



Weycock Cross

Ecological Appraisal

Prepared by:
**The Environmental Dimension
Partnership Ltd**

On behalf of:
Cardiff and Vale College

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(edp8137_d013a 06 December 2023 MCa/EWi)

Plan EDP 9g: Bat Transect Results – October 2023

(edp8137_d014a 06 December 2023 MCa/EWi)

Executive Summary

- S1 This Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Cardiff and Vale College (hereafter referred to as 'the Applicant'). This Appraisal considers the ecological implications of proposed development at Weycock Cross (hereafter referred to as 'the Site'). The Site is to be subject to an outline planning application for up to 16 dwellings, including demolition, public open space, sustainable urban drainage system, landscaping and associated infrastructure and engineering works, with all matters reserved except for means of strategic access.
- S2 To establish the ecological baseline of the Site and subsequently inform a planning application submission for residential development, a desk study, Extended Phase 1 Habitat survey and further detailed surveys with respect to grassland communities, bats and dormouse (*Muscardinus avellanarius*) were completed by EDP during 2023.
- S3 Part of the Site overlaps with Barry Woodlands Site of Special Scientific Interest (SSSI) whilst Fferm Walters SSSI lies adjacent to the Site's eastern boundary. Additional statutory designations identified within 2km of the Site include Cliff Wood - Golden Stairs SSSI and Cwm Talwg Woodlands Local Nature Reserve (LNR). Additionally, there are 18 non-statutory designations within 2km of the Site including West of Barry College Site of Importance for Nature Conservation (SINC) which lies adjacent to the Site's eastern boundary (and forms part of Fferm Walters SSSI).
- S4 With respect to habitats on-site, the Site is dominated by hardstanding and buildings considered to be of negligible ecological importance. Semi-natural habitat of greater importance include broadleaved woodland (areas of which are designated as Ancient Semi-natural Woodland (ASNW)) which are predominantly associated with the boundaries of the Site and unimproved neutral grassland, small areas of which were recorded in association with the frontage of on-site buildings. With respect to protected and notable species the Site provides suitable habitat for breeding birds, bats, [REDACTED] otter (*Lutra lutra*), common reptiles/amphibians and priority mammals such as European hedgehog. In addition, a number of soprano pipistrelle, *Myotis* sp., and brown long-eared summer day/transitional roosts were identified on-site.
- S5 Accordingly, EDP has provided specific proposals for the avoidance, mitigation and compensation of any predicted impacts including the retention, protection and enhancement of those designations and features of ecological importance as far as possible, combined with the long-term management of retained habitats and creation of new habitat features within the Site. In respect of Barry Woodlands SSSI in particular, although there will be some tree removal and land take within the boundaries of this designation to widen an existing road, such losses have been minimised as far as possible with land take limited to existing areas of heavily degraded habitat. In addition to compensation of direct tree and habitat loss through new habitat creation, including tree planting, there remain opportunities to deliver positive benefits to the condition of the SSSI through sensitive long-term management of retained woodland habitat within the Site and wider land ownership strategy and removal of non-native species.

- S6 With respect to roosting bats, proposed demolition of on-site buildings associated with development proposals must be completed under a Natural Resources Wales (NRW) Development Licence, with sufficient replacement roosting habitat provided. Further specifications regarding sensitive working methodologies during the construction phase are also recommended to avoid impacts upon sites and retained habitats and ensure the avoidance of harm/injury and disturbance to protected species present/potentially present.
- S7 Overall, given the small scale of the development proposals which seeks to re-purpose previously developed land and subject to implementation of the above mitigation in full, the scheme is capable of maintaining the integrity of Barry Woodlands SSSI, in addition to complying with relevant wildlife legislation and planning policy in respect of protected species occurring/potentially occurring on-site.

Section 1 Introduction

- 1.1 This Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Cardiff and Vale College (hereafter referred to as 'the Applicant'). This Appraisal considers the ecological implications of proposed development at Weycock Cross (hereafter referred to as 'the Site').
- 1.2 This report has been prepared with reference to the following key guidance:
- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal¹;
 - CIEEM Guidelines for Ecological Impact Assessment²; and
 - British Standard: Biodiversity - Code of Practice for Planning and Development³.
- 1.3 EDP is an independent environmental planning consultancy with offices in Cirencester, Cardiff and Cheltenham. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and masterplanning. Details of the practice can be obtained at our website (www.edp-uk.co.uk).

SITE CONTEXT

- 1.4 The Site is centred approximately at Ordnance Survey Grid Reference (OSGR) ST 09400 69104. The Local Planning Authority (LPA) is Vale of Glamorgan Council (VoGC). The location and extents of the Site are illustrated on the Phase 1 Habitat Survey plan (**Plan EDP 1**).
- 1.5 The Site measures approximately 1.46 hectares (ha) and is located 0.5km from the north-western edge of the town of Barry. The Site comprises an area of existing development (the campus) which is accessed via a private driveway from Weycock Road (A4226). The Site was originally used as an Isolation Hospital for Barry, in use from circa 1908, before re-development for educational use in the 1950s. The Site now supports a number of vacant, single storey prefabricated structures set between the original stone buildings, together with an occupied residential property with double garage, and extensive areas of hardstanding. The Site is currently derelict with the vacant buildings used for storage. Some semi-natural habitat is present around the buildings, including areas of outgrown planting beds and amenity grass verges. Semi-natural broadleaved and ASNW forms the northern and western curtilage of the campus with mature, dense scrub forming the eastern curtilage. A brick wall is present (although degraded and missing in places) and appears to delineate the historical boundary between the campus and Barry Woodlands SSSI, which envelops the Site to the north, west and

¹ CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester

² CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2*. Chartered Institute of Ecology and Environmental Management, Winchester

³ BSI (2013) *Biodiversity - Code of Practice for Planning and Development*. BS 42020:2013. British Standards Institute

south. The existing access road comprises a single lane, tarmac track and overlaps with the boundaries of Barry Woodlands SSSI.

- 1.6 A small watercourse is culverted under the access road at the entrance to the Site and flows in a north westerly direction within the SSSI woodland and adjacent to Weycock Road. Beyond the eastern boundary of the Site is a complex of species-rich semi-improved and unimproved grassland comprising qualifying features of Fferm Walters SSSI. Habitat in the wider landscape is predominantly in mixed agricultural use, with further woodland areas present to the north and west.

DEVELOPMENT PROPOSALS

- 1.7 In brief, proposed development comprises redevelopment of the campus to accommodate up to 16 dwellings (use class C3), including demolition, public open space, sustainable urban drainage system (SUDs), landscaping and associated infrastructure and engineering works. All matters are reserved except for means of the access. The proposals are to be the subject of an outline planning application. The Illustrative Layout is provided as **Appendix EDP 1** to this report.
- 1.8 The ecological sensitivities of the Site have influenced the final layout through an iterative design process. Thus, the masterplan incorporates a degree of 'inherent' mitigation to avoid or reduce the severity of potential ecological impacts.

SCOPE OF THE ASSESSMENT

- 1.9 This Ecological Appraisal describes the current ecological interest within and around the Site, which has been identified through standard desk- and field-based investigations. It then considers the potential ecological impacts and opportunities for ecological enhancement based on the final masterplan (incorporating inherent mitigation) in the context of relevant legislation and planning policy. Finally, this Appraisal identifies the necessary additional measures to avoid, mitigate or provide compensation for potential impacts, and the mechanisms for securing such measures.
- 1.10 The remainder of this report is structured as follows:
- **Section 2** summarises the methodology employed in determining the baseline ecological conditions within and around the Site (with further details provided within Appendices and on Plans where appropriate);
 - **Section 3** summarises the baseline ecological conditions (with further details also provided within Appendices and on Plans where appropriate) and identifies and evaluates any pertinent ecological features/receptors;
 - **Section 4** describes how the development design has responded to the ecological constraints and any embedded/inherent mitigation, and then considers the potential impacts of the proposals on pertinent ecological features;

- **Section 5** proposes mitigation and enhancement measures for the current and possible future planning stages, in the context of relevant legislation and planning policy, and mechanisms to secure their delivery; and
- **Section 6** summarises the mitigation and enhancement strategy for the Site and provides the overall conclusions of the Appraisal.

Section 2 Baseline Methodology

2.1 This section of the Ecological Appraisal summarises the methodologies employed in determining the baseline ecological conditions within and around the Site. This has been undertaken by appropriately qualified ecologists using relevant best practice methodologies wherever possible. Reasons for any departure from best practice methodology are given and normally relate to the timing of EDP's commission and/or the availability of access to parts of the Site or wider study area. Full details of the techniques and process adopted are, where appropriate, provided within Appendices and on Plans to the rear of this report.

DESK STUDY

2.2 The desk study is an important element of undertaking an initial ecological appraisal of a site proposed for development, which entails the initial collation and review of contextual information, such as designated sites, together with known records of important habitats or species.

2.3 The desk study involved collating biodiversity information from the following sources:

- South East Wales Biological Records Centre (SEWBRc); and
- Multi-Agency Geographic Information for the Countryside (MAGIC) website⁴.

2.4 The desk study was undertaken during June 2023 and involved obtaining the following information:

- International statutory designations (10km radius around the Site);
- National statutory designations and non-statutory local sites (2km radius around the Site);
- Annex II bat species⁵ records (6km radius around the Site);
- All other protected, priority⁶ and notable⁷ species records (2km radius around the Site); and
- All other notable habitat records (500m radius around the Site).

2.5 These search areas are considered sufficient to cover the potential zones of influence⁸ of the proposed development in relation to designated sites, habitats and species.

⁴ www.magic.gov.uk

⁵ Bat species listed in Annex II of the EC Habitats Directive, namely Greater horseshoe, Lesser horseshoe, Barbastelle and Bechstein's bats

⁶ Species considered of key significance to sustain and improve biodiversity in Wales, as defined under Section 7 of Part 1 of the Environment (Wales) Act 2016.

⁷ Notable species are those which are not legally protected but are formally identified as being of conservation concern.

⁸ Zone of Influence - the areas and resources that may be affected by the proposed development

- 2.6 The adopted Vale of Glamorgan Local Development Plan (LDP)⁹ and Supplementary Planning Guidance (SPG) - Trees, Woodlands, Hedgerows and Development (2018)¹⁰ and Biodiversity and Development (2018)¹¹ were also reviewed as part of the desk study to understand local priorities with regard to protection of ecological features/biodiversity.
- 2.7 In addition to the above, previous ecological survey information for the Site, collected by ADAS in June 2022, was reviewed to provide further contextual information.

EXTENDED PHASE 1 HABITAT SURVEY

- 2.8 Due to the nature and type of contiguous habitat present within the Site and immediate surroundings, the survey area for the Extended Phase 1 Habitat survey, detailed botanical survey and dormouse survey specifically, encompassed the Site and wider land ownership boundary, as illustrated at **Plan EDP 1**.
- 2.9 The main habitats within the Site and wider land ownership boundary, together with their dominant/characteristic plant species, were identified by undertaking an Extended Phase 1 Habitat survey in May 2023.
- 2.10 Full details of the habitat survey methodology are provided within **Appendix EDP 2**.

DETAILED (PHASE 2) SURVEYS

- 2.11 The scope of Phase 2 Surveys undertaken within the Site were defined following the initial studies described above.
- 2.12 The surveys 'scoped in' based upon the findings of the Extended Phase 1 Habitat survey are summarised in turn below, with reference to sources of further detailed information where applicable.

Detailed Botanical Survey

- 2.13 The Site overlaps with Barry Woodlands SSSI, designated for its semi-natural broadleaved woodland and is also located directly adjacent to Fferm Walters SSSI to the east, designated for its lowland unimproved neutral grassland. Combined with the identification of species-rich grassland communities during the Extended Phase 1 Habitat survey, a detailed botanical survey of woodland and grassland habitats within the Site and wider land ownership was undertaken on 01 June 2023 to provide a more robust assessment of their botanical diversity and condition.

⁹ Vale of Glamorgan (2011). Vale of Glamorgan Local Development Plan 2011-2026. Available at: <https://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Policy/LDP/LDP-Adoption/Adopted-LDP-Written-Statement-June-2017-final-interactive-web-version.pdf> [Accessed on 10 November 2023]

¹⁰ Vale of Glamorgan (2018). Trees, Woodland, Hedgerows and Development Supplementary Planning Guidance. Available at: <https://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Policy/SPG/Final-Trees-Woodlands-Hedgerows-and-Development-SPG-2018-v2.pdf> [Accessed on 10 November 2023]

¹¹ Vale of Glamorgan (2018). Biodiversity and Development Supplementary Planning Guidance. Available at: <https://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Policy/Biodiversity-and-Development-SPG-2018.pdf> [Accessed on 10 November 2023]

- 2.14 Full details of the botanical survey methodology, and any limitations encountered, are provided within **Appendix EDP 2**.

Bat Surveys

- 2.15 During the Extended Phase 1 Habitat survey, seven trees and seven buildings present within, or immediately adjacent to, the Site were identified as having potential to support roosting bats.
- 2.16 In addition, habitats present within the Site including grassland and woodland were identified as being of moderate suitability to support a foraging and commuting bat assemblage. The following surveys for bats were, therefore, completed during 2023 with reference to best practice guidelines¹² current at the time of survey.

Bat Roost Inspection Surveys – Trees

- Preliminary ground level roost assessment of trees within/immediately adjacent to the Site for bat roosting suitability, undertaken on 26 June 2023; and
- Detailed aerial inspections of trees with bat roosting suitability were undertaken on 05 July, 17 August and 01 September 2023.

Bat Roost Inspection Surveys – Buildings

- Preliminary roost assessment of on-site buildings to search for evidence of bats and determine the suitability of features to support roosting, undertaken on 09 June 2023;
- Dusk emergence and/or dawn re-entry surveys of buildings **B1-B7** to confirm presence/likely absence of roosting bats between August and early-October 2023; and
- Environmental DNA (eDNA) sampling of faecal matter collected from external roosting features identified during dusk emergence and dawn re-entry surveys.

Bat Activity Surveys

- Manual transect surveys conducted monthly between May and October 2023; and
 - Automated detector surveys conducted monthly between May and October 2023.
- 2.17 Full details of the bat survey methodologies, and any limitations encountered, are provided in **Appendix EDP 3**

2.18



¹² Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London



Limitations

- 2.19 [REDACTED] surveys can be undertaken at any time of year and are, therefore, not limited by seasonal factors.
- 2.20 Dense scrub precluded a thorough search of the Site for [REDACTED] such that evidence of this species may have been missed. This is, however, not considered a significant constraint to an assessment with no obvious signs of mammal passage identified during survey effort whilst presence of this species is presumed given the suitability of habitats.

Dormouse Survey

- 2.21 Owing to the suitability of the broadleaved semi-natural woodland and scrub habitats within and adjacent to the Site for dormouse, a nest tube survey to determine the presence/likely absence of the species was undertaken in accordance with best practice guidelines¹³.
- 2.22 A total of 57 standard nest tubes, each comprising a wooden tray and nesting tube made from plastic tree guard material, were deployed throughout suitable habitat within the Site and wider land ownership boundary at approximately 20m intervals on 23 May 2023 (refer to **Plan EDP 2** for nest tube locations) Nest tubes were erected at approximately 1.5m to 2m above ground and tied to suitable branches located within the woodland. Tubes were left *in situ* and checked for evidence of use by dormouse during suitable weather conditions on six separate occasions between June and November 2023.
- 2.23 With reference to the best practice guidelines, a total survey effort score can be derived by adding together the index of probability in detecting dormouse presence within nest tubes for each of the months during which the nest tubes were deployed (assuming a minimum deployment of fifty nest tubes). These guidelines recommend that a score of at least 20 is achieved to provide a robust assessment of presence/absence. As illustrated in **Table EDP 2.1** the total survey effort score is 22.8, which exceeds this minimum.

Table EDP 2.1: Dormouse Survey Effort

Month	Index of Probability	Visit Details	Weather Conditions During Survey
May	N/A	Tubes deployed 23 May 2023	N/A

¹³ Bright, P.W, Morris, P.A. and Mitchell-Jones, T. (2006). *The Dormouse Conservation Handbook Second Edition*. English Nature, Peterborough.

Month	Index of Probability	Visit Details	Weather Conditions During Survey
June	2	Tubes checked 26 June 2023	19 degrees, 50% cloud cover, slight breeze, no rain.
July	2	Tubes checked 24 July 2023	20 degrees, overcast, slight breeze, no rain
August	5	Tubes checked 29 August 2023	18 degrees, clear, slight breeze, no rain.
September	7	Tubes checked 26 September 2023	19 degrees, 50% cloud cover, no rain.
October	2	Tubes checked 17 October 2023	12-14 degrees, 60% cover, moderate breeze, no rain.
November	2	Tubes checked 28 November 2023	8 degrees, 20% cover, no breeze, no rain
Total Survey Effort Score	22.8 (total of 20 points per 50 tubes; equivalent to 22.8 points for 100 tubes)		

Limitations

- 2.24 There was full access to suitable habitat within the Site and wider land ownership boundary, with the exception of the north-western triangular-shaped area of woodland (refer to **Plan EDP 1**) which was not physically accessible due to the presence of a high brick wall with a steeply sloping gradient beyond. This is not, however, considered to have affected the results of an assessment with survey effort considered sufficiently robust to infer presence/absence of dormouse within/adjacent to the Site.

Great Crested Newt Survey

- 2.25 An initial assessment of the Site's suitability to support great crested newt (*Triturus cristatus*) was undertaken during the Extended Phase 1 Habitat survey and with reference to desk study records as described above. No waterbodies (other than a woodland stream) were identified within the boundaries of the Site.
- 2.26 Two waterbodies were, however, identified within a 500m radius of the Site. Of these, one was located 370m north-west of the Site on the opposite side of Weycock Road, and is considered a barrier to the dispersal of great crested newt between this waterbody and the Site. This waterbody has thus been scoped out of an assessment. A second waterbody was identified 290m north-west of the Site, in association with a residential property, between which there is some habitat connectivity with the Site.
- 2.27 A Habitat Suitability Index (his) Assessment and environmental DNA (eDNA) sampling of the waterbody was thus attempted on 22 May 2023. However, no access was granted by the landowner with no recourse to access the waterbody on an alternative date. This is, however, not considered a significant constraint to an assessment given the distance of the pond from the Site (greater than 250m) such the potential for great crested newt to disperse between this

waterbody and the Site is much reduced, combined with the limited extent of suitable terrestrial habitat for this species within the Site itself.

ECOLOGICAL SURVEYS SCOPED OUT

2.28 **Table EDP 2.2** summarises other survey types which, whilst occasionally required to inform a planning submission for development sites, are not deemed to be necessary/appropriate in this case.

Table EDP 2.2: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Breeding and wintering birds	Whilst semi-natural woodland habitat which surrounds the Site is likely to support notable bird assemblage including woodland specialists, no further detailed surveys are considered necessary in this instance given the relatively small area of the Site dominated by hardstanding and buildings. Semi-natural habitat within the Site is limited to small areas of grassland, dense scrub, occasional tree standards and ruderal vegetation. Precautionary measures of clearance during the pre-construction phases of future development are instead proposed, to ensure no harm/disturbance to a breeding bird population.
Bats (Hibernating)	There was no internal access to on-site buildings due to presence of asbestos which prevented an assessment of each buildings hibernation potential and also precluded further detailed survey. Particularly in the absence of any underground structures, including basements. On-site buildings are considered to offer little potential for hibernating bats, with any potential internal cavities within each building considered non-classic examples of a potential hibernation site. Such features are likely to support low numbers of common and widespread crevice dwelling species only such as common pipistrelle (<i>Pipistrellus pipistrellus</i>), soprano pipistrelle (<i>Pipistrellus pygama</i>) and noctule (<i>Nyctalus noctula</i>). Other bat species are typically associated with underground caves/mines/cellars and/or trees. Precautionary measures of working are, therefore, recommended during demolition of on-site buildings.
Otter (<i>Lutra lutra</i>)/Water Vole (<i>Arvicola amphibius</i>)	Although a small watercourse is present at the southernmost extent of the Site, no evidence of otter or water vole were identified following a search for either species during the Extended Phase 1 Habitat survey. As such, no further survey in respect of either of these species is required although precautionary measures of clearance during the pre-construction phases of future development are proposed, to ensure no harm/disturbance to a population if present in the wider landscape.
Common Reptiles	Given the relatively small size of the Site and dominance of hardstanding and the footprint of buildings, no further surveys were considered necessary to inform a planning application in this instance. Presence of low numbers of common reptile species is, however, presumed given the suitability of off-site and boundary habitats. Precautionary measures of clearance during the pre-construction phases of future development are instead proposed, to ensure no harm/disturbance to a population.

Survey Type	Reasons for Scoping Out
Invertebrates	Habitats present on-site, dominated by hardstanding, buildings and scrub, are considered likely to support a limited assemblage of common and widespread invertebrate species only. Whilst woodland and species-rich grassland provide suitable habitat for more notable species, such areas are small in extent and unlikely to support significant populations of notable species whilst woodland habitat around the boundaries of the Site will be retained. As such, no further survey is proposed in this instance.

Section 3 Baseline Results

- 3.1 This section of the Ecological Appraisal summarises the baseline ecological conditions determined through the course of desk-based and field-based investigations described in **Section 2**. In particular, this section identifies and evaluates those ecological features/receptors that lie within the Site's potential Zone of Influence (Zoi) and which are pertinent in the context of the proposed development. Further technical details are, where appropriate, provided within Appendices and on Plans to the rear of this report.
- 3.2 Where a particular ecological feature/receptor has been confirmed to be present, or presence is inferred based on habitat suitability, its ecological importance is assessed. The level of ecological importance assigned to each ecological feature is based upon established geographical value systems and the uses the following scale: International and European (highest) > National > Regional > County > District > Local > Site/Negligible (lowest).

DESIGNATED SITES

- 3.3 Information regarding designated sites was obtained during the desk study. Statutory designations (those receiving legal and planning policy protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

Statutory Designations

- 3.4 Statutory designations represent the most significant ecological receptors. Internationally important statutory designations include Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites (including potential SPAs, possible SACs and proposed Ramsar sites). These designations are protected under the *Conservation of Habitats and Species Regulations 2017* (as amended) (the Habitats Regulations).
- 3.5 Nationally important statutory designations include SSSIs and National Nature Reserves (NNR). NNRs are also SSSIs, both of which are protected under the *Wildlife and Countryside Act 1981* (as amended).
- 3.6 The legal protection of SACs, SPAs, Ramsar Sites and SSSIs is also reflected in policies included within Planning Policy Wales 11 (PPW) and within Technical Advice Note 5: Nature Conservation and Planning (TAN5), which are a material consideration during the planning application process.
- 3.7 Local level statutory designations include Local Nature Reserves (LNRs) and are generally considered to be of importance at the County level or lower. LNRs are designated under the National Parks and Access to the *Countryside Act 1949*, however, protection of LNRs is given via local planning policies and/or by-laws.

3.8 Statutory designations are also recognised as key natural assets within the adopted Vale of Glamorgan Local Development Plan (LDP). Specifically, Policy SP10 (Built and Natural Environment) requires proposals to preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including sites designated for their local, national and European nature conservation importance.

3.9 Of further consideration Policy MG19 (Sites and Species of European Importance) states, in part:

“Development proposals likely to have a significant effect on a European site, when considered alone or in combination with other projects or plans will only be permitted where:

- *The proposal is directly connected with or necessary for the protection, enhancement and positive management of the site for conservation purpose;*
- *The proposal will not adversely affect the integrity of the site;*
- *There is no alternative solution;*
- *There are reasons of overriding public interest; and*
- *Appropriate compensatory measures are secured.”*

3.10 Meanwhile, Policy MG20 (Nationally Protected Sites and Species) states, in part:

“Development likely to have an adverse effect either directly or indirectly on the conservation value of a site of special scientific interest will only be permitted where it is demonstrated that:

- *There is no suitable alternative to the proposed development;*
- *It can be demonstrated that the benefits from the development clearly outweigh the special interest of the site;*
- *Appropriate compensatory measures are secured; or*
- *The proposal contributes to the protection, enhancement or positive management of the site.”*

3.11 Circa 28% of the Site encompassing the existing access road, overlaps with Barry Woodlands SSSI. In addition, there is one internationally important designation within 10km of the Site, two further nationally important designations within 2km of the Site, and one county important designation within 2km of the Site. These sites are summarised in **Table EDP 3.1** and illustrated on **Plan EDP 3**.

Table EDP 3.1: Statutory Designations Within the Site's Potential Zone of Influence

Designation	Approx. Distance from the Site	Interest Feature(s)
Internationally Important Statutory Designated Sites (within 10km of the Site)		
Severn Estuary SAC, SPA and Ramsar	9.2km east	<p>SAC: Designated for presence of Annex I habitats, estuaries, mudflats and sandflats not covered by seawater at low tide and Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>). Designated for presence of Annex II species sea lamprey (<i>Petromyzon marinus</i>), river lamprey (<i>Lampetra fluviatile</i>) and twaite shad (<i>Alosa fallax</i>).</p> <p>SPA: The Severn Estuary is particularly important for migratory birds with its tidal flats and associated wetlands regularly supporting over 20,000 wintering waterfowl. Internationally important populations of five species of waterfowl are regularly supported by the estuary. These include European white-fronted goose (<i>Anser albifrons albifrons</i>), shelduck (<i>Tadorna tadorna</i>), gadwall (<i>Anas strepera</i>), dunlin (<i>Calidris alpina</i>) and redshank (<i>Tringa totanus</i>).</p>
Nationally Important Statutory Designated Sites (within 2km of the Site)		
Barry Woodlands SSSI	Overlaps with the access road (accounting for 28% of the Site)	This designated site comprises a series of 14 separate semi-natural broadleaved woodland blocks. The ground flora of these woodlands is of particular interest as it is especially rich, even in areas replanted with non-native trees.
Fferm Walters SSSI	Adjacent to the east of the Site	Large area of species-rich neutral grassland, most of which has a particularly calcicolous nature and is one of the rarest types of grassland in Wales.
Cliff Wood – Golden Stairs SSSI/LNR	1.8km south	The best example of a mixed woodland in South Glamorgan, which has a canopy of pedunculate oak (<i>Quercus robur</i>), ash (<i>Fraxinus excelsior</i>), maple (<i>Acer</i> spp.) and yew (<i>Taxus baccata</i>). The interesting, ungrazed ground flora and wooded cliff areas include purple gromwell (<i>Lithospermum purpurocaeruleum</i>), which is restricted to a very small number of sites in the county.
Statutory Designated Sites of County Importance (within 2km of the Site)		
Cwm Talwg Woodlands LNR	900m south-east	2.85ha of mature deciduous woods in three sections, separated by a housing development.

3.12 Overall, Cliff Wood Golden Stairs SSSI/LNR and Cwm Talwg Woodlands LNR are considered sufficiently distant and spatially separated from the Site that they are not considered a constraint to its proposed development and will not be considered further within this report. The following statutory designations are, however, considered pertinent to development proposals either due to their proximity to the Site or due to the existence of potential pathways along which impacts may arise:

- Severn Estuary Ramsar Site/SPA/SAC due to potential hydrological connectivity via River Weycock; and
- Barry Woodlands SSSI and Fferm Walters SSSI by virtue of their proximity to the Site.

Non-statutory Designations

3.13 Non-statutory designations are also commonly referred to in planning policies as 'local sites', although such designations are typically considered to be of importance at a County level. In the Vale of Glamorgan, such designations are termed Sites of Importance for Nature Conservation (SINC). Additional sites such as non-designated nature reserves (e.g. Wildlife Trust nature reserves) NRW Priority Areas and ASNW are considered here when not covered by other designations. The importance of SINCs is recognised in PPW and in the VoG LDP, specifically Policy MG21 (Sites of Importance for Nature Conservation, Regionally Important Geological Geomorphological Sites and Priority Habitats and Species) which states:

“Development proposals likely to have an adverse impact on sites of importance for nature conservation or priority habitats and species will only be permitted where it can be demonstrated that:

- *The need for the development clearly outweighs the nature conservation value of the site;*
- *Adverse impacts on nature conservation and geological features can be avoided;*
- *Appropriate and proportionate mitigation and compensation measures can be provided; and*
- *The development conserves and where possible enhances biodiversity interests.”*

3.14 No part of the Site is covered by any non-statutory designations. There are 18 SINCs located within 2km of the Site, as summarised in **Table EDP 3.2** and shown on **Plan EDP 4**. Of further pertinence, c.0.73ha/49% of the Site overlaps with a designated area of ASNW. An additional 50 units of ASNW, Plantation on Ancient Woodland (PAWS), Restored ancient Woodland (RAWS) and Ancient Woodland Site of Unknown Category were identified within 2km of the Site as illustrated at **Plan EDP 4**.

Table EDP 3.2: Non-Statutory Designations (SINCs) Within 2km of the Site

Designation	Approx. Distance from the Site	Interest Feature(s)
West of Barry College SINC	Adjacent to the east	Lowland meadow
Walters Farm SINC	150m south east	Lowland meadows
North West of Welsh Hawking Centre SINC	300m north	Lowland mixed deciduous woodland
Sutton Wood SINC	1km north-west	Lowland mixed deciduous woodland
North East of Knock Man Down Wood SINC	1km south	Lowland mixed deciduous woodland
North of Highlight Farm SINC	1km north	Series of ponds
Land at Nant Bryhill SINC	1.1km north east	Lowland meadow and tall swamp
South of Cwm Ciddy Farm SINC	1.2km south	Lowland meadows
Coed Garw SINC	1.3 north-west	Lowland mixed deciduous woodland
Land North of Blackton Farm SINC	1.4km west	Wet grasslands and tall swamp
Brynhill SINC	1.5km east	Lowland mixed deciduous woodland
North Cwm Barri SINC	1.6km south	Lowland mixed deciduous woodland
Land to West of Northcliff Farm SINC	1.8km north-west	Lowland mixed deciduous woodland
Dyffryn Golwch SINC	1.9km north	Reedbed, wet woodland, eutrophic standing waters, ponds
Knock Man Down Wood SINC	1.8km south	Lowland mixed deciduous woodland
Church Hill Wood SINC	1.9km west	Lowland mixed deciduous woodland
Great Hamston SINC	1.9km north	Reedbed and ponds
Fields at Merthyr Dyfan SINC	1.9km east	Lowland meadows

3.15 Overall, the majority of non-statutory designations are considered sufficiently distant and spatially separated from the Site that they are not considered a constraint to its proposed development and will not be considered further within this report. The following non-statutory designations are, however, considered pertinent to development proposals either due to their proximity to the Site or due to the existence of potential pathways along which impacts may arise:

- West of Barry College SINC and Walters Farm SINC by virtue of their proximity to the Site;
- Sutton Road SINC, woodland habitats typically sensitive to changes in air quality and located within 50m of Weycock Road; and
- Land North of Blackton Farm SINC due to potential hydrological connectivity via the River Weycock.

HABITATS

- 3.16 There are several mechanisms by which habitats that lie outside of statutory and non-statutory designations are protected, or by which their importance is recognised at a national level. This includes the following:
- 'Important' hedgerows are protected from removal (out with the planning process) by the *Hedgerows Regulations 1997*;
 - Certain habitats are listed Priority Habitats, which public authorities in Wales must seek to maintain and enhance (to promote ecosystem resilience) as part of policy or decision making under Section 6 of the *Environment (Wales) Act 2016*;
 - PPW includes a presumption against development which results in significant harm to biodiversity and ecosystem functioning, or results in the loss of irreplaceable habitat¹⁴. PPW also sets out the how planning authorities should fulfil their 'Biodiversity and Resilience of Ecosystems Duty' as required the *Environment (Wales) Act 2016*; and
 - The importance of protecting habitats, and networks of habitats, is reflected in the Vale of Glamorgan local Development Plan, specifically Policy MG21.
- 3.17 The distribution of different habitat types within the Site and wider ownership boundary, including numbered references for those habitats subject to a detailed botanical assessment, is illustrated on **Plan EDP 1**. Building locations and reference numbers are referenced on **Plan EDP 6**. The habitats are further described in **Appendix EDP 2** alongside illustrative photographs and species lists. A summary and qualitative assessment of these habitats is provided in **Table EDP 3.3**.

¹⁴ Irreplaceable habitats are technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed. Habitats noted as irreplaceable within PPW are ancient woodland, semi-natural woodland, and ancient, veteran and heritage trees.

Table EDP 3.3: Summary of Habitats Within the Site and Wider Land Ownership Boundary

Habitat Type	Distribution	Intrinsic Ecological Importance*
Broadleaved Semi-natural Woodland	<p>Woodland block W1 is entirely within the Site and W3 and W4 are partially within the Site (adjacent to the access road on either side). W2 is outside of the Site, but within the land ownership boundary and included for context.</p> <p>Woodland block W1: vestigial areas of semi-natural broadleaved woodland. This area is not within Barry Woodlands SSSI but is designated as ASNW.</p> <p>Woodland blocks W2, W3, W4 form part of the Barry Woodlands SSSI, which in its entirety is of National importance.</p>	<p>County (Priority Habitat)</p> <p>National</p>
Dense and Scattered Scrub	Predominantly associated with the boundaries of the Site and proposed development area (between the woodland and the existing campus) and to the west of the access lane of the Site.	Site
Poor Semi-improved Grassland	Species-poor semi-improved grassland habitat around building B7 .	Site
Unimproved neutral grassland	Seven small areas of unimproved neutral grassland, labelled as NG1-NG7 on Plan EDP 1 , representative of a species-rich neutral grassland sward which although collectively would qualify for SINC status are small in extent and isolated from one another.	Local
Introduced Shrub	Amenity planting along the access driveway and behind B3/B4 .	Negligible
Ruderal	Predominantly associated with the plant beds surrounding the caretakers house (B2).	Site
Buildings and Hardstanding	The dominant habitat present within the Site and includes various college buildings, workshops, garages and storage areas, internal roads and hardstanding car parks.	Negligible
Running Water	Flows in a north-westerly direction along the southern boundary of the Site.	Site

*Importance irrespective of any protected, priority or other notable species which may be present

- 3.18 As noted within **Table EDP 3.3**, the majority of the Site is made up of habitats which are of less than Local, or negligible, intrinsic importance. However, distinct blocks of woodland within the Site (namely **W3** and **W4**) are designated as part of the Barry Woodlands SSSI, a nationally important designated site. Woodland block **W1** is judged to be of County level importance, comprising a priority habitat for Wales and further designated as ASNW, noted as irreplaceable as protected under PPW.
- 3.19 The unimproved neutral grassland within the Site is judged to be of Local level importance only. Although it denotes a species-rich neutral grassland sward, which collectively would qualify for SINC status, it represents a relatively small and isolated area of habitat that neither meets the description criteria for lowland meadow priority habitat.
- 3.20 Furthermore, a number of the habitats, including those which are of limited intrinsic importance, also require consideration in relation to their importance in maintaining populations of protected, priority or other notable species. This is discussed further below.

PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

- 3.21 Certain species receive legal protection in the UK and are commonly known as ‘protected species’. In reality, the level of protection for different species varies considerably, from protection solely against ‘killing and injury’ to full protection of the species and their places of refuge. Where pertinent, details of legal protection afforded to species/species-groups are provided below.
- 3.22 In addition to protected species there are other species/species-groups that do not receive legal protection, but which are notable owing to their conservation status. This includes Priority Species, which public authorities in Wales must seek to maintain and enhance as part of policy or decision making under Section 7 of the *Environment (Wales) Act 2016*. PPW recognises species as an important component of biodiversity, as does the VoGC LDP. Specifically, Policy MG19 (Site and Species of European Importance) states:

“Development proposals likely to have an adverse effect on a European protected species will only be permitted where:

- There are reasons of overriding public interest;*
- There is no satisfactory alternative; and*
- The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.”*

- 3.23 Of further consideration is Policy MG20 (Nationally Protected Sites and Species):

“Development proposals likely to affect protected species will only be permitted where it is demonstrated that:

- The population range and distribution of the species will not be adversely impacted;*
- There is no suitable alternative to the proposed development;*

- *The benefits of the development clearly outweigh the adverse impacts on the protected species; and*
- *Appropriate avoidance, mitigation and compensation measures are provided.”*

3.24 Consideration of priority species is also given within Policy MG21 (Sites of Importance for Nature Conservation, Regionally Important Geological Geomorphological Sites and Priority Habitats and Species).

3.25 The likelihood of presence, or confirmed presence, of protected, priority or other notable¹⁵ wildlife species within the Site is summarised below with reference to desk study records, habitat suitability and detailed surveys where relevant. Further details are made available within the appendices and plans where referenced.

Breeding Birds

3.26 All wild birds, their nests and eggs are protected under the *Wildlife and Countryside Act 1981* (as amended) (WCA). This makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take, damage or destroy the egg of any wild bird; or
- To have in one's possession or control any wild bird (dead or alive) or egg, or any part of a wild bird or egg.

3.27 In addition, further protection is afforded to those wild bird species listed on Schedule 1 of the WCA, prohibiting any intentional or reckless disturbance to these species while it is nest building, or at a nest containing eggs or young, or to recklessly disturb the dependent young of such a bird. A number of species are also included as Priority Species.

3.28 A large number of records of bird species were retrieved during the desk study, including 21 records of WCA Schedule 1 species, 66 records of Priority Species, and a further 52 records of species included on the latest Red and Amber lists of Birds of Conservation Concern in Wales¹⁶. The vast majority of records received relate to species that would not normally breed in habitats found within the Site. Records of the species with possible suitable breeding habitats on-site include starling (*Sturnus vulgaris*), dunnock (*Prunella modularis*), house sparrow (*Passer domesticus*), bullfinch (*Pyrrhula pyrrhula*) and swift (*Apus apus*).

3.29 The Site contains habitat suitable to support a range of breeding bird species given the presence of mature woodland, scrub and grassland, albeit these areas are limited in extent and thus unlikely to support significant populations of notable species. Campus buildings also provide potential nesting habitat for species such as gulls and house sparrow. Although woodland habitat and statutory/non-statutory designations adjacent to the Site and within the

¹⁵ Notable species are those which are not legally protected but are formally identified as being of conservation concern.

¹⁶ Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. & Taylor, R.C. 2022. *Birds of Conservation Concern Wales 4: the population status of birds in Wales*. Milvus 2:1.

wider landscape are likely to support a more diverse breeding bird assemblage, in the context of proposed development, a breeding bird assemblage associated with the Site specifically is considered to be of Site-level importance.

Bats

3.30 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the *Conservation of Habitats and Species Regulations 2017* (as amended) (referred to as the 'Habitats Regulations'). This affords strict protection to bats and their roosts, and makes it an offence to:

- Deliberately capture, injure or kill a wild animal of an EPS;
- Deliberately disturb wild animals of an EPS wherever they are occurring, in particular, any disturbance which is likely to impair their ability to survive, to breed or reproduce, to significantly affect the local distribution or abundance of the species to which they belong, or in the case of hibernating or migratory species, to hibernate or migrate; or
- Damage or destroy a breeding site or resting place of a wild animal of an EPS.

3.31 Additional protection for bats is also afforded under the WCA, making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place. In addition, soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*), greater horseshoe bat (*Rhinolophus ferrumequinum*), barbastelle bat (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), noctule (*Nyctalus noctula*) and lesser horseshoe bat (*Rhinolophus hipposideros*) are also listed as Priority Species.

3.32 The desk study returned 456 records for bats within the 2km search radius around the Site. These records relate to at least 13 different species, with the closest record of confirmed bat roosting being for common pipistrelle (*Pipistrellus pipistrellus*) located approximately 1.2km from the Site. Fifteen records of Annex II species were returned within 6km of the Site. These were for greater horseshoe and lesser horseshoe bats, with the closest known roost 4.7km from the Site, located at Fonmon Castle to the south-west.

3.33 Of further pertinence, an EPS Bat Development Licence was issued for the Site in 2011 to permit the demolition of classroom 9 and subsequent destruction of a common pipistrelle bat roost comprising 'a small number of bats of low conservation status'. Mitigation included installation of five bat boxes upon trees within suitable positions within the Site and remain in the ownership of the Client.

Bat Roosting

Trees

3.34 The preliminary ground level roost assessment of trees within and immediately adjacent to the proposed development footprint for the Site identified a total of seven trees with suitable features for bat roosting, including three trees with bat boxes installed (**T051**, **T055** and **T062**). Of this total, five were found to be of High suitability (**T001**, **T055**, **T051**, **T062** and **T080**), with

one of Moderate suitability (**T075**) and one of Low suitability (**T251**). Further details for each of these trees are provided in **Appendix EDP 3** and their locations are shown on **Plan EDP 5**.

- 3.35 Aerial inspection surveys of the trees revealed that none of the suitable features are currently in use by bats or have evidence of recent bat occupation. One bat box (installed upon tree **T062**) was in use by up to seven common pipistrelle bats (on two separate occasions) with a bat observed emerging from this box during a dusk emergence survey of **B2** on 24 August 2023.
- 3.36 All other trees surveyed were found to be of negligible suitability for roosting bats and have not been mapped/described.

Buildings/Built Structures

- 3.37 The preliminary roost assessment comprising an external visual inspection of on-site buildings assessed **B3** and **B6** to be of high suitability, **B1**, **B5** and **B7** to be of moderate suitability and **B2** and **B4** to be of low suitability. The buildings are considered to offer limited opportunities for hibernating bats, however, with no cellars or underground areas that offer stable and suitable conditions during the winter months. The potential for cavities suitable for crevice dwelling bats within each building cannot be ruled out however, although such internal building features are not characteristic of a classic hibernation site. Further details for each of the buildings inspected are provided in **Appendix EDP 3** and their locations are shown on **Plan EDP 6**.
- 3.38 Given their high suitability to support roosting bats, buildings **B3** and **B6** were subject to two dusk emergence and one dawn-entry survey between August and September whilst **B1**, **B5** and **B7** were subject to two dusk emergence/dawn re-entry surveys. **B2** and **B4** were subject to one survey each during August 2023 with a second survey of **B4** undertaken using a remote IR camera on 07 September 2023. The results of dusk emergence/dawn re-entry surveys is illustrated at **Plans EDP 7a-k**.
- 3.39 No bats were recorded emerging from building **B1** with moderate bat roost potential during a dusk emergence survey on 23 August 2023 and 07 September 2023 confirming absence of a bat roost in association with this building.
- 3.40 No bats were recorded emerging from building **B2** with low bat roost potential following a dusk emergence survey on 24 August 2023 confirming absence of a bat roost in association with this building.
- 3.41 With respect to buildings **B3**, **B4**, **B5**, **B6** and **B7** combined, it is estimated these support up to three *Myotis* sp, five soprano pipistrelle and two brown long-eared bat roosts with each roost supporting low numbers of non-breeding individuals. Although identification of *Myotis* bats to species level was not possible, it is considered likely that these are Natterer's or whiskered bats these species being more common and widespread than other *Myotis* sp. but also typically favouring buildings for use as roosts, whilst other *Myotis* sp. are typically associated with trees or other built structures such as bridges.

3.42 In accordance with bat mitigation guidelines¹⁷, soprano pipistrelle, Natterer's/whiskered and brown long-eared bat roosts are individually considered to be of Site-level importance given their usage by individual/small numbers of common and widespread species (non-maternity). In respect of the numbers of roosts supported by the Site, however, a roosting bat assemblage is overall considered to be of Local importance.

Bat Foraging/Commuting Activity

3.43 Overall, the habitats present within the Site were assessed as being of up to moderate suitability for foraging and commuting bats only. This was due to the relatively small area of the Site coupled with limited extent of semi-natural habitat therein (some woodland edge and scrub habitat, but predominantly hardstanding and buildings). Habitat within the immediate and wider landscape include mature woodland, woodland edge, lowland meadow and pastoral farmland which is well connected to the wider landscape via a network of hedgerows and further woodland blocks, providing habitats of high suitability for a commuting and foraging bat assemblage. However, these high suitability areas will be retained and buffered from the proposals by the presence of the existing woodland. The focus of the activity survey therefore was to characterise the value of the Site and its component habitats for foraging and commuting bats during the course of manual transect and automated bat detector surveys. The transect routes are illustrated on **Plan EDP 8** whilst the results of manual transect surveys are provided at **Plans EDP 9a-g**. Further detailed results are provided at **Appendix EDP 3**.

3.44 A total of nine bat species/species groups (Myotis and long-eared bat species were not identified to species level), were confirmed to be present foraging and/or commuting within the Site during the transect and/or automated detector surveys. With reference to the automated detector data tables, the vast majority of recorded bat calls were of soprano pipistrelle with calls of *Myotis* sp. making up a small minority of the total. Other species rarely recorded include common pipistrelle, long-eared, noctule, Leisler, serotine and lesser horseshoe bats.

3.45 Five species of bat were confirmed to be foraging and/or commuting within the Site during the course of manual transect surveys undertaken on seven occasions between May and October 2023. Levels of bat activity recorded during the transect surveys were generally moderate. The distribution of this activity was generally evenly spread across the Site although this is not surprising given the small size of the Site which also represents a break in the canopy of the wider wooded landscape. A foraging/commuting assemblage was generally dominated by soprano pipistrelle with noctule, *Myotis* sp., serotine, *Nyctalus* sp. and common pipistrelle rarely recorded across the survey season. In June and August however, activity was dominated by *Myotis* sp with activity largely centred in the west of the Site around building **B3**. Naturally, bat activity was lowest in October with only a single soprano pipistrelle and *Myotis* sp. registration recorded.

3.46 Taking into account the diversity of bat species utilising the Site and the extent of their roosting, foraging and commuting activity, the overall bat assemblage using the Site is judged to be of County-level importance.

¹⁷ Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

Dormouse

- 3.47 Hazel dormouse is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species under the WCA as summarised above in respect of bats. This species is also listed as a Priority Species.
- 3.48 One record for dormouse was returned within 2km of the Site during the desk study, specifically 532m south of the Site in 2013.
- 3.49 Habitat suitable for dormouse within the Site is limited to the broadleaved woodland and dense scrub around its peripheries. Broadleaved woodland offers suitable habitat for foraging, breeding and hibernation. The on-site woodland is furthermore connected to woodland in the immediate and wider landscape, facilitating dispersal of this species.
- 3.50 The nest tube survey found no evidence of dormouse within the Site or wider land ownership boundary. This species is thus presumed absent from the Site and considered to be of negligible importance.

Otter and Water Vole

- 3.51 Otter is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species under the WCA as summarised above in respect of bats. This species is also listed as a Priority Species.
- 3.52 Water vole and their burrows receive protection under Schedule 5 of the WCA. This makes it an offence to:
- Intentionally kill, injure or take (capture) a water vole;
 - Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a water vole uses for shelter or protection; and
 - Intentionally or recklessly disturb water voles while they are in a place of shelter or protection.
- 3.53 Water vole is also listed as a Priority Species.
- 3.54 Nine records of otter were returned within 2km of the Site (the closest within 853m), with all records associated with the Nant Talwg watercourse flowing through Porthkerry Country Park to the south. No records of water vole were returned within 2km of the Site within the past 10 years; the only record returned was from 1980 over 1.7km from the Site.
- 3.55 A small watercourse (a tributary of the River Weycock) flows circa south-east to north-west along the southernmost boundary of the Site, parallel to Weycock Road. Here, the watercourse is culverted under the access road which leads to the former campus. Within the Site, the watercourse is considered unsuitable for water vole with the culvert precluding presence of any burrows, but is not considered large enough in size and length to be considered a barrier to dispersal of this species between upstream and downstream habitats. Nevertheless, the watercourse appears to have its source 100m south-east of the Site such that presence of a

population here is considered unlikely, particularly given the limited water depth and absence of a diverse macrophyte community of value as a foraging resource. Similarly, the watercourse is unlikely to support a significant fish population of value as a foraging resource for otter. The potential for this species to utilise the watercourse for dispersal between the River Weycock c.670m downstream and the Site cannot, however, be ruled out. Woodland habitat around the peripheries of the Site and in association with the wider land ownership boundary is considered to provide suitable cover for this species for resting and breeding, although no evidence of this species, including field signs and potential resting places/holts were identified during the Extended Phase 1 Habitat survey.

3.56 In the context of the Site and habitats therein, otter is considered to be of Site level importance whilst water vole is considered to be of negligible importance.

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Other Mammal Species

3.63 Records of the following priority mammal species were returned within 2km of the Site:

- Polecat (*Mustela putorius*) – one record 1.8km south, associated with Porthkerry Country Park;
- European hedgehog (*Erinaceus europaeus*)¹⁸ – 17 records, primarily associated with urban areas of Barry town to the south and east, with two records returned 250m south of the access road to the Site, along the A4226 Weycock Road; and
- Harvest mouse (*Micromys minutus*) – one record 660m to the east within grassland habitat associated with Fferm Walters SSSI.

3.64 The Site encompasses a range of suitable foraging and breeding habitats for polecat and European hedgehog such that there is reasonable likelihood that these species may be opportunistically present and using the Site for foraging, hibernation and dispersal. Harvest mouse is also known to occur along woodland edges as well as in association with tussocky grassland such that presence of this species also cannot be ruled out. The populations of polecat, European hedgehog and harvest mouse potentially occurring within the Site and/or wider land ownership boundary are considered to be of Site-level importance.

Great Crested Newt and Other Amphibian Species

3.65 Great crested newt is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species under the WCA as summarised above in respect of bats. This species is also listed as a Priority Species.

3.66 Other legally protected amphibians are rare and have a very restricted distribution¹⁹, however, common toad (*Bufo bufo*) is a widespread species, which is listed as a Priority Species.

3.67 Records of the following amphibian species were returned within 2km of the Site:

- Common toad – Four records for common toad returned, the closest of which was 500m north-west;
- Common frog (*Rana temporaria*) – Ten records returned, the closest of which is from 750m east in a garden pond;
- Palmate newt (*Lissotriton helveticus*) – Four records returned the closest of which is 750m to the east in a garden pond (as above); and
- Smooth newt (*Lissotriton vulgaris*) – Two records returned, the closest of which is over 1.5km to the south-east.

¹⁸ Hedgehogs are also protected from capture or killing by specific methods under Schedule 6 of the WCA

¹⁹ Natterjack toad (*Epidalea calamita*) and Northern pool frog (*Pelophylax lessonae*) are EPS, protected under WCA and Priority Species

- 3.68 No records of great crested newt were returned within 2km of the Site. Furthermore, no waterbodies were identified within the boundaries of the Site and wider land ownership boundary. A review of OS mapping identified two waterbodies within 500m of the Site, the closest c.270m north-west of the red line boundary. The pond is located within the garden of a residential property. No access to this pond for the purpose of assessing potential presence/absence of great crested newt, was granted. However, as this waterbody is situated more than 250m from the Site the likelihood of great crested newts dispersing over this distance between the pond and Site is much reduced.
- 3.69 The second waterbody is located 390m north-west from the red line boundary for the Site, beyond Weycock Road and is considered a barrier to dispersal of great crested newt and other amphibians between the Site and this pond.
- 3.70 Semi-natural broadleaved woodland and dense scrub/shrubs present around the peripheries of the Site and within the wider ownership boundary provides suitable habitat for foraging and hibernating. Grassland habitats within the Site also provide optimal habitat for this species and other common amphibians but is limited in extent. Hardstanding/buildings is of negligible importance for great crested newt.
- 3.71 Given the limited extent of suitable habitat within the Site, combined with the distance of the Site from off-site ponds and absence of desk study records, great crested newt is not considered a constraint to proposed development of the Site and is considered likely absent. Common amphibians species such as common toad, common frog and smooth newt are more common and widespread within South Wales whilst palmate newt is often locally common, such that presence of these species is more likely, with populations potentially occurring within suitable habitat on-site considered to be of Site-level importance.

Reptiles

- 3.72 All species of common reptile, namely common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), grass snake (*Natrix helvetica*) and adder (*Vipera berus*), receive at least limited protection from harm under the WCA, making it an offence to cause intentional killing and injuring of these species. In addition, these species are also listed as Priority Species.
- 3.73 Twenty-eight reptile records were returned within 2km of the Site, relating to adder and slow worm, predominantly associated with Porthkerry Country Park 1.6km to the south. The closest record to the Site was for slow worm, which was over 700m to the south.
- 3.74 The Site encompasses suitable terrestrial habitats for common reptiles, albeit limited to the relatively small areas of scrub, ruderal and grassland habitat. Piles of logs/brush and discarded rubbish (comprised of plastic sheeting, brick and mortar/roof tiles) were identified within the Site and provide potential hibernation opportunities for a species (**TN1** on **Plan EDP 1**).
- 3.75 Given the small size of the Site and limited extent of suitable habitat therein (largely confined to the peripheries), presence of low numbers of common reptiles is likely. A common reptile population is considered to be of Site-level importance.



Image EDP 3.1: Habitat suitable for common reptiles and amphibians in the eastern extent of the Site.

Invertebrates

- 3.76 Records for small heath (*Coenonympha pamphilus*), which is a Priority Species in the UK was returned 340m to the east of the Site associated with Fferm Walters SSSI lowland meadow. The locally important speckled bush-cricket (*Leptophyes punctatissima*) was recorded at 388m north-east and 562m east of the Site. No notable records were returned for woodland habitats associated with the Site.
- 3.77 The Site is dominated by hardstanding and footprint of buildings alongside dense scrub and tall ruderal vegetation exhibiting poor botanical diversity and thus of limited value as a foraging resource to a diverse assemblage of invertebrate species and/or significant populations of notable species. Woodland habitat around the peripheries of the Site and unimproved grassland are likely to support a more diverse assemblage. Grassland habitat is, however, limited in extent whilst woodland is largely confined to the peripheries of the Site such that presence of significant populations of notable species is unlikely. A notable invertebrate assemblage is thus considered to be of negligible importance.

Rare/Scarce Plant Species

- 3.78 Forty-nine records of rare/scarce vascular plants were returned within 2km of the Site, of which only bluebell (*Hyacinthoides non-scripta*) was identified within onsite woodland habitat during the detailed botanical survey. However, Barry Woodland SSSI (for which part of the Site overlaps) which encompasses 14 distinct woodland blocks, is documented to support a notable

large number of rare woodland plants. These include greater butterfly-orchid (*Platanthera chlorantha*), thin-spiked wood-sedge (*Carex strigose*), wood millet (*Milium effusum*), early purple orchid (*Orchis mascula*), twayblade (*Listera ovata*), herb-Paris (*Paris quadrifolia*), goldilocks buttercup (*Ranunculus auricomus*) and sanicle (*Sanicula europaea*). However, none of these species were identified within the Site and wider land ownership boundary during the detailed botanical survey in June 2023.

- 3.79 Overall, a botanical assessment of woodland habitat during June 2023 identified a notably species-poor ground flora community with only patches of sweet woodruff being of interest. Other vernal species recorded in these woodlands are regionally and nationally common. No notable woody species were recorded. However, the three larger woodland areas here are part of the Barry Woodlands SSSI and as such their designation status is already determined and no alteration to that status is recommended here. Similarly, no notable species were identified within other habitats recorded across the Site. Communities of scarce/rare plant species are thus considered to be of negligible importance.

Invasive Non-native Species

- 3.80 A number of cotoneaster specimens were identified within the Site, most notably on the frontage of building **B7** and in association with dense scrub (marked as **TN3** on **Plan EDP 1**). Several cotoneaster species are listed on Schedule 9 of the WCA and comprise invasive non-native species for which it is an offence for any person to plant or otherwise cause these to grow in the wild.

SUMMARY OF KEY SURVEY FINDINGS

- 3.81 The key ecological features/receptors pertinent to the development proposals, based on the survey findings described above, are set out in **Table EDP 3.4**.

Table EDP 3.4: Summary of Ecological Features

Feature	Key Attributes	Ecological Importance
Statutory Designated Sites		
Severn Estuary SAC, SPA and Ramsar	Off-site, 9.2km east. Designated for presence of Annex I habitats and Annex II fish species and internationally important numbers of migratory birds.	International
Barry Woodlands SSSI	The access road of the Site is situated within the boundaries of this designation. The SSSI comprises 14 separate semi-natural broadleaved woodland blocks.	National
Fferm Walters SSSI	Off-site, but adjacent to eastern Site boundary. Designated for species-rich neutral grassland.	National

Feature	Key Attributes	Ecological Importance
Non-Statutory Designated Sites		
Ancient Semi-natural Broadleaved Woodland	The access road and the habitat encompassing the north and western boundaries of the Site are designated as ASNW.	County
West of Barry College SINC	Off-site, adjacent to east. Lowland meadow.	County
Walters Farm SINC	Off-site, 150m south-east. Lowland meadows.	County
North West of Welsh Hawking Centre SINC	Off-site, 300m north. Lowland mixed deciduous woodland.	County
Sutton Road SINC	Off-site 1km north-west. Lowland mixed deciduous woodland.	County
Land North of Blackton Farm SINC	Off-site, 1.4km west. Wet grasslands and tall swamp.	County
Habitats		
Broadleaved Semi-natural Woodland	On-site/Off-site. Woodland block W1 is entirely within the Site and W3 and W4 are partially within the Site (overlap the access road on either side). W2 is outside of the Site, but within the land ownership boundary and included for context.	County-National (owing to statutory and non-statutory designations)
Unimproved neutral grassland	On-site. Seven small areas of unimproved neutral grassland, labelled as NG1 to NG7 on Plan EDP 1 , represent a species-rich neutral grassland sward which collectively would qualify for SINC status.	Local
Running Water	Flows north-west along the southern boundary of the Site.	Site
Species		
Breeding Birds	Broadleaved woodland, dense scrub/shrub/buildings provide suitable nesting habitat, albeit limited in extent within the Site.	Site, but legally protected.
Roosting Bats	Confirmed bat roosts for soprano pipistrelle, <i>Myotis</i> sp, and brown long-eared bats within buildings B3-B7 .	Local
Foraging/Commuting Bats	A minimum of eight species recorded using the Site for foraging and commuting.	County

Feature	Key Attributes	Ecological Importance
Otter	Woodland provides suitable cover for this species whilst watercourse along southern boundary facilitates dispersal of this species.	Site
Other Mammal Species	The Site offers suitable albeit limited foraging and breeding habitats for hedgehog, polecat and harvest mouse albeit limited in extent within the Site.	Site (Priority Species)
Common Reptiles and Amphibians	The Site offers suitable terrestrial habitat for common and widespread reptiles and amphibians.	Site, but legally protected.
Invasive non-native plant species	Several cotoneaster shrubs present within the Site.	N/A

Section 4 Impact Assessment

4.1 This section of the Ecological Appraisal first considers any avoidance/mitigation which is embedded within development design, as represented by the Illustrative Layout provided at **Appendix EDP 1**. It then considers the likely impacts of the development proposals on the pertinent ecological features identified in **Section 3** in the absence of additional mitigation.

EMBEDDED MITIGATION

4.2 EDP is providing input throughout the design process so the development layout, reflects where possible the important measures to avoid, mitigate or compensate for ecological impacts as well as other measures designed to provide long-term ecological enhancements. This embedded mitigation comprises the following:

- Proposed retention of **W1** within the Site combined with **W2** located off-site within the wider land ownership boundary;
- Retention of the vast majority of **W3** within the Site albeit for potential removal of up to five trees along the edge of the existing access road combined with tree canopy works to an additional three trees as illustrated at **Appendix EDP 4**;
- Retention of the vast majority of **W4** within the Site albeit for potential removal of a single tree at the southernmost boundary of the Site with Weycock Road combined with tree canopy works to an additional seven trees;
- The proposed retention/reinstatement of unimproved neutral grassland present across areas **NG3, NG6** and **NG7**;
- Implementation of a sustainable drainage strategy incorporating an attenuation basin and rain gardens; and
- Inclusion of new green infrastructure features including native shrub and buffer planting to retained woodland edges combined with areas of species-rich and amenity grassland planting in association with areas of proposed open space, as illustrated at **Appendix EDP 1**.

IMPACTS ON DESIGNATED SITES

Statutory Designations

4.3 As described in **Section 3**, there are five statutory designations within the potential Zol of the Site. The potential impacts on these designations, in the absence of additional mitigation, are discussed below.

International Designations

- 4.4 In accordance with Part 6 of the Habitats Regulations, a Habitats Regulations Assessment (HRA) is required where a plan or project may give rise to significant effects upon any European site designated to conserve natural habitats and species that are rare, endangered, vulnerable or endemic within the European Community. This includes SACs designated for their habitats and/or species of European importance, and SPAs classified for rare, vulnerable and regularly occurring migratory bird species. Such requirements also apply to those sites going through the formal designation process, including candidate SACs (cSACs) and Sites of Community Importance (SCIs). Additionally, Government policy also affords the same level of protection to internationally important wetlands (Ramsar sites), potential SPAs (pSPAs), possible SACs (pSACs) and proposed Ramsar Sites, requiring such sites to also be treated as European sites for planning purposes.
- 4.5 The Vale of Glamorgan Council's LDP was subject to a Habitat Regulation Assessment (HRA) in 2013, which considered the likely significant effects to arise through policies inherent within the LDP including Policy MG2 (Housing Allocations) on European sites within the Zol. Such designations include the Severn Estuary Ramsar Site, SAC, SPA and Ramsar 7.7km east of the Site. In particular, screening of site allocations identified four main areas of impact arising that may have potential for significant effects on the integrity of designated sites within the Site's Zol. These four main areas are:
- Water resources - resulting from increased demand for water consumption arising from new residential and employment developments;
 - Water quality – resulting from increased discharge requirements arising from new residential and employment developments and the potential for increased point source pollution and/or changes to surface water/run-off;
 - Atmospheric pollution – arising from a growth in airborne and surface transport as well as general development (emissions from construction/building stock); and
 - Disturbance – predominantly as a result of increased recreational activity arising from new residential and employment developments.
- 4.6 Subsequently, an Appropriate Assessment was undertaken to determine if there is the potential for the LDP to have adverse in-combination effects on the integrity of the identified European sites. The significance of these impacts is dependent to some extent on the location of proposed development.
- 4.7 The screening found that for the majority of site allocations, there were no pathways for development to have direct impacts on European sites, given the distance of the allocations from designated habitats and species, and the lack of connectivity between the development and the potential receptors whilst indirect effects could be either avoided or mitigated through LDP Policies.
- 4.8 The Site itself does not benefit from any formal allocation but nevertheless comprises previously developed land dominated by hardstanding and is sufficiently distant from the Severn Estuary such that no impacts associated with habitat loss, air quality and/or disturbance are anticipated.

- 4.9 Particularly given the presence of a watercourse along the southern boundary of the Site which discharges into the River Weycock, and in the absence of mitigation, there is the potential for more frequent use of the Site and occupation by new residents to increase the level of contaminated surface water run-off to the watercourse with subsequent negative effects upon the water quality of the Severn Estuary Ramsar site/SPA/SAC. Inherent within development proposals, however, is the inclusion of sensitive drainage features including rain gardens and an attenuation basin, to manage surface water run-off from the Site during the operational phase of proposed development. Rain gardens are to incorporate new planting including native species and flowering shrubs which provide a new foraging resource for breeding birds, bats and invertebrates whilst the attenuation basin is to be seeded with a species-rich grassland mix, providing additional foraging opportunities to wildlife.
- 4.10 There does, however, remain the potential for impacts associated with increased contaminated surface water run-off during the construction phase of development which could be transferred further downstream to the Severn Estuary via the on-site watercourse and River Weycock. Pollution incidents could also arise as a result of leaks and spills from construction activities, resulting in the introduction of hydrocarbons and other contaminants from demolition activities, site plant or of sediment loads arising from dust deposition or spoil movement.

National Designations

Barry Woodlands SSSI

- 4.11 The SSSI comprises a series of fourteen separate semi-natural broadleaved woodland blocks covering 120ha in total, across two groups c.3km apart. The SSSI is recognised for its species-rich ground flora community in particular.
- 4.12 The boundaries of the access road and woodland units **W3** and **W4** are covered by this designation, whilst **W2**, located off-site but in the wider land ownership boundary, further contributes to the total land area of the SSSI designation. Woodland **W1** within the Site is not included within this designation.
- 4.13 Woodland **W2**, located off-site will be retained in its entirety. Whilst the vast majority of designated woodland within compartments **W3** and **W4** will be retained, there will be some erosion of the woodland edge with the access road following its proposed widening from 3.8m to provide a 5.5m carriageway and 2.5m footway.
- 4.14 This will require the removal of up to six tree standards combined with loss of the underlying ground flora community. A community along the edge of woodland **W3** (which will experience comparatively more tree loss than **W4**) is, however, dominated by a dense bramble scrub community with this area subject to frequent disturbance by cutting to maintain low scrub/shrub community directly beneath the electricity lines which traverse this area. A ground flora community is relatively species-poor here. Of the trees to be removed to facilitate construction of the access road, these include two U category specimens with removal proposed for arboricultural pertinence. Of further pertinence, up to ten trees may be subject to tree canopy works.
- 4.15 Given the limited extent of proposed habitat loss combined with the generally poor condition of this habitat within the development footprint, such habitat losses are not considered significant

and would be unlikely to result in a deterioration in the favourable conservation status of the wider SSSI.

- 4.16 There is, however, the potential for further degradation/damage to retained woodland habitat, including **W1** in the north of the Site, during the construction phase due to the proximity of development to woodland boundaries. Retained woodland may be subject to indirect impacts, such as soil compaction, erosion and pollution (including air pollution). Such impacts may result in death or disease, and a decline in the regulatory ecosystem services provided by such habitats. Further damage/degradation may also arise during the operation phase of development given the proximity of residential boundaries to this SSSI with potential for unsympathetic practices to arise such as the dumping of household and garden waste, attracting rats and corvids which predate on protected/notable species associated with this habitat combined with the potential introduction and spread of non-native species.
- 4.17 Indirect effects associated with increased levels of disturbance will also likely occur through the use of lighting and increased levels of vehicular traffic, machinery use and plant movement during the construction phase with such impacts to continue long-term in respect of operational street lighting.
- 4.18 Further consideration has been given to the potential for indirect effects to arise following an increase in the resident population of the local area with a subsequent increase in recreational pressure upon designated habitats. The wider woodland associated with Barry Woodland SSSI adjacent to the Site is, however, located within private land ownership with no Public Rights of Way (PRoW) through the woodland. Nevertheless, additional mitigation will be required to prevent unauthorised public access from new development and subsequent degradation of associated habitats in the long-term.

Fferm Walters SSSI

- 4.19 This SSSI is a 120ha area of species-rich grassland located immediately to the east of the Site, as illustrated in **Plan EDP 3**.
- 4.20 Although located outside the Site and development footprint such that there is no proposed land take, there is the potential for degradation/damage to adjacent habitats during the construction phase of proposed development. Further damage/degradation may also arise during the operation phase of development given the proximity of residential boundaries to this SSSI with potential for unsympathetic practices to arise such as the dumping of household and garden wastes. Inherent with the Illustrative Layout, however, is the provision of native shrub planting along the eastern boundary of the Site creating a buffer c.5m wide, to strengthen the existing vegetated boundary with Fferm Walters SSSI, reducing edge effects upon this habitat and precluded authorised public access via rear residential gardens.
- 4.21 As discussed above in relation to Barry Woodland SSSI additional indirect effects associated with increased levels of disturbance will likely occur through the use of lighting and increased levels of vehicular traffic and associated air pollution, combined with unsympathetic practices during the construction phase and operation phase.

- 4.22 Although there is potential for new development to give rise to increased recreational pressure across this designation, resulting in increased trampling/damage of sensitive habitats, there are no PROWs across this designation such that significant impacts are considered unlikely.

Non-statutory Designations

- 4.23 As described in **Section 3**, there are 18 non-statutory designations within the potential Zol of the Site, the closest of which is West of Barry College SINC, which lies adjacent to the east of the Site (which overlaps with part of Fferm Walters SSSI). In respect of the majority of non-statutory designations these are sufficiently distant from the Site such that no direct or indirect effects are anticipated. There is, however, the potential for proposed development to give to impacts upon West of Barry College SINC, Walters Farm SINC, Sutton Road SINC and Land North of Blackton Farm SINC by virtue of their proximity to the Site or the existence of potential pathways along which effects may occur.

West of Barry College SINC and Walters Farm SINC

- 4.24 With respect to West of Barry College SINC, this lies directly adjacent to the eastern boundary of the Site. Those impacts and inherent mitigation previously discussed in relation to Fferm Walters SSSI above, remains relevant here.
- 4.25 Of further pertinence, Walters Farm SINC lies 150m south-east and similarly overlaps with the boundaries of Fferm Walters SSSI. Although no direct loss/damage of associated habitats is anticipated given the distance of this designation from the Site, there is the potential for degradation of sensitive habitats associated with an increase in recreational pressure. Consistent with an assessment in relation to national statutory designations, however, there are no public PROWs across this designation such that significant effects are considered unlikely.
- 4.26 The SINC does, however, lie adjacent to Port Road such that there is the potential for indirect impacts to arise during the construction and operational phases of development following an increase in traffic levels and harmful emissions (nitrous oxides (NO_x) and ammonia (NH₃) to the atmosphere. Such impacts are only likely where a main road passes within 200m of the designation²⁰. Air quality data for the SSSI is available via APIS²¹. Although there is no critical load data established for this designation specifically, comparison with other designations supporting similar habitats would indicate current NO_x and total nitrogen (N) levels covering 1km square across the SSSI are below the critical load for habitats supported, whilst available data indicates a declining trend in the concentration of NO_x and total nitrogen levels associated with habitat compartments adjacent to Port Road.

Sutton Road SINC

- 4.27 Sutton Road SINC is a c.1.52ha area of broadleaved woodland habitat that is also designated as ANSW. Given the distance of this designation from the Site, no direct impacts upon this non-statutory designation are anticipated. The woodland is, however, located within c.30-40m of Weycock Road, such that potential indirect effects may arise following an increase in traffic

²⁰ Natural England (2018). Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations. NE Internal Guidance, V1.4 Final, June 2018

²¹ Air Information Pollution System (2016). Available at <https://www.apis.ac.uk/>. [Accessed on 30 November 2023]

using this road during construction and operation and subsequent deterioration in air quality. Although there is no critical load established for this particular designation, total nitrogen and NO_x levels measured for a 1km square across this SINC remains below the maximum critical load that is typically established for woodland habitat.

Land North of Blackton Farm SINC

- 4.28 Although Land North of Blackton Farm SINC (designated for its wetland habitats) is located c1.4km from the Site, the River Weycock flows adjacent to this SINC boundary such that there is some hydrological connectivity between the Site and this non-statutory designation.
- 4.29 Indirect effects thus include the potential for an increase in contaminated surface water run-off from the Site during the construction and operation phase of development, as a result of the discharge of contaminated run-off and deposition of material following periods of heavy rainfall into the on-site watercourse. Pollution incidents could also arise as a result of leaks and spills from construction activities, resulting in the introduction of hydrocarbons and other contaminants from demolition activities, site plant or of sediment loads arising from dust deposition or spoil movement with potential impacts to this designation.
- 4.30 Inherent within development proposals is the inclusion of sensitive drainage features including rain gardens and an attenuation basin, to manage surface water run-off from the Site during the operational phase of the proposed development. There does, however, remain the potential for impacts associated with increased contaminated surface water run-off during the construction phase of development which could be transferred further downstream to this SINC designation via the on-site watercourse and River Weycock, for which additional mitigation is required.

Ancient Semi-natural Woodland

- 4.31 Woodland Compartments **W1-W4** within the Site and wider land ownership boundary are designated as ASNW. As discussed above in relation to statutory designations, there will be some erosion of the **W3** and **W4** woodland edge with the access road following its proposed widening. Specifically, the removal of up to six tree standards, with potential canopy works to a further eight trees within the ASNW designation, with loss of the underlying ground flora community is proposed. With respect to retain areas of ASNW including **W1**, there remains the potential for further degradation of sensitive features through damage/trampling, disturbance associated with increased noise and light and unsympathetic management practices during both the construction and operational phase of development.
- 4.32 ANSW designation applies to all woodland that has persisted on a site since 1600. Within the Site, the ANSW designation overlaps with the existing access road and northern peripheries, with these areas historically re-developed with subsequent disturbance and loss of not only mature tree specimens associated with their footprint of the access road but any vascular, lower plant and fungal communities associated with the ground layer and topsoil. The verges of the access road still exhibit evidence of an ancient woodland community albeit somewhat degraded with a species-poor ground flora community. Bramble scrub is dominant along the eastern edge of **W3** subject to frequent cutting as per health and safety requirements for the overhead power line. With respect to **W1**, this area is largely dominated by dense scrub of relatively recent origin or non-native shrub planting, which intergrade with the small areas of remnant semi-natural

broadleaved woodland. The presence of scrub and non-native shrubs along the woodland edge would suggest this area was historically cleared and developed as part of the former campus.

- 4.33 A masterplan design has, therefore sought to minimise the development footprint as far as possible with land take largely restricted to the eastern edge of woodland compartment **W3** comprising dense scrub communities that are already subject to frequent disturbance, with little evidence of natural recovery in the years since the campus has been inactive. Impacts to woodland **W4** are limited to removal of a single tree at the southernmost edge of development to accommodate a visibility splay with proposed retention of the underlying habitat.
- 4.34 In respect of the minor losses proposed, restricted to habitats that have previously been re-developed and degraded to accommodate historical development of the Site, such impacts are not considered significant. As discussed above in relation to Barry Woodlands SSSI, however, there is, the potential for further degradation/damage to and disturbance to retained ASNW which will require additional mitigation to ensure this resource can be adequately protected during the construction and operational phase of development.

IMPACTS ON HABITATS

- 4.35 Habitats within the Site have been assessed through an Extended Phase 1 survey. The Site mainly contains habitats that are considered to have negligible or site-level ecological value, comprising predominantly hardstanding and the footprint of on-site buildings. Habitat losses are largely confined to small, isolated areas of dense scrub, non-native shrub and tree planting and species-poor grassland. The loss of such habitat features is not considered significant on ecological grounds, however, given their small extent and limited potential to support protected and notable species.
- 4.36 Of further note, development has sought to retain those habitats of greater intrinsic ecological value as far as possible including woodland **W1**, the majority of **W3** and **W4** and unimproved neutral grassland across areas **NG3**, **NG6** and **NG7**. Proposed development will however require the loss of unimproved neutral grassland compartments **NG1-NG2** and **NG4-NG5** combined with loss of several shrubs and semi-mature trees amongst on-site buildings. This is combined with the loss of up to six standard trees associated with woodland **W3** and **W4** adjacent to the existing access road with tree canopy works proposed to an additional ten trees.
- 4.37 Notwithstanding there remains the potential for physical damage and/or indirect degradation of retained features to occur during construction, given the proximity of built development and/or proposed landscaping works. Retained trees may be further subject to indirect impacts, such as soil compaction, erosion and pollution (including air pollution). Indirect effects associated with increased levels of disturbance will likely occur during the construction phase through the use of lighting and increased levels of vehicular traffic, machinery use and plant movement. Given that the majority of the works will be undertaken during daylight hours, the usage of artificial lighting will likely be limited to the early morning and early evening hours, with greater requirements for artificial lighting during the winter months. This could potentially impact upon retained trees and the species using it (see below). In the absence of additional mitigation, impacts associated with disturbance and lighting may persist during the operational phase following occupation of the Site.

IMPACTS ON PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

Breeding Birds

- 4.38 The loss of potential bird nesting habitat following development of the Site will primarily be limited to dense bramble scrub associated with the western edge of the access road and within and around the peripheries of the on-site buildings. This is in addition to demolition of buildings **B1-B2** and **B4-B7** and refurbishment of **B3**, combined with some loss of semi-mature trees and shrubs as per the Parameter Plan provided at **Appendix EDP 4**. Woodland **W1** will be retained in full alongside the majority of woodland **W3** and **W4** within the Site will also be retained, although disturbance of nesting and foraging habitat through light spill, noise, visual and human disturbance during construction and operation could potentially occur. In respect of the magnitude of habitat loss, degradation and disturbance combined with the importance of a breeding bird assemblage on-site, such impacts are considered limited and will occur at the Site level only.
- 4.39 Of further pertinence is the potential for clearance/demolition of vegetation/buildings to result in direct harm/injury to nesting birds, if present. However, the legal protection afforded to birds and their nest (their eggs and young) and the requirement to avoid commencement of such works during the breeding bird season is considered inherent mitigation to ensure no effects relating to direct harm/injury arise in respect of the breeding bird assemblage. Therefore, negligible impact is predicted.

Bats

Impacts on Roosting Bats

- 4.40 With respect to buildings present within the Site, dusk emergence/dawn re-entry surveys undertaken by EDP identified a low status summer day roost for soprano pipistrelle in buildings **B4**, **B5** and **B7**, a summer day/transitional roost for soprano pipistrelle and *Myotis* sp. bats in building **B6** and a low status summer day roost for *Myotis* sp. in building **B3**. Also, a possible brown long-eared transitional bat roost was recorded in association during **B6**. Buildings **B4-B7** will be demolished to facilitate redevelopment of the Site resulting in loss of roosts which combined are considered to be of Local importance. This is in addition to the proposed refurbishment of building **B3** with potential for loss/modification/disturbance of associated roosts, With respect to remaining buildings on-site (**B1** and **B2**), although these were considered to have low-moderate potential to support roosting bats following a visual assessment undertaken by EDP in 2023, further dusk emergence surveys found no evidence of roosting bats such that no impacts associated with their demolition are anticipated.
- 4.41 Development will result in the loss of several trees and tree groups across the Site. Trees **T001**, **T055**, **T051**, **T062** and **T075** with moderate-high bat roost potential will, however, be retained with remaining trees on-site including those proposed for loss are of negligible suitability for roosting bats. Tree **T080** will, however, be subject to tree canopy works with the potential loss/disturbance of any potential roosting features. In the absence of roosting bats, direct impacts associated with loss of these trees are considered unlikely.
- 4.42 With respect to those trees to be retained including, **T001**, **T055**, **T051**, **T062**, **T075** and **T080** with moderate-high bat roost potential, degradation through damage and disturbance during

the construction phase could result in the loss of roosting and breeding sites (if present) in addition to habitat important for foraging, dispersal, and migration.

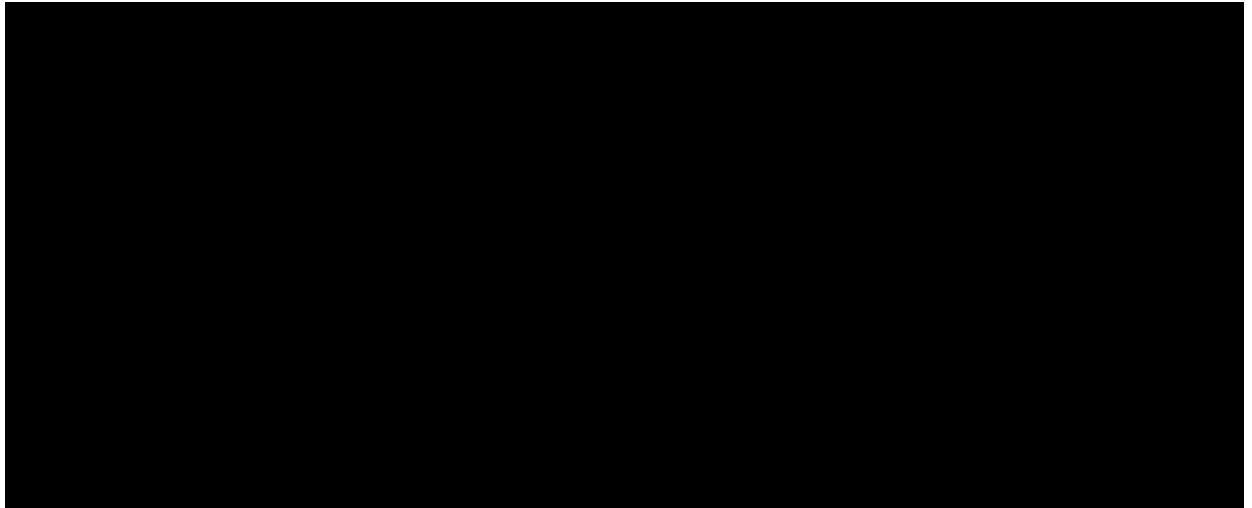
- 4.43 In addition, increased amounts of traffic movements by vehicles, machinery and plant throughout the construction phase could increase the potential risk of road casualties upon the local bat assemblage, particularly when constructing access roads and removing vegetation across which species disperse and forage. However, given that such impacts will most likely be confined to daylight hours, no significant negative effects are considered likely to arise.
- 4.44 With respect to a foraging/commuting bat assemblage dominated by common and widespread species, degradation and erosion of linear features (woodland edges) and foraging habitat (grassland/dense scrub), coupled with potential disturbance impacts arising from development, could therefore impact the local bat assemblage. Such impacts can, however, be adequately mitigated through those recommended measures detailed previously in relation to statutory/non-statutory designations and valued habitats.

Otter

- 4.45 A c.13m length of watercourse, comprising a tributary of the River Weycock flows south-east to north-west along the southern boundary of the Site. To facilitate widening of the proposed access road, the existing culvert will similarly be widened with subsequent loss of bankside habitat combined with potential disturbance of adjacent bankside habitat to be retained, during the construction phase. No evidence of otter including holts/resting places was identified following a search for evidence of this species during the Extended Phase 1 Habitat survey. Combined with the minor extent of habitats likely subject to loss and/or degradation to facilitate widening of the culvert, no significant impacts are anticipated.
- 4.46 Indirect disturbance (particularly light spill) upon riparian habitats may also arise during construction, resulting in short-term changes in behaviours and distribution of otter if utilising the watercourse for dispersal at the time of construction, or if found to be occupying adjacent woodland for resting/breeding. Such impacts may continue long-term arising from increased human presence, vehicular noise and light originating from residential dwellings.
- 4.47 In the absence of mitigation, there is the potential for more frequent use of the Site and occupation by new residents to increase the level of contaminated surface water run-off to the watercourse with subsequent negative effects to the water quality of the watercourse. Such impacts would give rise to adverse effects on the freshwater ecosystem more generally with the potential for fish kills to occur, and a subsequent reduction in the foraging resource available to otter. Inherent within development proposals is the inclusion of sensitive drainage features to manage surface water run-off from the Site.
- 4.48 There remains the potential for indirect effects associated with a deterioration in water quality and an increase in suspended solids during the construction phase and operation, as a result of the discharge of contaminated run-off and deposition of material following periods of heavy rainfall into the watercourse. Pollution incidents could also arise as a result of leaks and spills from construction activities and will require additional mitigation.

4.49

4.50



Reptiles, Amphibians and Other Mammals

- 4.51 Development will require the erosion of woodland habitat, combined with the loss of dense scrub, grassland and shrub/tree planting which provides some suitable foraging habitat for these species, combined with opportunities for refuge and hibernation such that their presence is assumed, albeit in low numbers given the limited extent of this habitat. Overall, the reduction of available habitat to population of these species is considered negligible.
- 4.52 In the absence of additional mitigation there is, furthermore, the potential for damage/degradation of retained habitats of limited value to reptiles, amphibians and European hedgehog, combined with the killing and injury of such species during vegetation clearance and following increased levels of traffic movements by vehicles, machinery and plant throughout the construction and operational phases of development.

Section 5 Mitigation and Enhancement Strategy

- 5.1 This section of the Ecological Appraisal considers the impacts set out in **Section 4** and puts forward additional measures to firstly avoid any ecological impact, and if this is not possible then to minimise the likely impacts of the proposed development to insignificant levels, to comply with relevant planning policy and avoid any infringement of relevant legislation.
- 5.2 This section also sets out proposed ecological enhancements for the Site, in line with the wording within PPW and local planning policy, requiring developments to contribute to and enhance the natural and local environment, whilst providing a net biodiversity benefit.

DESIGNATED SITES

Statutory Designations

International Designations

- 5.3 To protect water quality of the Severn Estuary Ramsar Site/SPA/SAC, appropriate pollution control measures will be employed in accordance with the relevant Pollution Prevention Guidelines (PPGs) published by the Environment Agency, namely PPG1 'General Guide to the Prevention of Pollution', PPG5 'Works and Maintenance in or Near Water', PPG6 'Pollution Prevention Guidance for Working at Construction and Demolition Sites', and PPG21 'Pollution Incident Response Planning', to ensure that detrimental effects on any nearby watercourses as a result of surface run-off, spillage and pollution arising throughout the construction phases are avoided.

National Designations

- 5.4 Proposed development will result in the erosion of woodland compartments **W3** and **W4** through removal of up to six tree standards, tree canopy works to a further 10 trees and loss of underlying ground flora communities. To compensate for proposed loss whilst further protecting habitats associated with statutory designations from degradation/disturbance in the long-term, new native woodland, shrub and hedgerow planting is proposed around the northern and eastern extents of the proposed development area further offsetting development from mature vegetation. It is recommended planting incorporates thorny species such as blackthorn and hawthorn to deter unauthorised public access. Planting should also be subject to sensitive management in the long-term to promote the establishment of structurally diverse ecotone habitats, with such features to be excluded from the curtilage of residential boundaries. This will be combined with new tree planting within the development area integrating built development with the surrounding woodland landscape. In accordance with updates to National Planning Policy for Chapter 6 of PPW Wales, new tree planting should be provided at a minimum ratio of at least three trees of a similar type and compensatory size planted for every one lost.
- 5.5 It is further recommended that topsoil from the construction footprint of the access road is translocated to proposed woodland habitat creation areas, in order to preserve the underlying seed bank and promote the rapid establishment of ground flora communities.

- 5.6 This can be combined with the sensitive long-term management of retained woodland habitat within the Site (particularly **W1**) as well as the wider land ownership boundary to improve its overall condition, further compensating for proposed habitat loss whilst also contributing to a net biodiversity benefit. Management measures aimed at promoting structural and botanical diversity and enhancing the resilience of this habitat to climatic changes may include:
- The implementation of a programme of coppicing/thinning works across areas of dense vegetation combined with new planting of a diverse species mix to promote the development of succession trees, whilst also promoting the diversification and enhancement of ground flora through the creation of clearings and glades to allow light to reach the floor;
 - The selective removal of scrub around establishing young trees to facilitate natural regeneration across retained habitats;
 - The provision of log piles and deadwood utilising arisings from tree works undertaken on-site, so as to maximise habitat structure and foraging availability for protected and notable species; and
 - The control of invasive species in accordance with the advice of a specialist contractor.
- 5.7 Of some pertinence, several stands of the non-native cherry laurel was identified on-site and is slowly spreading onto woodland habitat. This species can be spread easily and outcompetes native species, suppressing native ground flora. Indeed, the citation for Barry Woodlands SSSI states *“Invasive non-native trees and shrubs should be monitored. Different species, for example sycamore and cherry laurel, occur in different woods and these should not be allowed to increase above manageable levels”*. It is recommended that any stands within retained habitats are removed and replaced with native shrub planting, thereby improving the condition of woodland habitat associated with statutory and non-statutory designations.
- 5.8 Such measures can be secured through the provision and implementation of a Landscape Ecological Management Plan (LEMP), detailing the aims and objectives of long-term management of all retained/enhanced/created habitats, to ensure their continued ecological functionality and contribution to the biodiversity of the Site and surrounds.
- 5.9 To protect retained habitats associated with statutory designations during construction, protective fencing will be erected as recommended within BS5837: 2012 Trees in Relation to Design, Demolition and Construction to physically protect retained habitats on-site with establishment of Ecological Protection Zones (EPZs). Protective fencing will incorporate the full root protection area of the feature to be retained and will be protected and maintained throughout the duration of all site-enabling and pre-construction activities.
- 5.10 No works (other than planting), including the storage of materials, plant and machinery, will be carried out within or immediately adjacent to all areas of protective fencing/areas marked for protection as described above, so as to ensure no detrimental impacts to sensitive features arising from physical damage and/or pollution. The digging of trenches and pits for new tree and scrub planting adjacent to areas of protective fencing, where this lies inside root protection areas, will be carried out by hand only, in accordance with best practice guidance as stipulated within BS 5837:2012.

- 5.11 This will be combined with the adoption of dust control measures to minimise potential impacts upon air quality including restrictions on traffic movement and/or speed, appropriate storage of materials and/or use of screens and fencing as necessary. Such general environmental protection measures can be detailed in a Construction Environmental Management Plan (CEMP) and Ecological Construction Method Statement (ECMS) to be secured as a condition of planning.
- 5.12 The ECMS will also include the restriction of construction activities to daylight hours as far as possible to mitigate effects of increased visual and noise disturbance upon designated woodland habitats, with the use of temporary, artificial lighting avoided during the hours between dusk and dawn, with directional and low-level lighting used away from sensitive habitat corridors to mitigate effects relating to increased use of artificial lighting.
- 5.13 In addition, the scheme should implement a sensitive lighting strategy during the operational phase to ensure no/limited light spill occurs within close vicinity to newly created boundary features and retained woodland habitats. Where lighting is required along road/pedestrian routes adjacent, lighting columns should be directed away from habitat edges to minimise disturbance and light spill. Lighting should include directional, timed and/or low-lux lighting, utilising shields and/or hoods where required.
- 5.14 Subject to the implementation of the measures summarised above and inherent mitigation previously discussed in **Section 4**, impacts on statutory designations can be avoided or reduced to insignificant levels, such that the development can be delivered in accordance with relevant legislation and planning policy whilst the favourable conservation status of Barry Woodlands SSSI in particular can be retained.

Non-statutory Designations

- 5.15 With respect to West of Barry College SINC, this lies directly adjacent to the eastern boundary of the Site whilst Walters Farm SINC lies 150m south-east. Overall, and given these non-statutory designations overlap with the boundaries of Barry Woodlands SSSI and Fferm Walters SSSI located off-site, those mitigation measures provided in relation to statutory designations remain relevant.
- 5.16 To retain the integrity of Sutton Woods SINC and Land North of Blackton Farm SINC, the adoption of pollution control measures to avoid the conveyance of contaminated surface water run-off to the wider catchment and minimise mobilisation of dust to the atmosphere is proposed, and can be secured within an ECMS/CEMP to be provided as a condition of planning consent.
- 5.17 Subject to the implementation of the measures summarised above in relation to statutory designations and inherent mitigation previously discussed, impacts on non-statutory designations will be avoided or reduced to insignificant levels.

HABITATS

- 5.18 With respect to retained vegetation including woodland **W1**, the majority of woodland **W3** and **W4**, and grassland areas **NG3**, **NG6** and **NG7**, protective fencing will be erected as

recommended within BS5837:2012 Trees in Relation to Design, Demolition and Construction to physically protect retained habitats on-site with establishment of Ecological Protection Zones (EPZs). Protective fencing will incorporate the full root protection area of the feature to be retained and will be protected and maintained throughout the duration of all site-enabling and pre-construction activities.

5.19 Inherent with the Illustrative Layout, is the proposed creation of grassland and woodland habitat to compensate for loss combined with the enhancement of retained habitat features to deliver a net benefit to biodiversity. In addition to those measures described above in relation to statutory designations, the following additional habitats are proposed in association with the built development footprint:

- The proposed seeding of the attenuation basin and swales with a wildflower wetland meadow mix and aquatic/marginal species of value as a foraging resource for protected and notable species;
- The planting of native and/or ornamental shrubs within proposed rain gardens to provide additional benefits to biodiversity as well as visual amenity;
- The inclusion of new tree planting within and around the main development footprint; and
- The inclusion of grassland habitat around the edges of new buildings and within public open space. It is recommended this is seeded within a species-rich lawn mixture.

5.20 This should be combined with the sensitive management of retained and newly created habitats and features in order to increase their resilience and mitigate long-term disturbance effects. Specifically, wildflower grassland including retained areas of unimproved neutral grassland will be subject to management in the long-term with proposed measures to include:

- The removal and management of encroaching scrub;
- The implementation of a sensitive hay cutting regime, so as to promote a structurally diverse and species-rich sward, which also maximises the value of foraging, dispersal, breeding and hibernation resources for protected/notable species; and
- The eradication of invasive non-native species, including cotoneaster sp., identified on-site in accordance with the advice of a suitability qualified weeds specialist.

5.21 Subject to implementation of the mitigation above and in relation to statutory and non-statutory designations and habitats, including implementation of a sensitive lighting strategy and pollution control methodologies, it is considered that any detrimental impacts upon habitats can be adequately mitigated.

PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

Breeding Birds

5.22 The habitat protection measures described above will avoid harm to breeding birds present within retained habitats. However, some removal of habitats, which are capable of supporting

nesting birds, including the buildings, scrub and standard trees will be required to facilitate development.

- 5.23 Given the protection afforded to all breeding birds, their nests, eggs and young, sensitive vegetation clearance (and building demolition) required during the pre-construction and construction phases of development should be timed to avoid the main bird breeding season (i.e. March to August inclusive). Should this seasonal constraint prove impracticable, then vegetation clearance/building demolition outside of this period should only commence following the advice and under supervision of a suitably qualified ecologist. Pre-commencement checks for active nests will be required prior to any vegetation clearance occurring during the main bird breeding season, with appropriate buffers marked out around active nests or nests under construction, until all eggs have hatched, and chicks fledged.
- 5.24 The proposed planting of new native trees and shrubs combined with retention of **W1** and the majority of **W3** and **W4** in addition to their sensitive long-term management, will adequately compensate for the otherwise minor loss of suitable nesting habitat across the development footprint. In addition, the proposed creation and sensitive management of species-rich grassland habitat will provide an additional and diverse foraging resource, enhancing opportunities for an assemblage compared to baseline conditions. Further enhancement of bird nesting opportunities is also proposed through installation of bird boxes on the new building and should include a range of makes and models to provide different nesting opportunities for different species.

Bats

Roosting Bats

- 5.25 Trees proposed for removal were found to be of negligible potential during ground level preliminary inspections undertaken by EDP in May 2023. Tree **T080** with high bat roost potential may, however, be subject to tree canopy works. Prior to clearance/pruning, all mature trees to be felled/subject to tree pruning will be subject to an update ground-level inspection by a suitably qualified ecologist to determine their current potential to support roosting bats. Where trees are identified as having moderate or greater potential at the time of the update survey, then such trees will be subject to a further detailed aerial inspection, whereby all suitable roosting features will be checked at height for the presence of bats. Aerial surveys will be undertaken by a suitably qualified and NRW bat licensed ecologist, arboricultural contractor with a NRW bat survey licence, or with experience of working with bats and under the supervision of a NRW bat survey licence holder.
- 5.26 If any bats are discovered during the aerial inspection, owing to the strict legal protection afforded to bats and their roosts, works are likely to require a Development Licence from NRW before works can continue.
- 5.27 If no evidence of roosting bats is uncovered during the aerial inspection, works may proceed without a Development Licence from NRW. However, regarding those trees identified as having potential to support roosting bats, a 'soft felling' technique involving the sectional dismantling of the tree will be adopted, involving the following:

- Tree felling will avoid cutting through any cracks, cavities, limb/knot holes or any other potential roosting features – i.e. by cutting above and below the feature when removing sections with suitable features;
 - Any sections to be cut supporting suitable roosting features are to be suitably harnessed and supported before cutting using industry-standard rigging equipment, and gently lowered to the ground once cut, to avoid violent shaking of potential roosting features; and
 - Any cut sections with potential roosting features are to be retained on-site by one of the following methods:
 - Strapping to existing, retained mature trees and appropriately secured in position;
 - Retained on-site at ground level within an area of retained woodland; and
 - Retained on-site for minimum 48 hours, with potential entrances not blocked i.e. facing away from ground, before they are removed or chipped.
- 5.28 Should any bats be discovered during the felling of these or any other trees, then works will necessarily cease and a suitably qualified and NRW bat licensed ecologist contacted for further advice. It may be necessary to obtain a development licence from NRW before works can continue.
- 5.29 Given the potential for trees to degrade/decay over time such that their potential to support roosting bats may increase, should the felling of trees with bat potential occur more than 12 months since the previous bat roost assessment, then such trees should be subject to an update tree roost assessment by a suitably qualified and NRW bat licensed ecologist, with appropriate mitigation/precautionary measures followed.
- 5.30 Given the absence of bat roosts identified within buildings **B1** and **B2**, there is no requirement to obtain a development licence from NRW. Nevertheless, and given the ‘Low-Moderate’ suitability of these buildings to support a roost, a precautionary approach to demolition is advised. Works to the roofs, soffits, bargeboards, fascia’s, and other potential roosting features should ideally be undertaken between October to March so as to avoid the main bat roost and bird breeding seasons. Should this not be practicable, then pre-commencement checks carried out by a suitably qualified ecologist will be required immediately prior to commencement of works. In addition, should demolition of **B1/B2** occur more than 12 months since the previous bat roost assessment, then an update assessment by a suitably qualified and NRW bat licensed ecologist will be required.
- 5.31 Contractors carrying out the works should be warned of the possible presence of roosting bats and nesting birds and of their protected status. In the event any bats (or occupied bird nests) are found during works, then all works should cease in the affected area until advice from a suitably qualified and licensed ecologist is sought.
- 5.32 Dusk emergence/dawn re-entry surveys did, however, identify non-breeding summer day/transitional roosts for soprano pipistrelle, *Myotis* sp, and brown long-eared bats across buildings **B3-B7**. Buildings **B4-B7** will be demolished to facilitate proposed development with

subsequent loss of confirmed roosts. Building **B3** will be retained, albeit subject to refurbishment with potential for loss/modification/disturbance of bat roosts supported.

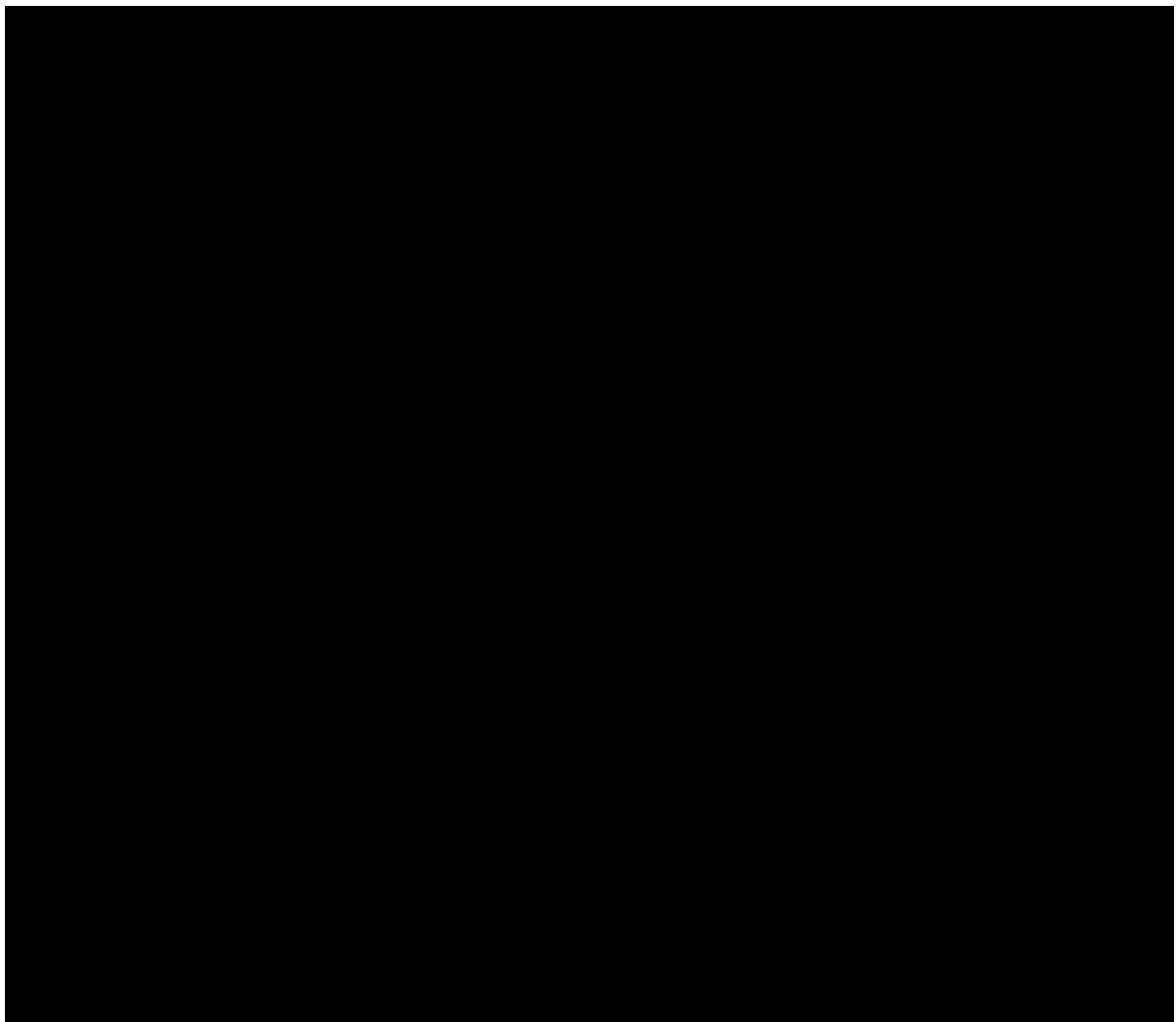
- 5.33 As such, a development licence from NRW will be required prior to the proposed development of Site. In general, demolition of on-site buildings and/or any refurbishment activities likely to disturb/modify a roost will necessarily be confined to the autumn (September to November) or early spring (March/April) months to avoid the main bat hibernation and roosting seasons, unless otherwise approved within the future NRW Development Licence.
- 5.34 Prior to commencement of proposed works, suitable bat boxes will be installed on suitable mature trees present along the retained boundaries of the Site following the advice of a suitably qualified ecologist. These will act as suitable receptor sites for bats in the unlikely event that any individuals are found during demolition and to compensate for roost loss arising as a result of proposed activities.
- 5.35 Soft-stripping of any features deemed to have potential for bats will be undertaken under the supervision of the named ecologist and/or accredited agents/assistants listed on the Development Licence. Contractors will remove all fascia's, bargeboards, soffits, roof tiles, etc. by hand, carefully checking for any evidence of bats.
- 5.36 In addition to the bat boxes installed on trees, further compensatory measures suitable for crevice dwelling bats (soprano pipistrelle and *Myotis* sp. and brown long-eared) will be provided within new buildings. Such roosting features may include the integration of Schwegler 1F Bat Tubes, bat bricks or similar into the exteriors of new buildings.
- 5.37 In respect of brown long-eared bat, however, compensatory roosting provision should take the form of a purpose-built loft space, given the requirement of this species to have an uncluttered space for flying before emerging. A roof void should ideally have an apex height in excess of 2.8m and a length and width of 5m or more. This will be combined with the inclusion of additional bat roost features including the bat access ridge tiles installed within the fabric of the building to provide access into the loft space as well as the cavity between roofing tiles and the loft space. Where it is not possible to accommodate a roost within the loft space of a new building, construction of a purpose-built bat house may be required.
- 5.38 With respect to a foraging/commuting bat assemblage, those habitat creation measures detailed above in relation to statutory designations, habitats and breeding birds will provide adequate compensation for minor losses arising across the Site.
- 5.39 To avoid disturbance of a foraging/commuting bat assemblage during construction however, working at night and the use of night lighting should be avoided. Where this is not possible (i.e. for security reasons), lighting should be kept to the lowest permissible level through the use of sensitive lighting design as detailed above in respect to habitats and directed away from retained trees lines. This should be combined with implementation of a sensitive lighting strategy during the operational phase of development to ensure that retained habitats adjacent to the Site (namely the eastern boundary tree line) used by light-sensitive species such as bats will not be adversely lit.
- 5.40 Subject to the implementation of those key mitigation measures detailed above with respect to bats and previously with respect to habitats, no significant detrimental impacts upon the

roosting and foraging/commuting bat assemblage utilising the Site are considered likely to arise.

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Otter

- 5.44 As discussed above, the ECMS will contain measures to physically protect retained aquatic and riparian habitats outside of the construction footprint through the establishment of EPZs and implementation of construction works in accordance with relevant pollution prevention guidelines.
- 5.45 There does, however, remain the potential for disturbance of this species through elevated noise and lighting during the construction phase and particularly in the event a holt/resting place is identified through pre-commencement surveys. Restricted night-time working and sensitive construction lighting to minimise light spill onto retained habitats, as set out previously, will prevent such disturbance. Where construction activities are to encroach within 10m of the watercourse and associated riparian habitats (i.e. during widening of the culvert), these will be preceded by a pre-commencement survey of such adjacent habitats for evidence of otter, in particular features considered to be used as resting sites or laying up.
- 5.46 Where evidence of a resting place or laying up site is identified, the suitably qualified ecologist will determine those additional sensitive methodologies necessary to ensure no damage or

disturbance to the holt/resting place, including the establishment of additional buffers. Where such impacts cannot be avoided and given the protection afforded to this species, an EPS Mitigation Licence from NE will be required prior to construction progressing.

- 5.47 Subject to implementation of the above mitigation and that previously discussed in relation to statutory/non statutory designated sites and habitats, likely residual effects are considered negligible.

Reptiles, Amphibians and Other Mammals

- 5.48 Given the limited potential of the Site to support low numbers of common reptiles, common amphibians and other mammals, a precautionary approach to habitat clearance is recommended to ensure no harm to these species. Clearance of any suitable vegetation should be undertaken in accordance with the following precautionary methods of working:

- Vegetation clearance should be undertaken during the late spring and early autumn months so as to avoid the main hibernation period of hedgehog and common reptiles/amphibians (typically considered to be between October and March);
- Should the above seasonal constraint be considered impracticable, then clearance works between late October and March inclusive may require pre-commencement checks and/or supervision by a suitably qualified ecologist to ensure no disruption to potential hibernacula, with the adoption of additional precautionary measures as appropriate;
- A first cut should aim to reduce vegetation height to no less than 200mm and should be undertaken through the use of a hand-held strimmer or brush cutter. The second cut should be undertaken thereafter and within 24 hours of the initial cut, during which the vegetation should be reduced to ground level;
- Both cuts should be undertaken in a direction towards retained habitats, i.e. towards the coniferous tree line or adjacent semi-natural habitat off-site, so as to allow for any wildlife present to disperse safely towards this resource;
- Any suitable refugia identified during clearance works will be subject to a finger-tip search by a suitably experienced ecologist with any species identified re-located to areas of retained vegetation. Thereafter, refugia will be dismantled by hand and relocated to areas of retained vegetation to ensure suitable refuge/hibernation opportunities are retained; and
- In the event any reptiles, amphibians or European hedgehog are identified during site clearance these will be captured by hand and immediately released into retained habitat located immediately adjacent to the construction footprint.

- 5.49 More generally, however, and particularly in respect of hedgehog, the following precautionary measures will be adhered to during the construction phase:

- All machinery will be operated by trained personnel only;
- There will be no working at night;

- All trenches/excavations will be covered up overnight and/or a means of escape provided (such as mammal ramps) to avoid wildlife becoming trapped; and
 - Any open pipework with an outside diameter of greater 120mm must be covered at the end of each working day to prevent animals entering/becoming trapped.
- 5.50 To facilitate the dispersal of European hedgehog across the Site during operational phases of development, any proposed close board fencing marking the boundaries between development, formal landscaping features or semi-natural habitat off-site, should have a 13cm x 13cm gap in the bottom to allow hedgehogs to pass through.
- 5.51 Further enhancements at the Site can be achieved through creation of hibernacula and deadwood log piles within south facing habitat and/or within the natural/informal greenspace areas.
- 5.52 The mitigation and enhancement measures outlined above will ensure that effects upon reptiles and common amphibians, if present in the locality, are avoided/minimised with an overall positive increase in the availability of suitable habitat across the Site.

Section 6 Summary and Conclusions

6.1 **Table EDP 6.1** provides an overview of Mitigation and Enhancement Strategy described in **Section 5**.

Table EDP 6.1: Summary of Proposed Mitigation and Enhancement.

Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
Avoid by design	<p>Retention of habitats with appropriate development buffers including:</p> <ul style="list-style-type: none"> Retention of W1 within the Site combined with W2 located off-site within the wider land ownership boundary; Retention of vast majority of W3 and W4 except for removal of up to six trees and potential canopy works to a further ten trees; and Retention of semi-improved neutral grassland units NG3, NG6 and NG7. <p>Implementation of a sustainable drainage strategy.</p>	<p>Habitat retention embedded in the Illustrative Layout provided at Appendix EDP 1, which will be an 'approved plan' to which future detailed designs must align.</p>
Avoid or minimise construction impacts	<p>Sensitive methods of operation during enabling and construction works:</p> <ul style="list-style-type: none"> Control of working hours; Minimise noise and vibration; Air quality measures/dust suppression; Surface water management; Storage of fuels/chemicals; Control/eradication of invasive species; and Sensitive lighting. 	<p>Construction Environmental Management Plan (CEMP) secured via pre-commencement planning condition.</p>

Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
	<p>Protection of retained habitats and designated sites:</p> <p>Fencing and signage to create development exclusion zones; and</p> <p>Detailed method statement for the protection and redistribution of soils associated with the ancient woodland and species rich grassland.</p>	<p>Arboricultural Method Statement (AMS) and Ecological Construction Method Statement (ECMS) secured via pre-commencement planning condition.</p>
	<p>Methods to avoid harming individuals or interfering with breeding of protected species prior to/during habitat destruction:</p> <ul style="list-style-type: none"> • Pre-commencement checks/surveys; • Demolition of buildings B4-B7 and refurbishment of building B3 in accordance with a NRW EPS Development Licence for bats; • Avoidance of trapping animals in excavations; • Timings to avoid sensitive periods/breeding seasons; • Phased vegetation clearance; • Destructive searches; and • Supervision by Ecological Clerk of Works (ECoW). 	<p>ECMS secured via pre-commencement planning condition.</p>
<p>Mitigate or compensate for habitat loss and deliver net benefits</p>	<p>Habitat creation:</p> <ul style="list-style-type: none"> • Attenuation basin and swales seeded with species-rich marshy grassland mix; • Shrub planting within rain gardens comprising native and ornamental species (of value for wildlife); • Native tree, shrub, woodland and hedgerow planting along boundaries of the Site; and • Provision of amenity grassland areas seeded with a species-rich seed mix. 	<p>Space for new habitat embedded in the Illustrative Layout, which will be an 'approved plan' to which detailed designs must align.</p>

Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
	Habitat features to be provided in suitable locations: <ul style="list-style-type: none"> • Bird boxes; • Bat boxes, bat bricks, designated bat loft; • Hibernacula for reptiles, amphibians and small mammals; • Deadwood piles for invertebrates; and • Gapped fencing for hedgehog. 	LEMP to be secured by planning condition. Measures for bats submitted as part of NRW licence applications.
	Measures to maintain or enhance habitat connectivity: <ul style="list-style-type: none"> • Retention/management of W1 along northern boundary; • New tree/shrub planting along the eastern boundary of the Site; • New tree planting within and around the main development footprint; and • Woodland grassland planting along western and southern boundaries of main development footprint. 	Illustrative Layout to be secured by planning consent.
	Lighting strategy to avoid disturbance of nocturnal species, in particular foraging/commuting bats	Detailed lighting design to be secured by planning condition.
Maintenance, monitoring and management post-construction	Habitat-specific, namely measures to: <ul style="list-style-type: none"> • Enhance retained habitat, and to ensure new habitat becomes established, to achieve target condition; and • Monitor and maintain habitats in good ecological condition once enhanced/established. 	LEMP to be secured by planning condition.
	Species-specific, namely measures to: <ul style="list-style-type: none"> • Monitor key species populations, including roosting bats; and • Maintain habitat features (boxes etc.) in good condition or replace as necessary. 	LEMP to be secured by planning condition. Details to be secured by planning condition. Monitoring proposals for bats submitted as part of NRW licence applications.

- 6.2 EDP's desk-based and field-based baseline investigations have identified some habitat features of Local importance and greater. Of further pertinence, the Site and wider land ownership boundary overlaps with Barry Woodlands SSSI and ASNW. Such habitats provide suitable habitat for breeding birds, [REDACTED] otter, common reptiles, amphibians, European hedgehog and a local bat assemblage, whilst a low status soprano pipistrelle, *Myotis* sp. and brown long-eared bay day/transitional roosts have been identified across buildings **B3-B7**.
- 6.3 As such, EDP has provided specific proposals for the avoidance, mitigation and compensation of any predicted impacts. These measures include those already embedded within the development proposals; measures recommended for incorporation at the construction stage; and those which have been recommended for inclusion within the landscaping scheme. Although there will be some tree removal and land take within the boundaries of Barry Woodlands SSSI and ANSW to widen an existing road, such losses have been minimised as far as possible with land take limited to existing areas of heavily degraded habitat. In addition to compensation of direct tree and habitat loss through new habitat creation including tree planting, there remain opportunities to deliver positive benefits to the condition of the SSSI through sensitive long-term management of retained woodland habitat within the Site and wider land ownership strategy including removal of non-native species. Accordingly, and subject to implementation of the above mitigation in full, the scheme is capable of maintaining the integrity of Barry Woodlands SSSI, in addition to complying with relevant wildlife legislation and planning policy in respect of protected species occurring/potentially occurring on-site.

Appendix EDP 1
Illustrative Layout
(Lichfields, IL60108/03-003RevB, 05.12.23)



Key

- Site Boundary 
- Shared Surface 
- Footpath 
- Parking/ Driveway 
- Attenuation Basin 
- Existing Trees 
- Proposed Trees 
- Ecological Grassland (retained) 



Project Weycock Cross Campus, Barry

Title **Illustrative Layout**

Client Cardiff and Vale College

Date 05.12.23

Scale 1:1000 @ A3

Drawn by SG

Drg. No. IL60108/03-003RevB



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Appendix EDP 2 Habitat Descriptions

METHODOLOGY

Extended Phase 1 Habitat Survey

- A2.1 The main habitats within the land ownership boundary, together with their dominant/characteristic plant species, were identified by undertaking an Extended Phase 1 Habitat survey in May 2023. The survey technique adopted was at a level intermediate between a standard Phase 1 survey technique²², involving habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey technique is commonly known as an Extended Phase 1 Habitat survey. This level of survey does not aim to compile a complete floral and faunal inventory for the Site.
- A2.2 The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type. In addition, any actual or potential protected species or species of principal importance²³ are identified and scoped.
- A2.3 The Extended Phase 1 Habitat survey was undertaken by a suitably experienced surveyor on 22 May 2023, during which the weather was clear and still with a temperature of 22°C.

Limitations

- A2.4 May is within the optimum period for undertaking an Extended Phase 1 Habitat survey, such that seasonal and climatic factors are not considered a constraint to the survey area.
- A2.5 Surveys were limited to recording plant species present in both vegetative and floristic forms at the time of survey; the lack of any species record from this report does not automatically imply species' absence from the Site.
- A2.6 There was full access to areas within the land ownership, with the exception of a triangular-shaped area of woodland (**W2**) in the north-west of the survey area (refer to **Plan EDP 1** for location). Access to this area was precluded by a high brick wall with a steeply sloping gradient beyond. A survey of this area was instead undertaken from the eastern boundary of this area with the rest of the survey area. This is, thus, not therefore considered a significant limitation to the survey with adequate data to inform the dominant habitat.

Detailed Botanical Survey

- A2.7 A subsequent detailed botanical survey of woodland and grassland habitats within the Site and wider land ownership boundary was completed by a suitably experienced botanist on 01 June 2023 during which the weather was clear and still with a temperature of 18°C.

²² Joint Nature Conservation Council (2004) Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (reprinted with minor corrections for original Nature Conservancy Council publication).

²³ Species considered of key significance to sustain and improve biodiversity in Wales, as defined under Section 7 of Part 1 of the Environment (Wales) Act 2016.

- A2.8 A survey of woodland and grassland habitat adopted the DAFOR methodology whereby all vascular plant species (and bryophytes where identifiable) were identified and assigned one of the following abundance levels within the surveyed habitat: D = Dominant (over 75%); A = Abundant (51–75%); F = Frequent (26–50%); O = Occasional (11–25%); and R = Rare (1–10%). It should be noted that the percentages are taken as a visual approximation across the entirety of each specified habitat parcel.
- A2.9 The grassland within the Site was assessed against the Guidelines for the Selection of Wildlife Sites in South Wales²⁴ prepared by Gwent Wildlife Trust on behalf of the South Wales Wildlife Partnership 2004 with regard to that habitat's value against SINC criteria²⁵ to provide context due to the proximity of Fferm Walters SSSI to the Site.

Limitations

- A2.10 June is considered an optimal time for capturing flowering woodland species and summer species, such that seasonal and climatic factors are not considered a constraint to the survey area.
- A2.11 There was no access to woodland **W2** in the north-west of the survey area due to presence of a high brick wall with a steeply sloping gradient beyond, such that species associated with a ground flora community may have been missed. This is, however, not considered a significant constraint to an assessment with a SINC assessment also considering condition and structure of woodland habitat.

RESULTS

- A2.12 The distribution of the principal habitats together with their dominant/characteristic plant species identified during the survey are discussed in turn below. The following should be read in conjunction with **Plan EDP 1**, and illustrative photographs are provided where appropriate. A species-list for woodland and grassland habitat subject to a DAFOR assessment is provided in **Table EDP A2.1** and **Table EDP A2.2** respectively.

Semi-natural Broadleaved Woodland

- A2.13 Broadleaved woodland across the Site and wider land ownership boundary typically comprises blocks of long-established semi-natural broadleaved woodland with dense scrub present along the interface of woodland habitat with the former campus. Woodland habitat within the survey area is designated as ANSW. For the purpose of this assessment, woodland habitat has been subdivided into 4 distinct compartments **W1-W4**. A description of each woodland compartment is provided below whilst a species list is provided within **Table EDP A2.1**.

Woodland W1 (On-site)

- A2.14 Woodland **W1** is present along the northern boundary of the former campus and located within the red line boundary of the Site. **W1** represents vestigial areas of semi-natural broadleaved

²⁴ <https://www.monmouthshire.gov.uk/app/uploads/2019/06/South-Wales-Wildlife-Sites-Complete-Doc.pdf>

²⁵ The codes and precise definitions quoted in this assessment are taken from the above document, Guidelines for the selection of wildlife sites in South Wales prepared by Gwent Wildlife Trust on behalf of the South Wales Wildlife Partnership 2004.

woodland which would appear to have been retained when the campus was developed and thus has been subject to some historical disturbance. This area is not located within the boundaries of Barry Woodlands SSSI but is designated as ASNW. There are a small number of mature English oak and ash standards here along with several old stools of hazel (*Corylus avellana*). However, the majority of this woodland compartment either supports dense scrub of relatively recent origin or non-native shrub planting, which intergrade with the small areas of remnant semi-natural broadleaved woodland. The presence of scrub and non-native shrubs along the woodland edge would suggest this area was historically cleared and developed as part of the former campus.

- A2.15 The ground flora community here is poor and typically dominated by ivy (*Hedera helix*). With the exception of a small area of bluebell (*Hyacinthoides non-scripta*), no notable species or ancient woodland indicator species were recorded here.
- A2.16 In summary, woodland **W1** within the red line boundary of the Site comprises a small area of degraded woodland largely dominated by dense scrub with many specimens of non-native trees and shrubs; only small areas of remnant semi-natural broadleaved woodland are present here. Although **W1** is part of the ASNW designation, given the presence of non-native shrubs/scrub combined with the absence of typical woodland ground flora in this area, it is apparent that this area was historically re-developed alongside the former campus with likely loss of an ancient woodland community and seed-base here.

Woodland W2 (Off-site)

- A2.17 Woodland **W2** comprises a triangular-shaped area of woodland (**W2**) located off-site but within the wider land ownership boundary. This woodland compartment overlaps with the boundaries of Barry Woodlands SSSI and is further designated as ASNW. A survey undertaken from the eastern boundary of this compartment noted the presence of relatively undisturbed semi-natural broadleaved woodland with a canopy of ash and English oak and an understorey which includes field maple (*Acer campestre*), hazel, elder (*Sambucus nigra*), hawthorn (*Crataegus monogyna*), and bramble along with some cherry laurel (*Prunus laurocerasus*). The field layer appeared to be dominated by ivy and no ancient woodland indicator species were identified from the vantage point.

Woodland W3 (On-site)

- A2.18 **W3** comprises a narrow strip of woodland within Barry Woodlands SSSI located between the Site's access road to the east and a line fence on its western boundary. This woodland is also designated ASNW.
- A2.19 The majority of the eastern half of this woodland block appears to be cut frequently as it lies under an electricity or telephone line and here there is simply dense low scrub dominated by bramble but with much wood sedge, nettle and common grass species.
- A2.20 North of the area of low scrub there is a stand of mature Crimean pine (*Pinus nigra pallasiana*) (**Plan EDP 1, TN2**). West of the low scrub there is semi-natural broadleaved woodland but with very few standards; only a few ash and field maple. In the understorey here, there is hazel, hawthorn, spindle (*Euonymus europaeus*), guelder rose (*Viburnum opulus*), cherry laurel, bramble and dog-rose (*Rosa canina* agg.).

A2.21 Ivy dominates the species-poor ground flora community but there is some honeysuckle (*Lonicera periclymenum*), wood speedwell (*Veronica montana*), enchanter's nightshade (*Circaea lutetiana*), harts-tongue (*Asplenium scolopendrium*) and a small patch of sweet woodruff.

A2.22 In summary, woodland area **W3** was significantly modified by the requirement to suppress woody species growth beneath the electricity/telephone line. The narrow band of unmanaged woodland here was species-poor.

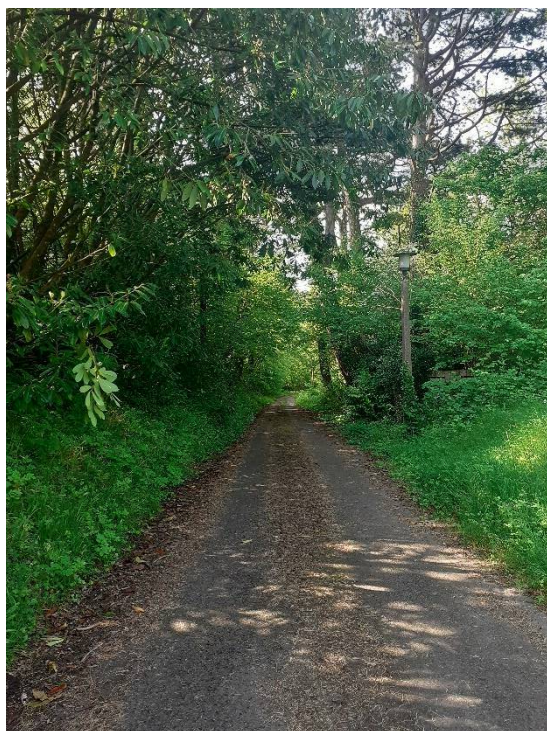


Image EDP A2.1: View from the campus looking south along the existing access road and **W3/W4** (designated as ASNW).

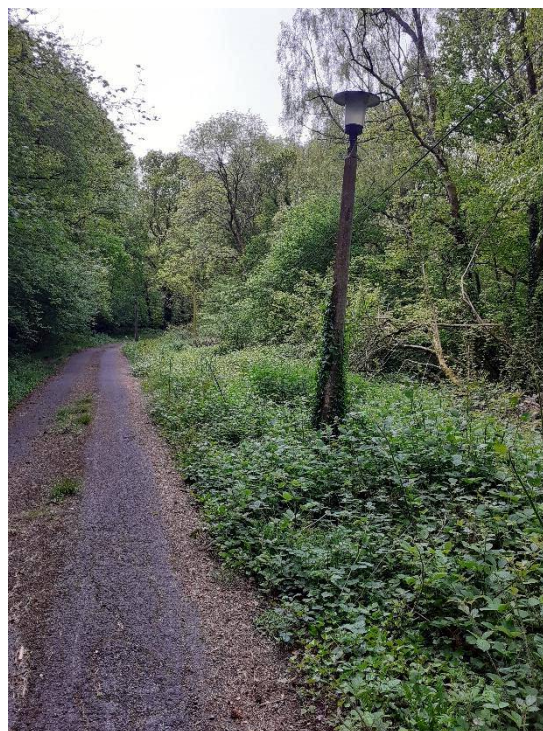


Image EDP A2.2: View looking south along the western verge of the existing access road **W3/W4** (designated as ASNW).

Woodland W4 (On-site and Off-site)

A2.23 Situated to the east of the Site's access road and to the south of the campus buildings this area of semi-natural broadleaved woodland appeared relatively undisturbed and unmanaged. It is within Barry Woodlands SSSI and designated as ASNW. Its western edge overlaps the Site, where the woodland meets the access road.

A2.24 English oak and ash standards form the canopy here whilst the understorey is dominated by hazel; holly and hawthorn are locally frequent whilst in the north-west of this area of woodland there is much cherry laurel. Many of the ash standards here are multi-stem regrowth from the felling/loss of former ash standards. Bramble is locally common in the north-west and there are occasional specimens of spindle, hawthorn, dogwood (*Cornus sanguinea*), guelder rose, goat willow (*Salix caprea*), field maple and dog rose.

A2.25 The field layer is dominated by ivy but wood sedge is locally common on the western edge adjacent to the access road. Sweet woodruff is locally common in this woodland in discrete patches but the remaining flora is sparse: bluebell, common dog violet, enchanter's nightshade,

wood speedwell, soft shield fern (*Polystichum setiferum*), broad buckler fern (*Dryopteris dilatata*), harts-tongue and polypody (*Polypodium vulgare*) are present but scarce. Dog's mercury is locally common in a small part of the north eastern edge of this woodland area. A small bank runs through the north of **W4** and to the north and north-west of this there are many specimens of cherry laurel and much nettle.

- A2.26 In summary, only woodland **W4** demonstrates a structure and ground flora suggestive of a broadleaved woodland of botanical interest although even here the flora is sparse and relatively species-poor. Sweet woodruff is the most distinctive of the ancient woodland indicator species present. Ivy is dominant in the field layer and no woody species of particular note were recorded.
- A2.27 This botanical survey has established that the semi-natural woodlands (**W2**, **W3** and **W4**), although overlapping with the boundaries of Barry Woodlands SSSI and designated as ANSW, are species-poor and in places highly disturbed and degraded.
- A2.28 Given its poor condition and botanical diversity, woodland habitat within the Site is considered inherently to be of Local level importance. This is, however, superseded to some extent by the statutory and non-statutory designations afforded here with **W2**, **W3** and **W4** considered to be of National importance owing to their collective designation as a SSSI whilst **W1** is designated as ANSW and thus of County level importance.

Dense and Scattered Scrub

- A2.29 This habitat is predominantly associated with the boundaries of the Site (between the woodland and the existing campus) and to the west of the access road. It is dominated by bramble, with some self-seeded hazel, hawthorn, goat willow, holly (*Ilex aquifolium*) and common honeysuckle (*Lonicera periclymenum*). There are several locations across the Site where non-native ornamentals have been used, planted within former landscaped areas and have been left unmanaged for some time. These areas contain *Cotoneaster spp.* which is an invasive non-native (INNS) species listed under Schedule 9 of the WCA (1981, as amended). *Cotoneaster spp.* is spreading inadvertently in places into the woodland and was recorded in association with native dense scrub habitat (denoted as **TN3** on **Plan EDP 1**).

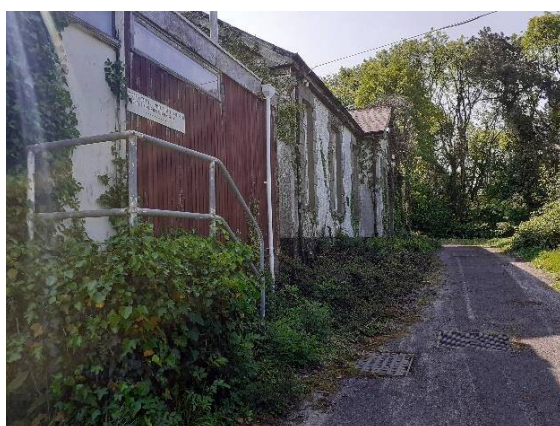


Image EDP A2.3: *Cotoneaster spp.* in front of **B7**.



Image EDP A2.4: Dense scrub area behind **B4**.

A2.30 Dense scrub exhibits poor botanical and structural diversity whilst this habitat type is commonly found in the wider landscape. Dense scrub is thus considered to be of Site level importance only.

Poor Semi-improved Grassland

A2.31 Semi-natural habitat present around building **B7** comprise relatively species-poor, semi-improved grassland. The sward is dominated by common grass species. Perennial rye-grass (*Lolium perenne*) and Yorkshire fog (*Holcus lanatus*) are co-dominant whilst red fescue (*Festuca rubra*) and cock's-foot (*Dactylis glomerata*) are abundant with crested dog's tail (*Cynosurus cristatus*) and sweet vernal grass (*Anthoxanthum odoratum*) occurring frequently. Herbaceous species are present but not abundant and include dandelion (*Taraxacum officinalis*), yarrow (*Achillea millefolium*), broadleaved plantain (*Plantago major*), creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*), forget-me-not (*Myosotis arvensis*), white clover (*Trifolium repens*), red dead nettle (*Lamium purpureum*), and daisy (*Bellis perennis*). This habitat is interrupted by interspersed scattered scrub which is encroaching from adjacent habitat.



Image EDP A2.5: Poor semi-improved grassland opposite **B7**.

A2.32 Given the comparatively species-poor composition of the grassland sward, and the common nature of this habitat within the local area, poor semi-improved grassland is judged to be of Site level importance.

Unimproved Neutral Grassland

- A2.33 Amongst the buildings, there are seven small, discrete areas of unimproved neutral grassland, labelled as **NG1** to **NG7** on **Plan EDP 1**. The relative botanical value of these areas varies; **NG1** and **NG6** are the most species-rich comparatively. **NG2-NG5** and **NG7**, although comparatively species-poor, still supports several species which are typical indicators of unimproved neutral grassland. A species list is provided at **Table EDP A2.2**.
- A2.34 Of particular note here are quaking grass (*Briza media*), betony (*Stachys officinalis*), cowslip (*Primula veris*), tormentil (*Potentilla erecta*), downy oat-grass (*Avenula pubescens*), lady's bedstraw (*Galium verum*) and rough hawkbit (*Leontodon hispidus*). These neutral grassland areas support the plant community described within the Guidelines for Selection of Wildlife Sites²⁶ as H4 (Neutral Grassland). The Guidelines suggest that for a Neutral Grassland to be considered as a SINC it must support a minimum threshold of eight species from the associated Table 2. The combined neutral grassland areas on this Site score 16 and as such would qualify for SINC designation.
- A2.35 Other criteria than species abundance noted in the Guidelines include a site's Naturalness/Typicalness and Diversity.
- A2.36 With regard to Naturalness/Typicalness the grassland areas do not as a whole score well given that they are fragmentary sections of verge around the margins of buildings and driveways.
- A2.37 With regard to Diversity the grasslands on the Site score well as they have a relatively high species diversity and structural diversity, and also there is a natural gradation between the species-rich areas of grassland and adjacent habitats: very few hard demarcations are present and thus there are interactions between the habitats and animal species requiring more than one plant species or habitat for their lifecycles can exist here.

²⁶ <https://www.monmouthshire.gov.uk/app/uploads/2019/06/South-Wales-Wildlife-Sites-Complete-Doc.pdf>