*	Number of Records	Date Range of Records	Location of records relevant to the study area (km)
Plants				
Bluebell <i>Hyacinthoides non-scripta</i>	WCA	50	1800- 01/07/2020	0.19 W
Martin's Ramping-fumitory <i>Fumaria reuteri</i>	WCA	1	17/01/2018	1.04 NW
Stinking Goose Foot <i>Chenopodium vulvaria</i>	WCA	3	1920- 1925	0.96 SW
Invasive species				
American Mink <i>Neovison vison</i>	WCA	27	1988- 26/02/2021	0.26 W
Cotoneaster	WCA	32	1800-01/07/2020	0.62 SE
Curly Waterweed <i>Lagarosiphon major</i>	WCA	4	1974- 04/04/2020	0.21 W
Indian Balsam <i>Impatiens glandulifera</i>	WCA	122	1963- 12/07/2020	0.21 W
Japanese Knotweed <i>Fallopia japonica</i>	WCA	181	01/07/1969- 01/07/2020	0.19 W
Three- Cornered Garlic <i>Allium triquetrum</i>	WCA	3	16/04/2016- 08/04/2021	1.05 N
Rhododendron <i>Rhododendron ponticum</i>	WCA	18	1800- 17/09/2016	0.32 W

Hab Regs - The Conservation of Habitats and Species Regulations 2017 (as amended)

WCA - The Wildlife and Countryside Act 1981 (as amended)

SoPI – Species of Principal Importance under S42 The Natural Environment and Rural Communities Act 2006

SAP – Priority species under the CLBAP

WCA (S1) – Schedule 1 of The Wildlife and Countryside Act 1981 (as amended)

Red – Red list criteria (Bird of Conservation Concern 5)

Amber – Amber list criteria (Bird of Conservation Concern 5)

PBA – Protection of Badgers Act 1992

Field Survey

Habitats

- 3.6. The following habitat types were identified on and directly adjacent to the Site during the field survey. **Table 6** summarises the Primary Codes and labels, Secondary Codes - providing further

habitat description – a habitat condition assessment and the corresponding rationale. This table should be read in conjunction with **Figure 2** and the photographs (**Plates**) presented in **Appendix B** and within **Table 7**.

Table 6: Summary of habitats recorded on Site

Parcel	Level 2 Code / Label	Level 3 Code / Label	Level 4 Code / Label (Priority Habitats marked with 'P')	Level 5 Code / Label	Secondary codes (SC)
1 (Table 7)				u1b5 - buildings	N/A
2 (Plate 1)					111 - Road
3 (Plate 4)	u - urban	u1 – built up areas and gardens	u1b - developed land; sealed surface	u1b6 – other developed land	17 – Ruderal / ephemeral 350 - Abandoned ruderal and derelict areas
4 (Plate 3, Table 6)	h – heathland and shrub	h3 – dense scrub	h3h – mixed shrub	N/A	11 – Scattered trees 16 – Tall herb 17 – Ruderal / ephemeral 330 – Scrub 350 - Abandoned ruderal and derelict areas
5 (Plate 5)		h2 - hedgerows	h2b – other hedgerows	N/A	16 – Tall herb 47 - Native 48 – Non-native
6 (Plate 6, Table 6)					47 - Native 1170 - Tree
7 (Plate 6)	g - grassland	g4 – modified grassland	N/A	N/A	10 – Scattered scrub 16 – Tall herb 17 – Ruderal / ephemeral
8 (Plate 8,9)					64 - Mown 76 – Recent management

3.7. A summary description of the habitats is detailed below. The habitat descriptions should be read in conjunction with **Figure 2** and photographs (**Plates**) are presented in **Appendix B**.

u1b - Developed land; sealed surface

u1b5 – Buildings

- 3.8. Building descriptions can be seen in **Table 7** below. The majority of buildings within the Site were in good condition and were constructed with brick and concrete cladding with large areas of glass and flat roofs. One building (B1) was considered to have potential for bats due to some gaps / crevices suitable for this species to roost.

u1b6 – Other developed land

- 3.9. Numerous areas of tarmac roads, pavements and car parking bays are present within the Site. These areas have no ecological value.

h2b – other hedgerows

- 3.10. A couple of small hedgerows are present along the boundaries of woodland and ornamental planting areas. Species include laurel *Prunus laurocerasus*, hawthorn *Crataegus monogyna* and dogwood *Cornus sanguinea*. All hedgerows provide value to ecology with breeding birds and common species of invertebrates likely to utilise the habitat, although it is considered that the hedgerows on Site do not classify as important hedgerows under the hedgerow regulations 1997.

h3h – Mixed Scrub

- 3.11. The mixed scrub habitat present on Site consists of small pockets of ornamental planting with species such as; david's viburnum *Viburnum davidii*, dogwood *Cornus sp.*, many flowered rose *Rosa multiflora*, holly *Ilex sp.*, Japanese barberry *Berberis thunbergii*, tutsan *Hypericum androsaemum*, bearberry cotoneaster *Cotoneaster dammeri*, bell heather *Erica cinerea*, ladies mantle *Alchemilla mollis*, rosemary *Salvia rosmarinus*, field rose *Rosa arvensis*, newzealand flax *Phormium sp.*, Indian rhubarb *Darmera peltata*, Japanese skimmia *Skimmia japonica*, climbing euonymous *Euonymus fortunei*, gypsywort *Lycopus europaeus*, wilsons honeysuckle *Lonicera nitida*, bamboo *Bambusoideae sp.* and pendular sedge *Carex pendula*.

g4 – Modified grassland

- 3.12. Numerous areas of highly maintained short, modified grassland are present within the Site. Species present include; meadow buttercup *Ranunculus acris*, common daisy *Bellis perennis*, sphagnum moss *Sphagnum sp.*, lesser trefoil *Trifolium dubium*, red clover *Trifolium pratense*, Yorkshire fog *Holcus lanatus*, selfheal *Prunella vulgaris*, germander speedwell *Veronica chamaedrys*, tormentil *Potentilla erecta*, white clover *Trifolium repens*, crested dog's tail *Cynosurus cristatus*, common mouse-ear *Cerastium fontanum*, birdfoot trefoil *Lotus corniculatus*, silverweed *Potentilla anserina*, ragwort *Jacobaea vulgaris* and marsh thistle *Cirsium palustre*. The habitat is generally in good condition but due to the high level of maintenance undertaken on the habitat it is limited in ecological value.

Trees – SC 11

- 3.13. Numerous trees are located on Site, none of which had suitable features for roosting bats but which do provide foraging habitat for bats and nesting habitat for common species of birds and invertebrates. Species present on Site and within the adjacent wider Site include common lime *Tilia x europaea*, ash *Fraxinus excelsior*, field maple *Acer campestre*, alder *Alnus glutinosa*, cherry

Prunus sp., goat willow *Salix caprea*, turkey oak *Quercus cerris*, silver birch *Betula pendula* and hazel *Corylus avellana*.

Protected, BAP and other Notable Fauna and Flora

- 3.14. As a result of the 'Extended' UKHab Survey and a review of the ecological desk study, an assessment is made below on the potential of the Site to support:
- Bats;
 - Breeding birds;
 - Reptiles;
 - Amphibians;
 - Hedgehog;
 - Badger;
 - Dormice;
 - Invertebrates; and
 - Invasive Species;
- 3.15. The fauna descriptions provided below should be read in conjunction with **Figure 2** which includes target notes, the photographs (Plates) presented in **Appendix B**, and **Figure 1** which shows the wider landscape.
- 3.16. The EclA assessed that the habitats on Site do not provide highly suitable supporting habitats for any other protected / notable species other than those listed above, and it is considered that no significant impacts to other protected / notable species would occur with regards to the Development. Therefore, only the species listed above have been assessed in more detail below.

Bats

- 3.17. In total, five hundred and sixty records of bats were returned from the desk study for species including common pipistrelle, brown long-eared, daubenton's, natterer's, noctule, *Nyctalus Sp.*, serotine, soprano pipistrelle, barbastelle and whiskered bats. The closest record was for common pipistrelle, daubenton and soprano pipistrelle and are located approximately 0.19km west of the Site.
- 3.18. One building B1 was identified within the Site boundary to have potential to support roosting bats, all other buildings and trees were assessed to have **negligible** potential to support roosting bats.
- 3.19. **Table 7** details the results of a PRA on each building within the Site below. Trees have not been detailed within this table as none within the Site currently have potential for roosting bats.

Table 7: Preliminary Roost Assessment Results

Building ref.	Description	Image	Rating	PRF
B1	Large brick building in relatively good condition apart from a few gaps on the southern face which have potential for roosting bats. The northern face is metal clad with limited access points for bats. The building is located in a relatively open area with limited connecting habitat and potential for excessive light spill.	 	Low	Large hole leading inside building
B2a	Single storey brick (north face) and glass (south face) corridor which connects buildings B2b, B4 and B5. The building has a flat roof and the brick work looked in good condition with no gaps suitable for roosting bats seen during the survey.		Neg	None seen during the survey.

- 3.20. A bat emergence survey was undertaken on B1 on the 17th August 2022, with no bats seen emerging from the building during the survey. Activity by bats foraging and commuting was recorded, with the majority of calls made by soprano pipistrelle, common pipistrelle and noctules with a few bat passes by brown long-eared bats and a single *Myotis* species (thought to be Daubenton's due to the close proximity to the river to the west of the Site).
- 3.21. The Site offers foraging and commuting habitat for bats due to the habitats present and its geographic location. The wider Site has wooded areas adjacent to the east with Long Wood Nature Reserve and buildings with greenspace dispersed throughout the wider Site. The wider landscape consists of woodland, industrial units south, the M4 to the north and the River Taff to the west offering a green corridor which is likely used by bats, although the current lighting on Site is likely to deter bats from certain areas of the Site. Although five species of bats were present foraging and commuting within the Site during the surveys, no bats were found to be roosting within the only building that was considered to have bat potential on Site. Therefore, roosting bats are not

considered to be an important ecological feature (IEF) for this assessment. As stated above, the Site does offer potential for foraging and commuting bats, but it is considered that the level of activity recorded during the surveys, the current lighting at the Site and the lack of roosting features, no significant impacts to bats are anticipated from the Development.

Birds

- 3.22. A range of bird species were returned from the desk study. Records of notable and protected bird species included lesser redpoll, tree pipit and fieldfare, amongst others, within 2km of the Site boundary.
- 3.23. The Site contains suitable habitat for common species of birds given the types recorded, such as trees and scrub, and roofs of buildings.
- 3.24. The Site contains suitable foraging and commuting habitat for both common and notable species of birds, in the form of scrub and tree habitats scattered along the Site's borders and scattered amongst the Site. It is considered unlikely that notable species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) would be significantly impacted by the Development and therefore birds are not considered to be an important ecological feature (IEF) for this assessment. But all birds are protected by the law when nesting and so legal compliance is required (see **Table 10**).

Reptiles

- 3.25. Records of notable and legally protected reptiles were returned during the desk study with adder, grass snake, slow worm and common lizard all located within 0.7 km of the Site.
- 3.26. The Site offers limited opportunities for reptiles, with areas of well-maintained and highly managed scrubland and grassland too short and unsuitable for these species located on Site. Hardstanding roads which surround the Site offer barriers to dispersal and so it is considered that reptiles are not an IEF for this assessment and no significant impacts are anticipated as a result of the Development.

Amphibians

- 3.27. Numerous records of amphibians were returned from the desk study, including great crested newts, palmate newts and toads located 0.21km west. From aerial photography there appear to be at least five ponds located within 500m of the Site boundary but hardstanding roads, car parks, pavements with curbs and short modified grassland are present between these ponds and the Site forming barriers to amphibian dispersal. The ponds are also surrounded by the River Taff and Melingriffith feeder and the Glamorganshire canal which would also limit the movement of amphibians to the ponds.
- 3.28. The Site offers limited opportunities for amphibians within suboptimal well maintained and managed habitat present on Site. The presence of dispersal barriers concludes that it is assessed that amphibians are considered not to be an IEF for the Site and no significant impacts are anticipated by the Development.

Hedgehog

- 3.29. Eighty-four records of hedgehog were returned from the desk study, the closest being 0.40km north of the Site.
- 3.30. The Site offers limited opportunities for hedgehog in the form of limited scrub and treelines. The

Site is connected to the wider landscape via the surrounding habitats, with the majority of the wider landscape comprised of woodland habitat which is of better value to hedgehog. It is not considered that a significant population is present on Site and therefore hedgehogs are not considered to be an IEF for the Site and no significant impacts are anticipated from the Development.

Badger

- 3.31. The desk study returned forty-one records of badger, the closest being 0.44km east of the Site.
- 3.32. The landscape present on Site contains limited suitability for badger setts, being flat with no undulation, and no evidence of badgers was found during the Site survey. Long Wood Nature Reserve to the east and agricultural land to the south of the Site offer higher value habitats to badgers but no evidence of gaps suitable for badgers was seen under the wider Site boundary fencing. Therefore, badgers are not considered to be an IEF for the Site and no significant impacts on the local badger population are anticipated from the Development.

Dormice

- 3.33. The desk study returned nine records of badger 0.50km south-east of the Site.
- 3.34. Although habitats within the wider Site have some suitability for dormice, the habitats within the Site are deemed unsuitable for dormice due to only scattered trees, modified grassland and hardstanding being present. Hedgerows on Site are suboptimal and are very short, well managed and isolated by hardstanding and regularly managed modified grassland. Therefore, dormice are not considered to be an IEF for the Site and no significant impacts on the local dormouse population are anticipated from the Development.

Invertebrates

- 3.35. The desk study returned numerous records of notable and protected invertebrates within 2km of the Site, with small heath butterfly *Coenonympha pamphilus* being the closest at 0.40km north of the Site.
- 3.36. The Site offers limited opportunities for species of invertebrates given the grassland is kept short and limited scrubland is present. While it is anticipated that some common invertebrates are present within the habitats present on Site, the Development is unlikely to have a significant impact on notable or protected species. Therefore, invertebrates are not considered to be an IEF for the Site and no significant impacts on the local invertebrate population are anticipated from the Development.

Invasive Species

- 3.37. The desk study returned several records of invasive non-native species (INNS), with the most notable being 181 cases of Japanese Knotweed located 0.19km west of the Site.
- 3.38. However, despite no records for the Site in the data search, Himalayan Balsam was recorded on the wider Site approximately 0.11km south of the Site. No INNS were recorded during the Site survey and so invasive species are not considered to be an IEF for the Site and no significant impacts are anticipated from the Development.

Other Flora and Fauna

- 3.39. All other flora and fauna have been scoped out of this assessment due to the reasons set above. In

particular, the population area likely to be affected by the Development is of insufficient size or diversity to be of ecological value; no potential effect pathway between the Development and these features has been identified; and/or contravention of the legislation relating to the feature is highly unlikely.

4. Assessment

- 4.1. No IEFs that could be affected by the Development (based on the results of the EclA and the Development plans received to date) are currently present on Site. Some species such as nesting birds are protected under existing wildlife legislation and local planning policy (**Appendix A**).
- 4.2. The rationale for scoping out features is provided in **Table 9** below.
- 4.3. All ecological features identified through the EclA have been scoped out of further assessment because the population or area likely to be affected by the Development is of insufficient size or diversity to be of ecological value, no potential effect pathway between the Development and these features has been identified; and/or contravention of the legislation relating to the feature is unlikely to occur.

Table 8: Ecological Features Scoped out of the Assessment

Ecological Feature	Rationale
Statutory Designated Sites	<p>The Site does not fall within any statutory designated sites and although the Site's ZoI of 10km buffer does fall within an Impact Risk Zone for the Severn Estuary SSSI located on the south-east edge of the buffer, the proposed development type does not trigger the requirement for the Local Planning Authority to consult with Natural England, as the Site is not outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Cardiff Beech Woods SAC is located within 1km to the north of the Site, but it is considered due to the type of development (non-residential), the barriers such as the m4 motorway and the type of threats associated with this SAC (recreational activities, invasive species, and Interspecific floral relations), it is considered that the Development does not cause any adverse significant effects on this SAC. The closest SSSI Glamorgan Canal/ Long Wood SSSI is located approximately 0.24km to the east of the Site and it is considered with woodland buffers and short modified grassland and hardstanding separating the Site from this statutory site, no adverse impacts are likely.</p> <p>No significant impacts anticipated from the proposed Development.</p>
Non-Statutory Designated Sites	<p>The Site does not fall within any non-statutory designated site, the closest being the River Taff SINC which is located approximately 0.19km west of the Site. It is considered that the presence of Longwood Drive and the banked modified grassland between the Site and the SINC would act as a significant barrier to any direct adverse effects on this SINC by the Development. Protection measures detailed within the CEMP would also negate any indirect impacts on the SINC.</p> <p>No significant impacts anticipated from the proposed Development.</p>
Off-Site Habitats (HoPIs and Priority Habitats HAPs) County to National	<p>The Development is unlikely to have a direct effect upon HoPIs (deciduous woodland, traditional orchard and ponds) off Site.</p> <p>No indirect effects anticipated during construction due to distance from Site and intervening habitats. Indirect effects during operation are also unlikely to occur due the scale of the proposed Development, distance from Site, and either no public access being available, or these sites being already used for recreation.</p> <p>No significant impacts anticipated from the proposed Development.</p>
On Site habitats (all)	<p>No habitats on Site are assessed to be IEFs, and none are assessed to be HoPI or HAP; any protection measures would be detailed within a CEMP.</p> <p>No significant impacts anticipated from the Development.</p>
Birds	<p>Despite the local presence of notable and legally protected bird species, the opportunities on Site for birds are limited to that of common nesting species,</p>

Ecological Feature	Rationale
Statutory Designated Sites	<p>The Site does not fall within any statutory designated sites and although the Site's Zol of 10km buffer does fall within an Impact Risk Zone for the Severn Estuary SSSI located on the south-east edge of the buffer, the proposed development type does not trigger the requirement for the Local Planning Authority to consult with Natural England, as the Site is not outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Cardiff Beech Woods SAC is located within 1km to the north of the Site, but it is considered due to the type of development (non-residential), the barriers such as the m4 motorway and the type of threats associated with this SAC (recreational activities, invasive species, and Interspecific floral relations), it is considered that the Development does not cause any adverse significant effects on this SAC. The closest SSSI Glamorgan Canal/ Long Wood SSSI is located approximately 0.24km to the east of the Site and it is considered with woodland buffers and short modified grassland and hardstanding separating the Site from this statutory site, no adverse impacts are likely.</p> <p>No significant impacts anticipated from the proposed Development.</p>
Non-Statutory Designated Sites	<p>The Site does not fall within any non-statutory designated site, the closest being the River Taff SINC which is located approximately 0.19km west of the Site. It is considered that the presence of Longwood Drive and the banked modified grassland between the Site and the SINC would act as a significant barrier to any direct adverse effects on this SINC by the Development. Protection measures detailed within the CEMP would also negate any indirect impacts on the SINC.</p> <p>No significant impacts anticipated from the proposed Development.</p>
	<p>which can be appropriately mitigated through timing of Site clearance as detailed within Table 10 below.</p> <p>No significant impacts anticipated from the Development.</p>
Reptiles	<p>No suitable habitat is present on Site due to the presence of highly managed and maintained modified grassland, hardstanding and scrub. Dispersal barriers are also present such as fast flowing rivers, pavements with curbs and large areas of open hardstanding and buildings present. The wider landscape (woodland and arable) is more suitable for these species, which will not be significantly affected by this development.</p> <p>No significant impacts anticipated from the Development.</p>
Amphibians	<p>No suitable habitat is present within the Site, amenity grassland is frequently mown. Some suitable habitat exists within the Wider Site (scrub as refugia), but any populations present assessed to be insignificant due to type, amount and assemblage of habitats present. The wider landscape (woodland) is more suitable for this species, which will not be significantly affected by this development.</p> <p>No significant impacts anticipated from the Development.</p>
Hedgehog	<p>Despite local presence of this species and presence of some suitable habitat on Site (treeline and scrub) any populations present assessed to be insignificant due to type, amount and assemblage of habitats present; nonetheless sensitive vegetation clearance of any suitable habitat is recommended. The wider landscape (woodland and arable) is more suitable for this species, which will not be significantly affected by this development.</p> <p>No significant impacts anticipated from the Development.</p>
Badger	<p>Despite local presence of this species in the wider area, no signs of badger were recorded during the survey and no suitable habitats for sett building exist on Site</p>

Ecological Feature	Rationale
Statutory Designated Sites	<p>The Site does not fall within any statutory designated sites and although the Site's Zol of 10km buffer does fall within an Impact Risk Zone for the Severn Estuary SSSI located on the south-east edge of the buffer, the proposed development type does not trigger the requirement for the Local Planning Authority to consult with Natural England, as the Site is not outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Cardiff Beech Woods SAC is located within 1km to the north of the Site, but it is considered due to the type of development (non-residential), the barriers such as the m4 motorway and the type of threats associated with this SAC (recreational activities, invasive species, and Interspecific floral relations), it is considered that the Development does not cause any adverse significant effects on this SAC. The closest SSSI Glamorgan Canal/ Long Wood SSSI is located approximately 0.24km to the east of the Site and it is considered with woodland buffers and short modified grassland and hardstanding separating the Site from this statutory site, no adverse impacts are likely.</p> <p>No significant impacts anticipated from the proposed Development.</p>
Non-Statutory Designated Sites	<p>The Site does not fall within any non-statutory designated site, the closest being the River Taff SINC which is located approximately 0.19km west of the Site. It is considered that the presence of Longwood Drive and the banked modified grassland between the Site and the SINC would act as a significant barrier to any direct adverse effects on this SINC by the Development. Protection measures detailed within the CEMP would also negate any indirect impacts on the SINC.</p> <p>No significant impacts anticipated from the proposed Development.</p>
	<p>(Site is flat with no undulating ground). The wider landscape (arable land and woodland) is more suitable for this species, which will not be significantly affected by this development.</p> <p>No significant impacts anticipated from the Development.</p>
Invertebrates	<p>Despite local presence of invertebrate species, suitable habitats on Site are limited, any populations present assessed to be insignificant due to type, amount and assemblage of habitats present. The wider landscape (woodland) is more suitable, which will not be significantly affected by this development.</p> <p>No significant impacts anticipated from the Development.</p>
Dormice	<p>Despite local presence of this species and presence of suitable habitat on the wider Site (treeline and scrub to the south) no suitable habitat is located within the Site; and the development is not anticipated to impact on surrounding habitats that are suitable for this species.</p> <p>No significant impacts anticipated from the Development.</p>

- 4.7. Whilst several ecological features have been scoped out of this assessment as detailed above, **Table 10** details the obligations required to comply with existing wildlife legislation. Additional measures may be required depending on the results of the additional surveys.

Table 9: Legislative and best practice requirements

Ecological feature	Relevant legislation / mechanism	Action required
Trees	BS 5837:2012	<p>Suitable protection measures of retained trees during construction as detailed within a CEMP, including:</p> <ul style="list-style-type: none"> The protection of retained trees. Any trees to be retained should be appropriately protected in accordance

Ecological feature	Relevant legislation / mechanism	Action required
		with BS 5837:2012 – ‘Trees in relation to design, demolition and construction’
Bats (foraging)	Conservation of Species and Habitats Regulations 2017 (as amended) The Wildlife and Countryside Act 1981 (as amended)	Sensitive lighting strategy, and daylight works schedule.
Birds (nesting)	The Wildlife and Countryside Act 1981 (as amended) Section 42 of the NERC Act 2006	Retain nesting bird habitat where possible. <ul style="list-style-type: none"> If any trees are to be removed during the nesting bird season (March to August inclusive depending on seasonal variations) a pre-works check will need to be undertaken by a suitably qualified ecologist. (No more than 24 hours prior to removal). Should nesting birds be present the nest should be avoided until young have fledged. A suitable buffer would need to be established around the nest to avoid disturbance (species dependent).
Hedgehog	The Wildlife and Countryside Act 1981 (as amended) Section 42 of the NERC Act 2006	Removal of vegetation outside hibernation season (October - April). Sensitive vegetation clearance in suitable habitat.

5. Conclusions

- 5.1. For the reasons set out in the assessment presented in this EclA, all IEFs have been scoped out of further assessments due to the population or the area likely to be affected by the Development being of insufficient size or diversity to be of significant ecological value. No potential pathways between the Development and these features have been identified and contravention of the legislation relating to the feature is unlikely to occur. However, **this EclA identifies and references mitigation measures to be carried out during the construction of the Development.**
- 5.2. The ecological features detailed within **Table 11** present a constraint to the Development and as such good practice measures have been recommended to ensure legal compliance:

Table 10: Summary of Recommended Good Practice Measures to Ensure Legal Compliance

Habitats/Species	Recommendation	Timing of Survey
Bats	Retain trees where possible. Soft felling of trees if proposed to be removed. Reduce light spill as much as possible.	All year round
Hedgehog	Sensitive vegetation removal to occur outside of hedgehog hibernation season	April - September

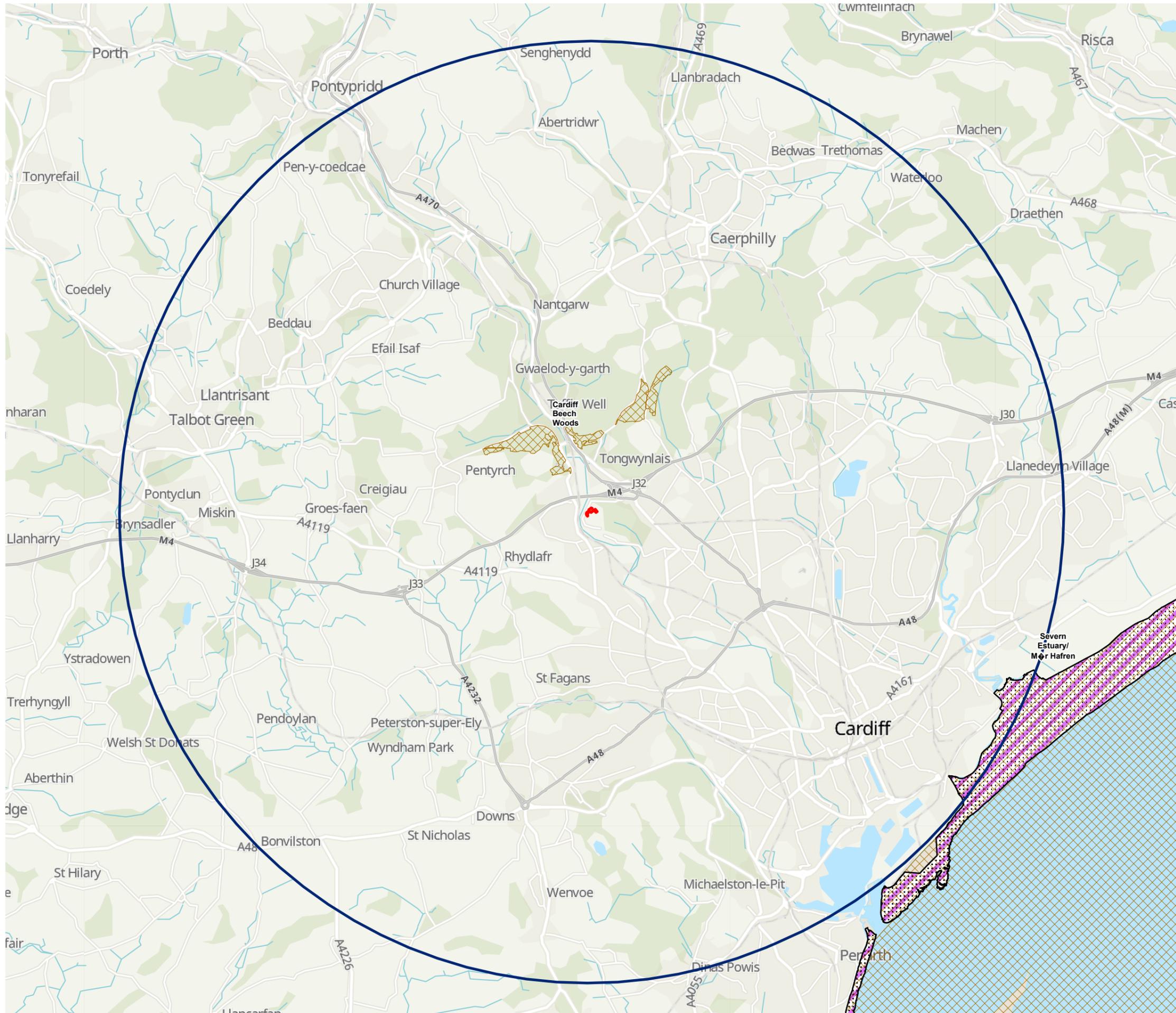
- 5.3. The Development has been determined to be a non-EIA development, as such this EclA will be a standalone document.
- 5.4. It should be noted that this EclA is relevant to the legislation detailed in **Section 2** and **Appendix A** at the time of writing. If there are any changes to legislation prior to the Development being completed, the advice within this EclA may require amending / updating in line with any legislative updates.
- 5.5. If there is a significant period between this EclA and the Development commencing, the ecological value of the Site may change, and update surveys may be required as agreed with the local planning authority (LPA).

Figures

Figure 1: Site Location Plan and Desk Study (Ref.WIE19253-100_GIS_PEA_1A)

Figure 2: Habitat Features Plan (Ref.WIE19253-100_GIS_PEA_2A)

Figures

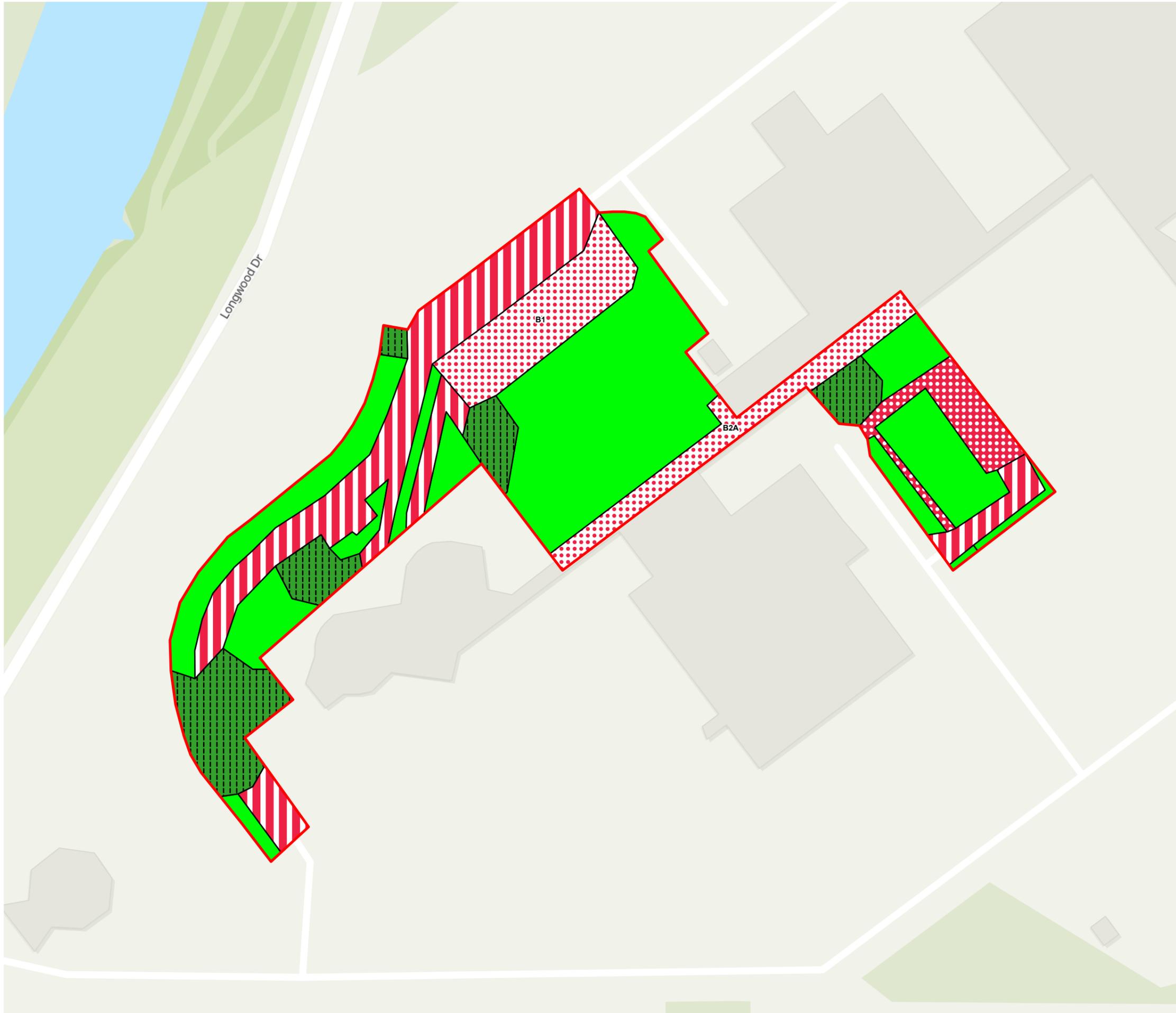


- Application Boundary
- 10km Study Area
- Ramsar Sites
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)

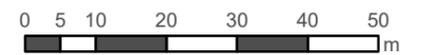


Project Details	WIE19253-100: Cardiff Edge Life Science Park
Figure Title	Figure 1: International Designated Sites
Figure Ref	WIE19253-100_GIS_PEA_1A
Date	August 2022
File Location	\\s-bl\wiel\Projects\WIE19253\100\9_GIS\WIE19253-100_GIS_ECI

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Contains data from OS Zoomstack



-  Application Boundary
-  Modified grassland - g4
-  Developed land; sealed surface - u1b
-  Buildings - u1b5
-  Artificial unvegetated, unsealed surface u1c
-  Scattered Trees



Project Details	WIE19253-100: Cardiff Edge Life Science Park
Figure Title	Figure 2: Habitat Features Plan
Figure Ref	WIE19253-100_GIS_PEA_2A
Date	August 2022
File Location	\\s-bl\wiel\Projects\WIE19253\100\9_GIS\WIE19253-100_GIS_EC1

APPENDICES

A. Summarised Ecological Planning Policy and Legislation

National Planning Policy

Planning Policy Wales, Edition 11 | February 2021

Planning Policy Wales²⁰ (PPW) was published in 2018 and last updated on 24th February 2021.

Of particular significance with respect to biodiversity in the PPW edition, is that The Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around the 6 objectives for habitats and species.

The PPW document encourages the planning system to contribute to and enhance the natural and local environment. This should be achieved by:

- *“protecting and enhancing landscapes, habitats, biodiversity, geodiversity and the historic environment in their own right;*
- *look to the long term protection and enhancement of the special characteristics and intrinsic qualities of places, be these of natural, historic or built environments, ensuring their longevity in the face of change;*
- *Development proposals should aim to protect or enhance the natural or historic character and landscape of undeveloped coastlines;*
- *Safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them;*
- *Areas considered to be unsuitable for development. Areas subject to constraints or considered unsuitable for development may include those where:*
 - *conservation or enhancement of the natural and historic environment requires development to be limited;*
 - *visual intrusion and inter-visibility between land and sea will need to be carefully considered;*
 - *there are specific policies to be pursued in Heritage Coast areas;*
 - *access to coastal paths should be protected; and*
 - *there may be risks of erosion, flooding or land instability.; and*
- *“Remediating any unexpected contamination which may arise during construction.”.*

The PPW also stipulates that Local Planning Authorities (LPAs), when determining planning applications, should apply the following principles:

- *‘The Planning and Compulsory Purchase Act 2004 – introduced the Local Development Plan system in Wales, a statutory duty requiring the Welsh Ministers to prepare the Wales Spatial Plan and local planning authorities to have regard to the Wales Spatial Plan when preparing a*

²⁰ Welsh Government (2021) *Planning Policy Wales*, PPW, (Cardiff)

Local Development Plan, and made other reforms to development management provisions in the Town and Country Planning Act 1990’.

Technical Advice Note 5 (TAN5)

TAN5 – Nature Conservation & Planning

Planning Policy Wales (PPW) (2002) sets out the land use planning policies of the Welsh Assembly Government (the Assembly Government). It is supplemented by a series of Technical Advice Notes (TANs). Procedural advice is given in National Assembly for Wales/Welsh Office circulars. PPW, Ministerial Interim Planning Policy Statements (MIPPS), the TANs and circulars together comprise national planning policy to which local planning authorities in Wales must have regard in the preparation of development plans.

They may be material to decisions on individual planning applications and will be taken into account by the Assembly Government and Planning Inspectors in the determination of called-in planning applications and appeals. Detailed advice on the preparation of unitary development plans (UDPs) is contained in Unitary Development Plans Wales, 2001.

This Technical Advice Note provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. This guidance note should be read in conjunction with Planning Policy Wales (2002), in particular with Chapter 5 Conserving and Improving the Natural Heritage and Coast which sets out the Assembly Government’s objectives for the natural heritage and the land use planning policies which support these.

Local Planning Policy

Cardiff Local Development Plan 2006-2026

The Cardiff Local Development Plan²¹ (LDP) (first adopted in 2016) sets out the council’s core strategy and policies for delivering development. A launch event was held for the Replacement LDP in May 2021, and a consultation on the strategic options closed in early February 2022. A replacement local development plan is not anticipated until October 2023.

Policy EC1.8: Existing Employment Land

Mentions Forest Farm, Longwood Drive as part of the existing employment areas outside Central and Bay Business Areas will be protected for B Class employment generating uses (together with appropriate ancillary and/or complimentary uses and activities referred to in Policy EC2). The Site’s primary uses are classed as B1, B2 and B8.

Policy EC2: Provision of Complementary Facilities for Employees in Business, Industrial and Warehousing Developments

States that within employment sites, the provision of open space, public realm, leisure, food and drink and child-care facilities will be appropriate, provided that they are of an appropriate scale and nature intended primarily to meet the needs of workers in the vicinity and not exacerbating existing traffic conditions.

²¹ Cardiff Council (2016) *Cardiff Local Development Plan, LDP, Cardiff*

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Policy KP5: Good Quality Sustainable Design

Requires all new developments to be of a high quality, sustainable design and make a positive contribution to the creation of distinctive communities, place and spaces.

Policy EN2: Conversion, Extension and Replacement Buildings in the Countryside

States that there will be a presumption against redevelopment/ replacement of buildings in Cardiff's countryside except where limited alterations take place which do not change the character of the building/ countryside and give rise to further buildings.

Policy EN4: River Corridors

The Policy provides a planning framework within which the Council can protect, promote and enhance the river corridors. The Taff possesses high recreational, biodiversity, historic, cultural and landscape value.

New developments near river corridors may be required to help achieve objectives set out in the River Corridor Action Plans, in addition to according with all other relevant policies relating to the development.

Policy EN5: Designated Sites

Development will not be permitted that would cause unacceptable harm to sites of international or national nature conservation importance.

Any impact on these would require maintenance or enhancement the nature conservation and/or geological importance of the designation. Where this is not the case and the need for the development outweighs the conservation importance of the site, it should be demonstrated that there is no satisfactory alternative location and compensation measures designed to ensure that there is no reduction in the overall nature conservation value of the area or feature.

Policy EN6: Ecological Networks and Features of Importance for Biodiversity Policy

States that development will only be permitted if it does not cause unacceptable harm to landscape important to wild flora and fauna including wildlife corridors enabling the dispersal and functioning of protected and priority species. Networks of importance for landscape or nature conservation will be protected, enlarged, connected and managed where possible.

Where 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

Policy EN7: Priority Habitats and Species

Development proposals that would have a significant adverse effect on habitats and species which are legally protected or which are identified as priorities in the UK or Local Biodiversity Action Plan will only be permitted where the need for development outweighs the nature conservation of Site, with no alternatives available and mitigation measures provided by the developer.

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It should be ensured no reduction in the overall nature conservation value of the area occurs. Where this is not possible compensation measures designed to conserve, enhance, manage and, where appropriate, restore natural habitats and species should be provided.

Policy EN8: Trees, Woodlands and Hedgerows

Development will not be permitted that would cause unacceptable harm to trees, woodlands and hedgerows of significant public amenity, natural or cultural heritage value, or that contribute significantly to mitigating the effects of climate change.

Policy EN10: Water Sensitive Design

Development should apply water sensitive urban design solutions (the process of integrating water cycle management with the built environment through planning and urban design).

Biodiversity Action Plans

UK Post-2010 Biodiversity Framework

The Environment Departments of all four governments in the UK work together through the Four Countries Biodiversity Group. Together they have agreed, and Ministers have signed, a framework of priorities for UK-level work for the Convention on Biological Diversity. Published on 17 July 2012, the 'UK Post-2010 Biodiversity Framework'²² covers the period from 2011 to 2020. This now supersedes the UK Biodiversity Action Plan (UK BAP)²³. However, many of the tools developed under UK BAP remain of use, for example, background information about the lists of priority habitats and species. The lists of priority species and habitats agreed under UK BAP still form the basis of much biodiversity work in the countries.

Although the UK Post-2010 Biodiversity Framework does not confer any statutory legal protection, in practice many of the species listed already receive statutory legal protection under UK and / or European legislation. In addition, the majority of Priority national (English) BAP habitats and species are now those listed as Habitats of Principal Importance (HoPI) and Species of Principal Importance (SoPI) in England listed under Section 42 (S42) of the NERC Act 2006. For the purpose of this report, habitats and species listed under S42 of the NERC Act are referred to as having superseded the UK BAP. All public bodies have a legal obligation or 'biodiversity duty' under Section 40 of the NERC Act 2006 to conserve biodiversity by having particular regard to those species and habitats listed under S42.

Based on the results of the EclA the following HoPIs and SoPIs listed under S42 are considered to be of potential value on and/or immediately adjacent to the Site:

- Birds: Skylark, tree pipit, lesser reppoll, common linnet, ringed plover, common cuckoo, lesser spotted woodpecker, yellowhammer, kestrel, herring gull, black headed gull, grasshopper warbler (SoPI);
- Bats: Common pipistrelle, brown long-eared, daubenton's, natterer's, noctule, nyctalus, serotine, soprano, western barbastelle and whiskered bats (SoPI); and
- Hedgehog (SoPI).

²² JNCC and DEFRA (on behalf of the Four Countries' Biodiversity Group). (2012). *UK Post-2010 Biodiversity Framework*.

²³ HMSO. (1994) *Biodiversity The UK Action Plan*.

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Cardiff Local Biodiversity Action Plan

At a local level, the Site is covered by the Cardiff Local Biodiversity Action Plan (CLBAP). This document identifies habitats and species of importance locally and contains local targets relevant for planning and mitigation within Cardiff.

Based on the results of the EclA, a number of LBAP priority species (SAPs) and habitats (HAPs) are considered to be of potential value on and/or immediately adjacent to the Site, including:

- SAPs: Bats, dormice, badgers,
- HAPs: Ancient woodland.

Guidance

Biodiversity 2022: The Nature Recovery Plan for Wales

In October 2010, over 190 countries signed an historic global agreement in Nagoya, Japan to take urgent and effective action to halt the alarming global declines in biodiversity. This agreement recognised just how important it is to look after the natural world. It established a new global vision for biodiversity, including a set of strategic goals and targets to drive action. Wales' response to this agreement was the publication of 'The Nature Recovery Plan for Wales'²⁴. The mission for this strategy is:

"Take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication. To ensure this, pressures on biodiversity are reduced, ecosystems are restored, biological resources are sustainably used and benefits arising out of utilization of genetic resources are shared in a fair and equitable manner; adequate financial resources are provided, capacities are enhanced, biodiversity issues and values mainstreamed, appropriate policies are effectively implemented, and decision-making is based on sound science and the precautionary approach."

BS 42020: 2013 Biodiversity: Code of Practice for Planning and Development

The UK commitment to halt overall loss of biodiversity by 2020 in line with the European Biodiversity Strategy and UN Aichi targets²⁵, is passed down to local authorities to implement, mainly through planning policy. To assist organizations affected by these commitments, BSI has published BS 42020 which offers a coherent methodology for biodiversity management.

This British Standard sets out to assist those concerned with ecological issues as they arise through the planning process in matters relating to permitted development and activities involved in the management of land outside the scope of land use planning, which could have site-specific ecological implications.

The standard has been produced with input from a number of organisations including the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Association of Local Government Ecologists (ALGE) and provides:

- Guidance on how to produce clear and concise ecological information to accompany planning applications;

²⁴ Welsh Government. (2020) *Biodiversity 2022: The Nature Recovery Plan for Wales*.

²⁵ <https://www.cbd.int/sp/targets/>

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- Recommendations on professional ethics, conduct, competence and judgement to give confidence that proposals for biodiversity conservation, and consequent decisions/actions taken, are sound and appropriate; and
- Direction on effective decision-making in biodiversity management a framework to demonstrate how biodiversity has been managed during the development process to minimize impact.

Legislation

Specific habitats and species receive legal protection in Wales under various pieces of legislation, including:

- The Conservation of Habitats and Species Regulations 2017²⁶;
- The Wildlife and Countryside Act (WCA) 1981 (as amended)²⁷;
- The Natural Environment and Rural Communities Act 2006²⁸;
- The Hedgerow Regulations 1997²⁹;
- The Protection of Badgers Act 1992³⁰; and
- Wild Mammals (Protection) Act 1996³¹.

Further details of legislation in respect of legally protected and notable flora and fauna of relevance to the Site are provided below.

Bats

In summary, all UK bat species are protected by The Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019. Taken together it is an offence to deliberately, intentionally or recklessly:

- Kill, injure or capture a bat;
- Disturb bats in such a way as to be likely significant to affect
 - (i) the ability of any significant group of bats to survive, breed, or rear / nurture their young; or
 - (ii) the local distribution of that species;
- Damage or destroy any breeding or resting place used by bats; or
- Obstruct access to any place used by bats for shelter or protection and disturbing bats while occupying such as place.

Birds

The level of protection afforded to birds under the law varies from species to species. A few game and pest species may lawfully be hunted and killed, usually under licence, whilst the rarest species are listed on Schedule 1 of the WCA 1981 and are protected by special penalties for offences.

All of the native bird species of Britain are additionally covered by the European Union (EU)

²⁶ HMSO (2019) The Conservation of Habitats and Species Regulations 2017

²⁷ HMSO (1981) 'Wildlife and Countryside Act 1981 (as amended)'

²⁸ ODPM (2006) 'Natural Environment and Rural Communities Act (2006)'

²⁹ ODPM (1997) 'The Hedgerow Regulations'

³⁰ ODPM (1992) 'The Protection of Badgers Act'

³¹ HMSO. (1996). *Wild Mammals (Protection) Act*.

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Directive on the Conservation of Wild Birds 2009³² ('The Birds Directive'). The Birds Directive applies to all wild birds, their eggs, nests and habitats, and provides for the protection, management and control of all species of birds naturally occurring within each member state of the European Union. It requires the UK to take measures to ensure the preservation of sufficient diversity of habitats to maintain populations of all wild birds at ecologically and scientifically sustainable levels. The requirements of the Birds Directive are implemented in the UK primarily through the WCA 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017.

Statutory protection is given to all nesting birds in the UK under the WCA 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird, take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for species listed on Schedule 1 of the WCA 1981 (as amended), it is an offence to intentionally or recklessly disturb birds while they are nest building, or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

In addition to statutory protection, the bird species of Britain are also subject to various conservation designations intended to indicate their rarity, population status and conservation priority. These do not have statutory force but may be instrumental in determining local, regional and national planning and development policy. The main categories of designation comprise the British Trust for Ornithology (BTO) 'Species Alert' lists, the Royal Society for the Protection of Birds (RSPB) 'Birds of Conservation Concern' lists and species listed under Section 42 of the NERC Act 2006 and local Biodiversity Action Plans (BAPs).

The BTO Conservation Alert System lists of 'Birds of Conservation Concern' include a 'Red List' for birds of high conservation concern and an 'Amber List' for birds of medium conservation concern. Red List species are those that are globally threatened and Amber List species are those with an unfavourable conservation status in Europe, according to the International Union for Conservation of Nature (IUCN) criteria³³. An updated list of 'Red' and 'Amber List' species was published in 2021 (Eaton et al., 2021)³⁴.

Invertebrates

The majority of invertebrate species are not legally protected. However, a total of seventy-two terrestrial and aquatic invertebrate species are protected under the WCA 1981 (as amended). Certain species of invertebrate are also protected under The Conservation of Habitats and Species Regulations 2017.

Reptiles

All native British reptiles are protected in accordance with the WCA 1981 (as amended). There are two levels of protection afforded to reptiles through the WCA 1981 (as amended); these result from different parts of the Act applying to the different species.

In summary, common species of reptile such as common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Vipera berus* are partially protected under the WCA 1981 (as amended); this prohibits the intentional killing and injuring and trade (i.e. sale, barter, exchange, transporting for sale and advertising to sell or to buy). It is not an offence under

³² Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

³³ IUCN (2000): 'The revised Categories and Criteria (IUCN Red List Categories and Criteria version 3.1)'

³⁴ Eaton et al (2021): 'Birds of Conservation Concern 5: the population status of birds in the United Kingdom, Channel Islands and Isle of Man'. *British Birds* 108, 708–746.

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the WCA 1981 (as amended) to disturb or possess these species.

Amphibians

Common species of amphibian (smooth newt *Lissotriton vulgaris*, palmate newt *L. helveticus*, common frog *Rana temporaria* and common toad *Bufo bufo*) are partially protected by the WCA 1981. This prohibits the trade (i.e., sale, barter, exchange, transporting for sale and advertising to sell or to buy) of these species.

Great crested newts *Triturus cristatus* are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and the WCA 1981 (as amended). In summary, taken together, it is an offence to deliberately, intentionally or recklessly:

- Kill, injure or capture a great crested newt;
- Disturb great crested newts in such a way as to be likely significant to affect:
 - (i) the ability of any significant group of great crested newts to survive, breed, or rear / nurture their young; or
 - (ii) the local distribution of great crested newts;
- Damage or destroy any breeding or resting place used by great crested newts; or
- Obstruct access to any place used by great crested newts for shelter or protection and disturbing great crested newts while occupying such as place.

Appendices

Cardiff Edge Life Sciences Park

Project Number: WIE19253-100

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B. Photographs



Plate 1 – Example of short modified grassland on Site.



Plate 2 – Example of scrub habitat on Site.



Plate 3 – Building B1 with potential bat roosting features.



Plate 4 – Gap/crevice suitable for roosting bats.

Appendices

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Plate 5 – Large areas of hardstanding are present within the Site.



Plate 6 – Pavements with curbs are present within the Site forming barriers to dispersal.

Appendices

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UK and Ireland Office Locations

