



**TRIVALLIS**

**PENRHYS RESIDENTIAL DEVELOPMENT – PHASE 1A**

**ECOLOGICAL IMPACT ASSESSMENT- PLANNING APPLICATION CONSULTATION**

**SEPTEMBER 2025**

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**ECOLOGICAL IMPACT ASSESSMENT- PLANNING APPLICATION CONSULTATION –  
PLANNING APPLICATION CONSULTATION**

**SEPTEMBER 2025**

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## CONTENTS

EXECUTIVE SUMMARY .....	1
1 INTRODUCTION .....	5
2 PLANNING POLICY AND LEGISLATION .....	8
4 METHODOLOGY .....	16
5 BASELINE CONDITIONS AND NATURE CONSERVATION EVALUATION .....	43
6 ASSESSMENT OF EFFECTS, MITIGATION, ENHANCEMENTS AND RESIDUAL EFFECTS .....	76
7 ENHANCEMENTS – NET BENEFITS FOR BIODIVERSITY .....	101
8 CONCLUSIONS .....	103

## APPENDICES

Appendix 1	Site Location Plan (2385-URB-XX-XX-DR-UD-R0-001- The Urbanists)
Appendix 2	Proposed Site Plan (156757-STL-XX-XX-DR-A-09010 Stride Treglown) and Proposed Roof Plan (156757-STL-XX-CC-DR-A-09011 Stride Treglown)
Appendix 3	Planning Policy and Legislative Framework
Appendix 4	Preliminary Ecological Appraisal Report – Penrhys Residential Estate (Wardell Armstrong (WA), 2024)
Appendix 5	Tree Location and Constraints Plan, WA (part of SLR), 2025
Appendix 6	Preliminary Roost Assessment Results
Appendix 7	Ecological Services Ltd – Bat Survey Penrhys
Appendix 8	Bat Emergence Surveys – dates, times and weather conditions
Appendix 9	Field of View of Night Vision Aids
Appendix 10	Reptile presence /likely absence survey – Trivallis site - date, times and weather conditions and results
Appendix 11	Phase 1a Invertebrate Survey Report - Entomologica Ltd (July 2025)
Appendix 12	Grassland CHEGD Fungi eDNA Report (Aberystwyth University, April 2025)
Appendix 13	Nature Conservation Evaluation Criteria
Appendix 14	Breeding Bird Survey Results 2025 – Phase 1a
Appendix 15	Softworks and Planting Plan
Appendix 16	Sustainable Drainage Scheme (SuDs)
Appendix 17	Potential Stockpiles Plan
Appendix 18	Planting Schedule

<b>DRAWINGS</b>	<b>TITLE</b>	<b>SCALE</b>
CA13129-024	Phase 1a UKHab Habitat Plan-2024	1:1,500@A3
CA13129-015	Night-Time Bat Walkover Survey Results - Summer (July 2024)	1:2,500@A3
CA13129-016	Night-Time Bat Walkover Survey Results - Autumn (Oct 2024)	1:2,500@A3
CA13129-027	Night-Time Bat Walkover Results - Spring (May 2025)	1:2,500@A3
CA13129-013	Automated Detector Location Plan - Phase 1a	1:2,500@A3
CA13129-029	Building Location Plan and Confirmed Roosts - 2024/2025	1:2,000@A3
CA13129-026	Breeding Bird Survey: Phase 1a – Notable Species	1:2,000@A3
CA13129-022	Reptile Refugia Location Plan	1:5,000@A3
CA13129-028	Reptile Receptor Site – Phase 1a	1:5,000@A3

## EXECUTIVE SUMMARY

Wardell Armstrong LLP, part of SLR Consulting Ltd, was commissioned by Trivallis to undertake an Ecological Impact Assessment (EclA) in support of the Phase 1a land parcel as part of the redevelopment of Penrhys Residential Estate, Ferndale, Rhondda Cynon Taf, centred on approximate National Grid Reference ST 00271 94945. The application site is approximately 4 hectares (ha).

This report has been produced with reference to current guidelines for '*Guidelines for Ecological Impact Assessment (EclA) in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, version 1.3*, (CIEEM, 2018) Version 1.3 updated September 2024, hereafter referred to as the 'CIEEM guidelines' and British Standard (BS) 42020:2013 (BSBI, 2013) which involves the evaluation of potential ecological constraints based on survey data and background desk study.

A Preliminary Ecological Appraisal (PEA) was undertaken which covered the Penrhys Estate including the Phase 1a application site on 2<sup>nd</sup> and 17<sup>th</sup> of July and 25<sup>th</sup> September 2024. The PEA identified that the following 'Important Ecological Features' may be subject to potential adverse effects in the absence of mitigation and have therefore been considered as part of this EclA:

- Statutory Designated Sites:
  - Craig Pont Rhondda Site of Special Scientific Interest (SSSI)
  - Glyncornel Local Nature Reserve (LNR)
- Non-statutory Designated Sites
  - Mynydd Ty'n-tyle Slopes Site of Importance for Nature Conservation (SINC) – this site lies to the north and extends within the eastern section of the survey area – Referenced as No. 64 in the Supplementary Planning Guidance (SPG) for Nature Conservation<sup>1</sup>;
  - Ystrad Slopes SINC lies adjacent to the site to the west – No. 123;
  - Mynydd Brith-weunydd / Llwynypia hillside (40);
  - Taff and Rhondaa SINC.
- Other neutral grassland (and CHEGD (*Clavarioids*, *Hygrocybe*, *Entoloma*, *Geoglossum* and *Dermoloma* & relatives, fungi) and orchids);

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<sup>1</sup> Rhondda Cynon Taff County Borough Council, Supplementary Planning Guidance: Nature Conservation (March 2011).

- Badger;
- Bats;
- Birds;
- Reptiles;
- European hedgehog;
- Invertebrates;
- Invasive Non-Native Species (INNS) – Himalayan cotoneaster.

No direct or indirect effects during construction have been identified on Craig Pont Rhondda (SSSI) or Glyncornel Local Nature Reserve (LNR) due to distance from the Phase 1a site. No indirect effects (through recreational impacts) have been identified on the SSSI due to a potential increase in visitors to the area. Footpaths are already provided, and the site is actively managed by Rhondda Cynon Taf (RCT) County Borough Council.

Direct and indirect effects during construction have been identified for Mynydd Ty'n-tyle Slopes, Ystrad Slopes and Rhondda Fach River (Little Rhondda) SINC. Although there will not be any construction activities proposed for these SINC sites, a small area to the south of Mynydd Ty'n-tyle Slopes will be utilised to mitigate and compensate for adverse effects arising from the Phase 1a development (reptile mitigation).

Indirect effects have been identified for Rhondda Fach River SINC in terms of the generation of dust and pollutants which may affect habitats and enter the watercourse during construction.

Recreational impacts are also anticipated for Mynydd Ty'n-tyle Slopes, Ystrad Slopes and Mynydd Brith-weunydd / Llwynypia hillside SINC due to potential increase in residents and visitors to the area, although there is currently limited access. Due to the increase in resident numbers and potential increase in pets (cats and dogs) there is likely to be a residual adverse effect on bird populations using the SINC habitats. A sensitive lighting scheme will be required to minimise light spill to adjacent off-site habitats to mitigate impacts on a range of nocturnal species including bats, birds and hedgehogs).

No direct or indirect adverse effects are anticipated on the other SINC within 2 km of the proposed development.

Without mitigation, significant effects have been identified on the following ecological receptors within the Phase 1a site; other neutral grassland; badgers, bats, birds, reptiles,

European hedgehog, invertebrates, notable plant species. Habitats and species could potentially be affected through harm/disturbance to individuals, habitat loss and damage, the generation of dust and pollutants which may affect habitats, the spread of invasive non-native species, possible recreational impacts from a potential increase in residents within the area and inappropriate management of retained and created habitats.

Measures to minimise dust and light emissions and pollution prevention measures will be implemented during construction. These measures can be detailed in a Construction Environmental Management Plan (CEMP). The CEMP will include measures to mitigate impacts on a range of wildlife including: bats (a bat mitigation licence will be required from Natural Resources Wales prior to the demolition of building B30), reptiles, nesting birds and hedgehogs, and can be secured via a planning condition. The INNS Himalayan cotoneaster will be eradicated from site by a contractor to prevent the spread of these species.

Loss of grassland will be mitigated for by preparing and implementing a Soil Management Plan, which will ensure topsoil and subsoil are kept separated and reused where possible within the Phase 1a site. This way topsoil (and their gravels), together with their natural seed/spore-base can be re-used in the landscaping of the site, allowing local wildflower and waxcap fungi species to develop.

Up to a low population of slow worm was recorded within the Phase 1a site, but forms part of a wider 'Exceptional' slow worm population which is present within the Penrhys estate. A good population of common lizard is also present in the wider area and so could use the Phase 1a site in the future. To mitigate for the loss of reptile habitat to facilitate the development, mitigation and enhancements will be undertaken. It is proposed to translocate the slow worm population from within the Phase 1a site to habitats located outside the red line to the north-east. A Reptile Receptor Site Management Plan (RRSMP) will be developed outlining in detail the measures listed below to create and maintain the receptor site to benefit reptiles translocated from the development site in the long term.

A sensitive lighting scheme will be developed for the Phase 1a site to minimise adverse lighting effects to nocturnal species e.g. bats, birds, invertebrates and hedgehogs.

Section 7 of the EcIA outlines measures to deliver biodiversity enhancements and full details of the measures and management specifications will be set out within a Landscape and Ecology Management Plan, or similar, that can also be secured via a planning condition.

With the implementation of suitable mitigation and enhancements, no significant residual effects on the ecological features are anticipated except for nesting birds off-site whereby

there may be a residual impact due to a local population increase in pet ownership (cats/dogs).

## **1 INTRODUCTION**

### **1.1 Terms of Reference**

1.1.1 Wardell Armstrong (WA) LLP (integrated into SLR Consulting Ltd on 7<sup>th</sup> July 2025) was commissioned by Trivallis to undertake an Ecological Impact Assessment (EclA) in support of a full planning application for the Phase 1a land parcel as part of the redevelopment of Penrhys residential estate, Ferndale, Rhondda Cynon Taf (RCT). Outline permission will be sought in 2026 for a wider masterplan area covering the Trivallis landholding (Penrhys estate) and Rhondda Cynon Taf (RCT) council owned land south of the Penrhys roundabout.

### **1.2 Site Location and General Description**

1.2.1 Penrhys consists of a hillside village situated north of the B4512 Penrhys Road and circled by the road Heol Pendyrus as shown on the Site Location Plan drawing number 2385-URB-XX-XX-DR-UD-R0-001, provided within Appendix 1 (Site Location Plan). Penrhys Estate comprises approximately 300 buildings (50 blocks), including Llanfair Uniting Church, Penrhys Primary School and Penrhys Children and Family Centre. The estate covers approximately 25 hectares (ha) in total.

1.2.2 Penrhys overlooks the Rhondda Fawr and Rhondda Fach valleys, the wider landscape is predominantly rural, comprising country parks, agricultural land and coniferous plantation woodland. Immediately north of Penrhys is a plantation woodland managed by Natural Resources Wales (NRW). To the east and west lie various towns made up of residential properties and industrial estates.

1.2.3 The Phase 1a site boundary is shown on drawing 156757-STL-XX-XX-DR-A-09010-Phase 1a (Proposed Site Plan) provided in Appendix 2 and the Phase 1a site is centred on National Grid Reference (NGR) ST 00105 95034. The planning application area is approximately 40,000 m<sup>2</sup> (4 ha).

1.2.4 The area within the Phase 1a site is largely occupied by existing residential properties to be demolished, modified and neutral grassland, mixed scrub and scattered semi-mature trees.

1.2.5 The Phase 1a site is bound to the north by Heol Pendyrus ring road, to the east by Heol-Y-Waun, to the south by Pen Tyntyla and to the west by Heol Pendyrus ring road.

1.2.6 The Phase 1a site will be accessed from the east and the west by existing hard surfaced roads leading from Heol-Y-Waun and Heol Pendyrus ring road.

1.2.7 Other habitats recorded within the wider masterplan site area include neutral grassland, lowland dry acid grassland, bracken, dwarf shrub heath, mixed scrub, dense scrub, bramble scrub, gorse scrub, willow scrub, non-native and ornamental hedgerows, woodland, ornamental garden and suburban/ mosaic of developed/ natural surface.

### 1.3 Overview of the Proposed Development

1.3.1 The Proposed Site Plan for Phase 1a is shown on drawing 156757-STL-XX-XX-DR-A-09010-Phase 1a (Proposed Site Plan) with the Proposed Roof Plan shown on drawing 156757-STL-XX-CC-DR-A-09011 both provided in Appendix 2.

1.3.2 Outline planning permission is being sought for the village regeneration masterplan for up to 700 new homes, where Trivallis or key development partners would lead future reserved matters applications. This EcIA supports a full planning permission for Phase 1a land parcel, a largely affordable led scheme that would ensure existing residents can be relocated from other parts of the estate to enable future phases of development.

1.3.3 Topographically the development site is 335 metres (m) above ordnance datum (AOD) at its highest point within the north of the site.

1.3.4 A description of the Proposed Development is provided in Section 6.

#### Scope of Report

1.3.5 This report has been produced with reference to current guidelines for '*Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, version 1.3*, Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) updated in September 2024, hereafter referred to as the 'CIEEM guidelines' and British Standard (BS) 42020:2013<sup>2</sup> which involves the evaluation of potential ecological constraints based on survey data and background desk study.

1.3.6 EcIA is a process of identifying, quantifying and evaluating potential effects of development on habitats, species and ecosystems. EcIA supports implementation of national biodiversity strategies and national planning policies for safeguarding

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<sup>2</sup> British Standards (BS) Institute 'BS402020:2013: Biodiversity: Code of Practice for Planning and Development'

biodiversity and supporting the delivery of sustainable development. This assessment demonstrates how the project accords with relevant planning policy and legislation.

1.3.7 The purpose of this report is to provide an EclA which includes:

- Details of relevant national and local planning policy with regards to nature conservation and relevant legislative background;
- Description of survey and assessment methodology;
- A description of the baseline conditions for the Phase 1a site;
- An evaluation of the Phase 1a site in terms of its value for nature conservation;
- An assessment of potential ecological impacts of the Proposed Development including habitat loss and fragmentation, disturbance and potential off-site impacts and whether those impacts are likely to result in significant effects on Important Ecological Features (IEFs);
- Proposed mitigation measures in terms of significant adverse effects on IEFs;
- Identification of residual effects taking into account proposed mitigation measures; and
- A description of measures that can be implemented to provide a net benefit for biodiversity.

1.4 **Quality Assurance & Environmental Management**

1.4.1 The EclA has been completed by Kris Roberts (Principal Ecologist). Kris has over 23 years' experience in the ecological profession, across both private and public sectors. Kris is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), holds a BSc (Hons) in Biology and has held protected species survey and mitigation licences to support a range of projects.

1.4.2 This assessment has been reviewed by Abigail Coe (Associate Director – Ecology). Abigail has over 19 years' experience in ecological consultancy, is a full member of CIEEM and holds a BSc (Hons) in Zoology.

1.4.3 Jo Hole (Technical Director - Ecology) has approved the EclA. Jo has over 25 years' experience in professional ecology, is a full member of CIEEM and holds a BSc (Hons) in Environmental Science.

1.4.4 Abigail and Jo have both undertaken numerous ecological surveys and assessments, making recommendations for ecological mitigation and enhancements for habitats and species across a range of sites and development projects in the UK.

## 2 PLANNING POLICY AND LEGISLATION

2.1.1 Planning policy at the national, regional and local level and its relevance to environmental design and assessment will be discussed in the Planning Statement submitted as part of this planning application. An overview is provided below.

2.1.2 National and local planning legislation and policy requires the protection and conservation of wildlife sites, habitats and species. The relevant legislation and policy are listed below, with details provided in Appendix 3.

- *The Wildlife and Countryside Act (WCA) 1981 (as amended);*
- *The Conservation of Habitats and Species Regulations 2017 (as amended);*
- *Environment (Wales) Act (2016);*
- *Planning Policy Wales (PPW) Edition 12 (February 2024);*
- *Technical Advice Note (TAN) 5-Nature Conservation and Planning (2009);*
- *The Protection of Badgers Act (1992);*
- *RCT - Local Development Plan (2006-2021);*
- *RCT - Revised Local Development Plan (2022-2037);*
- *Local Nature Recovery Action Plan for RCT<sup>3</sup>; and*
- *Supplementary Planning Guidance (SPG) – Nature Conservation, March 2011<sup>4</sup>.*

## 2.2 Legislative Framework

2.2.1 The main statutory species protection is provided by The Conservation of Habitats and Species Regulations (CHSR) 2017 (as amended) and the Wildlife and Countryside Act (WCA) 1981 (as amended).

2.2.2 The degree of protection varies between species; in general, it is an offence to intentionally kill or injure individual animals or disturb their roosts or hibernacula. A licence may be required to interfere with any protected species or their roosts and resting places.

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<sup>3</sup> <https://rctlnp.wixsite.com/rct-actionfornature>

<sup>4</sup> Rhondda Cynon Taff County Borough Council: Supplementary Planning Guidance (SPG): Nature Conservation, (March 2011)

- 2.2.3 Priority habitats and species listed under Section 7 (S.7) of the Environment (Wales) Act 2016 were reviewed as it considers habitats and species of key significance to sustain and improve biodiversity.
- 2.2.4 An overview of species (fauna) protection and legislation is provided in Appendix 3.

### **3 BACKGROUND AND PREVIOUS SURVEYS**

#### **3.1 Preliminary Ecological Appraisal 2024**

3.1.1 A Preliminary Ecological Appraisal (PEA), comprising a desk study and an Extended UK Habitat (UKHab) Classification Survey was undertaken by ecologists at Wardell Armstrong (LLP) now part of SLR Consulting, in July/September 2024, in support of the proposed redevelopment of the Penrhys estate. A copy of the PEA report (PEAR) dated November 2024<sup>5</sup> is provided in Appendix 4 and covers the Penrhys estate owned by Trivallis and a parcel of land, adjacent to the southeast, owned by RCT County Borough Council.

3.1.2 The UKHab Survey undertaken on 2<sup>nd</sup> and 17th July and 25th September 2024 covered a survey area of 34.4 ha, hereafter referred to as the 'UKHab Survey Area' as shown on drawing CA13129-012 Rev A in Appendix 4.

3.1.3 The PEAR identified several ecological features that may be subject to potential adverse effects from the overall development. The following features listed are those that may be subject to potential adverse effects specifically from the Phase 1a Proposed Development:

- Statutory designated sites; Craig Pont Rhondda Site of Special Scientific Interest (SSSI) and Glyncornel Local Nature Reserve (LNR);
- Non-statutory designated sites; (Mynydd Ty'n-tyle Slopes Site of Importance for Nature Conservation (SINC) (located to the north and extends within the eastern section of the survey area), Ystrad Slopes SINC (adjacent to the site to the west), Rhondda Fach River SINC, Mynydd Brith-weunydd / Llwynypia hillside SINC and other SINC within 2 kilometres (km) of the site);
- Other neutral grassland;
- Mature scattered trees;
- Bats;
- Birds;
- Reptiles;

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<sup>5</sup> Wardell Armstrong LLP 'Trivallis, Penrhys Residential Estate, Preliminary Ecological Appraisal Report November 2024 Version V2.0'.

- European hedgehog;
- Invertebrates; and
- Invasive Non-Native Species (INNS) - Himalayan cotoneaster species.

### 3.2 Specialist Surveys Recommended

3.2.1 Further specialist surveys considered relevant to Phase 1a following the completion of the PEAR included the following:

- Preliminary Roost Assessment (PRA) of buildings for bats;
- Ground Level Tree Assessment (GLTA) for bats;
- Building Bat Emergence Surveys;
- Bat Activity Survey;
- Breeding Bird Survey;
- Reptile Presence/Likely Absence Survey;
- Preliminary Terrestrial Invertebrate Assessment; and
- eDNA Fungi Survey (CHEGD species) - key grassland fungi groups: spindles, club and coral fungi (Clavarioids), the waxcaps *Hygrocybe* genus (although recent DNA investigations have split up the genus), pinkgills (*Entoloma*), earthtongues (*Geoglossum* and relatives), and crazed caps (*Dermoloma* and relatives)).

3.2.2 The above ecological receptors are therefore considered further within this EcIA.

#### 3.2.3 Bat Report (Other Consultancy)

3.2.4 A number of bat emergence surveys on buildings had been undertaken in 2024 by another consultancy, Ecological Services Ltd, as instructed by Trivallis. The results of these surveys are referenced in this EcIA.

#### 3.2.5 Consultation undertaken to date

3.2.6 The Biodiversity Department at RCT was consulted on preliminary plans for the proposals and provided comments which are summarised in Table 1.

Table 1: Consultation Responses	
Consultee	Summary of Comments
Teams Meeting with RCT Planners and County Ecologist - 18.10.2024	<p>Discussion on ongoing ecology works – WA progressing bat emergence/bat activity/badger surveys. Outlined INNS found on Trivallis and RCT land. Further surveys discussed during the consultation - fungal survey, bird surveys, reptile surveys. No surveys proposed for hedgehogs or amphibians/water vole/otter. Outstanding requirement for invertebrate surveys to be discussed.</p> <p>County Ecologist recommended that areas managed for biodiversity are as large as possible (to aid practicalities of long-term management for biodiversity interests) and located around the periphery of the site to provide a buffer to manage the risk of upland fires potentially affecting the built-out development.</p>
Teams Meeting dated 06.05.25 - County Ecologist – Richard Witstow's comments.	<p><i>The ecology/biodiversity approach that is taken in RCT through the planning process is one which supports the Action Nature: the RCT Local Nature Plan, and the biodiversity context of RCT. We try very hard to ensure that biodiversity mitigation and enhancement schemes are complementary to that context and are reflective of local biodiversity. Also, that mitigation/enhancement is easily and sustainably manageable.</i></p> <p><i>Another important delivery on Ffridd edge developments in RCT, is mitigation/enhancement that reduces grass fire risk-through the principles of the Healthy Hillsides Project.</i></p> <p><i>So to that end an approach at Penrhys, which (through conservation grazing) better manages and maintains the SINC/Ffridd surrounds of a development, and through that management increases floristic diversity (through the native seedbank reaction), removes grass fire risk, improves fauna habitat - including reptile habitat (perhaps part of the compensation for loss elsewhere), and improves the potential for responsible informal public use (it is not easy to walk on</i></p>

Table 1: Consultation Responses	
Consultee	Summary of Comments
	<p><i>paths through unmanaged ffridd), is what I will be suggesting. There is a lot of conservation grazing experience in RCT. The Council undertakes its own conservation grazing work using local graziers, and there is upland habitat restorations secured through planning mitigation that are actively delivering conservation grazing.</i></p> <p><i>Within the new development we would not want wildflower seed mixes used but thought give to how more 'informal' grass spaces within the development can be designed (with access and slope profiles) to receive 'cut and collect' management, through which the native upland acid seedbank can react. For tree planting we would again appeal for the use of species native to this part of the Rhondda - so things like rowan, downy birch, hazel and avoiding spindle, dogwoods and field maples - species that are not native this far up the Rhondda. If areas of more 'natural' tree planting are proposed allow space for jays to plant the local sessile oak from Glyncornel (from just across the valley).</i></p> <p><i>The other key landscaping concern is avoiding, in the more formal landscaping proposals, the use of invasive species. Dogwoods, cotoneasters, cherry laurels, Wilson's honeysuckle, periwinkles, etc, are still depressingly frequently used in planting schemes. These are problem invasive plantings which very quickly get into adjacent habitats causing future long-term management problems. So landscaping proposals which specifically consider that long-term legacy would be welcomed.</i></p> <p><i>There is a lot of concern regarding the massive declines in swifts in the UK. The Rhondda is (or was) a swift stronghold. Part of the species decline is a massive loss of nesting sites in the housing stock. Is there potential to design the proposed re-development to be a new swift village, with swift bricks built into new buildings, with the use of call systems to draw</i></p>

Table 1: Consultation Responses	
Consultee	Summary of Comments
	<i>in young birds? There has been great success doing so in other parts of Britain. Is it deliverable here?</i>
Email correspondence dated 12.05.2025	<p>Advisory discussion to landscape architect and ecological consultants on key issues and ecological enhancement opportunities within the site, as well as any ecological constraints that could be mitigated during planning stage:</p> <ul style="list-style-type: none"> <li>• Key to grassland restoration is the soil and soil re-use. Avoid sowing wildflower seed but if areas need greening then sow at a lower sowing rate with fescue/bent grass mix followed by appropriate grassland management. ‘Cut and collect’ management. Set aside prescribed composting areas that can also provide reptile refugia habitat.</li> <li>• Consider options for conservation grazing.</li> </ul>
County Ecologist- Richard Wistow 06.05.25	Due to the fact an exceptional reptile population was recorded on site, it was agreed with Richard that a full population assessment would not be required as long as all four species were mitigated for. These species include slow worm, common lizard, adder and grass snake.
Pre-application Meeting held 31.07.2025 with RCT Planners and County Ecologist	<p>Update on progress and discuss the mitigation regarding grassland management / off-site mitigation for reptiles.</p> <p>Options were explored for off-site mitigation and found another more accessible site to the south-east of Penrhys that could benefit from some intervention to enhance it for reptiles and act as a receptor site. This site is called Mynydd Brith-weunydd / Llwynypia hillside SINC. Mostly interested in mitigating for the Phase 1A area primarily to the east of the ring-road, but it would be good to consider the mitigation that will be required for the rest of the site.</p> <p>Mitigation and enhancements generally for grassland, birds and invertebrates was also discussed.</p>

3.2.7 The above ecological receptors, and comments and advice have been considered and addressed within this EcIA.

## 4 METHODOLOGY

### 4.1 Background Information

4.1.1 Baseline data for the Phase 1a site was collected through desk studies and field surveys (UKHab Habitat Survey and further specialist surveys). This data provides current ecological baseline conditions (in the absence of proposed activities) which is required to inform this EclA.

### 4.2 Desk Study

4.2.1 The desk-based assessment was undertaken in July 2024 as part of the PEA. Detailed methodology is provided in Appendix 4; however, a summary is provided below.

4.2.2 The desk study was informed by a review of existing available information provided by Aderyn (Local Environmental Records Centre) Wales Biodiversity Information and Reporting Database, via South East Wales Biodiversity Records Centre (SEWBReC) in July 2024 for a 2-kilometre (km) search radius from the central grid reference ST 00271 94945. Satellite and Ordnance Survey (OS) mapping was also used to gain contextual habitat information and identify aquatic features within 500 metres (m) of the site.

4.2.3 Specific information was sought for:

- Statutory designated sites;
- Locally designated sites;
- Ancient woodland<sup>6</sup>;
- Protected and priority species;
- Priority (S.7) Habitats and Species<sup>7</sup>; and
- Local Biodiversity Action Plan (LBAP) priority habitats and species. The NRW Interactive Map Viewer Beta<sup>8</sup> and Natural Resources Wales Site Checker<sup>9</sup> website was

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<sup>6</sup> As defined by the Welsh Government in their WOM21 Ancient Woodlands Inventory WOM21 Ancient Woodland Inventory | DataMapWales (gov.wales)

<sup>7</sup> As defined under S.7 of the Environment (Wales) Act 2016.

<sup>8</sup> <https://naturalresources.wales/evidence-and-data/maps/browse-map-of-data-about-the-natural-environment/?lang=en> [Accessed 2024].

<sup>9</sup> <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en> [Accessed 2024]

utilised to gather data on the National Site Network sites including sites up to 10km from the Phase 1a site. Information on Sites of Importance for Nature Conservation (SINCs) were not provided by SEWBreC. This information was gathered from a review of [LDP Constraints Map](#)<sup>10</sup>.

4.2.4 RCT County Borough Council's Local Development Plan was also reviewed for relevant information.

4.2.5 For brevity, of the species information extracted, nationally protected species to those of S.7 have been included from the last 10 years. Nonetheless, all records beyond this age have been considered on a species-by-species basis and included where they give context to key species that may use the Phase 1a site or adjacent areas but could be under recorded.

### 4.3 Relevant Background Information

4.3.1 In addition to reviewing the PEAR, the following documents have also been reviewed to gather details on the existing baseline conditions in the vicinity of the site:

- Tree Location and Constraints Plan, WA (part of SLR), 2025, shown in Appendix 5.

### 4.4 Field Surveys

#### *Extended UKHab Classification Survey*

4.4.1 WA carried out a UKHab Survey on 2<sup>nd</sup> and 17<sup>th</sup> of July, and 25<sup>th</sup> September 2024 of the area shown on drawing CA13129-001 in Appendix 4. The survey was carried out by experienced WA ecologists who are qualifying members of CIEEM and have completed numerous ecological habitat surveys within the past four years.

4.4.2 The survey followed the 'UK Habitat Classification Version 2.0' (UKHab Ltd., 2023)<sup>11</sup> methodology with each of the main habitats classified according to the relevant criteria including vegetation composition expressed according to the DAFOR<sup>12</sup> system.

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<sup>10</sup><https://www.rctcbc.gov.uk/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelateddocumentsEvidenceBase/EB7d.pdf>

Plans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelateddocumentsEvidenceBase/EB7d.pdf

<sup>11</sup> UKHab Ltd (2023). *UK Habitat Classification Version 2.0* (at <https://www.ukhab.org>). Professional Edition.

<sup>12</sup> D = dominant (>50%), A = abundant (30-50%), F = frequent (Many Individuals), O = occasional (Few Individuals), R = rare (Isolated Individuals)

- 4.4.3 In addition to the mapping and description of habitats, the survey was ‘extended’ to include the incidental observations of protected and/or notable species and the potential for such species to occur on the survey area (and in the surrounding landscape where relevant) were also recorded onto secure digital media for mapping and data collection. The extended element of the survey was based on professional judgement.
- 4.4.4 Drawing CA13129-024 (Phase 1a UKHab Habitat Survey - 2024) shows the location of ecological features and target notes (TN) within the Phase 1a site. Full details are provided in the PEAR attached as Appendix 4.
- 4.4.5 The presence of a legally protected species is a material consideration for a local planning authority dealing with a planning application for any development that would likely to result in harm to the species or its habitat (Planning Policy Wales (PPW), 2024) and TAN 5: Nature Conservation and Planning, (2009)<sup>13</sup>). Therefore, preliminary investigations were undertaken during the UKHab Survey in respect to determining the potential presence of legally protected species and those which should be considered under S.7. An overview of species protection is provided in Appendix 3.

#### 4.5 Protected and Notable Species Surveys

##### ***Bats: Daytime Bat Walkover***

- 4.5.1 A Daytime Bat Walkover (DBW) survey of the surrounding habitat both within and adjacent to the Phase 1a site was also carried out during the UKHab Survey, to assess its potential to be used by foraging and commuting bats. This information was combined with a review of aerial photography and OS data to provide contextual information about the local habitat and its likely use by bats.

##### ***Bats: Preliminary Roost Assessment (PRA) of Buildings***

- 4.5.2 An external PRA of buildings within the Penrhys estate was undertaken on 18<sup>th</sup> July 2024 by experienced WA ecologists (Appendix 6) and the PRA results were reviewed by a bat licensed ecologist – East Ecology, current NRW Bat Licence number: S09566/1 who subsequently provided guidance on the design of bat emergence surveys including number of surveys per building and surveyor locations.

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<sup>13</sup> Technical Advice Note 5: Nature Conservation and Planning 2009. Planning Policy Wales. Welsh Assembly Government

- 4.5.3 The PRA external inspection included a search for Potential Roost Features (PRFs) i.e. gaps in the fabric of the building (whether lifted tiles or gaps under fascias). Field signs such as droppings, feeding remains and dead or living bats were also recorded.
- 4.5.4 Binoculars were used for the PRA.
- 4.5.5 Any PRFs determined to be suitable for roosting bats and the overall condition of the building were noted to aid further surveys.
- 4.5.6 The locality of the buildings was also considered when making the assessment i.e. how bats would interact with a building and other landscape features such as tree lines.
- 4.5.7 The buildings were categorised using the assessment criteria in Table 4.1 of the 4<sup>th</sup> ed. of the Bat Conservation Trust (BCT) Guidelines (Collins, 2023<sup>14</sup>) as set out below:
- **High:** Structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitats;
  - **Moderate:** Structure with one or more potential roost sites that could be used by numbers of bats due to their size, shelter, protection, conditions and surrounding habitats, but unlikely to support a roost of high conservation concern;
  - **Low:** Structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or as a classic hibernation site);
  - **Negligible:** Element of uncertainty remains that bats can use small and apparently unsuitable features on occasion; and
  - **None:** No habitat features on site likely to be used by any roosting bats at any time of year (i.e. complete absence of crevices/suitable shelter at all ground/underground levels).

***Bats: Ground Level Tree Assessment (GLTA)***

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<sup>14</sup> Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4<sup>th</sup> edn). The Bat Conservation Trust, London.

- 4.5.8 A GLTA of the trees within the Phase 1a site was carried out by ecologists from WA following guidance within the BCT Guidelines (Collins, 2023<sup>15</sup>). Several trees occurred within the Phase 1a site. ***The tree reference numbers assigned relate to this report only and do not correspond to any separate Arboricultural Report References.***
- 4.5.9 The aim of the GLTA survey was to assess the potential of the trees to support roosting bats, identify any evidence of roosting bats and if there is a requirement for further surveys.
- 4.5.10 A GLTA of trees included a search for the following features:
- Suitable potential roosting features (PRFs): natural holes, woodpecker holes, cracks/splits in major limbs and the trunk, holes/cavities, dense ivy growth, dense epicormic growth, bird, and bat boxes; and
  - Signs indicating possible bat use: at entrance points, bat droppings, distinctive smell of bats and smoothing of the surface around a cavity.
- 4.5.11 Binoculars were used for the GLTA.
- 4.5.12 The trees were first screened using the assessment criteria in Table 4.2 of the 4<sup>th</sup> ed. of the BCT Guidelines (Collins, 2023<sup>15</sup>) as set out below:
- **None:** Either no PRFs in the tree or highly unlikely to be any;
  - **FAR:** Further assessment required to establish if PRFs are present in the tree; and
  - **PRF:** A tree with at least one PRF present.
- 4.5.13 Where PRFs were identified, and if it was possible to assess from the ground level, their potential suitability for accommodating roosting bats was assessed using criteria in Table 6.2 of the BCT Guidelines 2023<sup>15</sup> as set out below:
- **PRF-I:** PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats; and
  - **PRF-M:** PRF is suitable for multiple bats and may therefore be used by a maternity colony.
- 4.5.14 Trees identified as having PRFs were reassessed by a bat licensed ecologist at East Ecology (current NRW Bat Licence number: S09566/1). Trees within the Phase 1a site were inspected on 24<sup>th</sup> March 2025 with trees T6 and T27 endoscoped on 26<sup>th</sup> June 2025, and trees T3, T4, T5, T6, T7, T8, T9, T11, T12, T13, T15, T16, T18, T21, T22, T24,

T27, T31 were inspected on 27<sup>th</sup> August 2025 using a 3m ladder, high powered torch and endoscope. The suitability of all trees in Phase 1a were downgraded to negligible (either no PRFs in the tree or highly unlikely to be any).

***Bats: Buildings - Dusk Emergence Surveys***

4.5.15 Following the recommendations of the PRA undertaken on 18<sup>th</sup> July 2024, dusk emergence surveys were undertaken on the buildings by WA, within and adjacent to the Phase 1a site as outlined in Table 2. A copy of the report detailing the results of the bat surveys undertaken by Ecological Services Ltd in 2024 are provided in Appendix 7. WA undertook surveys in Table 2 in white whilst Ecological Services undertook those in grey.

<b>Table 2: Dusk Emergence Surveys at Buildings within or adjacent to the Phase 1a site boundary</b>						
<b>Building Number/Location to Phase 1a site</b>	<b>Bat Roosting Suitability</b>	<b>Required Number of Dusk Emergence Surveys</b>	<b>Required Number of Surveyors Per Survey</b>	<b>Date 1<sup>st</sup> survey completed</b>	<b>Date 2<sup>nd</sup> survey completed</b>	<b>Date of 3<sup>rd</sup> survey completed</b>
20 (adjacent)	Low	1	3	17.07.2025	-	-
22 (surveyed by Ecological Services Ltd)	Moderate	2	5	18.08.2024	25.09.2024	-
23	Low	1	4	01.06.2025	-	-
24	Low	1	4	02.06.2025	23.07.2025	-
25	Low	1	4	30.06.2025	-	-
26 (surveyed by Ecological Services Ltd)	Low	1	3	14.08.2024	25.09.2024	-
27	Low	1	4	15.05.2025	-	-
28	Low	1	4	03.07.2025	-	-
29	Low	1	4	29.06.2025	-	-
30 (surveyed by Ecological Services Ltd)	Low	1	4	18.08.2024	25.09.2024	-
31	Low	1	4	12.05.2025	-	-
32	High	3	3	12.08.2024	02.09.2024	18.06.2025
33 (adjacent)	High	3	5 plus additional NVA	07.05.2025	02.06.2025	01.07.2025
34	Low	1	4	08.05.2025	-	-
35	Low	1	4	28.05.2025	-	-
36 (surveyed by Ecological Services Ltd)	Low	1	4	14.08.2024	24.09.2024	-
37	Low	1	4	15.05.2025	-	-
40 (adjacent)	Low	1	4	11.06.2025	23.07.2025	-

- 4.5.16 The aim of the dusk emergence surveys was to establish whether bats are presently roosting within the buildings and, if so, to establish the bat species using the roost, its type and an evaluation of its importance.
- 4.5.17 Survey dates, times and weather conditions are detailed in Appendix 8.
- 4.5.18 The dusk emergence surveys were undertaken from 15 minutes before sunset to 1.5 hours after sunset.
- 4.5.19 Echo Meter Touch (EMT) (Wildlife Acoustics, Inc., Massachusetts) bat detectors and Samsung Galaxy Tablets were used by surveyors to detect bats and analysed later using Kaleidoscope Pro 4 software, this included a minimum of 10% of all calls and those determined to be non-pipistrelle species. Species identification was made on the characteristics of the call, including peak frequency, minimum and maximum frequency, call duration and inter pulse interval. Observations of bat behaviour, size and the direction of the flight path were also noted where possible.
- 4.5.20 One infrared Canon XA60 4K Camcorder per surveyor were used on each of the bat emergence surveys to illuminate distinct PRFs, each with two accompanying external infrared lights. The infrared camcorders and accompanying infrared lights were utilised as a Night Vision Aid (NVA). The use of NVAs is now recommended regularly on bat surveys, due to bats often emerging after it is too dark for the human eye to observe them<sup>15</sup>. NVAs were utilised as a complementary method to increase precision during emergence surveys and were not utilised to replace surveyors<sup>15</sup>.
- 4.5.21 The positioning of NVAs and surveyors during the dusk emergence surveys was informed by the PRA and guidance from East Ecology, with NVAs positioned to illuminate and record identified PRFs. Surveyors were situated in view of NVAs for their monitoring, whilst also being situated to survey all aspects of the building. The NVAs were turned on before survey commencement, and turned off after survey completion, and were operated by surveyors trained in their use.
- 4.5.22 The recorded NVA footage included date and time stamps, which were utilised to align echolocation recordings from EMTs to validate species of interest, e.g., emerged bats, and bat activity recorded by surveyors. NVA footage was reviewed as soon as possible, after the survey, to validate any emergences recorded by the surveyors. Analysis of

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<sup>15</sup> Bat Conservation Trust (2022). Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.

NVA footage utilised Motion Meerkat motion tracking software<sup>16</sup>, and manual review of bat activity at times noted by surveyors.

4.5.23 Still shots of the lightest and darkest point of the survey from the NVAs, displaying the fields of view and use of appropriate illumination for buildings within the Phase 1a site are provided in Appendix 9.

4.5.24 The assessment of roost impact was undertaken with reference to the UK Bat Mitigation Guidelines<sup>17</sup>.

4.5.25 A Bat Survey Report is currently being prepared detailing the methodology and results of the bat surveys undertaken across the Penrhys estate. For this EclA, relevant survey information has been extracted to focus specifically on the bat assemblage at the Phase 1a site.

***Bats: Buildings - Internal inspection B32- Hibernation Potential***

4.5.26 One building (B32) within Phase 1a was considered by an WA ecologist to potentially have suitability to support a classic hibernation roost.

4.5.27 B32 was inspected by East Ecology (licence number at time of survey – SO92779-1) during daylight hours on 3<sup>rd</sup> December 2024.

4.5.28 The building was inspected internally and externally using high powered torches and close focussing binoculars. The detached building had within it a small ground floor area/half basement in use as a workshop at the time of the survey. The building is thought to date from 1960's or 70's and was constructed with concrete blockwork with a pitched tile roof.

4.5.29 The building was assessed as having low suitability for free hanging bats internally and low suitability for hibernating bats in the cavity wall. An SM4 was therefore deployed to check for activity at the building between the 3<sup>rd</sup> and 16<sup>th</sup> December 2024 with the files subsequently analysed using Kaleidoscope Pro 4 software.

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<sup>16</sup> Weinstein,B.G.(2105), MotionMeerkat:integrating motion video detection and ecological monitoring, Methods in Ecology and Evolution, 6:357-362.doi 10.1111/2041-210X.12320

<sup>17</sup> Reason, P.F. and Wray, S. (2025). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2. Chartered Institute of Ecology and Environmental Management, Ampfield.

***Bats: Activity (Night-time Bat Walkover (NBW) Surveys and Automated Detector Surveys)***

***NBW Surveys***

- 4.5.30 The grassland within the Phase 1a site, scattered scrub and trees, may provide a foraging resource and commuting habitat for bats. To the north of Phase 1a site, and beyond the street lighting, a large coniferous woodland is present across the summit of the mountain. There is also a broad-leaved oak woodland to the south-east that lines the valley-side down to the river. These woodlands will provide dark corridors and opportunities for bats to roost, commute and forage - the main river providing a strategic ecological corridor, linking up an even wider area across the county.
- 4.5.31 Following the PEA, the habitats within the site were categorised as being of ‘moderate’ suitability for foraging and commuting bats due to adjacent habitats. Best practice guidelines recommend that, for ‘moderate’ suitability sites, one NBW is undertaken per season (spring, summer and autumn) during suitable weather conditions<sup>18</sup>.
- 4.5.32 NBWs around the Penrhys estate (which included the Phase 1a area) were undertaken on 30<sup>th</sup> June 2024 (Summer), 17<sup>th</sup> October 2025 (Autumn), and 13<sup>th</sup> May 2025 (Spring). One transect per visit was walked by two surveyors around the periphery of the estate with occasional listening stops lasting approximately five minutes, and detours, to investigate bat behaviour, where appropriate. This focused on the edge of the estate as information on bat foraging activity and commuting was also gathered during the dusk emergence surveys on the buildings. The NBWs were undertaken from sunset for approximately 2 hours after sunset. At the start of the survey, ecologists remained in position to observe behaviour and make acoustic recordings of commuting or foraging bats. The surveyors commenced walking around the predetermined transect route at approximately 30 minutes after sunset. The transect routes walked are shown on Drawing Numbers CA13129-015 (Night-Time Bat Walkover Survey Results - Summer (July 2024), CA13129-016 (Night-Time Bat Walkover Survey Results - Autumn (Oct 2024) and CA13129-027 (Night-Time Bat Walkover Results – Spring (May 2025).
- 4.5.33 Echo Meter Touch 2 Pro (Wildlife Acoustics, Inc., Massachusetts) bat detectors and Samsung tablets (Samsung Group, South Korea) were used to detect foraging or commuting bats and the built-in Kaleidoscope classifiers were used to assist species

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<sup>18</sup> Temperature greater than 10°C, no heavy rain or strong wind.

identification. Observations of bat behaviour, size and the direction of the flight path were also noted where possible.

4.5.34 Dates, times and weather conditions are provided in Table 3.

Table 3: NBW Transect Surveys				
Date	Sunset	Start Time	End Time	Weather Conditions
30.07.24	21:04	21:04	23:14	<b>Start:</b> 18°C, wind 6mph Southeast, 10% cloud cover, dry. <b>End:</b> 14°C, wind 3mph South, 0% cloud cover, dry.
17.10.24	18:15	18:15	20:15	<b>Start:</b> 13°C, wind 8mph east, 40% cloud cover, dry. <b>End:</b> 12°C, wind 3mph east, 40% cloud cover, dry.
13.05.25	21:46	21:46	23:46	<b>Start:</b> 14°C, wind 4mph north, 30% cloud cover, dry. <b>End:</b> 13°C, wind 5mph northeast, 30% cloud cover, dry.

#### *Automated Detector Survey*

4.5.35 To supplement the activity survey, two song Meter SM4BAT+ Bioacoustics Recorders (SM4) (Wildlife Acoustics, Inc.) were deployed within the Penrhys estate in each active bat month. The automated detectors were placed in the same position each surveyed month.

4.5.36 The detectors were programmed to record ultrasound continuously from 30 minutes before local sunset to 30 minutes after local sunrise for five consecutive nights. The locations of the two automated bat detectors deployed in relation to the Phase 1a site are shown on drawing CA13129-030 (Automated Detector Location Plan). Location 1 SM4 was located at approximate NGR ST 00014 95081, within neutral grassland in the northwest of the Phase 1a site. The SM4 deployed in Location 2 at approximate NGR ST 00389 95160, was located within mixed scrub habitat to the east of the Phase 1a site however due to distance from the Phase 1a site boundary, the survey results from this SM4 have not been considered as part of the impact assessment for the Phase 1a site.

- 4.5.37 After retrieval of the SM4s the data files were downloaded as Wildlife Acoustic Audio Compression Files (WAC) and converted to Kaleidoscope Pro 4 Output files and analysed using Kaleidoscope Pro 4 analysis software (Wildlife Acoustics, Inc). Bat calls IDs were quality assured using Kaleidoscope Pro Analysis Software, including a check of at least 10% of all *Pipistrellus* calls, and all non-pipistrelle species.
- 4.5.38 For the purposes of this report, a ‘bat pass’ has been defined as one sequence of consecutive recordings identifying one bat. Where the recording clearly identifies two or more species, or two or more individuals of the same species, these are recorded in the results as two or more passes.
- 4.5.39 A Bat Survey Report is currently being prepared detailing the methodology and results of the bat surveys undertaken across the whole site. For this EclA, relevant survey information has been extracted to focus specifically on the bat assemblage at the Phase 1a site.
- 4.5.40 The value of the bat assemblage using the Phase 1a site and assessment of impact was undertaken with reference to the UK Bat Mitigation Guidelines<sup>19</sup>.

***Birds: Breeding Survey***

- 4.5.41 The methodology used is based on information in Bird Survey & Assessment Steering Group. (2025). Bird Survey Guidelines for assessing ecological impacts, <https://birdsurveyguidelines.org> [accessed 11/02/2025].
- 4.5.42 Six survey visits during the main bird breeding season were undertaken between March and early July across the whole Penrhys estate and adjacent habitats, with one survey undertaken at dusk.
- 4.5.43 The dawn surveys commenced between half an hour before sunrise and half an hour after sunrise. Surveys were typically concluded by around mid-morning to encapsulate peak periods of displaying bird activity and comprised of a walked transect recording all birds identified by direct observation, using binoculars, and/or by their vocalizations. Species vary in their detectability, and some species are difficult to detect during the day and therefore one of the six visits was carried out in the evening (last few hours before sunset to one hour post sunset).

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<sup>19</sup> Bat Conservation Trust Bat Surveys for Professional Ecologists: Good Practice Guidelines (2024)

4.5.44 Prior to starting the survey, the date, start time, time of sunrise/sunset, temperature (°C), wind (Beaufort scale 0–12), cloud cover (Okta 0–9, ‘9 Okta’s represents sky obscured by fog or other meteorological phenomena’ and therefore is unlikely to be appropriate for a bird survey) and rain (as a brief description e.g. dry, light drizzle) were recorded. The end time and closing weather conditions (if there has been a substantial change during the survey), were also recorded.

4.5.45 Where possible, surveys were carried out in good conditions, avoiding heavy rain, strong winds (Beaufort force >5) and any scenario where visibility/detection was negatively affected (e.g. fog, excessive disturbance on site etc.).

4.5.46 Details of the survey dates, weather conditions and timings are provided in Table 4 below:

Table 4: Date, weather conditions and timings		
<i>Date</i>	<i>Weather conditions</i>	<i>Timings</i>
18.03.2025	Start: Clear, 3 °C and 14mph E wind. End: Clear, 5°C and 15mph E wind.	Start: 06:00 AM End: 08:30 AM
08.04.2025	Start: Clear, 6°C and 6mph NE wind. End: Clear, 7°C and 7mph NE wind.	Start: 06:00 AM End: 09:30 AM
28.04.2025	Start: Clear, 17°C and 3mph E wind. End: Clear, 14°C and 6mph E wind.	Start: 20:00 PM End: 22:00 PM
27.05.2025	Start: Mostly cloudy, 13°C and 20mph W wind. End: Partly sunny, 14°C and 13mph E wind.	Start: 04:35 AM End: 07:30 AM
17.06.2025	Start: Mostly cloudy, 14°C and 13mph W wind. End: Mostly cloudy, 15°C and 16mph W wind.	Start: 04:25 AM End: 07:00 AM
10.07.2025	Start: Clear, 16°C and 7mph SE wind. End: Clear, 16°C and 4mph NW wind.	Start: 04:38 AM End: 07:30 AM

4.5.47 During the breeding bird season (March - August), many birds, especially passerines, mark their territories by singing conspicuously, displaying or periodically disputing with rival neighbours (Bibby *et al*, 2000).

4.5.48 Recording the behaviour, sex, age and location of birds allows conclusions to be drawn about breeding status within a survey area, based upon categories devised by the British Trust for Ornithology (BTO) (BTO, 2022).

4.5.49 Four categories are used to indicate the likely status; these are described in Table 5 below.

Table 5: BTO Categories for Breeding Evidence	
Breeding Status	Behavioural criteria
Confirmed Breeding	<ul style="list-style-type: none"> <li>Nest or eggshells found (occupied or laid within period of surveys).</li> <li>Recently fledged young or downy young.</li> <li>Adults entering or leaving nest-Site in circumstances indicating occupied nest.</li> <li>Adult carrying faecal sac or food for young.</li> <li>Nest containing eggs.</li> <li>Nest with young seen or heard.</li> <li>Distraction-Display or injury feigning.</li> </ul>
Probable Breeding	<ul style="list-style-type: none"> <li>Pair observed in suitable nesting habitat in breeding season.</li> <li>Permanent territory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more apart at the same place or many individuals in one day.</li> <li>Courtship and display near potential breeding habitat.</li> <li>Visiting probable nest Site.</li> <li>Agitated behaviour or anxiety calls from adults, suggesting probably presence of nest or young nearby.</li> <li>Nest building or excavating nest hole.</li> </ul>
Possible Breeding	<ul style="list-style-type: none"> <li>Species observed in breeding season in suitable nesting habitat.</li> <li>Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat.</li> </ul>
Non-breeding	<ul style="list-style-type: none"> <li>Flying over Site.</li> <li>Species observed but suspected to be on migration.</li> <li>Species observed but suspected to be summering non-breeder.</li> <li>Vagrant species outside of known breeding range.</li> </ul>

4.5.50 These categories relate to evidence obtained for individuals in potential suitable breeding habitat and a detailed knowledge of the species' likely breeding range. The most current conservation status for birds in Wales is "*Birds of Conservation Concern Wales (BoCCW) in the United Kingdom*" (Stanbury *et al*, 2021).

4.5.51 A Breeding Bird Survey Report is currently being prepared detailing the methodology and results of the breeding bird survey undertaken across the whole site. For this EclA, relevant survey information has been extracted from this survey to focus specifically on the breeding bird assemblage within the Phase 1a site.

4.5.52 When all the breeding bird survey site visits were completed, the data from each visit was used to create the results (Table 13 in Section 5) for Phase 1a that highlights the

species recorded within the application boundary during the survey period including BOCC<sup>20</sup> and S.7<sup>21</sup> species.

#### *Bird Field Data Evaluation*

4.5.53 The evaluation of the results has been undertaken using UK bird evaluation and protection criteria, such as BoCCW, the RCT LBAP and priority S.7 species.

4.5.54 In terms of evaluating the site for its significance to breeding birds, the following criteria were taken into account:

- A. The occurrence of significant concentrations of a bird species, particularly if these comprise a significant proportion (i.e. 1% or more) of the national breeding population;
- B. The species-richness of the bird assemblage of the survey area (i.e. how many different types of species does the survey area support);
- C. Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), Annex 1 Birds Directive, S.7 the Environment Act (Wales), red or amber list of the BoCCW and species listed on the RCT LBAP<sup>22</sup>; and
- D. The Guidance for the Selection of Wildlife Sites in South Wales<sup>23</sup>.

4.5.55 In order to assess the value of the breeding bird assemblage associated with the Phase 1a site (Criteria B), the Fuller (1980) criteria in Table 6 were used. These criteria have been used to classify the ornithological interest of >3,000 sites in Britain according to their importance for conservation and provides a standardised classification mechanism that identifies priority sites for conservation planning purposes; thereby forming a basis for making detailed comparisons of site quality. The criteria are based on Fuller (1980) but adapted to encompass the CIEEM guidelines.

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<sup>20</sup>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*

<sup>21</sup> The Environment Act (Wales) 2016

<sup>22</sup>

<https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelateddocumentsEvidenceBase/EB47c.pdf>

<sup>23</sup>

<https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelatedDocumentsLibrary/SEW5.pdf>

Table 6: Species richness criteria for breeding birds (Fuller, 1980)					
	<i>Local</i>	<i>District</i>	<i>County</i>	<i>Regional</i>	<i>National</i>
<b><i>Numbers of breeding bird species</i></b>	<25	25-49	50-69	70-84	85+

4.5.56 Under Criteria D, an assessment was made to identify whether the survey area supported species or aggregations warranting Local Wildlife Site (LWS) status. This was achieved by following the selection criteria in the Guidance for the Selection of Wildlife Sites in South Wales which sets out qualifying criteria for populations of species.

4.5.57 Below is a list of the relevant species population qualifying criteria extracted from the guidelines i.e. a site should be considered for selection if:

- the site supports a significant breeding population of any size, of species marked with an A in Table 9 of the guidance document;
- the site supports supporting wintering or passage refuelling populations, of any size, of species marked with an A in Table 10 of the guidance document;
- the site supports a predetermined number (to be agreed by the LBAP partnerships) of those species that are marked B in Tables 9 & 10, or identified as additions to the tables by the LBAP partnership, that collectively designate a site and/or contribute towards its designation; and
- any site with 100 or more bird species recorded in the previous five years.

#### ***Reptiles: Presence/Likely Absence Survey***

4.5.58 There is presently no definitive methodology for surveying for reptiles. The methodology used for this survey is principally derived from guidance given in the Froglife Advice Sheet 10: Reptile Survey leaflet<sup>24</sup> and the Herpetological Workers Manual<sup>25</sup> which uses artificial refugia.

4.5.59 The survey required the use of rectangles of roofing felt, each about 1m x 0.5m, which provide an opportunity for reptile species to hide and to heat up (during suitable

<sup>24</sup> Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 1.

<sup>25</sup> Joint Nature Conservation Committee (2003) Herpetofauna Workers' Manual, Peterborough.

weather conditions) whilst minimising exposure to predators. The guidance recommends that for a presence / absence survey between 5 and 10 refuges per hectare of site area should be used.

- 4.5.60 The Penrhys estate is approximately 25 ha. A total of 292 artificial refugia (bitumen roofing felt) were laid out on 19<sup>th</sup> March 2025 across the estate and left to bed in for 13 days. Seventeen refugia were placed within the site boundary of Phase 1a. Seven survey visits were undertaken during the months of April and May 2025 to establish the presence/likely absence of reptiles on the site. The optimum months for undertaking reptile surveys are April, May and September, although if weather conditions and temperatures remain suitable, surveys can be undertaken outside of this period.
- 4.5.61 In addition to refugia, suitable reptile habitats and features were identified and targeted for 'direct observation' during the surveys. These included the sunny edges of scrub, grassland and adjacent areas to natural refugia. When in proximity to these areas, the surveyor walked slowly scanning 3-4m ahead, to identify basking reptiles and signs of reptile activity.
- 4.5.62 Suitable weather is required to complete reptile surveys. This includes temperatures of between 9°C and 20°C. Surveys should generally be undertaken between 08:30 and 11:00 for morning surveys, and between 16:00 and 17:00 for afternoon surveys, during suitable weather however several surveys were commenced outside these periods due to forecasted high temperatures but were undertaken within the temperature range. Conditions for reptile basking are needed, this includes bright sunshine on a cooler day, hazy or intermittent sun towards the warmer end of the scale or a hot spell after several days of cold weather. Additionally, showery weather after a dry spell. will often increase the likelihood of reptiles using the refuges. Rainy or windy conditions are unsuitable to complete surveys.
- 4.5.63 Specific dates, times and weather conditions for each survey visit and results of the presence/likely absence survey within the Penrhys estate are detailed in Appendix 10.
- 4.5.64 Reptiles were found to be present in large numbers across the Penrhys estate, the results showing an exceptional population of slow worm and a good size population of common lizard. In usual circumstances an additional 13 survey visits would be required to assess the population size, however, it was agreed through discussions with the County Ecologist Richard Wistow that, if from our initial survey work that a

requirement to mitigate for the loss of an ‘exceptional and good’ populations of reptiles was required, then undertaking a further 13 survey visits could be waived.

4.5.65 Sufficiently high numbers of slow worm and common lizard were recorded on site during the seven presence/likely absence surveys to inform a population size assessment. Table 7 below is taken from Froglife Advice Sheet 10, which provides guidance on evaluating the size of a reptile population and assessing a site’s importance for common reptiles. This is based on the number of adults seen by one person in one survey visit.

<b>Table 7: Assessing Reptile Population Size Class</b>			
<b>Species</b>	<b>Low Population Score 1</b>	<b>Good Population Score 2</b>	<b>Exceptional Population Score 3</b>
Adder	<5	5 - 10	>10
Common lizard	<5	5 – 20	>20
Grass snake	<5	5 – 10	>10
Slow worm	<5	5 - 20	>20

NB: Figures in the table refer to the maximum number of adults seen by observation and/or under refugia (placed at a density of up to 10 per hectare), by one person in one day.

4.5.66 A Reptile Survey Report for the whole site is currently being prepared. For this EclA, relevant survey information has been extracted from this survey to focus specifically on the reptile species found at the Phase 1a site.

### ***Invertebrate Survey***

#### ***Data search***

4.5.67 A data search was provided to Entomologica Ltd prior to the site visits and this identified a total of 65 invertebrate species located within 2km of the Penrhys estate (ST0027194945).

#### ***Scoping Survey***

4.5.68 An initial invertebrate scoping survey was undertaken in late Spring 2025. The survey had two priorities, to assess potential invertebrate interest of the Phase 1a site as well as scoping the Trivallis and RCT landholdings within the masterplan area to inform further survey work and conduct an initial survey where possible.

4.5.69 The appropriate number of surveys were based on the potential importance of the habitat or area for invertebrates. A minimum of three site visits, including the scoping survey, was recommended. This report summarises the results of surveys of two surveys completed on the Phase 1a sitw in May and June 2025.

### *Field surveys*

4.5.70 Suitable habitats within the Phase 1a site were surveyed by Entomologica Ltd on two occasions- 16<sup>th</sup> May 2025 and 30<sup>th</sup> June 2025.

4.5.71 The survey followed the methodologies from Drake (2007<sup>26</sup>), using a variety of techniques to record and collate specimens, including:

- sweep netting – to collect invertebrates from herbaceous vegetation;
- spot sampling -targeting specific microhabitat features;
- grubbing – manual searching through leaf litter, stones, logs; and
- suction sampling was also undertaken using a modified vacuum device.

4.5.72 Specimens collected were identified in the field or retained for subsequent microscopic identification.

4.5.73 This EclA summarises the results from the Phase 1a Invertebrate Survey report (Appendix 11) detailing the results of surveys conducted to date. Once outstanding surveys are complete, a second report commenting on the habitats and identifying key areas of invertebrate interest across the wider masterplan site will be prepared.

### ***Grassland Fungi Survey***

4.5.74 One waxcap fruiting body was observed within the Penrhys estate but outside of Phase 1a site during a habitat walkover undertaken in August 2024. Waxcaps are indicators of unimproved grasslands which are of biodiversity value and the nearby Penrhys Cemetery is known to contain waxcap species which are assessed as Globally vulnerable.

4.5.75 An eDNA survey to identify the possible spread of waxcaps and other fungi species within the neutral grassland mapped within the whole site was therefore carried out to inform future green infrastructure design proposals. A summary of survey methodology via eDNA analysis is provided below with a survey report provided in Appendix 12.

4.5.76 The method used detects all fungi, but the focus of the survey is the larger grassland fungi (waxcaps and allies), often referred to as CHEGD fungi, which are associated with

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<sup>26</sup> Drake C.M., Lott, D.A., Alexander, K.N.A and Webb, J. (2007) Surveying Terrestrial and Freshwater Invertebrates for Conservation and Evaluation. Natural England Research Report NERR005.

undisturbed grassland, and many of which are of global conservation concern. (C=Clavariaceae [fairy clubs], H=Hygrophoraceae [waxcaps], E=Entolomataceae [pink gills], G=Geoglossaceae [earthtongues] and D=*Dermoloma* spp. [crazed caps]).

4.5.77 eDNA methods allow the ability to use soil samples to identify grassland fungi all year round rather than from traditional fruitbody surveys with a limited survey season.

4.5.78 eDNA metabarcoding analysis entails collection of an environmental sample, extraction of DNA from all organisms in that sample (the eDNA), amplification using taxon-specific primers of a barcode region (a region of the genome that has been used to identify species) of the group of organisms in question, sequencing the products of this amplification and then processing the sequence data to provide a species list.

4.5.79 eDNA metabarcoding of seven soil samples (ca. 1300-1800 g fresh weight; 30-36% moisture) collected by a WA ecologist from seven grassland areas on the periphery of the Penrhys estate was undertaken. The soil was taken (36 cores; pooled as single sample) from seven ca. 30x30m (900m<sup>2</sup>) grassland areas (Table 1 in Appendix 12) on 12th December 2024, stored cold before transit and frozen on arrival in Aberystwyth (17<sup>th</sup> December 2024). Location of the seven quadrats are shown in Fig. 1 in Appendix 12. Quadrat 1 is located within the Phase 1a site. Soil grinding, DNA extraction, ITS2 DNA barcode PCR amplification, high-throughput DNA sequencing and sequence analysis was all undertaken using standardized procedures, as described by Detheridge et al., (2021).

4.5.80 A Grassland Fungi Report (Aberystwyth University), 2025 - Appendix 12) has been prepared detailing the methodology, results, interpretation and recommendations of the grassland surveys undertaken across the estate and adjacent areas. The survey information including the results and recommendations from this report have been extracted to focus specifically on the grassland fungi assemblage of the Phase 1a site (results from Quadrat 1).

#### 4.6 Nomenclature

4.6.1 Vascular plant names follow '*New Flora of the British Isles*' (Stace 2019)<sup>27</sup> with vernacular names as provided in the Botanical Society of the British Isles website (BSBI, 2013). All other flora and fauna names follow the National Biodiversity Network (NBN)

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<sup>27</sup> Stace, C. (2019) *New Flora of the British Isles*. [4<sup>th</sup> Edition] C&M Floristics

Atlas (NBN, 2025)<sup>28</sup>. The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

#### 4.7 Limitations

##### *Habitat survey limitations*

- 4.7.1 Ecological surveys are limited by factors that affect the presence of plants and animals such as time of year, weather, migration patterns and behaviour. The Penrhys estate habitat survey was undertaken in July 2024 (which is within the optimum recommended survey period for habitat surveys (April to August)) and therefore represents a valid sample of ecological evidence present on that date/season. The habitat survey is not designed, nor is it required to present a complete inventory of flora/fauna, which may be present at other times of year.
- 4.7.2 The absence of desk study records is not relied upon to determine absence of a particular species/habitat. Often, the absence of records is a result of under-recording within the given search area and as such the experience of the ecologist concerned together with a range of additional factors, in particular the presence/absence of potentially supporting habitat; is used to infer likely presence/absence of ecological receptors. Professional judgment is used to assess the likelihood of protected/notable species being present.
- 4.7.3 Private residential gardens associated with the properties in the survey area were excluded from the assessment. However, they do make up a fair proportion of the green infrastructure in Penrhys. The recommendations applicable to the habitats (including their suitability to support species) surrounding these areas have been assumed to apply to the habitats within the boundaries of the residential gardens.
- 4.7.4 The area in the southeast beyond Heol Pendyrus Road was partially inaccessible due to dense vegetation and a steep gradient but habitats present can be inferred using available data and review of aerial images and likely presence of protected species considered.

##### *Bat survey limitations*

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<sup>28</sup>[Species lists | NBN Atlas](#)

- 4.7.5 The bat surveys have not attempted to produce a comprehensive list of all bat species and their activities within the site, as any ecological survey will be limited by factors that affect their presence, such as time of year, weather conditions, migration pattern and behaviour. The surveys instead aim to provide a general overview of the range of bat species using the site and to highlight key commuting corridors and pinpoint possible bat roosts. Three seasonal NBW surveys and numerous emergence surveys were undertaken during suitable weather conditions, therefore there are no limitations to the results presented.
- 4.7.6 Echolocation calls of the long-eared bats are significantly quieter than many other bat species, therefore this species can be difficult to record, and may at times go unrecorded. Similarly, some bats produce louder calls which travel greater distances with less attenuation, as a result louder calls produced at greater distances from the detectors will be recorded more readily, whereas quieter calls produced from the same location may be missed which can lead to bias. The potential for brown long-eared bats to be using habitats on site and requirement for mitigation is considered in the impact assessment section.
- 4.7.7 Species from the genera *Myotis* and *Nyctalus* are difficult to identify to species level from sonogram calls alone, particularly due to the number of species within the *Myotis* genus. Where an individual species cannot be determined, the *Myotis* genus is recorded. The potential for *Myotis* bats to be using habitats on Site and the requirement for specific mitigation is considered in the impact assessment section.
- 4.7.8 The location of the automated detectors may always limit the area surveyed, and the number and quality of bat recordings is dependent on the location and frequency of the bat's activity, and its distance from the automated detector. Common, easily detectable species may be more frequently recorded because they are more easily detectable than other, quieter species<sup>29</sup>. The potential for these quieter species to be present on site is considered within the impact assessment.
- 4.7.9 The buildings within the masterplan area, previously assigned a negligible value in the PRA conducted in 2024, were upgraded to low suitability following a bat emergence observed from a building categorised as negligible. All residential building blocks were

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<sup>29</sup> Reason, P., Newson, S. and Jones, K. (2016). Recommendations for using automatic bat identification software with full spectrum recordings Bat activity Defining bat activity (as recorded by detectors).

therefore subject to a least one bat emergence survey. Some of the buildings were surveyed during the latter period in August when maternity roosting may have started to break up, but due to limited bat activity during the numerous surveys undertaken in the Penrhys estate across the active season, this adds weight that a maternity roost is unlikely to be present on site.

- 4.7.10 Internal access was not possible due to each flat having individual tenants. This is a limitation; however all buildings were subject to at least one emergence survey and numerous emergence surveys were undertaken within the Phase 1a over a period of nights providing an understanding of bat activity within the site.
- 4.7.11 Roosts were identified within several buildings within Phase 1a, some of which only had two emergence surveys conducted, however due to the nature of the buildings and types of roost identified it was considered a full assessment of the roosting potential for the building was sufficiently gained from the two surveys conducted and additional third surveys were not deemed necessary.
- 4.7.12 The trees were first screened via a GLTA whilst trees were in leaf but trees scheduled for removal have had an additional inspection by a bat licensed surveyor using a ladder and endoscope and reclassified based on these results.
- 4.7.13 The red line for the Phase 1a site changed during the course of the design of the proposed development which is why the SM4 in Location 1 is located outside the site boundary but within recording distances for most bat species calls. It is not considered a significant limitation due to the results of the NBW around the northern edge of the Phase 1a site, supplemented with the information gathered on foraging and commuting bats during the bat emergence surveys.
- 4.7.14 During the July 2024 automated detector survey, a member of the public tampered with and removed the microphone from the detector, therefore data from this survey at Location 1 is lacking. An automated detector was deployed at the same location in July 2025 to rectify this data loss, however due to equipment malfunction, no data was recorded at this location in 2025. Location was located at the time of the first NBW within the masterplan boundary. Data from the NBW undertaken in July 2024 can be used to inform bat activity during this month along with information on foraging and commuting bats gathered during building emergence surveys conducted in this month.

#### *Bird survey limitations*

- 4.7.15 Ornithological surveys are influenced by a variety of factors that affect the presence of birds (e.g. season, weather, food availability, species behaviour and disturbance).
- 4.7.16 The absence of any species within the site should not be taken as conclusive evidence that the species is not present or that it will not be present in the future. The results of these bird surveys give an indication of the use of the site by breeding bird species at the time of survey and provide guidance in impact assessment and predictions of effects.

*Reptile survey limitations*

- 4.7.17 A number of the reptile refugia laid out by WA were found to have been moved or missing from their locations during the reptile surveys. WA took actions to decrease the likelihood of the refugia being disturbed by ensuring the residents had been informed of their presence, attaching labels to the refugia asking for them to not be disturbed. WA also laid out more reptile refugia for the site as recommended by the guidance. An additional 20 refugia were laid out on 11 April 2025. These interventions were successful in ensuring that the number of refugia present during the final survey was in line with recommended guidance.

*CHEDG survey limitations*

- 4.7.18 The eDNA survey cannot determine whether the species are present as mature individuals.

**4.8 Assessment Methodology and Significance Criteria**

***Determining Value of Ecological Receptors***

- 4.8.1 The conservation status of a site is defined in the Habitats Directive as this relates to internationally designated sites. The CIEEM guidance modifies the definition in order for it to be applicable to sites, habitats or species within any defined geographical area.
- 4.8.2 The assessment of the nature conservation value of the site has been based on the PEAR, protected species surveys and the widely applied criteria described in 'A Nature Conservation Review' (Ratcliffe, 1977)<sup>30</sup>. These include i) Size; ii) Diversity; iii) Naturalness; iv) Typicalness; v) Rarity and vi) Potential Value. A summary of these criteria is set out in Appendix 13.

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<sup>30</sup> Ratcliffe, D.A. (1977). *A Nature Conservation Review*. Cambridge University Press, Cambridge.

#### 4.8.3 The levels of conservation value are detailed in Table 8.

<b>Table 8: Nature Conservation Value</b>		
<b>Category Value</b>	<b>Relevance to Site</b>	<b>Examples</b>
<b>International</b>	Europe	Special Areas of Conservation, Special Protection Areas, RAMSAR Sites (or a site proposed for or considered worthy of such a designation); a regularly occurring substantial population of an internationally important species (listed on Annex IV of the Habitats Directive).
<b>National</b>	Wales	A nationally designated site (e.g. Site of Special Scientific Interest (SSSI), or a site proposed for, or considered worthy of such designation); a viable area of habitat type listed in Annex 1 of the Habitats Directive or a smaller areas of such habitat which are essential to maintain the viability of a larger whole, a regularly occurring substantial population of a nationally important species (e.g. listed on Schedules 5 & 8 of the Wildlife and Countryside Act 1981 (as amended)); A site where field study shows that the site would meet published SSSI Selection Guidelines.
<b>Regional</b>	South Wales	Areas of internationally or nationally important habitat that are degraded but are considered readily restorable; a regularly occurring locally significant population of a species listed as being nationally scarce.
<b>County</b>	Rhondda Cynon Taf	A site designated as a statutory county wildlife site (Local Nature Reserve) or a non-statutory designated site (e.g., Sites of Importance for Nature Conservation (e.g. Local Wildlife Sites (LWS), County Wildlife Sites (CWS)) or a site listed on the Ancient Woodland Inventory (AWI). A site where field study shows the site would meet published county LWS/CWS selection criteria. Viable areas of Habitats of Principal Importance where protection of all areas of that habitat a published target is; a regularly occurring, locally significant population of species which is listed in a County Red Data Book or Local Biodiversity Action Plan (LBAP) on account of its regional rarity or localisation.
<b>District</b>	Ferndale	A site designated as a non-statutory district wildlife site. A good example of common or widespread habitat in the local area (e.g. those listed as broad habitats on the LBAP); Habitats that are scarce in the district or appreciably enrich the district ecological resource. A

Table 8: Nature Conservation Value		
Category Value	Relevance to Site	Examples
		population of a species that is listed in the LBAP because of its rarity in the locality.
<b>Local</b>	Penrhys estate - Parish to site	Areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest.  Value within the context of the survey area (e.g. small areas of semi-improved grassland, isolated mature trees).

- 4.8.4 Individual species may be protected under European or National legislation. Such protection is relevant to the assignment of value to such species, but additional factors, such as population size and the nature of the distribution of the species are also considered.
- 4.8.5 The assignment of undesignated features, such as UK Priority habitats and species or areas of ancient woodland may not fall clearly into the designations as described above. Therefore, a number of other criteria are used to assess the nature conservation value of a defined area of land.
- 4.8.6 Some features that are currently of no particular ecological interest in themselves may nevertheless perform an ecological function. For example, they may act as a buffer against negative effects. This affects their value.

#### ***Evaluation of Significance***

- 4.8.7 The EclA follows the methodologies the 'CIEEM guidelines'.
- 4.8.8 CIEEM guidelines paragraph 4.1 indicates that the assessment of impacts should take into account both the value and sensitivity of ecological receptors:

*'One of the key challenges in EclA is to decide which ecological features (habitats, species, ecosystem and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project.'*

- 4.8.9 Paragraph 5.8 of the CIEEM guidelines indicates that it is important to assess the significance of the effects of impacts upon each ecological feature:

*'There could be any number of possible impacts on important ecological features arising from a development. However, it is only necessary to describe in detail the impacts that are likely to be significant'.*

4.8.10 For the purpose of this report, it has been assumed that each important ecological receptor likely to be encountered within the site and the wider landscape will have potential to be affected by the proposed development. The assessment of likely significant effects within this report will therefore focus upon a receptor's value and the significance of effects upon it.

4.8.11 The CIEEM guidelines define a significant effect as:

*'An effect that either supports or undermines biodiversity conservation objectives for important ecological features'.*

#### *Characterising Ecological Effects*

4.8.12 Effects are described and assessed with reference to the following characteristics:

- Positive or negative – is the change in accordance with nature conservation policy regarding that ecological feature?
  - Extent – over what area will the impact occur?
  - Magnitude – what will the quantifiable effect in terms of size, amount, intensity and volume be on ecological features?
  - Duration – over what periods of time will the effect last?
  - Timing – when would the effect occur?
  - Frequency – how often over a period of time would the effect occur?
  - Reversibility – can the effects be recovered from over a reasonable timescale?
- Evaluation of Significance – Designated Sites

4.8.13 The CIEEM guidelines detail how ecologically significant effects should be determined for designated sites, ecosystems, habitats and species.

4.8.14 For designated international sites, use can be made of published conservation objectives for each site against which the significance of impacts can be assessed.

4.8.15 For sites of national value, published SSSI guidelines for the selection of SSSIs, the SSSI site citation and NRW published "Operations Requiring Consultation" documents and any "Your Special Site and its Future" documents can be assessed.

4.8.16 Designated conservation sites of County value (i.e. Local Wildlife Sites (LWS)) will have been assessed for inclusion by a partnership of organisations, usually associated with the county environmental record centre. The citation and/or reasons for inclusion of the site as a LWS can be requested to assist with assessing the significance of effects upon such sites.

- 4.8.17 For sites of lesser value, including district/local, there may be available information on their rationale for selection based upon the Radcliffe criteria. These are all useful resources to assist with the assessment of significance of an effect on a district or local designated site.

*Evaluation of Significance – Ecosystems*

- 4.8.18 No published conservation objectives or designation criteria are normally available for ecosystems, however, determining whether effects on ecosystems are significant should be based upon whether or not the effect is likely to result in a change in ecosystem structure and function. This is based upon consideration of whether or not the impacts will result in an effect on:

- Processes or key characteristics and / or;
- The nature, extent, structure and function of component habitats and / or; and
- The average population size and viability of component species.

*Evaluation of Significance – Habitats and Species*

- 4.8.19 Habitat types listed on Annex 1 of the Habitats Directive and species listed on Annex II have published accounts which provide information on their status and distribution in the UK as well as a description and summary of ecological characteristics. This information can be used against which to assess the significance of effects on their conservation status, even if they are not designated.
- 4.8.20 For habitats and species of lesser value, published information is less readily available, however, reference to UKBAP priority habitat and species action plans, county or local BAPs will provide information on the conservation status of habitats and species against which impacts can be assessed for their effects on the extent, structure and function of habitats and the abundance and distribution of species.
- 4.8.21 In addition, reports or publications, often written at the county-scale can provide useful context against which to assess the significance of impacts upon a habitat or species. For instance, County Bird Reports and County Floras will provide more detail with regard the status and current trends for birds and habitats, plants in a given area.

## 5 BASELINE CONDITIONS AND NATURE CONSERVATION EVALUATION

### 5.1 Background Information

5.1.1 The baseline conditions are those which are anticipated to exist at the time of the Proposed Development commencing. The baseline conditions have been informed by a review of existing ecological information, ecological surveys and aerial photographs.

5.1.2 The following section also evaluates the ecological features making up the baseline for the Phase 1a site which were scoped in during the PEA stage and summarised further in Tables 9 and 10 and below. Each ecological feature is given a site value used to assess the significance of the impact of the Proposed Development. The categories of values are detailed in Table 8

#### Important Ecological Features (IEFs)

### 5.2 Statutory Nature Conservation Designations

5.2.1 One statutory designation is located within 2km of the Phase 1a site; Craig Pont Rhondda Site of Special Scientific Interest (SSSI) and Glyncornel Local Nature Reserve (LNR) is located at 1.2km from the Phase 1 site. No Special Areas of Conservation (SAC) or SSSIs designated for bats are located within 10km of the Phase 1a site.

5.2.2 Table 9 details the statutory designated sites and Table 10 the non-statutory designated sites scoped-in for further assessment due to their potential to be adversely affected by the development, either directly or indirectly. The remaining SINCS in the locality have been scoped out due to their distance from the Phase 1a site, their qualifying features being unlikely to be affected by the Proposed Development and/or lack of public access. These reasons are included in Table 15 later in this section.

Table 9: Designated Sites Scoped in for Further Assessment		
Site Name and Status <sup>31</sup>	Reason for Designation	Approximate Distance and Location from the site
Statutory Nature Conservation Designations		

<sup>31</sup> **SSSI** – Site of Special Scientific Interest, **SAC** – Special Area of Conservation, **SINC** – Site of Importance for Nature Conservation, **LNR** – Local Nature Reserve

**Table 9: Designated Sites Scoped in for Further Assessment**

Site Name and Status <sup>31</sup>	Reason for Designation	Approximate Distance and Location from the site
Craig Pont Rhondda SSSI	24.2 hectares of coppiced sessile oakwood on east-facing Pennant Sandstone slopes, interrupted by gulleys and rocky exposures. The flora, except in wet flushes, is typically acidophilous. Educational value could be realised by suitable management.	0.8 km southwest of the Phase 1a site.
Glyncornel LNR	<p>Damp, acid hay meadows with tormentil <i>Potentilla erecta</i>, bluebells <i>Hyacinthoides non-scripta</i>, heath spotted orchids <i>Dactylorhiza maculata</i>, common spotted orchids <i>Dactylorhiza fuchsii</i>, southern marsh orchids <i>Dactylorhiza praetermissa</i>, small copper butterflies <i>Lycaena phlaeas</i>, and heath butterflies <i>Coenonympha</i> spp. The meadows are divided by ancient tree lines that branch from the main woodland, connecting wildlife to all parts of the nature reserve.</p> <p>A wonderful diversity of mosses, liverworts, lichens, and fungi that make a Celtic rainforest so special. The woodland is fantastic moth habitat and a superb place for foraging bats <i>Vespertilionidae</i> spp., while polecats <i>Mustela putorius</i> hunt voles <i>Arvicolinae</i> spp. and field mice <i>Apodemus sylvaticus</i>. There are cuckoos <i>Cuculus canorus</i>, nightjars <i>Caprimulgus europaeus</i>, and wood warblers <i>Phylloscopus sibilatrix</i>, with sparrowhawks <i>Accipiter nisus</i> and goshawks <i>Accipiter gentilis</i> hunting jackdaws <i>Coloeus monedula</i> over the woodland.</p>	1.2 km southwest of the Phase 1a site

5.2.3 Craig Pont Rhondda SSSI and Glyncornel LNR are considered to be of **National** value for nature conservation.

### 5.3 **Non-Statutory Nature Conservation Designations**

5.3.1 Eleven Sites of Interest for Nature Conservation (SINC) are located within 2km of the Phase 1a site. Four have been scoped in for further assessment and are listed in Table 10 below.

Table 10: Designated Sites Scoped in for Further Assessment		
Site Name and Status <sup>32</sup>	Reason for Designation	Approximate Distance and Location from the site
<b>Non-Statutory Nature Conservation Designations – SINC's (bracket number denotes Local Development reference number)</b>		
Mynydd Ty'n-tylle Slopes (64)	A large upland SINC, which supports a complex mosaic of acid and marshy grassland, ffridd and heath. There are extensive stands of both heather and bilberry-dominated heath, with associated acid grassland and areas of western gorse. The upland plateau support areas of marshy grassland and peaty wet heath. There are additional areas of neutral grassland and bracken. The SINC supports upland bird assemblages, including large numbers of skylark, meadow pipits and smaller numbers of wheatear, and stonechat, whinchat and linnet in lower valley-side ffridd. Short-eared owl occurs in the winter.	The northeastern boundary of the Phase 1a site is directly adjacent to this designation.
Ystrad Slopes (123)	This large SINC is a sheep grazed expanse of upland close-cropped marshy and acid grassland. The site includes Cwm Bodringallt perched bog, which amongst the sphagnum bog mosses and purple moor-grass supports cranberry and wintering snipe and jack snipe. The SINC includes the ancient woodland of Bodringallt Wood and associated woodland areas, which support pied flycatcher, wood warbler and redstart.	The northwestern and western boundaries of the Phase 1a site is directly adjacent to this designation.
Mynydd Brith-weunydd / Llwynypia hillside (40)	The northern slopes of this SINC support a mosaic ffridd. The moderately steep bracken covered slopes are flushed by a series of spring lines which support a very rich and diverse biodiversity habitat, with bracken and acid grassland and dry heath on drier ground. Numerous wet acidic flushes, with areas of purple moor grass marshy grassland and wet heath occur where springs and flushes emerge. Mynydd Brith-weunydd represents one of the largest stands of lowland heath in the County Borough.	55m to the southwest of Phase 1a site

<sup>32</sup> **SSSI** – Site of Special Scientific Interest, **SAC** – Special Area of Conservation, **SINC** – Site of Importance for Nature Conservation

**Table 10: Designated Sites Scoped in for Further Assessment**

Site Name and Status <sup>32</sup>	Reason for Designation	Approximate Distance and Location from the site
Taff and Rhondda Rivers SINC (no number)	The River Taff is the main river of the County Borough and a major biodiversity artery. The river and its bank side habitats are extremely diverse and varied. The river supports kingfisher, sand martin, otter, salmon and brown trout. Notable features include shingle banks (which may support important beetle and invertebrate faunas) and sections of undercut bank, and bank side woodland.	0.7 km east of the Phase 1a site

5.3.2 The SINC is considered to be of **County** value for nature conservation.

#### 5.4 **Habitats**

5.4.1 The following habitats and notable plant species within the Phase 1a site have been identified as potential IEFs which are likely to be affected either directly or indirectly by the Proposed Development.

- Other neutral grassland supporting LBAP species: *Orchidaceae* species (incidental sightings during other surveys across the wider site including Phase 1a) including southern marsh orchid (*Dactylorhiza praetermissa*), common-spotted orchid (*Dactylorhiza fuchsia*), heath spotted orchid (*Dactylorhiza maculate*);
- Modified grassland;
- Trees – scrub/scattered;
- INNS - Himalayan cotoneaster (*Cotoneaster simonsii*).

5.4.2 The remaining habitats and features identified were not considered to have significant nature conservation value: buildings and hardstanding.

5.4.3 Other habitats and notable plants including INNS within the wider masterplan site include:

- Bracken;
- Mature scattered trees/Line of trees/groups of trees;
- Other neutral grassland (& waxcap fungi);

- S.7 Priority Habitat Lowland dry acid grassland;
- S.7 Priority Habitat Dry heaths; lowland;
- S.7 Priority Habitat Dwarf shrub heath/bracken;
- S.7 Broadleaved woodland;
- S.7 Hedgerow;
- LBAP species: *Orchidaceae* species including pyramidal orchid (*Anacamptis pyramidalis*), bee orchid (*Orphrys apifera*), southern marsh orchid (*Dactylorhiza praetermissa*), and common-spotted orchid (*Dactylorhiza fuchsia*), heath spotted orchid (*Dactylorhiza maculate*); and
- Invasive Non-Native Species (INNS) listed on Schedule 9 of the WCA 1981 (as amended) include Japanese knotweed (*Reynoutria japonica*), Himalayan cotoneaster (*Cotoneaster simonsii*), cotoneaster (*Cotoneaster horizontalis*), small leaved cotoneaster (*Cotoneaster microphyllus*), Japanese rose (*Rosa rugosa*), montbretia (*Crocasmia x crocosmiflora*). A species not listed on Schedule 9 list but is invasive - garden lady's mantle (*Alchemilla mollis*).

5.4.4 The following habitats and features identified in the wider masterplan site were not considered to have significant nature conservation value: buildings, hardstanding, roads, built linear features, ornamental gardens, dry ditches, mixed scrub, willow scrub, gorse scrub, non-native ornamental hedgerows, modified grassland, and residential gardens. However, these habitats do have value for protected species, notable flora and other wildlife which are described later in this section.

5.4.5 A summary of the habitats identified as IEFs within the Phase 1a site and their nature conservation evaluation is provided below:

***Other neutral grassland***

5.4.6 Less than 15 species were recorded per m<sup>2</sup> in the areas of other neutral grassland. However, it has a greater floral diversity compared to the areas of modified grassland within the Phase 1a site. The grasslands on site provide refuge and foraging habitat for a range of species and could be adversely affected by the Proposed Development. The other neutral grassland is of **Local** nature conservation value. As this grassland supports LBAP orchid species it is therefore taken forward for further assessment.

### ***Modified Grassland***

- 5.4.7 Modified grassland is the second most common habitat type in the UK by area, after Arable & Horticulture. This includes everything from football pitches to grazing pastures, which should be managed in the same way, though it technically falls into the Built-up Areas & Gardens category. Most modified grassland is very low in biodiversity, due to inputs of fertilisers and pesticides, drainage, occasional ploughing and overgrazing or intensive mowing.
- 5.4.8 The biodiversity supported by modified grassland is very low, compared to almost any other ‘natural’ habitat type. Although this habitat plays an important role in recreation and shared community spaces, it is not, in the context of the Phase 1a site, a habitat of significant nature conservation value. Modified grassland is of **Local** value for nature conservation and will not be carried forward into assessment.

### ***Trees – Scrub and Scattered***

- 5.4.9 There are several young, semi-mature, and mature trees /scrub present within the Phase 1a site and include the following species: common alder (*Alnus glutinosa*), elder (*Sambucus nigra*), holly (*Ilex aquifolium*), Leyland cypress (*Cupressus x leylandii*), Lawson cypress (*Chamaecyparis lawsoniana*), ash (*Fraxinus excelsior*), forsythia (*Forsythia*), wild cherry (*Prunus avium*), rowan (*Sorbus aucuparia*), Norway maple (*Acer platanoides*), Italian alder (*Alnus cordata*), Scot’s pine (*Pinus sylvestris*), sycamore (*Acer pseudoplatanus*), goat willow (*Salix caprea*), silver birch (*Betula pendula*), and grey alder (*Alnus incana*). The trees within the Phase 1a site are of limited intrinsic ecological value and are of **Local** nature conservation value and will not be carried forward into assessment.

### ***Fauna Species***

#### ***Badgers***

- 5.4.10 There are no historical records of badger within 2km of the site in the past ten years. Badgers are not common in RCT.
- 5.4.11 The grassland and scattered trees and scrub within the Phase 1a survey area, as well as the western developed section, are suitable for foraging by badgers but no evidence of badger activity was recorded in or within 30m of Phase 1a application boundary.

- 5.4.12 A clump of fur indicative of badger was identified outside the Phase 1a area but within the north-east of the wider masterplan site. This, together with anecdotal evidence from the Community Consultation indicates their presence within the wider area.
- 5.4.13 There is potential for a sett to be present in/within close proximity to the wider masterplan survey area and potential for badgers to forage/commute across the Phase 1a site. There is potential for both direct impacts through habitat loss and death/injury to individuals and indirect impacts through disturbance, both through the construction and operational phases.
- 5.4.14 A badger population, if present in the local area, would be considered to be of **Local** importance for nature conservation. As there is a risk that individual badgers may be present in future and this species is protected, badger is being considered in this impact assessment.

#### *Bats – Roosts*

- 5.4.15 From the desk study there is one record of bats from 2019 located approximately 0.6km from the Phase 1a application boundary for a maternity roost record of a pipistrelle species (*Pipistrellus sp.*).
- 5.4.16 The buildings and trees within the survey area provide potential roosting opportunities for bats. The survey area is also connected to/surrounded by suitable habitat in the wider landscape.
- 5.4.17 Table 11 shows the buildings which are either located within or adjacent to the Phase 1a application area, which were surveyed and results presented.

Table 11: Buildings Bat Emergence Surveys within Phase 1a application boundary or adjacent						
Building Number/Location to application boundary	Bat Roosting Suitability	Number of Dusk Emergence Surveys	Date 1 <sup>st</sup> survey completed	Date 2 <sup>nd</sup> survey completed	Date of 3 <sup>rd</sup> survey completed	Record of Emergences
20 (adjacent)	Low	1	17.07.2025	-	-	No emergences
22 (surveyed by another consultancy)	Moderate	2	18.08.2024	25.09.2024	-	No emergences
23	Low	1	01.06.2025	-	-	No emergences
24	Low	2	02.06.2025	23.07.2025	-	1 common pipistrelle emergence – 1 <sup>st</sup> visit.
25	Low	1	30.06.2025	-	-	No emergences
26 (surveyed by another consultancy)	Low	1	14.08.2024	25.09.2024	-	No emergences
27	Low	1	15.05.2025	-	-	No emergences
28	Low	1	03.07.2025	-	-	No emergences
29	Low	1	29.06.2025	-	-	No emergences

30 (surveyed by another consultancy)	Low	1	18.08.2024	25.09.2024	-	Emergences on 1 <sup>st</sup> survey = 2 x common pipistrelles= confirmed roost
31	Low	1	12.05.2025	-	-	No emergences
32	High	3	12.08.2024	02.09.24	18.06.2025	No emergences
33 (adjacent)	High	3	07.05.2025	02.06.2025	01.07.2025	Highly likely emergences <sup>33</sup> 3 x common pipistrelle during 1 <sup>st</sup> visit.
34	Low	1	08.05.2025	-	-	No emergences
35	Low	1	28.05.2025	-	-	No emergences
36 (surveyed by another consultancy)	Low	1	14.08.2024	24.09.2025	-	None recorded over two surveys
37	Low	1	15.5.2025	-	-	No emergences
40 (adjacent)	Low	1	11.06.25	23.07.2025	-	1 common pipistrelle emergence – 1 <sup>st</sup> visit.

5.4.18 A summary of the dusk emergence survey results relevant to Phase 1a application boundary is provided below. Full details will be provided in a Bat Survey Report which is currently being prepared.

5.4.19 Drawing number CA13129-029-P0.02 Building Location Plan and Confirmed Roosts - 2024-2025, identifies the building location/reference numbers (Building Location Plan – Phase 1a) and refer to Table 2 for survey dates.

#### *Building B30*

5.4.20 Building B30 is located in the south-east of the Phase 1a application area. Two common pipistrelles (*Pipistrellus pipistrellus*) were recorded emerging during the first emergence survey undertaken in August 2024. No further emergencies were recorded during the second survey carried out in September 2024.

5.4.21 It is considered that the roosts at building B30 comprise low status, non-breeding summer day roost for a low number (2 individuals being recorded) of common pipistrelles.

#### *B32*

5.4.22 No bats were using the building during the three emergence surveys undertaken during the bat active season and no evidence of hibernating bats was found during the building inspection in December 2024. No bat activity was recorded on the automated detector during the 2-week period deployed. The building is of low suitability for hibernating bats.

<sup>33</sup> Corrupt NVA file.

5.4.23 No bat roosts were identified in the remaining buildings within the Phase 1a site.

*Off-site in close proximity to Phase 1a site: B33 and B40*

*Building B33*

5.4.24 Building B33 is located to the north-west of the Phase 1a application boundary. Three common pipistrelles were observed early in the evening of the first dusk emergence survey in May 2025, which are considered to of emerged from the building B33 but exact location was not seen. No bats were observed emerging from building B33, during the surveys in June and July 2025. It has been assessed that the bats did emerge from B33.

5.4.25 It is considered that the roost at building B33 comprise low status, non-breeding summer day roost for a low number (3 individuals being recorded) of common pipistrelles.

*Building B40*

5.4.26 Building B40 is located to the south-east of the Phase 1a application boundary. A single common pipistrelle was observed emerging from the building during the first emergence survey in June 2025. No emergencies were recorded during the second visit in July 2025.

5.4.27 It is considered that the roost at building B40 comprise low status, non-breeding summer day roost for a low number (1 bat recorded) of common pipistrelles.

*Other Buildings*

5.4.28 No bat roosts were identified in the remaining buildings within the Phase 1a application boundary.

*Bats - Trees*

5.4.29 All trees within the Phase1a area were reassessed with torch and endoscope. All trees within Phase 1a were downgraded to negligible suitability.

5.4.30 Arboricultural trees, reference T80, T85 and T89 (Ecology Tree GLTA reference numbers 7, 30, 31) are just outside the red line boundary, but these trees are to be retained and protected during the development.

5.4.31 There are no trees classified within Phase 1a with PRF-M or PRF-I suitability for roosting bats, which has been confirmed following surveys. Based on the species recorded to date on site (refer to bat activity section below) the bat species likely to

be using trees in an urban environment are unlikely to exceed district importance but this would depend on size and number of species.

#### *Bats – Activity*

5.4.32 Overall, seven of the 17 British breeding species of bat species were recorded within the Trivallis landholding during the 2024/25 bat activity surveys.

5.4.33 Full results of the night-time bat walkover surveys including bat species recorded and surveyor transects can be viewed on Drawing Numbers CA13129-015, -016, and -027.

#### *Phase 1a*

##### *Night-Time Bat Walkover (NBW) Survey Results*

5.4.34 During the Summer (July 2024) NBW a *Myotis sp.* bat was recorded foraging in the southwest of the Phase 1a site at 22:22. A Nathusius' pipistrelle was also recorded commuting from south to north across the Phase 1a site at 23:28. Outside the Phase 1a site, common and soprano pipistrelles were recorded foraging within the east and southeast of the Penrhys estate.

5.4.35 During the Autumn (October 2024) NBW no bats were recorded utilising the Phase 1a site. One common pipistrelle was recorded foraging southwest of the Phase 1a site, and one common pipistrelle was recorded commuting from south to north, northeast of the Phase 1a boundary. Outside the Phase 1a site, common pipistrelles were recorded foraging within the east and southeast of the Penrhys site.

5.4.36 During the Spring (May 2025) NBW no bats were recorded utilising the Phase 1a site. Several common pipistrelles were recorded foraging southwest of the Phase 1a boundary. Outside the Phase 1a site, common pipistrelles were recorded in the east and south of the Penrhys estate and were recorded foraging in the southeast of the Penrhys estate.

##### *Automated Detector Survey Results*

5.4.37 An automated detector was deployed during each active bat month from August 2024-October 2024, and April-July 2025 at Location 1. The automated detector deployed at the Location 1 site was located at approximate NGR ST 00014 95081, within neutral grassland approximately 30m north west of the northern site boundary of Phase 1a.

5.4.38 The automated detector deployed at Location 1 informs the bat activity at Phase 1a, alongside the results of the night-time bat walkovers and information gathered during the building emergence surveys undertaken within Phase 1a.

5.4.39 Table 12 below provides a breakdown of the number of calls recorded at Location 1 per species by month of automated detector deployment. The species makeup is shown in percentage (%) and is provided for each month of the automated detector at Location 1 was deployed at the bottom of the table, and the percentage of total calls each species made up is provided in the right of the table.

Table 12: Number and percentage (%) makeup of total calls per species per month recorded by the automated detector at Location 1.

Species	April		May		June		August		September		October		Total Calls per Species	Species makeup (%) of total calls recorded
Brown long-eared	1	0.10%	4	0.53 %	1	0.10%	-	-	15	0.92%	-	-	21	0.35%
Nathusius' pipistrelle	3	0.30%	-	-	17	1.77%	1	0.06%	1	0.06%	-	-	22	0.37%
Noctule	-	-	-	-	-	-	1	0.06%	-	-	-	-	1	0.02%
Common pipistrelle	940	95.05%	752	98.8 2%	730	75.88%	1611	98.41%	1586	97.06%	42	95.4 5%	5661	93.93%
Serotine	-	-	1	0.13 %	-	-	4	0.24%	-	-	-	-	5	0.08%
Myotis spp.	1	0.10%	2	0.26 %	11	1.14%	12	0.73%	10	0.61%	1	2.27 %	37	0.61%
Soprano pipistrelle	44	4.45%	2	0.26 %	203	21.10%	8	0.49%	22	1.35%	1	2.27 %	280	4.65%
<b>Total Calls Recorded</b>	<b>989</b>	<b>100%</b>	<b>761</b>	<b>100 %</b>	<b>962</b>	<b>100%</b>	<b>1637</b>	<b>100%</b>	<b>1634</b>	<b>100%</b>	<b>44</b>	<b>100 %</b>	<b>6027</b>	

Percentage of Total Calls Recorded per Month		16.41%		12.6 3%		15.96%		27.16%		27.11%		0.73 %		100%
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5.4.40 Table 12 above shows that although common pipistrelles were responsible for 93.93% total calls, common pipistrelles comprised over 95% of species recorded in all months except June, where common pipistrelles comprised 75.88% of calls. Of the total calls recorded in June, soprano pipistrelles comprised 21.10%, although in all other months soprano pipistrelles comprise less than 5% of calls. June's difference in species composition can be explained by the high number of soprano pipistrelle calls (203) relative to all other months (less than 45 calls in all other months), whilst common pipistrelles were recorded a similar number of times in June as they were in all other months, with the exception of October where total bat calls were low.

5.4.41 As shown in Table 13 below, the automated detector at Location 1 recorded common pipistrelles, soprano pipistrelles, Nathusius' pipistrelles, *Myotis* spp., serotines, noctules, and brown long-eared bats.

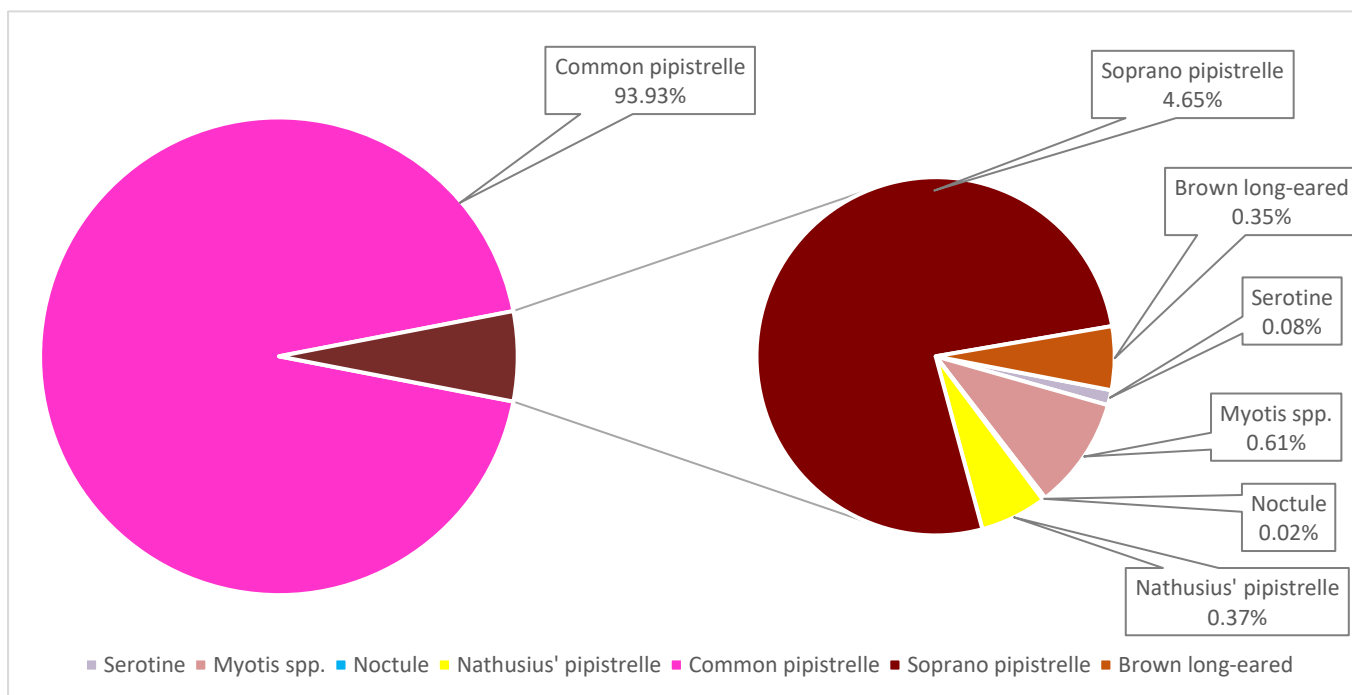
<b>Table 13: Species present within and adjacent to Phase 1a during the 2024-25 night-time bat walkover and automated detector surveys per season. Ticks (✓) represent species recorded, and (-) represent species that were not recorded.</b>							
Species	July 2024 survey	August 2024 survey	September 2024 survey	October 2024 survey	April 2025 survey	May 2025 survey	June 2025 survey
Common pipistrelle <i>Pipistrellus pipistrellus</i>	-	✓ <sup>2</sup>	✓ <sup>2</sup>	✓	✓ <sup>2</sup>	✓	✓ <sup>2</sup>
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	-	✓ <sup>2</sup>	✓ <sup>2</sup>	✓ <sup>2</sup>	✓ <sup>2</sup>	✓ <sup>2</sup>	✓ <sup>2</sup>
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	✓ <sup>1</sup>	✓ <sup>2</sup>	✓ <sup>2</sup>	-	✓ <sup>2</sup>	-	✓ <sup>2</sup>
Brown long-eared bat	-	-	✓ <sup>2</sup>	-	✓ <sup>2</sup>	✓ <sup>2</sup>	✓ <sup>2</sup>

<i>Plecotus auritus</i>							
Noctule <i>Nyctalus noctula</i>	-	√ <sup>2</sup>	-	-	-	-	-
Serotine <i>Eptesicus serotinus</i>	-	√ <sup>2</sup>	-	-	-	√ <sup>2</sup>	-
<i>Myotis spp.</i>	√ <sup>1</sup>	√ <sup>2</sup>	√ <sup>2</sup>	√ <sup>2</sup>	√ <sup>2</sup>	√ <sup>2</sup>	√ <sup>2</sup>

<sup>1</sup> This species was only recorded during the walked transect surveys.

<sup>2</sup>This species was only recorded during the automated detector surveys.

5.4.42 As seen in Figure 1 below, common pipistrelles comprised the vast majority of calls recorded by the automated detector at Location 1, with 93.93% of total calls recorded coming from common pipistrelles. All other bat species recorded each comprised less than 5% of total calls, with soprano pipistrelles comprising 4.65% of total calls. Noctules were the least recorded species, comprising only 0.02% of total calls recorded. Brown long-eared bats, serotines, *Myotis spp.* bats, and Nathusius' pipistrelles each comprised less than 1% of total bat calls.



**Figure 1:** Species composition of total bat echolocation calls recorded by the automated detector surveys at Location 1.

5.4.43 Common pipistrelles were recorded 5661 times across the automated detector's deployment, with activity peaking in August with 1611 calls recorded. Common pipistrelles were recorded utilising Phase 1a and the surrounding area for foraging, as evidenced through automated detector recordings of feeding buzzes recorded in all months, and visual recordings during NBW surveys. Common pipistrelle social calls were also recorded in all months except October, when few calls overall were recorded.

5.4.44 Soprano pipistrelles were recorded 280 times across the automated detector's deployment, with activity peaking in June with 203 calls recorded. Soprano pipistrelle social calls were recorded in September, June and April, and feeding buzzes were recorded in all months except August and September.

5.4.45 *Myotis* spp. bats were recorded 37 times across the automated detector's deployment, with activity peaking in August with 12 calls recorded. During June, August, and September some calls were recorded within a few minutes of each other and may be interpreted as passes from the same bat. A *Myotis* spp. feeding buzz was also recorded during June, August, and September.

- 5.4.46 A single noctule bat was recorded on 04/08 during the August automated detector deployment, comprising of one pass at 22:09.
- 5.4.47 Brown long-eared bats were recorded 21 times across the automated detector's deployment, with activity peaking in September with 15 calls recorded. During May and September some calls were recorded within a few minutes of each other and may be interpreted as passes from the same bat. Feeding buzzes were recorded in September and April.
- 5.4.48 Serotines were recorded five times across the automated detector's deployment, with activity peaking in August with four calls recorded, and a feeding buzz recorded.
- 5.4.49 Nathusius' pipistrelles were recorded 22 times across the automated detector's deployment, with activity peaking in June with 17 calls recorded. During April and June some calls were recorded within a few minutes of each other and may be interpreted as passes from the same bat.

*Bat Assemblage Importance Assessment*

- 5.4.50 Overall, relatively low bat activity was recorded in the vicinity of Phase 1a with the majority of the calls coming from common pipistrelle bats. There are also a few less common species recorded, including bats of *Myotis spp.*, serotines, Nathusius' pipistrelles, and brown long-eared bats.
- 5.4.51 Feeding buzzes and social calls from common pipistrelle and soprano pipistrelle bats were recorded in SM4 location 1, demonstrating bats are utilising habitat in close proximity to the Phase 1a site for commuting, foraging, and socialising e.g., for mate attraction.
- 5.4.52 Bat activity was scattered across the Phase 1a application site, mainly concentrated on green spaces between areas of hard standing and buildings, and in the north of the Penrhys estate.
- 5.4.53 However, both automated detectors were situated in the north of the site, and recordings of bat calls remained low across their deployment.

- 5.4.54 Utilising Table 3.3 found in the updated Bat Mitigation guidelines<sup>34</sup>, the bat assemblage recorded utilising Phase 1a, taking into account the local and regional species distributions for bats in South Wales. The presence of common pipistrelles, soprano pipistrelles, and brown long-eared bats achieves one point each, each having a 'Widespread' distribution. Serotines and Nathusius' pipistrelles are categorised as having 'Rarer or restricted distribution' and achieve three points each. Noctule bats are categorised as being 'Widespread in many geographies, but not as abundant in all', and achieves two points.
- 5.4.55 The *Myotis* spp. bats recorded to be utilising Phase 1a are typically not identified to species level due to call similarity. As call structure cannot always aid identification to species level, habitat availability and species ecology has been used to inform the likely *Myotis* species present. The *Myotis* spp. bats recorded are assumed to not include *Myotis daubentonii* due to the absence of aquatic habitats in the vicinity used by this species for foraging. *Myotis bechsteinii* can be assumed absent due to their rarity, and the lack of dense, mature woodland in the vicinity used by this species for roosting and foraging within 2km of their roost sites. As the remaining *Myotis mystacinus*, *Myotis brandti*, and *Myotis nattereri* cannot be assumed absent based on habitat and ecology, they must be assumed present as part of the *Myotis* spp. recorded within and adjacent to Phase 1a. These three *Myotis* bats are categorised as being 'widespread in many geographies, but not as abundant in all', and each achieve a score of two.
- 5.4.56 The bat assemblage recorded within and adjacent to Phase 1a achieves a maximum score of 17. As a score of 18 must be achieved for a bat assemblage to be of County importance, the bat assemblage within and adjacent to Phase 1a can therefore be assessed as having less than County importance, as no category below this is provided within the Bat Mitigation Guidelines.
- 5.4.57 Automated detectors and NBW surveys aim to identify commuting routes, foraging areas, other bat activity and bat species assemblage on site,
- 5.4.58 Areas of importance to bats must be considered based on the overall bat activity in the area, and classification must be made with professional judgement. The site of

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<sup>34</sup> Reason, P.F. and Wray, S. (2025). UK Bat Mitigation Guidelines: A guide to impact assessment, mitigation, and compensation for developments affecting bats. Version 1.2. Chartered Institute of Ecology and Environmental Management, Ampfield.

Penrhys was classed as having ‘moderate’ potential value for commuting and foraging bat habitats as outlined in the Bat Survey guidelines, and the habitat within the Phase 1a boundary comprises mainly of modified grassland and hard standing and buildings, with smaller areas of mixed scrub, neutral grassland and other woodland, all of which are common habitats in South Wales.

5.4.59 Building B30 within the Phase 1a boundary supports a confirmed summer day roost for common pipistrelle. The species assemblage within the site is less than county importance. Levels of activity within the Phase 1a are low to moderate in number of bats recorded in comparison to similar sites within the local area. West of the Phase 1a area lies woodland recorded to be utilised by bats, offering habitat connectivity, however with limited commuting route, being a mostly open area lacking dark corridors and high value habitat for bats, the Phase 1a area may be categorised as having low value for commuting and foraging habitat.

#### 5.4.60 *Breeding Birds*

5.4.61 The data search (2024) recorded a total of 47 bird species from the past ten years; some of these species were recorded in the Phase 1a application boundary.

5.4.62 A total of 35 bird species were recorded within or close to the Phase 1a application site, of which eight are BoCC red-listed species, eight are BoCC amber-listed species and nine are S.7 species as shown in Table 14 Notable Bird Species below. No Schedule 1 species were recorded. A full annotated species list for Phase 1a is provided in Appendix 14.

Table 14: Notable Bird Species		
Scientific name	Vernacular name	Conservation status
<i>Pyrhulla pyrhulla</i>	Bullfinch	BoCCW Amber, S7
<i>Fringilla coelebs</i>	Chaffinch	BoCCW Amber
<i>Prunella modularis</i>	Dunnock	BoCCW Amber, S7
<i>Periparus ater</i>	Coal tit	BoCCW Amber
<i>Regulus regulus</i>	Goldcrest	BoCCW Red
<i>Chloris chloris</i>	Greenfinch	BoCCW Red
<i>Larus argentatus</i>	Herring gull	BoCCWRed, S7
<i>Passer domesticus</i>	House sparrow	BoCCW Amber, S7
<i>Larus fuscus</i>	Lesser black-back gull	BoCCW Amber
<i>Linaria cannabina</i>	Linnet	BoCCW Red, S7
<i>Anthus pratensis</i>	Meadow pipit	BoCCW Red
<i>Turdus viscivorus</i>	Mistle thrush	BoCCW Amber

<i>Caprimulgus europaeus</i>	Nightjar	S7
<i>Alauda arvensis</i>	Skylark	BoCCW Amber, S7
<i>Turdus philomelos</i>	Song thrush	S7
<i>Muscicapa striata</i>	Spotted flycatcher	BoCCW Red, S7
<i>Sylvia communis</i>	Whitethroat	BoCCW Red
<i>Phylloscopus trochilus</i>	Willow warbler	BoCCW Red

#### Criteria A

5.4.63 No breeding populations recorded within the Phase 1a application site and adjacent areas comprised 1% or higher of the national breeding population.

#### Criteria B

5.4.64 A total of 35 species were recorded within and adjacent to the Phase 1a application boundary during the survey. Ten of these were non-breeding or flying over the site only.

5.4.65 In accordance with the criteria provided by Fuller (1980) for breeding bird assemblage; the survey area is considered to support a **breeding bird assemblage important at a district scale** with 25 species considered to be breeding or possibly breeding within the site and adjacent habitats.

#### Criteria C

5.4.66 No Schedule 1 birds were recorded within the Phase 1a application area during the survey.

5.4.67 Nine S.7 species; breeding bullfinch (1 territory), dunnock (2 territories), herring gull (1 territory), breeding house sparrow (6 territories), linnet (possible breeder), nightjar (not breeding), skylark (not breeding), breeding spotted flycatcher (1 territory), and song thrush (1 territory) were identified during the BBS within the Phase 1a application boundary.

5.4.68 Sixteen BoCC species; breeding bullfinch (1 territory), chaffinch (probable breeder) coal tit (possible breeder) dunnock (2 territories), goldcrest (possible breeder) greenfinch (possible breeder), herring gull (1 territory), breeding house sparrow (6 territories), lesser black-back gull (not breeding), linnet (possible breeder), meadow pipit (not breeding), mistle thrush (1 territory), skylark (not breeding), breeding

spotted flycatcher (1 territory), whitethroat (1 territory), willow warbler (3 territories). Two RCT Local Biodiversity Action Plan (LBAP) species stonechat (possible breeder) and buzzard (not breeding) were recorded in the Phase 1a application boundary.

5.4.69 Though much declined, these species are still relatively abundant nationally and are likely to be widespread in the County within suitable habitat. The S.7, BoCC and LBAP species assemblage is therefore considered to be of **district** importance for nature conservation.

#### Criteria D

5.4.70 Following the Guidance for the Selection of Wildlife Sites in South Wales and the RCT LBAP, the site is not considered to meet the criteria of a Wildlife Site with regard to breeding bird populations on their own.

5.4.71 Bullfinch, spotted flycatcher, stonechat, and house sparrow are confirmed or probable breeders present within the Phase 1a area, and are listed in Table 9 as contributory species to wildlife site selection, however, they do not contribute to the justification of the selection of a Wildlife Site in their own right.

5.4.72 Following the Guidance for the Selection of Local Wildlife Sites in South Wales, the site is not considered to meet the criteria with regard to individual breeding bird populations on their own. Although S.7, LBAP and BoCC species were recorded within the Phase 1a site, the numbers of breeding territories recorded per species are low and are not considered to represent a significant population of these species at a county level.

#### *Reptiles*

5.4.73 Slow worms and common lizard were both recorded within the Penrhys Estate (Trivallis landholding survey area) during the reptile presence/likely absence survey. The report detailing the full results of the reptile survey conducted across the Trivallis landholding is currently being prepared. A summary of the results is provided below, along with extrapolated results from the Phase 1a application site which are assessed.

5.4.74 133 slow worms were recorded within the Trivallis landholding during the presence/likely absence surveys.

5.4.75 The highest slow worm adult peak count was 23 slow worms, recorded both during the fifth and seventh survey on 7<sup>th</sup> April 2025 and 8<sup>th</sup> May 2025, respectively.

5.4.76 29 common lizards were recorded within the Trivallis landholding during the presence/likely absence surveys.

5.4.77 The highest common lizard peak count was 12 common lizards, recorded during the fifth survey on 8<sup>th</sup> May 2025.

5.4.78 Utilising Table 7 to evaluate the size of the reptile population recorded over the seven survey visits across the Trivallis landholding, an exceptional population of slow worm and a good population of common lizard was recorded and therefore qualifies as a Key Reptile Site.

*Slow worm - Phase 1a*

5.4.79 A total of 17 refugia (28, 29, 31-40, and 76-80) were placed within the site boundary of Phase 1a.

5.4.80 A total of 10 slow worms were recorded within the boundary of Phase 1a, utilising refugia 32, 37, 38, and 79.

5.4.81 The highest peak count for slow worms within the Phase 1a application boundary was four slow worms, recorded during the second survey.

5.4.82 No common lizards were recorded within the site boundary of Phase 1a during the seven site visits.

5.4.83 57 slow worms and 12 common lizards were recorded within 40m around the Phase 1a application boundary, however, and some of the highest numbers of reptiles recorded (beneath refugia 27, 45, 47, and 101) were within 100m of the Phase 1a application boundary.

5.4.84 Considering the results for Phase 1a in isolation over the seven visits, the slow worm population would be classed as a 'low' population compared to the remainder of the wider survey area. In addition, given that no common lizards were recorded within Phase 1a application boundary, overall, the presence/likely absence survey results indicate that Phase 1a is not likely to meet the criteria to qualify as a Key Reptile Site on its own.

5.4.85 However, it must be considered that the Phase 1a site forms part of and has connectivity to the wider survey area that qualifies as a Key Reptile Site, supports a slow worm and common reptile population of **County** importance, and meets the designation criteria as a 'Wildlife Site.'

*European Hedgehog*

- 5.4.86 From the desk study there are eight records of hedgehogs from 2014 within 2km of the Penrhys estate, the most recent record being from 2020 approximately 0.1km from the Phase 1a site.
- 5.4.87 The gardens, grasslands, trees and scrub within the survey area provide breeding and foraging opportunities for hedgehogs. The Phase 1a site is also connected to/surrounded by suitable habitat in the wider landscape.
- 5.4.88 An ecological survey has not been carried out for hedgehogs, however there are indications that a good population is present across the Phase 1a site and the wider site. Incidental records of hedgehog have been noted during the bat and breeding bird surveys and residents who attended community consultation events have observed hedgehogs across the site.
- 5.4.89 European hedgehog is now considered to be ‘Vulnerable’ to extinction and is included on the Red List for British mammals due to national declines in populations. The hedgehog has its own Action Plan in the RCT Action for Nature<sup>35</sup>. Hedgehogs which may use the habitats in the Phase 1a site are therefore considered to be of **District** nature conservation importance and taken forward for assessment.

#### *Invertebrates*

- 5.4.90 The data search recorded a total of 65 invertebrate species; a full list is provided in Appendix 4. Targeted searches were carried out for the species identified in this search, three species from this list were recorded from the Phase 1a site.
- 5.4.91 A total of 126 species were recorded from the Phase 1a site during the two surveys in 2025. Four notable species were recorded with their current conservation status identified in Table 15 Notable Species below. A full annotated species list can be found in the Invertebrate Survey Report (Entomologica Ltd, 2025) provided in Appendix 11.

Table 15: Notable Invertebrate Species		
Scientific name	Vernacular name	Conservation status
<i>Bembecia ichneumoniformis</i>	Six-belted clearwing	Nationally Scarce (Nb)
<i>Coenonympha pamphilus</i>	Small heath	S.7 Priority Species; Vulnerable
<i>Erynnis tages</i>	Dingy skipper	S.7 Priority Species

<sup>35</sup> [HOME | RCT Action 4 Nature](#)

<i>Lasiommata megera</i>	Wall brown	S.7 Priority Species; Endangered
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#### *Notable Invertebrate Species Profiles*

- **Dingy skipper (*Erynnis tages*)** is listed as a S.7 priority species under the Environment (Wales) Act 2016, reflecting ongoing conservation concern and the significant declines the species has undergone. The dingy skipper is particularly associated with early successional conditions and requires flower rich and structurally varied grasslands, with a mosaic of short turf, bare ground, taller vegetation and nectar-rich foraging habitat which are all currently present at the site. Larvae feed predominantly on common bird's-foot trefoil (*Lotus corniculatus*) which is abundant at this location. The habitat features supporting this species require maintenance through rotational cutting and scrub control to prevent succession.
- **Small heath (*Coenonympha pamphilus*)** is listed as a S.7 priority species under the Environment (Wales) Act 2016 and assessed as Vulnerable on the 2022 Great Britain Red List, due to significant declines in both distribution and abundance. Effective conservation of *C. pamphilus* requires the maintenance of open, structurally diverse grasslands with short, sparse vegetation and bare-ground patches that support thermoregulation, basking, and egg-laying. The species is found in a wide range of habitats including brownfield, where fine-leaved grasses dominate. Taller vegetation should be limited, as the species is highly sensitive to changes in sward structure and is particularly vulnerable to scrub encroachment. Habitat conditions for this species are best maintained through light grazing or rotational cutting, with occasional scrub removal to prevent succession and preserve early successional structure.
- **Wall brown (*Lasiommata megera*)** is listed as a S.7 priority species under the Environment (Wales) Act 2016, reflecting its recognised conservation importance in Wales. It is also assessed as Endangered on the 2022 Great Britain Red List, following substantial long-term declines in both distribution and abundance. Notably, the record at Penrhys is of interest as *L. megera* has undergone significant inland declines and is now largely restricted to coastal areas in many regions. Effective conservation of this species requires the maintenance of grass-rich habitats with broken turf, stony ground, or other suitable open patches that provide warm, sunlit basking areas. A variety of grasses are used for larval feeding, and a diverse assemblage of flowering plants is important as nectar sources throughout its flight period. Habitat

management should focus on maintaining early-successional conditions through grazing or rotational cutting, alongside targeted scrub control to preserve the open, sunlit structure required by this species.

- **Six-belted clearwing (*Bembecia ichneumoniformis*)** is a nationally scarce species in Britain, locally distributed in southern and central England, with scattered populations in south Wales. It is closely associated with dry, calcareous grasslands where the larval foodplants common bird's-foot-trefoil and kidney vetch (*Anthyllis vulneraria*) are well established. The presence of open, flower-rich swards and lightly disturbed ground is essential for maintaining suitable breeding conditions. Habitat management should aim to preserve structurally diverse, sunny grasslands through low-intensity, periodic cutting while preventing scrub encroachment.

5.4.92 Species data collected during the assessment were analysed using the Pantheon software, a tool developed by Natural England and the UK Centre for Ecology & Hydrology (UKCEH) to support invertebrate conservation in England.

5.4.93 The Pantheon analysis highlights the importance of open habitats at the site, with 96 species specifically associated with this biotope. These are further subdivided into tall sward and scrub (78 species, including the S.7 priority species dingy skipper) and short sward and bare ground (18 species, including the Vulnerable small heath *Coenonympha pamphilus* and Endangered wall brown).

5.4.94 The ISIS Specific Assemblage Types (SATs) analysis provides a measure of assemblage quality based on the number of specialist species present. As the survey methodology is considered semi-ISIS compliant, this analysis is interpreted with a medium level of confidence. Although the “open habitats” biotope is assessed as “unfavourable” in the analysis, this result may be influenced by location bias and may not accurately reflect the site's local ecological value.

5.4.95 An analysis of ecological (feeding) guilds shows that 41 species are nectar associated, representing 32% of the total recorded, emphasising the significance of the flower-rich habitats at the site.

5.4.96 In addition to the four species mentioned above with conservation status, a further three species have an outdated legacy status listed through Pantheon analysis. These are: Tephritidae, Diptera *Campiglossa malaris*; Halictidae, Hymenoptera (*Lasioglossum malachurum*); and Miridae, Hemiptera (*Lygus pratensis*). All three were formerly rare southern species that have undergone recent range expansions.

- 5.4.97 The focus regarding invertebrate interest at the Phase 1a site is the structurally diverse herbaceous grassland, with a limited but ecologically valuable presence of bramble and other mixed species scrub. This habitat is located throughout the western and northern sections of the parcel. The eastern side of this parcel consists largely of urban dwellings and amenity grassland providing little invertebrate interest.
- 5.4.98 The grassland sward includes a moderate density of flowering plants such as clovers (*Trifolium spp.*), common bird's-foot-trefoil, and vetches (*Vicia spp.*), species known to attract and sustain a wide range of invertebrates. This floral composition is strongly reflected in the survey findings, with 32% of recorded species being nectar feeding. Scattered bramble scrub helps provide microclimatic variation without shading out the herb layer, enhancing habitat heterogeneity, offering both shelter and basking areas for thermophilic species and contributing to the site's suitability for a wide range of ecological niches.
- 5.4.99 Bare ground habitat, formed primarily through informal recreational activity, and brownfield substrates from former development introduce additional early-successional features and contribute to the thermal heterogeneity across the site. The mix of brownfield substrates, short sward, exposed soil, and flowering herbs creates a highly functional invertebrate resource.
- 5.4.100 The presence of four species with formal conservation status, including one IUCN classified Endangered and one Vulnerable species, highlights the site's invertebrate interest. Notably, the occurrence of *Lasiommata megera* at this inland location is significant, given the species' ongoing retreat from inland areas in favour of coastal localities.
- 5.4.101 In conclusion, the Phase 1a site provides invertebrate interest due to its structural complexity, floral richness, and early successional features.
- 5.4.102 The invertebrate assemblage on site is of at least **District** nature conservation value and will be taken forward into assessment.

#### **CHEGD Fungi**

- 5.4.103 A total of 72 CHEDG species (C:H:E:G:D= 25:6:11:13:7 = 72) were detected across the seven samples, with 24-36 species of CHEGD fungi present in each quadrat.
- 5.4.104 No globally vulnerable species by IUCN were present within samples taken from Quadrat 1 located within the Phase 1a application boundary but the soil resource

did record up to 16 species of fairy clubs within this quadrat. The CHEDG fungi spores of greatest conservation concern were located within Quadrats 6 and 7 to the east of Heol Pendyrus which are the two quadrats located closest to Penrhys cemetery, a site known for its exceptionally diverse population of CHEGD fungi.

5.4.105 The results indicate that it is likely that the CHEGD species detected in the current survey represents the recolonisation of the soil by the CHEGD fungi during the 20 years since the houses were demolished.

5.4.106 The CHEDG species in the Phase 1a site is considered at least **District** nature conservation value and will be taken forward for assessment.

#### **Protected/Notable Plant Species**

5.4.107 Incidental sitings of Orchidaceae species including southern marsh orchid, common-spotted orchid and heath spotted orchid were recorded within the neutral grassland habitat during other species surveys within the Phase 1a site.

5.4.108 There are at least eleven species of orchid in RCT. Some are common and widespread whilst others are rare and endangered.

5.4.109 The heath spotted-orchid is a species of acid soils and so can be found in heaths, moors and coal spoil habitats. Common spotted orchids can be found in wildflower grass verges and southern marsh orchids in areas with damp ground conditions. Recently bee orchids have become much more common in RCT. Pyramidal orchids are also increasingly recorded on grass verges in RCT.

5.4.110 None of the orchid species recorded on site are S.7 species but orchids are a LBAP species and therefore the populations present at the Phase 1a site are considered to be of **at least Local** value and are taken forward for assessment.

#### **5.4.111 INNS**

5.4.1 Numerous invasive non-native plant species, including Japanese knotweed, have been recorded within 2km of the Phase 1a application boundary.

5.4.2 Himalayan cotoneaster, identified in the Phase 1a site, is listed on Schedule 9 of the WCA 1981 (as amended) which makes it an offence to cause its spread in the wild. This species is of **no value** for nature conservation.

#### **5.5 Summary**

5.5.1 Table 16 below summarises the Nature Conservation Importance for each ecological feature, identifies the sensitive receptors (important ecological features) and the reasons for including / excluding this feature from further assessment.

Table 16: Summary of Evaluation of Significance & Sensitive Receptors				
Category	Feature	Nature Conservation Value	Sensitive Receptor (Important ecological feature to be considered further)	Reason for excluding / including within further assessment <sup>36</sup>
Statutory and Non-Statutory Designated Sites	Craig Pont Rhondda SSSI	National	Yes	Included – Application site is disconnected from the designation by built-up areas, roads. Not hydrologically connected but potential effects from recreational activities.
	Glyncornel LNR	National	Yes	Included – Application site is disconnected from the designation by built-up areas, roads. Not hydrologically connected but potential effects from recreational activities.
	Mynydd Ty'n-tyle Slopes (64)	County	Yes	Included – Application site within close proximity to potentially be impacted upon by indirect effects.
	Ystrad Slopes (123)	County	Yes	Included – Application site within close proximity to potentially be impacted upon by indirect effects.
	Mynydd Brith-weunydd / Llwynypia hillside (40)	County	Yes	Included – Site within close proximity to potentially be impacted upon by indirect effects.
	Taff and Rhondda Rivers SINC (no number)	County	Yes	Included – Site is hydrologically connected to potentially be impacted upon by indirect effects.
	Pont-y-gwaith Hillside (42)	County	No	Excluded – Disconnected from the designation by built-up areas and roads access with access managed via public footpath.
	Blaenllechau Woodland (61)	County	No	Excluded – Disconnected from the designation by built-up areas and roads with access managed via public footpath.

<sup>36</sup> **WCA** – Wildlife and Countryside Act 1981 (as amended); **BA** – Badger Act 1992; **CHSR** - The Conservation of Habitats and Species Regulations 2017 (as amended), **S.7** – species listed under section 7 of the Environment (Wales) Act 2016 as species of principal importance

<b>Table 16: Summary of Evaluation of Significance &amp; Sensitive Receptors</b>				
<b>Category</b>	<b>Feature</b>	<b>Nature Conservation Value</b>	<b>Sensitive Receptor (Important ecological feature to be considered further)</b>	<b>Reason for excluding / including within further assessment<sup>36</sup></b>
	Old Smokey Slopes (65)	County	No	Excluded – Disconnected from the designation by built-up areas and roads with access managed via public footpaths.
	Gelli Slopes (35)	County	No	Excluded – Disconnected from the designation by built-up areas and roads with access managed via public footpaths.
	Glyncornel (14)	County	No	Excluded – Disconnected from the designation by built-up areas and roads with access managed via public footpaths.
	Mynydd Troed-y-rhiw Slopes (43)	County	No	Excluded – Disconnected from the designation by built-up areas and roads with access managed via public footpaths.
	Darran Park (116)	County	No	Excluded – Application site is disconnected from the designation by built-up areas, roads and has no public footpath access through woodland but the habitats are surround Darren Park a managed play park. The site is downriver from the designation.
	Mynydd Troed-y-rhiw Slopes (43)	County	No	Excluded – Disconnected from the designation by built-up areas and roads with limited public access.
Habitats within and/or adjacent to the application site	Other neutral grassland	Local	Yes	Included – Habitat may be lost/damaged by the proposed development. Habitat supports LBAP orchid species.
	Modified grassland	Local	No	Excluded - Common and widespread habitat but any effects on fauna as a result of the loss of this habitat will be considered as necessary.
	Broad-leaved scattered trees and scrub	Local	No	Excluded - Common and widespread habitat but any effects on fauna as a result of the loss of this habitat will be considered as necessary.

Table 16: Summary of Evaluation of Significance & Sensitive Receptors				
Category	Feature	Nature Conservation Value	Sensitive Receptor (Important ecological feature to be considered further)	Reason for excluding / including within further assessment <sup>36</sup>
	Broad-leaved scattered trees (located within modified grassland habitat)	Local	No	Excluded - Common and widespread habitat but any effects on fauna as a result of the loss of this habitat will be considered as necessary.
Fauna and Flora	Badger	Local	No	Included – Due to potential harm/disturbance to individuals. <b>BA.</b>
	Bats	Site value	Yes	Included – Due to direct and indirect effects on individual bats, roosts and foraging/commuting habitats. <b>CHSR, WCA, S.7</b>
	European hedgehog	District	Yes	Included – Due to potential harm to individuals. <b>S.7.</b>
	Common Reptiles	District	Yes	Included – Due to harm/disturbance of individuals and habitat loss. <b>WCA, S.7.</b>
	Breeding Birds	District	Yes	Included – Due to direct/indirect disturbance effects and loss of habitat. <b>WCA, S.7.</b>
	Invertebrates	District	Yes	Included – Due to loss of habitat <b>S.7.</b>
	Orchidaceae species including southern marsh orchid ( <i>Dactylorhiza praetermissa</i> )	Local	Yes	Included – LBAP Due to harm/disturbance of individuals and habitat loss.
	Grassland CHEGD Fungi	District	Yes	Included – to consider impacts of the development of the potential grassland fungi resource

Table 16: Summary of Evaluation of Significance & Sensitive Receptors				
Category	Feature	Nature Conservation Value	Sensitive Receptor (Important ecological feature to be considered further)	Reason for excluding / including within further assessment <sup>36</sup>
	Invasive Non-Native Species – Himalayan cotoneaster	No value	Yes	Included – Due to the potential spread of this invasive non-native species during the works. <b>WCA9.</b>

## 5.6 **Baseline Conditions without Development (the ‘Do Nothing’ scenario)**

- 5.6.1 If the Proposed Development does not go ahead, it is considered that the habitats would remain unchanged due to the ongoing maintenance regime in place. The application site would continue to provide opportunities for roosting and foraging/commuting bats, breeding/foraging hedgehogs, reptiles, birds, invertebrates and notable plant species (Orchidaceae).

## 6 ASSESSMENT OF EFFECTS, MITIGATION, ENHANCEMENTS AND RESIDUAL EFFECTS

### 6.1 Process of Identifying Important Ecological Features for Assessment

#### 6.1.1 The CIEEM guidelines state:

*“The assessment should include potential impacts on each ecological feature determined as ‘important’ from all phases of the project (e.g. construction, operation and decommissioning)”*

and

*“One of the key challenges of Ecological Impact Assessment is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment....it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable”.*

6.1.2 The rationale used to select or deselect species, habitats and sites from detailed impact assessment needs to be clearly explained in relation to its value and whether or not there is potential for legislation to be contravened. In the case of this EcIA, all ecological features that are assessed as being of **District** to **International** value are considered to be ‘important’ and therefore require further assessment. In addition, where protected species are present and their population/assemblage has been assessed as being of **Local** value and the project has the potential to contravene legislation, these are also considered to be important ecological features and will be assessed further.

6.1.3 In accordance with CIEEM guidelines, significant adverse effects are assessed for each stage of the proposed development, mitigation measures proposed, and the significance of residual effects identified for each ecological receptor in turn. Where significant adverse effects are identified, the objective of the assessment is to recommend changes to the project to avoid such effects and, where significant effects on site integrity cannot be avoided, to propose compensatory measures to off-set those effects.

### 6.2 Description of the Phase 1a Proposed Development

6.2.1 The Proposed Site Plan are provided in Appendix 2.

6.2.2 A landscape scheme has been prepared as shown on drawing 2384-URB-XX-XX-SK-L-0006 Rev A provided within Appendix 15, the Soft Works and Planting Plan.

6.2.3 The Phase 1a development has been designed in accordance with Sustainable Drainage best practice, shown in drawing 2384-URB-XX-XX-SK-L-0003-Phase 1A Illustrative Sketch Layout in Appendix 16.

6.2.4 Access to the Phase 1a development parcel is shown on the Proposed Site Plan provided within Appendix 2.

#### 6.2.5 **Construction Details**

6.2.6 At this stage it is not known where a Temporary Contractor's Site Compound (TCSC) will be located. However, the demolition arisings are to be stored onsite on hardstanding within the indicative locations shown on drawing 30603-HYD-XX-XX-DR-GE-1019, in Appendix 17.

6.2.7 Measures specified in the following sections to protect wildlife and habitats (to be retained) during the construction will be detailed within a Construction and Environmental Management Plan (CEMP) to be secured by a planning condition.

6.2.8 Working hours are expected to be restricted so that no night-time working occurs with this specified within the CEMP.

#### 6.2.9 **Project Programme**

6.2.10 Subject to planning approval, demolition of the existing buildings within Phase 1a is planned for 2026 with construction anticipated to commence thereafter in 2026/2027.

### 6.3 **Mitigation**

6.3.1 Impacts in the first instance should be avoided in line with the 'mitigation hierarchy'.

6.3.2 The hierarchy is a 4-step approach as outlined below:

- Avoidance – Seek design options that avoid harm to ecological features.
- Mitigation – Adverse effects should be avoided or minimised through the implementation of mitigation measures.
- Compensation – Where there are significant residual adverse effects, despite the mitigation measures proposed, these should be offset by appropriate compensatory measures.

- Enhancement – Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

6.3.3 The CIEEM guidelines refers to avoiding and/or minimising impacts by incorporating measures into the scheme design at the earliest stages.

#### 6.4 Design Solutions and Assumptions

6.4.1 The final design of the Proposed Development has been informed by:

- Preliminary Ecological Appraisal and subsequent species surveys undertaken in 2024/2025 as outlined in this EclA;
- Soft Works and Planting Plan, The Urbanists, 2025, shown in Appendix 15;
- Sustainable Drainage Scheme (SUDs) on the Phase 1a Illustrative Sketch Layout, provided in Appendix 16, and
- Planting Schedule, The Urbanists, 2025, shown in Appendix 18.

6.4.2 A landscape scheme within Appendix 15 has been carefully designed to provide suitable and cohesive ways of living through attractive communal spaces providing opportunities for walking. Up to 15-20% of the Phase 1a application site will remain open greenspace.

6.4.3 The landscape scheme has also been developed to deliver net benefits for biodiversity and ecosystem resilience based on the five attributes; Diversity, Extent, Condition, Connectivity and Aspects, referred to as the DECCA Framework<sup>37</sup>.

6.4.4 The development has been designed to avoid the loss of existing individual trees as much as possible. The landscape scheme replaces 24 trees and two small areas of scrub which are to be lost as part of the development and shows x15 scattered trees, x15 street trees, and areas of mixed scrub.

6.4.5 The SUDs proposals are shown on Drawing Number 2384-URB-XX-XX-SK-L-0003-Phase 1A Illustrative Sketch Layout in Appendix 16.

6.4.6 To ensure the delivery of biodiversity enhancements, it is anticipated that these matters will be contained in a Landscape and Ecological Management Plan (LEMP) covering the first 20 years and secured by a planning condition.

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<sup>37</sup> The DECCA Framework was developed by NRA for evaluating ecosystem resilience based on five attributes and properties in the Environment (Wales) Act 2016.

## 6.5 Assessment of Effects

### ***Statutory Designations***

#### 6.5.1 *Craig Pont Rhondda SSSI and Glyncornel LNR*

##### *Construction Phase Effects*

- 6.5.2 No construction phase effects are anticipated due to the distance of the designation from the Phase 1a site.

##### *Mitigation*

- 6.5.3 No specific mitigation is required.

##### *Operational Phase Effects – Increased Disturbance*

- 6.5.4 Following development, the increased number of residents could lead to an increase in disturbance and recreational impacts on the SSSI and LNR. Both the SSSI and LNR are accessible to the public and consist of green space and access is controlled via pathways, but due to the distance of the designations and topography to reach the designation on foot, 0.8 and 1.2 km respectfully, it is unlikely that there would be a significant change in visitor numbers comprising residents from the Phase 1a site on a regular basis.

##### *Mitigation*

- 6.5.5 No specific mitigation required.

##### *Residual Effects*

- 6.5.6 Residual adverse effects on the SSSI and LNR are not anticipated at a local level or above.

### ***Non-Statutory Designations***

*SINC's - Mynydd Ty'n-tyle Slopes, Ystrad Slopes, Mynydd Brith-weunydd / Llwynypia Hillside, Taff and Rhondda Rivers*

##### *Construction Phase Effects*

##### *Dust*

- 6.5.7 There is potential that construction activities, such as the breakup and removal of hard ground, could generate elevated levels of dust beyond the application site boundary and directly affect flora and affect habitats within the adjacent SINC designations by

covering vegetation and reducing the plants' ability to photosynthesise and other biological functions.

- 6.5.8 The risk of effects of dust emissions on ecological receptors has been assessed following guidance in the Institute of Air Quality Management's (IAQM) Guidance on *"The Assessment of Dust from Demolition and Construction"*.<sup>38</sup>
- 6.5.9 With regards to ecological receptors, the IAQM guidance states that an assessment will normally be required where there are existing ecological receptors within 50m of a site boundary and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 500m from a site entrance(s).
- 6.5.10 Therefore, in the absence of site-specific mitigation measures to control dust emissions, there is likely to be an adverse effect on the SINC's significant at up to a **County** scale for the duration of the construction works.

#### Water quality impacts

- 6.5.11 Possible adverse effects on water quality in the River Rhondda and Taff SINC could arise from construction activities including demolition of buildings, upgrading culverts and drainage infrastructure, soil stripping, use of machinery on site, earthworks, construction of impermeable surfaces and construction of in-channel structures which may generate pollutants that would enter the local hydrological environment.
- 6.5.12 Some Himalayan cotoneaster was recorded in the Phase 1a site, construction activities including vegetation clearance and ground disturbance could cause the spread of this species into the adjacent SINC's.
- 6.5.13 In the absence of mitigation, adverse effects on the SINC significant at up to County level could therefore potentially occur from the construction phase of the development.

#### *Mitigation*

#### Dust

- 6.5.14 A best practice dust mitigation plan will be written and implemented for the proposed development site via a CEMP. This will set out the practical measures that will be incorporated as part of a best working practice scheme. This will take into account the

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<sup>38</sup> The Institute of Air Quality Management's Guidance on *"The Assessment of Dust from Demolition and Construction"* January 2024, Version 2.2.

recommendations included within the IAQM guidance, which will include (but are not limited to):

- Plan site layout, locating dust generating activities away from receptors where possible or use of solid barriers;
- Use enclosed conveyors, chutes and covered skips;
- Avoid dry sweeping of large areas;
- Implement a dust suppression system;
- Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport.

#### Water Quality

6.5.15 The CEMP will include method statements and risk assessments of construction activities which will follow the latest construction industry best practice guidance: Guidance for Pollution Prevention (GPPs)<sup>39</sup>.

6.5.16 Mitigation for preventing the spread of cotoneaster species is provided in Section 6.5.137.

#### Operational Phase Effects

##### Water quality impacts

6.5.17 Surface water drainage will be designed into the proposals to ensure surface water run-off is collected via SUDs in accordance with SUDS Approving Body (SAB) requirements for new developments. No significant adverse effects from water pollution during the operational phase to the River Rhondda and Taff SINC are therefore predicted.

##### Increased disturbance

6.5.18 As the proposed development is to provide replacement and additional housing, it is considered that a significant proportion of the residents may access the adjacent SINC. The adjacent SINC is served by existing public footpaths which may control visitor movement through the SINC, and the proposed development will be served

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<sup>39</sup> [Guidance for Pollution Prevention \(GPP\) documents | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland](#)

by areas of public open space both within the Phase 1a site and in areas to be developed within the wider masterplan site in future.

- 6.5.19 Despite the existing footpaths, there could still be a possibility that these adjacent SINC habitats could be affected by visitor trampling, dog fouling and littering in addition to increased disturbance to wildlife that the SINC support. This could cause adverse effects on the SINC up to County level in significance over the long term.

#### *Mitigation*

- 6.5.20 Monitoring of the adjacent SINC habitats will be included in a LEMP. If damage to SINC habitats is occurring, then remedial actions will be undertaken as will be stated in the LEMP. This will require agreement with RCT, as current landowners, and permission for this will be sought prior to the planning application being submitted.

#### *Residual Effects*

- 6.5.21 It is considered that there will be no significant residual adverse effects on the statutory or non-statutory designated sites from the construction and operational phases of the proposed development following the implementation of the above mitigation.

#### ***Habitats***

##### ***Other Neutral Grassland and CHEGD Fungi***

##### *Construction Phase Effects*

- 6.5.22 There will be a loss of other neutral grassland habitat to facilitate the Proposed Development which provide habitat and foraging resource for wildlife, habitat for orchids and potentially could develop a diverse range of CHEDG species based on eDNA data.
- 6.5.23 There will be an adverse effect from the overall loss of neutral grassland from the Phase 1a site, which is significant at a local level.

#### *Mitigation*

- 6.5.24 Topsoil will be removed during the Phase 1a construction and reused, where possible, within the proposed Phase 1a landscape scheme including areas proposed as wildlife rich amenity grass and residential gardens. This will retain potential for some CHEDG species to establish in the long term within the Phase 1a application area and also allow orchids and other species to establish from the existing seedbank.

6.5.25 The landscape strategy will provide other biodiverse habitats in terms of SUDs planting and public amenity planting to partially offset the loss of this type of habitat.

*Operational Phase Effects*

6.5.26 There is potential for the retained and created grassland habitat to be subject to adverse recreational effects such as littering, dog fouling and trampling. Inappropriate management could also lead to adverse effects on the grassland habitats. These effects would be significant at a local scale.

*Mitigation*

6.5.27 The condition of the grassland habitats within the Phase 1a site will be monitored with remedial actions taken as necessary. Appropriate management of these habitats will also be undertaken with the aim of retaining its current biodiversity value. This can be set out in a LEMP or similar which can be conditioned.

*Residual Effects*

6.5.28 There will be an overall loss of neutral grassland from the Phase 1a application boundary, but the landscape strategy provides other biodiverse habitats in terms of SUDs planting and public amenity planting to partially offset the loss of this type of habitat and with appropriate management could provide a higher quality habitat to that which is already present. No significant effects are therefore anticipated at a local level.

***Fauna***

*Badger*

*Construction Phase Effects*

6.5.29 Although not recorded in the site, other protected and notable species may be affected by the Proposed Development such as badger.

6.5.30 If an individual badger did enter the Phase 1a site during construction works, they could potentially be harmed or disturbed. This could give rise to an adverse temporary effect of local significance on the local badger population.

*Mitigation*

6.5.31 The risk of harming and disturbing badgers and other species can be reduced through the implementation of Reasonable Avoidance Measures under a PWMS.

6.5.32 Measures for badger will include the following:

- A pre-construction check for any badger setts within the Phase 1a site and within a 30m radius site boundary;
- To safeguard badgers during construction, wooden planks will be placed in all excavations which are to remain open overnight. This will provide a means of escape for any badger or other mammal which may enter the excavation. Any temporarily exposed open pipe system will be capped in such a way as to prevent badgers from gaining access;
- Clear instructions (via toolbox talks) will be given to the workforce where care needs to be taken not to cause unlicensed disturbance to badgers;
- Limiting night-time working; and
- Lighting during construction to be directed at the works area only. No light spill should occur onto the adjacent habitats.

#### Operational Phase Effects

- 6.5.33 Badger and other species may be disturbed through a permanent increase in lighting in the area which may affect their movement close to the Phase 1a site.
- 6.5.34 There may also be adverse effects on badger as a result of increased human activity and noise at the proposed development once operational, especially if this continues into night-time hours, although this level of disturbance is not anticipated to differ significantly from the current situation on the Phase 1a site.
- 6.5.35 Long-term adverse effects on badger from an increase in lighting could be significant at a local level or above.

#### Mitigation

- 6.5.36 A sensitive lighting scheme will be developed for the Phase 1a site which will avoid light spill onto adjacent habitats.

#### Residual Effects

- 6.5.37 In summary, with the implementation of the mitigation outlined above, there will be no significant residual adverse effect on badger within the Phase 1a site.

#### Bats

#### Demolition/Construction Phase Effects- Loss of / modification to / isolation of roosts

#### Buildings

6.5.38 Bat roosts were identified in one building on site (B30) and two buildings (B33, B40) close to the Phase 1a application site boundary during the dusk bat emergence surveys. These were characterised as low conservation status, non-breeding summer day roosts for a low number of common pipistrelles. Two of these roosts in B30 will be lost due to this building being demolished. The roosts located in B40 and B33 may be indirectly affected through disturbance and lighting during construction. The loss/disturbance of these roosts considered to be of **Local** importance could give rise to adverse effects on the local roosting population of common pipistrelle bat population at a Site level only.

6.5.39 Although no bat roosts were discovered in the remaining buildings, PRFs still exist and could potentially be used by individual common pipistrelles or other crevice dwelling bats in future.

#### Trees

6.5.40 There are no trees with PRF-M or PRF-I in the Phase 1a site. There will be loss of roosting opportunities for crevice dwelling bat species due to tree removal but new planting within the Phase 1a application boundary and across the future wider master plan area will create opportunities in the long term. Lighting on trees assessed as having suitability to support roosting bats could cause the roost to become unsuitable which could cause an adverse effect on bats at a local site level.

#### *Mitigation*

#### Buildings with Confirmed Roosts

6.5.41 A derogation licence from NRW will be required prior to any disturbance to or the destruction of the roosts at Building B30. The licence conditions would ensure impacts on bats are minimised and the Favourable Conservation Status (FCS) of common pipistrelle bats is maintained. All works impacting the buildings containing roosts will be avoided until a licence is in place.

6.5.42 As the licence application will need to be supported by up to date bat surveys, bat surveys should be updated between May and August 2027 if works have not commenced by then.

6.5.43 As the development works will be licenced, works that may disturb, or destroy bat roosts, the erection of bat boxes and removal of PRFs, would be supervised by the Named Ecologist or Accredited Agents. The licence will also caveat that work will stop

and NRW will be consulted if evidence of a different bat species is discovered during the works or different to the roost types stated. The timing of the work is not critical for the two common pipistrelle roosts.

- 6.5.44 The loss of the two low status, non-breeding summer day common pipistrelle roosts will be compensated through the provision of six bat boxes installed on existing trees within the woodland located off-site to the west of the application site.
- 6.5.45 No construction lighting will be directed towards the existing bat roosts or new bat roosting features. Light spill will be avoided in these areas. This requirement can be set out in a CEMP which can be conditioned.
- 6.5.46 Works on the buildings will proceed under a Precautionary Working Method Statement (PWMS) for bats which will be covered in the Method Statement of the derogation licence.
- 6.5.47 This will include a check of cracks and crevices and other suitable features for bats by the Named Ecologist or Accredited Agents on the licence. If a bat is discovered, then works will stop immediately, NRW consulted and advice from the Named Ecologist will be followed.

#### Buildings – Retained Bat Roost Suitability

- 6.5.1 Even though surveys have not identified evidence of roosting bats it is recommended that demolition be carried out in an appropriate and sensitive manner, as bats are able to conceal themselves in the smallest of cracks and crevices thus avoiding detection during surveys. Therefore, it is recommended that demolition should proceed following a Bat Method Statement which outlines a 'Sensitive Demolition Protocol' which will be provided as part of the planning submission.

#### Trees

- 6.5.2 The results of the GLTA would be valid for a period of 12 months from the date of the survey, after which the GLTA should be updated.
- 6.5.3 There are no PRF-M or PRF-I trees within Phase 1a.
- 6.5.4 The trees classified as PRF-M and PRF-I's retained outside the application boundary should be protected from lighting impacts during construction and tree root protection measures put in place in accordance with Tree Protection Plans approved by the Local Authority.

#### Construction Phase Effects - Loss of habitat / fragmentation

6.5.5 There will be a loss of approximately 24,762m<sup>2</sup> of grassland, 24 trees and two small patches of scrub within the Phase 1a site. Given the context of the site with the bat assemblage being of less than county importance and the large availability of foraging habitat in the immediate vicinity, long-term adverse effects on foraging and commuting bats are considered to not be significant at greater than a local level from the Phase 1a development alone.

6.5.6 The introduction of lighting adjacent to the bat foraging and commuting habitats located adjacent to the Phase 1a site may deter bats and disrupt flight-lines (this potential impact is covered in the next section).

*Mitigation*

6.5.7 Several tree will be retained as part of the development and new landscape planting including native planting will be provided to retain foraging opportunities but habitats off site will likely provide sufficient resource for those bats displaced by the Proposed Development.

*Construction Phase Effects - Disturbance due to increased lighting and activity during construction*

6.5.72 Foraging and commuting bats in close proximity to the Phase 1a site could be affected by an increase in lighting during construction. However, it is anticipated that night-time working will mainly be avoided under general construction time restrictions. Adverse effects could be significant at a Site level if lighting disrupts bat movements during construction.

*Mitigation*

6.5.73 No construction lighting will be directed towards the existing roost access points off-site or the adjacent habitats used by foraging/commuting bats. Light spill will be avoided in these areas. This can be set out in a CEMP which should be conditioned. No lighting of roost access points created in new buildings is also likely to be a condition of the bat derogation licence.

*Operational Phase Effects – Increased Disturbance*

6.5.74 The Proposed Development has the potential to cause disturbance to bats in the form of post-development interference from increased lighting. This permanent increase in light levels at the application site has the potential to disrupt foraging and commuting bats in adjacent habitats.

6.5.75 The area is already subject to street lighting, and the higher proportion of recordings were from bat species recorded using the Phase 1a site are not particularly sensitive to lighting including pipistrelle species of which common pipistrelle was found roosting in a building on site. The light adverse species were recorded off-site to the northeast on the edge of the Phase 1a site. Brown long eared and Myotis sp. bats are particularly light sensitive.

6.5.76 It is anticipated that the above adverse effect could be significant on local bat populations, at least at a local level in the absence of mitigation, and particularly for bats which are averse to light and foraging and commuting around the periphery of the Phase 1a site to the west, northwest and north.

*Mitigation*

6.5.77 A sensitive lighting scheme will be developed for the Phase 1a site. Light features which can be used to reduce light spill are set out in the Bat Conservation Trust (BCT)/Institute of Lighting Professionals (ILP) lighting guidelines<sup>40</sup>. The Lighting strategy will adopt the following principles.

- Installation of additional lighting kept to bare minimum around the edge of the site to minimising the light spill within the adjacent SINC to 1 lux or

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<sup>40</sup> Bat Conservation Trust and Institute of Lighting Professionals: Guidance Note GN08/23- Bats and Artificial Lighting at Night.

below also on created habitats that can be utilised by bats post-construction as much as possible.

- All luminaires will lack UV elements when manufactured. Metal halide, fluorescent sources will not be used;
- LED luminaires will be used due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- A warm white spectrum (ideally <3000K) will be adopted to reduce blue light component;
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- Any wall downlight, bollards and below handrail strip luminaires and fitting will all be specified as zero upward light and have sharp light cutoff lines.

6.5.78 The above points can be incorporated into a sensitive lighting scheme for the Phase 1a site and can be conditioned to avoid lighting effects on retained trees with roosting potential and to prevent light spill off-site to adjacent SINC habitats being used by bat species averse to light.

#### *Residual Effects*

6.5.79 In summary, with the implementation of the mitigation measures outlined above, there will be no residual significant adverse effect on the Favourable Conservation Status of bat species using the habitats within the Phase 1a site and adjacent habitats.

#### *European hedgehog*

##### Construction Phase Effects

6.5.80 There is a risk that individual hedgehogs could be harmed/disturbed during construction works, if present at the time of the works. This could lead to adverse effects on the local hedgehog population significant at a local level.

#### *Mitigation*

6.5.81 The risk of harming hedgehogs can be reduced through the implementation of Reasonable Avoidance Measures under a PWMS. This can be included in a CEMP which can be conditioned.

6.5.82 In order to avoid works adversely affecting the local conservation status of hedgehogs, works which may disturb potential hedgehog hibernacula should avoid the hibernation period (November – March).

- 6.5.83 Measures to prevent harm and disturbance to hedgehogs during site clearance and construction works will be undertaken. This will include limiting night-time working, providing means of escape from excavations left open overnight and adhering to good construction practices.
- 6.5.84 To safeguard hedgehogs during construction, wooden planks will be placed in all excavations which are to remain open overnight (including trenches, pits, ditches, ponds and/or drains) or these excavations will be covered at night. The planks will provide a means of escape for any hedgehog or other mammal which may enter the excavation. Any temporarily exposed open pipe system will be capped in such a way as to prevent hedgehogs from gaining access.
- 6.5.85 Destructive searching of potential hibernacula and refuges such as log and debris piles by an ecologist will be undertaken. Materials and debris, which could be used by hedgehog, will not be stored in close proximity to retained suitable hedgehog habitats.
- 6.5.86 Any slack netting will be tied up to avoid entanglement. Rubbish must be kept contained in a designated area to avoid animals becoming trapped in litter.

#### Operational Phase Effects

- 6.5.87 There is potential for hedgehog to be affected by a possible increase in the residents at the site, although this species is already used to living in the existing residential area. Therefore, disturbance effects on hedgehog are considered limited and would be unlikely to be greater than local significance.
- 6.5.88 Hedgehog movement may be affected, although there will be significant suitable habitats in the wider area off site, the Proposed Development will retain opportunities for hedgehogs to forage and they will be able to move through the areas of green infrastructure. No significant effect on hedgehogs in the long term is anticipated as a result of the Proposed Development.
- 6.5.89 Hedgehogs could also be affected by an increase in lighting across the application site following construction.

#### Mitigation

- 6.5.90 A sensitive lighting scheme will be developed for the Phase 1a and should be conditioned.

#### Residual Effects

6.5.91 No significant residual adverse effects are anticipated at any scale on this species should the above mitigation be implemented. Beneficial effects on hedgehog significant at a local level may occur as a result of the habitat creation and enhancement measures proposed for the application site (see Section 7).

#### *Breeding Birds*

##### Construction Phase Effects

6.5.92 There is potential to disturb breeding birds and to affect their populations through permanent loss of nesting habitat during the vegetation clearance. Nesting habitat such as buildings, trees and scrub will be lost during clearance works.

6.5.93 There is also potential to disturb breeding birds which may be nesting within the suitable retained habitats located within and adjacent to the Phase 1a site. Sudden high levels of human disturbance and noise may cause birds to abandon nests which could result in adverse effects on individual birds. This impact would be temporary and birds using nearby habitats are likely to already be habituated to the noise and human activity in the existing residential area. Therefore, these effects are not likely to be significant at greater than at a local level on breeding birds.

#### *Mitigation*

##### Loss of habitat

6.5.94 To avoid works affecting breeding birds it is recommended that any building works and vegetation clearance should be undertaken outside of the main breeding bird season (March to August inclusive). However, if it is necessary for works to be carried out during this time, a qualified ecologist or ornithologist should be present to carry out a nesting bird check within 48 hours of the works commencing. If nesting birds are recorded, a suitable buffer will need to be put in place and works in the vicinity avoided until the young have fledged.

6.5.95 To mitigate for loss of nesting habitat, a range of bird boxes will be installed as integrated boxes in the new buildings to support species such as swifts and house sparrows.

6.5.96 The type of bird nesting feature to be provided in the building will be a type of swift brick (e.g. 16S Schwegler or similar<sup>41</sup>) that can be inserted into walls up to 16cm deep

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<sup>41</sup> [https://www.schwegler-natur.de/portfolio\\_1408366639/mauersegler-einbaukasten-nr-16s/?lang=en](https://www.schwegler-natur.de/portfolio_1408366639/mauersegler-einbaukasten-nr-16s/?lang=en)

or can sit flush with the external wall surface, and these can also be used by house sparrows and blue tits. The swift bricks will be sited high, above 3m with clear access, and on northern façade of buildings and, in a group (as they are communal breeders). A minimum of 15 (5 groups of 3) will be provided.

6.5.97 In addition, the following bird boxes will be provided on retained trees within the Phase 1a site:

- 1 x 25mm for blue/coal tits;
- 1 x 28mm for tree sparrows (UK Priority Species) and great tits;
- 1 x Open fronted boxes for song thrush (UK Priority Species), dunnock and blackbird.

6.5.98 The entrance holes will be at least 125mm from the floor of the nest box. The boxes will be fixed 2-3m high on landscaping tree trunks on the northern/eastern aspects, using aluminium or nylon nails or with wire around the trunk. The boxes will be fixed so that they are tilting forward slightly.

6.5.99 There is also the opportunity to provide a range of additional nest boxes as an enhancement measure which can deliver a net benefit for breeding birds. These are described in Section 7.

#### Disturbance effects - noise and lighting

6.5.100 Measures to avoid disturbance to breeding birds off-site, including nightjars located to the north of the Penrhys estate are listed below and can be specified within a CEMP which can be secured via a planning condition:

- Timing demolition/construction works in the vicinity of the woodland edge to avoid the breeding season (April – August inclusive).
- Sensitive lighting design to ensure no lighting of semi-natural habitats including grasslands, woodlands, and heathland.
- Screening of the area north of the ring-road temporary hoarding to avoid visual disturbance associated with the demolition / construction operation.

#### Operational Phase Effects

6.5.101 Noise generating activities from the proposed development could include additional anthropogenic noise from a possible increase in residents the site, some on a 24-hour basis. A disturbing increase in noise in the area could lead to decreases in breeding success of bird populations in the locality. However, as described under construction

effects above, birds in the locality are likely to be habituated to similar noise levels in the existing residential area. Therefore, these effects are unlikely to be significant at a local level or above.

6.5.102 Breeding birds could be affected by an increase in lighting across the site following construction leading to possible adverse effects significant at a local level.

6.5.103 There could be an adverse effect on the local bird populations from cats and dogs as part of the occupational use of the development, significant at a local level.

#### *Mitigation*

6.5.104 A sensitive lighting scheme will be developed for the Proposed Development and can be conditioned.

6.5.105 Areas could be signposted in the adjacent SINC to keep dogs on leads. No specific mitigation for cats is proposed but roosting areas and enhancing habitats offsite in the local for birds can be considered within the proposed reptile receptor site area.

#### *Residual Effects*

6.5.106 In summary, with the implementation of the measures outlined above, there could be an adverse residual adverse effect in the long term on breeding birds using the within the wider site area from residents owning pets.

#### *Common Reptiles*

##### Construction Phase Effects

6.5.107 A low population of slow worm was recorded within the Phase 1a site, but forms part of a wider 'Exceptional' slow worm population which is present within the Penrhys estate. A good population of common lizard is also present in the wider area and so could use the Phase 1a site in the future.

6.5.108 Vegetation clearance and direct habitat loss could harm/disturb individual common reptiles, if present at the time of the works, and contravene legislation pertaining to common reptiles.

6.5.109 Permanent and temporary loss of suitable habitats may also adversely affect reptiles, which could lead to adverse effects on these populations significant at a County level.

#### *Mitigation*

6.5.110 It is proposed to translocate the slow worm population from within the Phase 1a site to habitats located outside the red line to the north-east. The receptor site for Phase 1a is shown on drawing CA13129-028 (Reptile Receptor Plan- Phase 1a).

6.5.111 The receptor site will be enhanced ideally a minimum of 6 months before translocation from Phase 1a commences.

6.5.112 A Reptile Receptor Site Management Plan (RRSMP) will be developed outlining in detail the measures listed below to create and maintain the receptor site to benefit reptiles translocated from the development site in the long term. This RRSMP can be secured via a planning condition.

- A natural tall tussocky sward of grass to be established and maintained throughout the receptor site which should require minimal maintenance, with no more than an annual cut during autumn to a minimum height of 10-15cm.
- Arisings from grass cuttings can be used to establish a brash pile within the receptor areas with logs and brash from maintenance activities around the grounds added to the log piles and hibernacula as they naturally decompose.
- Bracken management will include pulling/cutting/bruising the bracken by manual or mechanical means on an annual basis, outside bird breeding season (March-August inclusive).
- Scrub to be managed and maintained between 10-20% of the receptor site, and self-seeding conifers will be cleared from the receptor site on a regular basis (every 3 years) as they can become invasive. Any suitable wood to be retained and cut up into log piles to provide more shelter and basking opportunities for reptiles.
- Two hibernacula will be provided for the purpose of hibernation (locations to be confirmed on site by the Ecological Clerk of Works (ECoW). The base of the hibernaculum will be constructed of inert hardcore, rubble and wood from native hardwood species to provide reptile refuge and hibernation opportunities. Logs of various sizes and then brash will be placed above this. Finally, the stripped soil and vegetation previously removed will be placed back on top of the hibernacula. Measurements: 3m long x 2m wide x 0.5m high.
- A scrape or depression in the ground will be created which may provide opportunities to retain water during periods of wetter conditions. This will

increase amphibian prey for water-loving species, such as grass snake. A small excavator or mini-digger will be required.

- Create 3 log piles, locations to be confirmed on site by the ECoW.
- Create a brash pile, location to be confirmed on site by the ECoW.

6.5.113 Following translocation, any further reptiles found during the works (see below) will be placed in the receptor area.

6.5.114 The process of translocating reptiles from the Phase 1a site will include:

- An initial toolbox talk by the ECoW;
- Installation of reptile exclusion fencing to prevent slow worm or common lizard entering the donor site under supervision of an ECoWs;
- Laying refugia to attract reptiles for capture and translocation;
- A capture period comprising daily visits over approximately 70 days undertaken between March to September;
- Transportation of reptiles to the receptor site;
- A destructive search of suitable habitat within the development sites under ECoW supervision following translocation;
- Monitoring and maintenance of reptile fencing following the translocation during the construction period; and
- Long-term management of the vegetation within the translocation area, including bracken removal and habitat creation.

6.5.115 Once translocation is complete, population monitoring of the receptor site will be undertaken for a period of two years. The management of habitats will continue for a minimum of 10 years post translocation and will include the topping up of hibernacula and refugia with cut vegetation. The RRSMP will include details of the monitoring requirements to check condition of habitat features created and monitoring their use by local wildlife species and their continued suitability.

6.5.116 To facilitate further translocations when further phases of the Penrhys site come forward for development, additional receptor sites may be required.

#### Operational Phase Effects

6.5.117 No operational phase effects are anticipated on reptiles. It is considered that the Phase 1a site and wider area will be able to continue to support these species post development.

### *Mitigation*

6.5.118 None required.

### *Residual Effects*

6.5.119 In summary, with the implementation of the mitigation measures outlined above, there will be no significant residual adverse effects on reptiles using the habitats within the Phase 1a site. Beneficial effects on these species significant at a local level may arise from the ecological enhancements proposed in the Phase 1a site (see Section 7).

### *Invertebrates*

#### Construction Phase Effects

6.5.120 The invertebrate assemblage would mainly be affected by the loss of areas of grassland, trees and scrub to the development which could potentially support notable/ S.7 species which have been recorded on site and within 2km of the Phase 1a site.

6.5.121 There is availability of terrestrial habitats adjacent to the Phase 1a site that the invertebrate assemblage could utilise.

6.5.122 The effects of habitat loss could be significant at up to a district level if populations of notable/S.7 species are lost from the site.

### *Mitigation*

6.5.123 No specific mitigation is proposed for invertebrates, however the protection of existing retained terrestrial habitats during construction would continue to provide habitats for invertebrates in the area. The landscape scheme also comprises a range of native planting to benefit pollinators. Topsoil within the Phase 1a site will also be reused which will retain some of the existing grassland seed resource that can establish naturally e.g. in areas proposed for verges and SUDs. Foodplants used by notable/S.7 species should therefore be able to establish in these areas so these species can continue to use the site post-development. It is anticipated that mitigation undertaken for other species is likely to also benefit invertebrates in the long term in addition to enhancements for invertebrates which are set out in Section 7.

#### Operational Phase Effects

6.5.124 Invertebrates could be affected by an increase in lighting across the site following construction.

6.5.125 Inappropriate management of the grassland and other habitats included in the landscape scheme could also lead to significant adverse effects on the invertebrate assemblage in the long-term by decreasing habitat suitability and availability of foodplants.

*Mitigation*

6.5.126 A sensitive lighting scheme will be developed for the Phase 1a site and can be conditioned.

6.5.127 Appropriate management of grasslands and other habitats to retain their invertebrate value can be set out in a LEMP or similar which can be conditioned.

*Residual Effects*

6.5.128 In summary, with the implementation of the measures outlined above, there will be negligible residual adverse effects on invertebrates using the habitats within the Phase 1a site.

*Protected / notable plant species - Orchids*

*Construction Phase Effects*

6.5.129 Potential significant adverse effects on orchid species could arise during the construction phase of the development from damage by construction works and temporary increases in dust.

6.5.130 Orchid species could be damaged through loss of grassland habitat and damage should machinery, construction operations and storage of materials encroach into the adjacent grassland habitat where this species is likely to occur. Dust soiling could adversely affect orchids by affecting plant processes including photosynthesis, respiration and transpiration leading to decreased fecundity if construction takes place in spring when this plant is visible/in flower. Adverse effects of local significance may occur on these species as a result.

*Mitigation*

6.5.131 Local topsoil removed to facilitate development will be used to form the grassland areas within the site, where possible. This will be allowed to colonise naturally from

the existing seedbank which may contain orchid species or allow these species to colonise in future.

- 6.5.132 A dust mitigation strategy as outlined in above sections will be prepared and implemented at the site during construction to prevent adverse effects on habitats which will also protect orchids and other flora. This could form part of a CEMP which can be conditioned.

Operational Phase Effects

- 6.5.133 Potential significant adverse effects on orchids could arise during the operational phase of the development due to a possible increase in recreational effects, e.g. trampling, due to an increase in residents and inappropriate management of grasslands. Adverse effects of local significance may occur on these species as a result.

*Mitigation*

- 6.5.134 The monitoring of habitats created could include effects on orchid abundance. This measure can be included in a specific LEMP for the site.

*Residual Effects*

- 6.5.135 With the above mitigation measures implemented, no significant residual adverse effects are anticipated on orchids.

*Invasive Non-Native Species – Himalayan cotoneaster*

Construction Phase Effects

- 6.5.136 Construction activities including vegetation clearance and ground disturbance could cause the spread of this species and be detrimental to local biodiversity.

*Mitigation*

- 6.5.137 Himalayan cotoneaster will be eradicated from the site by the contractor under a suitable Method Statement for this species. It is expected that the contractor will undertake their own survey prior to undertaking eradication works.

Operational Phase Effects

- 6.5.138 Once eradicated, no operational phase effects on the Phase 1a site from Himalayan cotoneaster is anticipated.

*Mitigation*

- 6.5.139 None required.

### *Residual Effects*

6.5.140 With the eradication of Himalayan cotoneaster from the Phase 1a site, no residual effects are anticipated.

### *Cumulative Effects*

6.5.141 Phase 1a is the first phase of the wider Penrhys development for which outline planning permission will be sought.

6.5.142 Development of these later phases may contribute to effects on statutory and non-statutory nature conservation designations including those not within 2km of the Phase 1a site.

6.5.143 Development of these later phases will result in a greater loss of grassland, trees and scrub in the area which, in combination with the loss of grassland in Phase 1a, may increase the significance of adverse effects on habitats.

6.5.144 Development of the later phases will also lead to the loss of other bat roosts in buildings scheduled to be demolished, further loss of nesting sites for birds and loss of habitat which support hedgehog, common reptiles and invertebrates. These future losses, in combination with the losses in Phase 1a, may increase the significance of adverse effects on species.

6.5.145 As part of the outline planning application, it is anticipated that outline mitigation strategies will be provided within an EcIA report which will address all the above impacts and outline the required mitigation and enhancements for each phase. The reptile mitigation strategy has been developed with the whole masterplan site in mind.

### *Summary*

6.5.146 Overall, significant adverse effects as a result of the Proposed Development at Phase 1a have been identified which could affect the following ecological receptors:

#### *Statutory Designated Sites*

- Craig Pont Rhondda SSSI
- Glyncornel LNR

#### *Non-Statutory Sites*

- Mynydd Ty'n-tyle Slopes (64)

- Ystrad Slopes (123)
- Mynydd Brith-weunydd / Llwynypia hillside (40)
- Taff and Rhondda Rivers SINC (no number)

#### *Habitats and Flora*

- Other neutral grassland;
- LBAP species: Orchidaceae species (incidental sightings during other surveys across the wider site including Phase 1a) including southern marsh orchid, common-spotted orchid, and heath spotted orchid;
- Grassland CHEGD Fungi; and
- INNS - Himalayan cotoneaster.

#### *Faunal Species*

- Bats;
- European hedgehog;
- Common Reptiles;
- Breeding Birds ; and
- Invertebrates.

6.5.147 With the mitigation measures described above implemented, no significant residual adverse effects on the ecological receptors are anticipated.

6.5.148 Potential biodiversity enhancements proposed to be undertaken at the application site are set out in Section 7. These enhancements could contribute to beneficial effects on the following ecological receptors and lead to beneficial effects on local biodiversity.

## **7 ENHANCEMENTS – NET BENEFITS FOR BIODIVERSITY**

7.1.1 In accordance with the requirements of PPW and BSI 42020:2013 ecological enhancements are proposed that are over and above measures required to mitigate effects on biodiversity.

7.1.2 The below enhancements have been shared with the wider project team and will be set out in more detail (e.g. numbers of nest-boxes proposed) for the planning application.

### **7.2 Enhancements to be/likely to be incorporated**

7.2.1 The enhancements will be additional to the measures that will be required for mitigation purposes. In accordance with the requirements of the Planning Policy Wales (PPW) Edition 12 (2024) and BSI 42020:2013, ecological enhancements will be proposed which will result in a net benefit for biodiversity:

- Native trees and hedgerows of local provenance where possible will be incorporated into the landscaping scheme and planted strategically to maintain/create connectivity and wildlife corridors.
- Native scrub will be incorporated into the landscaping scheme and will include a mixture of species of local provenance and be strategically planted giving thought to where this might provide best refuge for species and/or connectivity within the site and/or wider landscape. Dense thorny scrub can provide refuges/nesting areas for hedgehogs in the green corridors.
- SUDS and rain garden areas will incorporate native planting where possible and offer opportunities for natural colonisation by marshy/wetland grassland species.
- Green/brown roofs will be incorporated where possible on new buildings, bin stores and / or cycle stores;
- Planters will be incorporated for flowers, perennials and herbs, with spaces created for community garden / vegetable growing areas;
- Existing and created habitat will be managed appropriately, where possible, e.g. less regular/late mowing of grassland, leaving some areas to grow tall, not using pesticides or herbicides, managing aggressive species that may dominate the sward e.g. thistles and docks.

- Native species and/or species which are known to attract pollinating wildlife will be included in the planting schedule of the landscape scheme. This can include berry and nut bearing trees and shrubs.
- Nectar-rich plant species will be incorporated into the landscape scheme to benefit invertebrates and other species. Bulb planting of native wild daffodils *Narcissus pseudonarcissus*, native bluebells *Hyacinthoides non-scripta*, snowdrop *Galanthus nivalis* and crocuses *Crocus sp.* will also provide an early nectar source for insects.
- A variety of bird boxes will be incorporated into the Proposed Development, additional to those required for mitigation, such as 45mm and 32mm entrance boxes placed in trees and in gardens; swift boxes, sparrow terraces and house martin cups will be incorporated into buildings, and integrated bird bricks will be directly installed into the brickwork of new buildings, structures or retaining features;
- A variety of bat boxes for different bat species will be incorporated into the Proposed Development. Bat boxes will be installed on retained mature trees or mounted on poles, where appropriate. Bat boxes, additional to those required for mitigation, will also be integrated directly into the brickwork of new buildings and structures will be incorporated and access slits for bats will be provided into soffit boxes;
- Reptile hibernacular and log piles will be incorporated into the landscape scheme to create areas for cover, shelter and basking.
- Insect hotels will be incorporated into the landscape scheme and any trees felled will be retained and re-used in wildlife areas as standing/fallen deadwood;
- Where possible a minimum 10cm gap will be left under all fences and/or side-gates into gardens and into green space for hedgehogs to pass through. Hedgehog houses will also be incorporated where possible.
- A sensitive lighting strategy will be incorporated into the scheme to account for nocturnal species such as bats, hedgerows and nightjars.

## **8 CONCLUSIONS**

- 8.1.1 A summary of the effects, mitigation and enhancements for each Important Ecological Feature is provided in Table 17 below:

Table 17: Summary of effects, mitigation, enhancement measures and residual effects				
Sensitive Receptor	Assessment of Effects	Mitigation	Enhancement measures	Residual Effects
<u>Designated Sites</u>				
Craig Pont Rhondda SSSI	No significant effects anticipated.	None required.	N/A	None.
Glyncornel LNR	No significant effects anticipated.	None required.	N/A	None.
Mynydd Ty'n-tyle Slopes (64) SINC	Adverse effects up to a County scale from dust generation, impacts on water quality and spread of INNS during construction and from increased disturbance and recreational impacts during operation. No impacts anticipated on water quality during the operational phase due to SuDS.	Dust mitigation strategy. Pollution prevention measures. Monitoring of SINC habitats. Remedial measures implemented if necessary.	N/A	None.
Ystrad Slopes (123) SINC				
Mynydd Brith-weunydd / Llwynypia hillside (40) SINC				
Taff and Rhondda Rivers SINC (no number) SINC				
<u>Habitats</u>				
Other neutral grassland and CHEGD fungi	Adverse effects at a local scale from habitat loss during construction and from recreational impacts and appropriate management during the operational phase.	Creation of grassland areas as part of landscape scheme which will reuse topsoil.  Monitoring of grassland habitats and remedial actions where necessary.  Appropriate management via a LEMP or similar.	N/A	None.
<u>Species</u>				

Table 17: Summary of effects, mitigation, enhancement measures and residual effects				
Sensitive Receptor	Assessment of Effects	Mitigation	Enhancement measures	Residual Effects
Badger	Temporary adverse effect at a local scale during construction from harm/disturbance of individuals. Long-term adverse effects from increased lighting.	Reasonable avoidance measures under a PWMS. Sensitive lighting scheme.	Native berry and nut bearing species in landscape scheme.	None.
Bats	Temporary adverse effect at a local scale during construction from harm of individuals. Long-term adverse effects from increased lighting.	Sensitive demolition protocol Sensitive lighting scheme	Variety of bat boxes and structures/access slits on trees and new buildings.	None
European hedgehog	Temporary adverse effect at a local scale during construction from harm/disturbance of individuals. Long-term adverse effects from increased lighting.	Sensitive lighting scheme.	Habitat creation as part of landscape scheme. Hedgehog access gaps under fences/side gates, where feasible. Hedgehog houses.	None.
Breeding birds	Temporary adverse effect at the local scale from permanent loss of nesting habitat during the vegetation clearance or demolition, and noise and lighting impact on nocturnal species	Qualified ecologist or ornithologist should be present to carry out a nesting bird check within 48 hours of the vegetation clearance commences. Nightjar mitigation strategy Lighting strategy	Variety of nest-boxes on trees and buildings.	Yes on local bird populations from disturbance/pets.
Common reptiles	Adverse effects up to County scale through harm/disturbance to	Reptile translocation to receptor site.	Reptile hibernacula and log-piles.	None.

Table 17: Summary of effects, mitigation, enhancement measures and residual effects				
Sensitive Receptor	Assessment of Effects	Mitigation	Enhancement measures	Residual Effects
	individuals and habitat loss during construction.			
Invertebrates	Adverse effects up to a district level due to habitat loss during construction and through an increase in lighting and inappropriate habitat management during the operational phase.	Sensitive lighting scheme. Appropriate management of habitats via a LEMP.	Habitat creation as part of landscape scheme. Nectar rich planting. Bulb planting. Insect hotels. Log-piles	None.
LBAP species: Orchidaceae species	Adverse effects at a local scale from habitat loss/damage and dust generation during construction and from recreational impacts and appropriate management during the operational phase.	Creation of grassland areas as part of landscape scheme which will reuse topsoil. Dust mitigation strategy. Monitoring of orchid abundance. Appropriate management via a LEMP or similar.	None.	None.
INNS - Himalayan cotoneaster ( <i>Cotoneaster simonsii</i> )	Adverse effect at a local scale should this plant be caused to spread in the wild during construction.	Eradication from the site.	N/A	None

## APPENDICES

## **APPENDIX 1**

### **Site Location Plan (2385-URB-XX-XX-DR-UD-R0-001- The Urbanists)**



## KEY

☐ Phase 1A (3.93 ha)

 Site boundary (32.74 ha)

NOTES:

NOT FOR SITE PURPOSES: This drawing is a general arrangement plan only and is not intended for site purposes.

SCALE: Do not scale from this drawing.

**SETTING OUT:** All setting out, levels, dimensions to be agreed on site. Do not use the information on this drawing without checking all dimensions on site. Any discrepancies between drawings, specifications and site works are to be reported to The Urbanists. Order of construction and setting out is to be agreed on site.

CHECK: This drawing must be the latest revision, read in conjunction with all other drawings, details, specifications and schedules. All dimensions are in millimetres unless otherwise stated. Where and contradiction or uncertainty arises between the drawings and/or the schedule of works, it is the contractor's responsibility to seek verification from The Urbanists before proceeding. No claims will be met by The Urbanists, where the contractor continues work in absence of such confirmation.

[illegible]

PROJECT STATUS:

S1 (SUITABLE FOR CO-ORDINATION)

theurbanists

Client Trivallis

Project Penrhys Masterplan

Title	Site Location Plan
-------	--------------------

Project ID	Organiser	Block	Level	Type	Role	Dwg	Rev.	Status
2385	URB	XX	XX	DR	UD	001		DRAFT
Drawn	LR	Date	07/03/2025	Checked		Scale	1:3000	

The Urbanists (Cardiff) - The Creative Quarter - 8A Morgan Arcade - CF10 1AF  
The Urbanists (Bristol) - Generator Building - Finzles Reach - BS1 6BX  
T: 029 2023 6133 E: [info@theurbanists.net](mailto:info@theurbanists.net) W: [www.theurbanists.net](http://www.theurbanists.net)

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## **APPENDIX 2**

**Proposed Site Plan (156757-STL-XX-XX-DR-A-09010 Stride Treglown) and Proposed Roof  
Plan (156757-STL-XX-CC-DR-A-09011 Stride Treglown)**

House Type

Refer to SOA for more house type information.

XX

X

Colour indicating no. of beds

House Type

Tenure

- 2 Bed Houses
- 2A, 2B, 2C, 2D - 2B4P 2 Bed 4 Person House
- 3 Bed Houses
- 3A, 3B, 3C - 3B4P 3 Bed 4 Person House
- 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4I - 3B4P 3 Bed 5 Person House
- Please note the following housetypes are a combination of several other types.
- Type 4H is 1x4A and 1x4G.
- Type 4I is 2x4A and 1x4E.
- 4 Bed Houses
- 5A, 5B, 5C, 5D - 4B6P 4 Bed 6 Person House
- 6A, 6B, 6C - 3B4P 4 Bed 7 Person House

Tenure

- M - Market Housing
- A - Affordable Housing

Site Plan Icons

- Dwelling entrance.
- Existing road.
- Proposed new road.
- Turning head and shared surface area.
- Preliminary SuDS locations.
- Indicative PV locations.
- +X.X

Existing levels (M AOD)
- +X.X

Proposed levels (M AOD)

Responsibility is not accepted for errors made by others in scaling from this drawing.  
All construction information should be taken from figured dimensions only.

S2	PL1	27.08.2025	PAC Issue Draft
S2	P19	07.08.2025	Updated layout issue
S2	P18	21.07.2025	Updated layout issue
S2	P16	10.07.2025	Updated Layout Issue
S2	P14	03.07.2025	Updated layout issue
S2	P12	29.05.2025	Latest draft issue
S2	P11	22.05.2025	External level revisions
S2	P10	21.05.2025	Latest draft issue
S0	P09	30.04.2025	DCPW issue
S0	P08	22.04.2025	Current WIP Phase 1A layout overlay issued
S0	P07	07.04.2025	Proposed layout for WG meeting

STATUS	REV	DATE	DESCRIPTION	REVISED BY
CLIENT				SAH
Trivallis				
				CHECKED BY
				RB
				ORIGINATOR NO
				156757

CONSULTANT

STRIDE TREGLOWN

www.stridetreglown.com

PROJECT

Penrhys Residential

Penrhys,

Ferndale,

Rhondda Cynon Taf

DRAWING TITLE

Phase 1A - Proposed Site Plan

STATUS CODE	SCALE
S2 - SUITABLE FOR INFORMATION	1 : 500
	@A1
PROJECT - ORIGINATOR - FUNCTION - SPATIAL - FORM - DISCIPLINE - NUMBER	STATUS_REVISION
156757-STL-XX-XX-DR-A-09010	S2_PL1

House Type

Refer to SOA for more house type information.

XX

X

Colour indicating no. of beds

House Type

Tenure

- 2 Bed Houses
- 2A, 2B, 2C, 2D - 2B4P 2 Bed 4 Person House
- 3 Bed Houses
- 3A, 3B, 3C - 3B4P 3 Bed 4 Person House
- 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4I - 3B4P 3 Bed 5 Person House

Please note the following housetypes are a combination of several other types.  
Type 4H is 1x4A and 1x4G.  
Type 4I is 2x4A and 1x4E.

- 4 Bed Houses
- 5A, 5B, 5C, 5D - 4B6P 4 Bed 6 Person House
- 6A, 6B, 6C - 3B4P 4 Bed 7 Person House

Tenure

- M - Market Housing
- A - Affordable Housing

Site Plan Icons

- Dwelling entrance.
- Existing road.
- Proposed new road.
- Turning head and shared surface area.
- Preliminary SuDS locations.
- Indicative PV locations.
- +X.X

Existing levels (M AOD)
- +X.X

Proposed levels (M AOD)



Responsibility is not accepted for errors made by others in scaling from this drawing.  
All construction information should be taken from figured dimensions only.

S2	PL1	27.08.2025	PAC Issue Draft
STATUS	REV	DATE	DESCRIPTION
CLIENT	Trivallis		
REVISOR			SAH
CHECKED BY			RB
ORIGINATOR NO			156757

CONSULTANT

STRIDE TREGLOWN

www.stridetreglown.com

PROJECT

Penrhys Residential

Penrhys,

Ferndale,

Rhondda Cynon Taf

DRAWING TITLE  
Phase 1A - Proposed Roof Plan

STATUS CODE	SCALE
S2 - SUITABLE FOR INFORMATION	1 : 500
PROJECT - ORIGINATOR - FUNCTION - SPATIAL - FORM - DISCIPLINE - NUMBER	@A1
156757-STL-XX-XX-DR-A-09011	STATUS_REVISION S2_PL1

## **APPENDIX 3**

### **Planning Policy and Legislative Framework**

## Appendix 3: Planning Policy and Legislative Framework

### *Legislation for Designated Sites*

<b>Designated Site</b>	<b>Status</b>
Ramsar Sites	Ramsar Sites are wetlands of international importance designated following the Ramsar Convention. RAMSAR sites have the same level of protection as SACs and SPAs under the Wildlife and Countryside Act 1981 (as amended).
SPA (Special Protection Areas)	SPAs seek to protect the habitats of rare and vulnerable European and UK birds. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SAC (Special Areas for Conservation)	SACs are strictly protected areas which represent important and threatened habitats in Europe and the UK. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SSSI (Sites of Special Scientific Interest)	SSSIs protect the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were renotified under the Wildlife and Countryside Act 1981 (as amended). Modified provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.
NNR (National Nature Reserves)	NNRs are examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 or the Wildlife and Countryside Act 1981 (as amended). Legal protection of NNRs is provided under the Wildlife and Countryside Act 1981 (as amended).
Hedgerows	All hedgerows are protected by the Hedgerows Regulations 1997, under which it is an offence to remove or destroy certain hedgerows without planning consent or permission from the Local Planning Authority. These regulations do not apply to any hedgerow within the curtilage of, or marking the boundary of the curtilage of, a dwelling house.
LNR (Local Nature Reserves)	Designated by the National Parks and Access to the Countryside Act 1949, LNRs may be declared for nature conservation by local authorities after consultation with the relevant statutory nature conservation agency. Legal protection of LNRs is provided under the Wildlife and Countryside Act 1981 (as amended).

## Legislation for Species

<b>Protection for animals included on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended)</b>		
<b>A person commits an offence if they:</b>		
Regulation 43	Part 1(a)	Deliberately captures, injures or kills any wild animal of a European protected species
	Part 1(b)	Deliberately disturbs wild animals of any such species. (1A) For the purpose of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely a) to impair their ability i. to survive, breed or reproduce or to rear or nurture their young; or ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate. b) to affect significantly the local distribution or abundance of the species to which they belong
	Part 1(c)	Deliberately take or destroy the eggs of such an animal
	Part 1(d)	Damage or destroy a breeding site or resting place of such an animal
	Part 3	To: a) be in possession of, or to control, b) transport, c) sell or exchange, or d) to offer for sale or exchange. (4) For the purpose of (3) this applies to: a) any live or dead animal or part of animal i) which has been taken from the wild, and ii) which is a species or subspecies listed in Annex IV(a) to the Habitats Directive; and b) anything derived from such an animal or any part of such an animal.
<b>Protection for animals included on Schedule 5 of the Wildlife and Countryside Act 1981 (As Amended)</b>		
Section 9	Part 1	Intentionally kill, injure, take a scheduled animal
	Part 2	Possess or control (live or dead animal, part or derivative)
	Part 4 (a)	Intentionally or recklessly damage, destroy or obstruct access to any structure or place used by a scheduled animal for shelter or protection
	Part 4 (b)	Intentionally or recklessly disturb an animal occupying such a structure or place
	Part 5 (a)	Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative)
	Part 5 (b)	Advertise for buying or selling such things

A large number of species are also included under Section 7 of the Environment (Wales) Act 2016 as Species of Principal Importance which places the “biodiversity duty” on the Welsh Government (and therefore public authorities) for the purpose of maintaining and enhancing biodiversity in relation to Wales. This stems from a review of the now superseded UK

Biodiversity Action Plan and the continued need for global action on conserving biodiversity as result of the Convention on Biological Diversity.

Habitats and Species listed under Section 7 (S.7) of The Environment (Wales) Act 2016 taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales”.

### **Bats**

All UK bat species are afforded full protection (including their habitats) through inclusion on Schedule 2 of The Conservation of Habitats and Species Regulations (CHSR) 2017 (as amended) and further partial protection by Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 (as amended).

Barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared (*Plecotus auritus*), greater horseshoe (*Rhinolophus ferrumequinum*) and lesser horseshoe (*Rhinolophus hipposideros*) bats are listed under S.7 and are UK Bat Priority Species (UK Biodiversity Action Plan - UK BAP species).

### **Great Crested Newts and Other Amphibians**

Great crested newts (GCN) are afforded full protection (including their habitats) through inclusion on Schedule 2 of The CHSR 2017 (as amended) and further partial protection by Schedule 5 of the WCA 1981 (as amended).

Under the WCA 1981 (as amended), other amphibians, including smooth and palmate newts, common frogs and common toad cannot be sold or be offered for sale.

GCN and common toad are S.7 species and UK BAP species.

### **Hedgehog**

Hedgehogs are protected under Section 1 of the Wild Mammals (Protection) Act 1996, which makes it an offence too mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering to this species. Hedgehogs are a S.7 species and are listed as a priority species on the UK Biodiversity Action Plan (BAP).

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### **Otter**

Otters are afforded full legal protection through inclusion on Schedule 5 of the WCA 1981 (as amended) and Schedule 2 of The CHSR 2017 (as amended).

Otters a S.7 species and are listed as a priority species on the UK BAP.

### **Reptiles**

Six native reptiles occur in Britain: the adder (*Vipera berus*), the grass snake (*Natrix natrix*), the smooth snake (*Coronella austriaca*), the sand lizard (*Lacerta agilis*), the common lizard (*Zootoca vivipara*) and the slow worm (*Anguis fragilis*).

The smooth snake and sand lizard are afforded full protection (including their habitats) through inclusion on Schedule 2 of The CHSR 2017 (as amended) and further partial protection by Schedule 5 of the WCA 1981 (as amended).

Five of the six native reptile species (excluding smooth snake) are listed under S.7.

### **Birds**

All wild birds, their nests and eggs are protected under Part 1 Section 1 of the WCA 1981 (as amended), which makes it an offence (with certain limited exceptions and in the absence of a licence) to:

- Kill or injure any wild bird;
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built (this includes several species of birds whose nests are reused under Schedule ZA1);
- Take or destroy the egg or any wild bird.

It is also an offence to possess any live or dead wild bird or egg, or anything derived from a wild bird or egg. Restrictions on trade and advertising also apply.

Bird species listed on Schedule 1 of the WCA 1981 (as amended) are afforded additional protection against intentional or reckless disturbance whilst it is building a nest, or at a nest containing eggs, young or disturbance to the young.

Further a number of bird species are listed under S.7.

In addition to this legal protection, leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds regularly found here and produced a list of Birds of Conservation Concern (BoCC). Wales has a separate BOCC list (BoCCW). Consideration is therefore given to those species listed as being of conservation concern although they have no greater legislative protection.

### ***Invasive Species***

A number of animal and plant species are listed under Schedule 9 of the WCA 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order 2019. It is an offence to:

- Allow the release or allow to escape into the wild any animal which is of a kind which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state; or included in Part I of Schedule 9; and
- If any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9.

Under Schedule 9A of the act species control agreements and orders can be made in accordance with The Invasive Alien Species (Enforcement and Permitting) Order 2019.

### ***Invertebrates***

A number of invertebrates are afforded full protection (including their habitats) through inclusion on Schedule 2 of The CHSR 2017 (as amended) and further partial protection by Schedule 5 of the WCA (as amended).

In addition, a number of species of invertebrates are fully or partially protected only under Schedule 5 of the WCA 1981 (as amended).

A number of invertebrates are listed under S.7.

### ***Protected Plant Species***

A number of plants are afforded full protection through inclusion on Schedule 5 of The CHSR 2017 (as amended) and further partial protection by Schedule 5 of the WCA 1981 (as amended).

In addition, a number of species of plants are fully protected only under Schedule 5 of the WCA 1981 (as amended).

A number of plants are listed under S.7.

## **National Planning Policy**

### ***Planning Policy Wales (PPW) Edition 12 (February 2024)***

Planning Policy Wales (PPW) is a material consideration for the purposes of planning decision making. PPW translates the principles of Sustainable Management of Natural Resources (SMNR) into use for the planning system.

The Environment (Wales) Act 2016 introduces the SMNR and sets out a framework to achieve this as part decision-making. The objective of the SMNR is to maintain and enhance the resilience of ecosystems and the benefits they provide.

Relevant key features of the SMNR relating to biodiversity include:

- improving the resilience of ecosystems and ecological networks;
- halting and reversing the loss of biodiversity; and
- maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions

PPW states *“The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.”*

Extract from PPW:

*Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)*

*“6.4.5 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.*

*In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:*

- *diversity between and within ecosystems;*
- *the connections between and within ecosystems;*
- *the scale of ecosystems;*
- *the condition of ecosystems including their structure and functioning; and*
- *the adaptability of ecosystems.”*

Extract from PPW:

*“When all other options have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes, offsite compensation for unavoidable damage must be sought:*

- a. This should normally take the form of habitat creation, or the provision of long-term management arrangements to enhance existing habitats and deliver a net benefit for*

*biodiversity. It should also be informed by a full ecological assessment before habitat creation or restoration starts.*

- b. The Green Infrastructure Assessment should be used to identify suitable locations for securing offsite compensation. Where possible, a landscape–scale approach, focusing on promoting wider ecosystem resilience, should help guide locations for compensation. This exercise will determine whether locations for habitat compensation should be placed close to the development site, or whether new habitat or additional management located further away from the site would best support biodiversity and ecosystem resilience at a wider scale.*
- c. Where compensation for specific species is being sought, the focus should be on maintaining or enhancing the population of the species within its natural range. This approach might also identify locations for providing species-specific compensation further away from the site. Where they exist, Spatial Species Action Plans should be used to help identify suitable locations.*
- d. Any proposed compensation should take account of the Section 6 Duty (Biodiversity and Resilience of Ecosystems Duty), and the five key ecosystem resilience attributes that it outlines. It should also be accompanied by a long term management plan of agreed and appropriate mitigation and compensation measures.”*

Extract from PPW:

#### *Protected Species*

*“6.4.22 The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained.”*

#### **S.7 of the Environment (Wales) Act 2016**

S.7 of the Environment (Wales) Act 2016 affords protection to priority species listed, by requiring that the local authority ‘take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.’

***Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009)***

Extract from TAN:

*“1.4.4 Section 40(1)) of Natural Environment and Rural Communities Act 2006 (NERC) places a duty on every public authority, in exercising its functions, to “have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. This TAN sets out the manner in which planning authorities should comply with this duty.”.* This is replaced by the duty in the Environment (Wales) Act 2016.

### **Local Planning Policy**

Relevant current and emerging policies from the RCT Local Development Plan 2006-2021 (adopted March 2011) are summarised in Box 1, below.

Policy Reference	Policy Summary
Policy AW 8 - Protection and Enhancement of the Natural Environment	<p>Rhondda Cynon Taf's distinctive natural heritage will be preserved and enhanced by protecting it from inappropriate development. Development proposals will only be permitted where: -</p> <ol style="list-style-type: none"> <li>1. They would not cause harm to the features of a Site of Importance for Nature Conservation (SINC) or Regionally Important Geological Site (RIGS) or other locally designated sites, unless it can be demonstrated that: - <ol style="list-style-type: none"> <li>a) The proposal is directly necessary for the positive management of the site; or</li> <li>b) The proposal would not unacceptably impact on the features of the site for which it has been designated; or</li> <li>c) The development could not reasonably be located elsewhere, and the benefits of the proposed development clearly outweigh the nature conservation value of the site.</li> </ol> </li> <li>2. There would be no unacceptable impact upon features of importance to landscape or nature conservation, including ecological networks, the quality of natural resources such as air, water and soil, and the natural drainage of surface water.</li> </ol> <p>All development proposals, including those in built up areas, that may affect protected and priority species will be required to demonstrate what measures are proposed for the protection and management of the species and the mitigation and compensation of potential impacts. Development proposals must be accompanied by appropriate ecological surveys and appraisals, as requested by the Council. Development proposals that contribute to the management or development of Ecological Networks will be supported.</p>
Policy NSA 24 - Green Wedges	<p>Green Wedges have been identified in order to prevent coalescence between and within settlements at the following locations: -</p> <ol style="list-style-type: none"> <li>1. Land north of Tonyrefail (Trane Farm, Cae'r-lan Farm) and Penrhiwfer (Mynydd y Gilfach) (part);</li> <li>2. Land between Penrhys (including Penrhys Cemetery) and Tylorstown;</li> <li>3. Land between Penrhys and Llwynypia;</li> <li>4. Land between Abernant (including Abernant Golf Course) and Cwmbach;</li> <li>5. Land between Fernhill and Mountain Ash, including Victoria Pleasure Park;</li> <li>6. Land north-east of Coed y Cwm and Grover's Field (Abercynon);</li> </ol>

Policy Reference	Policy Summary
	7. Land between Penywaun and Cwmdare / Trecynon. Within these areas development that prejudices the open nature of the land will not be permitted.
Policy NSA 26 - Cynon Valley River Park	Development that will contribute to the achievement of the Cynon Valley River Park Strategy will be supported. This includes:  1. Proposals for the protection, enhancement, enlargement, connectivity and management of important wildlife sites, species and features of nature conservation value and water quality.  2. Proposals to promote public access on foot and by cycle, mitigate and adapt to climate change, encourage health and well-being and support heritage and tourism.

### ***Nature Conservation – Supplementary Planning Guidance (SPG), (March 2011)***

Extracts from the Nature Conservation SPG:

*“This Supplementary Planning Guidance (SPG) for Nature Conservation has been produced in conjunction with the Rhondda Cynon Taf Local Development Plan and provides additional guidance to support the policies, allocations and constraints identified in the Plan. For the purposes of this SPG, nature conservation includes biodiversity, soil and earth science features.”*

*“As a general principle, the Council will expect the developer to provide sufficient information to inform a decision about the nature conservation value of the site. Because of the extent of semi-natural habitat in the County Borough, there are few development sites where nature conservation is not a relevant issue. Even within the built up area, bats and nesting birds will need to be considered.”*

*“Development should not lead to the net loss of biodiversity, should protect ecosystem services and, where possible, contribute to biodiversity enhancement, in accordance with the policy principles in LDP policy AW 8.*

*The significant features of European and nationally designated sites, SINCS and RIGS should be protected. Applicants will be expected to show how the features for which the site is designated are to be protected, and where possible, enhanced.*

*Where European sites may be affected by development, assessments of likely significant effects and, where necessary, appropriate assessment should be made.*

*Development should be carried out in a way that conserves features of the landscape that are of major importance for wild flora and fauna, including those linear features that are essential for the migration, dispersal and genetic exchange of wild species.*

*Ecological connectivity between habitat patches is generally good in Rhondda Cynon Taf and the impact of development on this connectivity will be a material consideration. Development that reduces connectivity between habitats will not normally be favoured, however there may be opportunities for development to contribute to ecological connectivity. Planning decisions will be informed by research work being undertaken at the local, regional and Wales level with regard to ecological connectivity.”*

*“Pre-application enquiries are welcomed, to identify whether the application is likely to affect a designated site or important species and to identify any opportunities for enhancement. This initial scoping will identify that either: i) there is no requirement for detailed ecological assessment or mitigation, or ii) a SEWBREC search for statutory protected species is required and/ or iii) a detailed ecological survey and assessment will be required or iv) there is sufficient ecological information to recommend refusal on nature conservation grounds.”*

*“Ecological survey reports must also include an appraisal of the significance of features and species within the application site, the impacts and implications of the proposed development on those features and the extent of mitigation, and enhancement measures, which the application will provide.”*

*“Where a planning application affects trees, woodlands or hedges on or adjacent to the development site, applicants will be expected to provide information about these and the impact of their proposals on them, both in respect of their nature conservation and amenity value. Where important features are affected, the Council will require a tree report as specified in the British Standards Institutes, BS 5837: Trees in relation to construction.*

*This report should be based on a survey by an appropriately qualified arboriculturalist, categorise the trees and set out the arboricultural implications of the proposed development. For trees etc. that are to be retained, or areas to be planted, an Arboricultural Method Statement and a Tree Protection Plan should be provided and Construction Exclusion Zones identified on the site layout plan. Any specified works to trees etc. should conform to BS 3998: Recommendations for Tree work.*

*“Mitigation measures are those measures required to reduce to an acceptable level the impacts and implications of development on features, habitats or species of importance. Compensation measures are designed to offset any impacts that cannot be avoided or mitigated. In certain circumstances, proposed mitigation and / or compensation may result in the development being considered acceptable. The extent of mitigation and compensation required will be specific to the proposal, but could include the retention and long-term management of habitats and the provision of species-specific measures. The planning proposal may also be able to provide enhancement measures to actively benefit nature conservation. This could include positive management of, or providing connections to, adjacent habitats. All applicants should consider where Invasive Non-native Species (INNS) surveys and assessments are required.”*

*“In respect of larger development sites, the SPG on Design and Placemaking identifies the need to integrate nature conservation concerns into the design of new developments from the outset. This will enable areas of high nature conservation value to be avoided and positive contributions to nature conservation to be identified. The holistic consideration of landscaping, sustainable urban drainage, active travel, informal and formal open space and nature conservation should be a key element of place making.*

*All larger developments should consider opportunities to achieve net benefit for biodiversity within their design. These should include, where appropriate, the use of up to date best practice, such as: The use of technologies, such as green / brown roofs; The inclusion of planting and landscaping schemes that benefit wildlife; Siting of development to exclude areas of biodiversity interest; Enhancement, creation or restoration of locally distinctive natural habitats; Enhancement measures for species including the provision of artificial nesting sites / roosting sites / hibernacula; Sustainable management; Sustainable urban drainage systems; and Ecological connectivity”*

*“The development of each strategic site should aim to achieve no net loss of biodiversity. However, it is recognised that because of the strategic importance of these sites this objective cannot always be achieved. Where a loss of biodiversity cannot be avoided, the Council require a comprehensive management, mitigation and compensation package. This will require the integration of nature conservation considerations from the outset. Sufficient survey and assessment work will need to be undertaken at each stage to establish the extent of the existing nature conservation interest, the areas that should be protected and areas where enhancement can be achieved.”*

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#### **APPENDIX 4**

#### **Preliminary Ecological Appraisal Report – Penrhys Residential Estate (Wardell Armstrong (WA), 2024)**

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ENERGY AND CLIMATE CHANGE  
ENVIRONMENT AND SUSTAINABILITY  
INFRASTRUCTURE AND UTILITIES  
LAND AND PROPERTY  
MINING AND MINERAL PROCESSING  
MINERAL ESTATES  
WASTE RESOURCE MANAGEMENT



**TRIVALLIS**

**PENRHYS RESIDENTIAL ESTATE**

**PRELIMINARY ECOLOGICAL APPRAISAL REPORT**

**NOVEMBER 2024**

**DATE ISSUED:** NOVEMBER 2024  
**JOB NUMBER:** CA13129  
**REPORT NUMBER:** 001  
**VERSION:** V2.0  
**STATUS:** FINAL

**TRIVALLIS**

**PENRHYS RESIDENTIAL ESTATE**

**PRELIMINARY ECOLOGICAL APPRAISAL REPORT**

**NOVEMBER 2024**

**VERSION 1 PREPARED BY:**

Rebecca Jones Ecologist

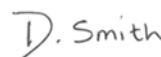


Kris Roberts Principal Ecologist



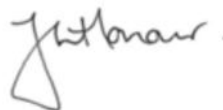
**REVIEWED BY:**

Daisy Smith Senior Ecologist



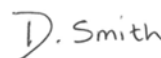
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## CONTENTS

1	INTRODUCTION .....	1
2	METHODOLOGY .....	4
3	RESULTS AND EVALUATION .....	8
4	DISCUSSION AND RECOMMENDATIONS .....	56
5	NET BENEFITS FOR BIODIVERSITY .....	66
6	CONCLUSION.....	69

## APPENDICES

Appendix 1	Summary of Legislative Framework and Planning Policy
Appendix 2	Sites Designated for Nature Conservation within 2km
Appendix 3	Phased Masterplan Overview produced by The Urbanists (Dwg 003 – Revision D) - 20.08.2024
Appendix 4	Target Note Descriptions and Photographs

DRAWINGS	TITLE	SCALE
CA13129-001	Site Location Plan – Site 1	1:2,500@A3
CA13129-003	Waterbody Location Plan – Site 1	1:10,000@A3
CA13129-005	UKHab Habitat Plan - Site 1(2024)	1:1,250@A3
CA13129-012	UKHAB Survey Areas	1:2,500@A3

## EXECUTIVE SUMMARY

Wardell Armstrong LLP (WA) was commissioned by Trivallis on 18<sup>th</sup> June 2024 to undertake a Preliminary Ecological Appraisal (PEA) in support of the proposed redevelopment of Penrhys Estate, Ferndale, Rhondda Cynon Taf, centred on approximate National Grid Reference ST 00271 94945. The PEA comprised a habitat survey (undertaken on 2<sup>nd</sup>, 17<sup>th</sup> July and 25<sup>th</sup> September 2024) and desk study. The results of the PEA detailed in this report, cover the Penrhys Estate owned by Trivallis and a parcel of land adjacent to the south east, owned by Rhondda Cynon Taf County Council.

The following conservation sites, habitats, and species (receptors) have been evaluated as being subject to potential adverse effects in the absence of mitigation and/or further survey or assessment<sup>1</sup>:

- Statutory Designated Sites:
  - Craig Pont Rhondda Site of Special Scientific Interest (SSSI)
  - Glyn cornel Local Nature Reserve (LNR)
- Non-statutory Designated Sites (Mynydd Ty'n-tyle Slopes Site of Importance for Nature Conservation (SINC) (to the north/extending within the eastern section of the survey area), Ystrad Slopes SINC (adjacent to the site to the west), and ten other SINC's within 2km of the site);
- Ancient semi-natural woodland;
- Section 7 (S.7)<sup>2</sup> Western acidic oak woodland;
- Mature scattered trees/Line of trees;
- Other neutral grassland;
- S.7 Lowland dry acid grassland;
- S.7 Dwarf shrub heath;
- S.7 Dry heaths; lowland;
- S.7 Acidic scree;
- Badgers;

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<sup>1</sup> Note: The Preliminary Ecological Appraisal Report provides an overview of likely effects and therefore may not be sufficient to support a planning application on its own. Specialist surveys may be required to fully investigate effects and/or to support an Ecological Impact Assessment (EcIA).

<sup>2</sup> UKHab-v2.01-July-2013-Final-2/Page 51

- Bats;
- Birds;
- Amphibians (common toad);
- Reptiles;
- European hedgehog;
- Invertebrates;
- Otter & water vole;
- Protected and notable plant and fungi species; and
- Invasive Non-Native Species (INNS) - Japanese knotweed, montbretia and cotoneaster species.

Additional assessments, surveys and pre-construction checks have been recommended as necessary to fully inform the planning application:

- Badger survey;
- Preliminary Roost Assessment (PRA);
- Ground Level Tree Assessment (GLTA).
- Bat activity surveys (Night-time Bat Walkover (NBW);
- Breeding bird surveys;
- Presence /absence surveys for reptiles;
- Waxcap eDNA fungi survey;
- Ash dieback inspection and monitoring to inform further measures by an Arboriculturist;
- Liaison with County Ecologist of the requirement for an invertebrate survey;
- Mapping of invasive non-native species by a specialist contractor; and
- Ecological Impact Assessment (EclA).

Mitigation<sup>3</sup> and compensation<sup>4</sup> are discussed in section 4 of the report but include the following:

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<sup>3</sup> Mitigation are measures required in order to reduce the severity and magnitude of identified effects to an acceptable level.

<sup>4</sup> Compensation is required where effects cannot be fully mitigated.

- Retention and protection of western acidic oak woodland, mature scattered trees, lowland dry acid grassland, dry heaths; lowland, acidic scree and dwarf shrub heath / bracken with appropriate buffer zones during construction;
- Retention of other neutral grassland where possible and manage to enhance its value for biodiversity;
- Permeability of boundary features (temporary and permanent) to wildlife;
- Sensitive lighting scheme to minimise impacts on nocturnal wildlife;
- Pollution prevention measures (dust, air quality, noise and water quality);
- Pre-construction surveys checking for badger setts;
- Precautionary Working Method Statement (PWMS) - amphibians, and European hedgehog;
- Sensitive timing of works for nesting birds;
- Invasive non-native species eradication by a specialist contractor;
- Landscape and Ecology Management Plan (LEMP); and
- Construction and Environmental Management Plan (CEMP).

Opportunities for ecological enhancements are set out in section 5 of this report. This includes management of retained habitats, suitable native planting to be included in the landscape scheme, incorporating green and blue infrastructure beneficial to wildlife and people, provision of nature reserve area, provision of integrated bat and bird bricks in housing/boxes on trees, habitat creation for insects, hibernacula habitats for the benefit of common reptiles and hedgehogs, and biodiversity friendly Sustainable Urban Drainage (SUDs).

In conclusion, there are likely to be ecological constraints to the development, however depending on the outcome of further surveys and assessment these impacts could be overcome through a package of mitigation and enhancement measures with a focus on protecting and enhancing the qualifying features of adjacent non-statutory designations as well as other local habitats and species.

Given the identified evidence of presence and/or likely presence of important ecological receptors, further surveys and/or assessments are required to inform a full evaluation of adverse effects. The results of further protected species surveys and evaluations should be considered within an Ecological Impact Assessment (EcIA) report, in line with standard industry practice (CIEEM 2018, updated 2022). This report should include a formal assessment of impacts and will be suitable to fully inform the planning application.

***This report is valid for 18 months from the date the habitat survey was undertaken.***

## **1 INTRODUCTION**

### **1.1 Terms of Reference**

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Trivallis on 18<sup>th</sup> June 2024 to undertake a Preliminary Ecological Appraisal (PEA) in support of the proposed redevelopment of Penrhys Estate, Ferndale, Rhondda Cynon Taf, centred on approximate National Grid Reference ST 00271 94945.

1.1.2 This report has been produced with reference to current guidelines for UK Habitat (UKHAB) classification V2.0 (UKHAB Ltd, 2023<sup>5</sup>), Guidelines for Preliminary Ecological Appraisal (CIEEM 2017<sup>6</sup>) and Biodiversity – Code of Practice for Planning and Development (BSI 2013<sup>7</sup>).

### **1.2 Scope of Report**

1.2.1 The purpose of the PEA report (PEAR) is in broad terms to undertake the following:

- Identify and report to the project team the likely ecological constraints associated with a project, such that the site design can adequately take account of ecological features;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'<sup>8</sup>;
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

1.2.2 Certain species, habitats and nature conservation sites receive legislative protection which is detailed fully within Appendix 1. Other species/groups and habitats are notable due to their identification in national and/or local planning policy or via local records. An indicative assessment of potential adverse effects to such receptors is provided, although this is not a substitute for full EcIA (CIEEM 2018) which may be

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<sup>5</sup> <https://ukhab.org/> (Professional Edition)

<sup>6</sup> Chartered Institute of Ecology and Environmental Management (CIEEM), Guidelines for Preliminary Ecological Appraisal, 2<sup>nd</sup> Edition, December 2017.).

<sup>7</sup> British Standard (BS) 42020:2013 Biodiversity: Code of Practice for Planning and Development. (BSI 2013).

<sup>8</sup> As defined in BS 42020:2013 (BSI 2013).

required to fully inform any subsequent planning application along with additional surveys and assessments.

- 1.2.3 Provisional mitigation and enhancement opportunities are also discussed, where appropriate.

### **1.3 Survey Area Context**

- 1.3.1 The survey area consists of a hill side village situated in Rhondda Cynon Taf (RCT) to the north of the B4512 Penrhys road and circled by the road Heol Pendyrus, as shown on Drawing Number CA13129-001 (Site Location Plan – Site 1).
- 1.3.2 Penrhys Estate comprises approximately 300 buildings (50 blocks), including Llanfair Uniting Church, Penrhys Primary School and Penrhys Children and Family Centre. The estate covers approximately 25 hectares (ha) in total.
- 1.3.3 The survey area overlooks the Rhondda Fawr and Rhondda Fach valleys, the wider landscape is predominantly rural, comprising country parks, agricultural land and coniferous plantation woodland. Immediately north of the survey area is a plantation woodland managed by Natural Resources Wales (NRW). To the east and west lie various towns made up of residential properties and industrial estates.

### **1.4 Description of Development**

- 1.4.1 There is a Phased Masterplan Overview (20.08.2024) for Penrhys developed by The Urbanists, shown in Appendix 3, which will allow Trivallis and potential future partners to implement the regeneration priorities below, as identified by The Urbanists. These are:
- Provide new homes to sustain and renew the facilities that the community uses on a regular basis and enable new facilities to be introduced;
  - Better utilise space through multifunctional green infrastructure enhancing connections throughout the estate whilst also provide space contributing towards sustainable drainage and net benefits for biodiversity;
  - Re-imagine Penrhys' housing stock to increase and broaden the housing type and tenure gradually over time;
  - Introduce new passive designed housing stock so that energy efficiency, appearance, repairs, quality of external boundaries and private amenity space are raised consistently across the area;

- Re-imagine the current perception of Penrhys and establish the estate as a desirable place to live work and play; and
- Capitalise on the opportunities around renewable energy generation and leisure and tourism with an emphasis on cultivating community ownership.

## **1.5 Planning Policy**

1.5.1 A summary of national planning policy and relevant local planning policies are provided in Appendix 1.

## 2 METHODOLOGY

### 2.1 Desk Study

2.1.1 The desk study was informed by a review of existing available information provided by Aderyn (Local Environmental Records Centre) Wales Biodiversity Information and Reporting Database, via South East Wales Biodiversity Records Centre (SEWBRc) in July 2024 for a 2 kilometre (km) search radius from the central grid reference ST 00271 94945 as shown on Drawing CA13129-001 (Site Location Plan – Site 1). Satellite and Ordnance Survey (OS) mapping was also used to gain contextual habitat information and identify aquatic features within 500 metres (m) of the site.

2.1.2 Specific information was sought for:

- Statutory designated sites;
- Locally designated sites;
- Ancient woodland<sup>9</sup>;
- Protected and Invasive Non-Native Species (INNS);
- Section 7 (S.7) Habitats and Species of Principal Importance<sup>10</sup>; and
- Local Biodiversity Action Plan (LBAP)<sup>11</sup> priority habitats and species.

2.1.3 Information on Sites of Importance for Nature Conservation were not provided by SEWBRc. This information was gathered from a review of [LDP Constraints Map](#)<sup>12</sup>.

2.1.4 The ecological desk study was carried out by a competent Ecologist who is a qualified member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has completed numerous ecological desk studies within the last year.

2.1.1 For brevity, of the species information extracted, nationally protected species to those of S.7 have been included from the last 10 years. Nonetheless, all records beyond this age have been considered on a species-by-species basis and included where they give

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<sup>9</sup> As defined by Natural Resources Wales in their Inventory of Ancient Woodlands 2021. At: [Ancient Woodland Inventory 2021 | DataMapWales \(gov.wales\)](#)

<sup>10</sup> Species or habitats of principal importance for the conservation of biodiversity listed on Section 7 (S.7) of the Environment Wales Act 2016.

<sup>11</sup> Rhondda Cynon Taff Local Nature Partnership. Action for Nature Plan, available from: HOME | RCT Action 4 Nature ([rctlnp.wixsite.com](http://rctlnp.wixsite.com))

<sup>12</sup> <https://www.rctcbc.gov.uk/Resident/PlanningandBuildingControl/LocalDevelopment>

Plans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelateddocumentsEvidenceBase/EB7d.pdf

context to key species that may use the survey area or adjacent but could be under recorded.

## **2.2 Extended UKHab Classification Survey**

2.2.1 WA carried out a UK Habitat (UKHab) Classification Survey on 2<sup>nd</sup> and 17<sup>th</sup> of July 2024 of the area shown on Drawing CA13129-001. The survey was carried out by experienced WA ecologists who are qualifying members of CIEEM and have completed numerous ecological habitat surveys within the past four years.

2.2.2 An additional 'triangular' area of land located to the southeast, owned by Rhondda Cynon Taf Council, was surveyed on 25<sup>th</sup> September 2024. The full survey area covered by all surveys as reported within this PEAR is shown on Drawing CA13129-012 (UKHab Results Plan).

2.2.3 The survey followed the 'UK Habitat Classification Version 2.0' (UKHab Ltd., 2023)<sup>13</sup> methodology with each of the main habitats classified according to the relevant criteria including vegetation composition expressed according to the DAFOR<sup>14</sup> system.

2.2.4 In addition to the mapping and description of habitats, the survey was 'extended' to include the incidental observations of protected and/or notable species and the potential for such species to occur on the survey area (and in the surrounding landscape where relevant) were also recorded onto secure digital media for mapping and data collection. The extended element of the survey was based on professional judgement.

2.2.5 Specific habitat features are mapped on Drawing Number CA13129-005 (UKHab Habitat Plan – Site 1 (2024)) with appropriate reference numbers identifying features of particular note.

## **2.3 Evaluation and Assessment of Features**

2.3.1 Evaluation of the importance / likely importance of ecological features and the likelihood of impacts affecting important features was made, where possible, using professional judgement in accordance with published guidance (CIEEM 2017).

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<sup>13</sup> UKHab Ltd (2023). *UK Habitat Classification Version 2.0* (at <https://www.ukhab.org>). Professional Edition.

<sup>14</sup> D = dominant (>50%), A = abundant (30-50%), F = frequent (Many Individuals), O = occasional (Few Individuals), R = rare (Isolated Individuals)

2.3.2 Protected and S.7 species were evaluated in order to identify potential adverse effects in Table 2, based on the following criteria:

- Desk study records;
- Evidence found during the survey;
- Presence, extent, quality and viability of suitable on-site habitat;
- Ecological connectivity to viable off-site habitats; and
- Perceived impacts of habitat loss/impact to individuals in relation to proposals.

2.3.3 A 'traffic light' system is used in Tables 1, 2 and 3 to highlight potential constraints and opportunities whereby:

- **Green**: No constraint or limited constraint unlikely to be of planning and/or legal significance.
- **Amber**: Potential constraints which require further survey and/or mitigation and may be of planning and/or legal significance depending on the outcome of further survey/assessment.
- **Red**: Constraints which have already been identified by the PEA survey/desk-based assessment and are likely to be of planning and/or legal significance.

## 2.4 Nomenclature

2.4.1 Vascular plant names follow '*New Flora of the British Isles*' (Stace 2019) with vernacular names as provided in the Botanical Society of the British Isles website (BSBI, 2013)<sup>15</sup>. All other flora and fauna names following the National Biodiversity Network (NBN) Atlas (NBN Atlas Partnership, 2021). The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

## 2.5 Limitations / Deviations

2.5.1 Ecological surveys are limited by factors that affect the presence of plants and animals such as time of year, weather, migration patterns and behaviour. The Penrhys Estate was surveyed in July 2024 (which is within the optimum recommended survey period for habitat surveys (April to August)) and therefore represents a valid sample of ecological evidence present on that date/season. The triangle area of land to the

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<sup>15</sup> <http://rbg-web2.rbge.org.uk/BSBI/intro.php>

south east of the Penrhys Estate was surveyed in late September and was therefore undertaken outside of the optimum recommended survey period for UK Hab habitat surveys. However, a UKHabs survey at this time can still provide useful data on broad habitat types and highlight potential constraints. The report is not designed, nor is it required to present a complete inventory of flora/fauna.

- 2.5.2 The absence of desk study records is not relied upon to determine absence of a particular species/habitat. Often, the absence of records is a result of under-recording within the given search area and as such the experience of the ecologist concerned together with a range of additional factors, in particular the presence/absence of potentially supporting habitat; is used to infer likely presence/absence of ecological receptors.
- 2.5.3 Private residential gardens associated with the properties in the survey area were excluded from the assessment. However, they do make up a fair proportion of the green infrastructure in Penrhys. The recommendations applicable to the habitats (including their suitability to support species) surrounding these areas have been assumed to apply to the habitats within the boundaries of the residential gardens.
- 2.5.4 The area in the southeast beyond Heol Pendyrus Road was partially inaccessible due to dense vegetation and a steep gradient. This will need further inspection to identify any constraints if it is to be subject to impacts resulting from the development.

## **2.6 Quality Assurance & Environmental Management**

- 2.6.1 The surveys and assessments have been overseen by and the report checked and verified by a full member of CIEEM, who is bound by its code of professional conduct. All surveys and assessments have been undertaken with reference to the recommendations given in British Standard (BS) 42020, and as stated within specialist guidance, as appropriate and referenced separately.

### **3 RESULTS AND EVALUATION**

#### **3.1 Statutory and Non-Statutory Designated Sites**

- 3.1.1 Desk study results for designated sites are evaluated in Table 1, below.
- 3.1.2 Designated sites which are considered potentially sensitive to the development proposals by virtue of their supported species or habitat assemblages, the distance/ecological connectivity to the survey area and the nature of the perceived impacts are discussed in detail in the final sections of the report.
- 3.1.3 Designations for which potential adverse effects are not anticipated are excluded from further assessment.

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
<b>Statutory Sites</b>			
<b>Glyncornel LNR</b>	Approximately 1km southwest of the survey area.	The site has been designated due to comprising ancient upland oak woodland with an array of floral species including bilberry, heather, ferns and mosses. The site is actively managed through grazing, maintaining a mosaic of habitats including grassland, heather, bracken and mixed woodlands.	Possible - although the proposed development lies wholly outside of the designated boundary potential air quality impacts from road traffic emissions.
<b>Craig Pont Rhondda SSSI</b>	Approximately 1.2km southwest of the survey area.	Designated due to being the largest remaining semi-natural broadleaved woodland in the valley of the Rhondda Fawr, dominated by sessile oak ( <i>Quercus petraea</i> ) varying in age and size. It is also part the Glyncornel Local Nature Reserve, a larger area of broadleaved woodland and acid grassland.	Possible – the proposed development lies wholly outside of the designated site but has the potential increase in recreational activities.  Potential air quality impacts from road traffic emissions.

<sup>16</sup> **SPA** – Specially Protected Area, **SAC** – Special Area for Conservation, **Ramsar** – site designated under the Ramsar Convention, **SSSI** – Site of Special Scientific Interest, **NNR** – National Nature Reserve, **LNR** – Local Nature Reserve, **SINC** – Site of Importance for Nature Conservation

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
<b>Non-Statutory Sites</b>			
Mynydd Ty'n-tyle Slopes SINC	Directly to the north and extending within the eastern section of the survey area.	A large upland SINC, which supports a complex mosaic of acid and marshy grassland, ffridd and heath. There are extensive stands of both heather and bilberry-dominated heath, with associated acid grassland and areas of western gorse. The upland plateau support areas of marshy grassland and peat wet heath. There are additional areas of neutral grassland and bracken. The SINC supports upland bird assemblages, including large numbers of skylark, meadow pipits and smaller numbers of wheatear, and stonechat, whinchat and linnet in lower valleyside ffridd. Short-eared owl occurs in the winter.	Yes – the SINC could be subject to both direct and indirect adverse impacts (e.g. Lighting, air quality & dust, hydrological and recreational impacts) as a result of the development due to its proximity to the survey area.  Please see Section 4 for recommendations.
Ystrad Slopes SINC	Directly to the west of the survey area.	This large SINC is a sheep grazed expanse of upland close-cropped marshy and acid grassland. The site includes Cwm Bodringallt perched bog, which amongst the sphagnum bog mosses and purple moor-grass supports cranberry and wintering snipe and jack snipe. The SINC includes	Yes – the SINC could be subject to both direct and indirect (e.g. Lighting, air quality & dust, hydrological and recreational impacts) adverse impacts as a result of the development due to its proximity to the survey areas.  Please see Section 4 for recommendations.

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
		the ancient woodland of Bodringallt Wood and associated woodland areas, which support pied flycatcher, wood warbler and redstart.	
Mynydd Brith-weunydd/ Llwynypia hillside SINC	Approximately 55m southwest of the survey area.	The Northern slopes of this SINC support a mosaic of fridd. The moderately steep bracken covered slopes are flushed by a series of spring lines which support a very rich and diverse biodiversity habitat, with bracken and acid grassland and dry heath on drier ground. Numerous wet acidic flushes, with areas of purple moor grass marshy grassland and wet heath occur where springs and flushes emerge. Mynydd Brith-weunydd represents one of the largest stands of lowland heath in the County Borough.	Possible – the proposed development lies outside the designation but is in close proximity to the survey area. Therefore, this could be indirectly impacted through pollution events (air quality & dust impacts) and increased recreational pressure.
Taff and Rhondda Rivers SINC	Approximately 700m west of the survey area.	The River Taff is the main river of the County Borough and a major biodiversity artery. The river and its bank side habitats are extremely diverse and varied. The river supports kingfisher, sand martin, otter, salmon and brown trout. Notable features include shingle banks (which	Possible - the survey area lies outside the designation so no direct impacts are anticipated.  However, there may be potential for indirect impacts through pollution incidents and recreational pressure as a result of the development.

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
		may support important beetle and invertebrate faunas) and sections of undercut bank, and bank side woodland.	
Mynydd Troed-y-rhiw Slopes SINC	Approximately 750m south of the survey area.	The SINC encompasses an extensive area of diverse 'ffridd' on the western valley side of the Rhondda Fach. The hillside supports large areas of bilberry and heather dry heath and extensive areas of unimproved acid grassland. The Standard Tip is a feature of the SINC and amongst 70-recorded bryophytes and 74 lichens supports indicators of good quality lichen-heath. The SINC supports typical ffridd/upland bird communities, raven nesting habitat, and notable moth and butterfly species.	Possible – the proposed development lies outside the designation but could be indirectly impacted through pollution events (air quality) and increased recreational pressure.
Pont-y-gwaith Hillside SINC	Approximately 760m southeast of the survey area.	A large area of dry heath and acid grassland (National Vegetation Classification of U2 and U4) and scattered bracken on the hillside above Pont-y-gwaith. Typical species of the bracken/acid grassland include common bent, heath grass, sheep's fescue, heath bedstraw, pill sedge, tormentil and foxglove. Dog violets are	Possible – the proposed development lies outside the designation but could be indirectly impacted through pollution events (air quality) and increased recreational pressure.

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
		locally frequent and there is some potential fritillary butterfly habitat. The dry heath supports heather and bilberry.	
Old Smokey Slopes SINC	Approximately 1km northeast of the survey area.	Extensive area of mosaic ffridd habitat, based partly on natural ground and partly on coal spoil. Acid grassland (mainly forms of U4) is the predominant vegetation. Stands of tall bracken are associated with a groundflora of acid (or flushed grassland) and scattered trees. Dry heath (often in mosaic with acid grassland) is an important habitat. The mixture of habitats, on a west-facing slope, represents excellent habitat for a diversity of fauna such as butterflies and other invertebrates, reptiles, amphibians and distinctive bird assemblages.	Possible – the proposed development lies outside the designation but could be indirectly impacted through pollution events (road traffic emissions) and increased recreational pressure.
Gelli Slopes SINC	Approximately 1km west of the survey area.	Mosaic SINC on the old Gelli Tips and associated areas. The Gelli Tips is one of the best-preserved coal tip systems in the Rhondda. The site supports a highly complex mosaic of habitats, which on the tips is mainly a mixture of acid grassland and dry heath. The SINC includes areas	Possible – the proposed development lies outside the designation but could be indirectly impacted through pollution events (road traffic emissions) and increased recreational pressure.

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
		marshy grassland and swamp. A locally important orchid population occurs. There are associated stands of bracken and acid grassland, with flushed areas supporting bog asphodel.	
Twyn Tyllaudefaid Valley Mire SINC	Approximately 1.5km south of the survey area.	Remnant valley mire on deep peat within the Rhondda Golf Course. Although the bog is somewhat degraded and is dominated by marshy grassland (National Vegetation Classification M25) it supports sphagnum bog mosses and cross-leaved heath and is a rare example of valley mire in the Rhondda Valley.	Possible – the proposed development lies outside the designation but could be indirectly impacted through pollution events (air quality, hydrological impacts) and increased recreational pressure.
Blaenllechau Woodland SINC	Approximately 1.5km northeast of the survey area.	Upland ancient oak woodland, with some mature birch, rowan and ash, acid grassland and moss ground flora. The SINC also includes an extensive lower valley area of dry heath and bracken/acid grassland with flushed areas of purple moor-grass and Ivy-leaved bellflower. The heath/acid grassland support very large grayling butterfly and mottled grasshopper colonies, and the violet rich banks of the railway sidings are likely breeding habitat for the dark green fritillary	Possible - the survey area lies outside the designated area, so no direct impacts are anticipated. However, there may be potential for indirect impacts through road traffic emissions and recreational pressure as a result of the development.

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
		(and high brown) colony, which occurs in the vicinity.	
Glyncornel SINC	Approximately 1.6km west of the survey area.	The SINC includes all of the areas of woodland, and grassland not included within the Craig Pont-Rhondda Woodland SSSI. A large part of the SINC lies within the Glyncornel Woods Local Nature Reserve. The site includes the meadows within Glyncornel Local Nature Reserve, and Glyncornel Lake. The woodlands are excellent bird habitat, supporting a diverse lowland bird community. The site has an impressive moth list and Glyncornel house holds a pipistrelle bat roost.	Possible - the survey area lies outside the designated area, so no direct impacts are anticipated. However, there may be potential for indirect impacts through air pollution and recreational pressure as a result of the development.
Darran Park SINC	Approximately 1.8km north west of the survey area.	An ancient oak, birch, alder, sycamore and hazel woodland, in the cwm overlooking Darran Park, Ferndale. The shaded damp woodland supports a typical fern, moss and lichen flora. The SINC includes the inaccessible crags and rock face of the cwm, and areas of dry heath and acid grassland. Darran Park supports excellent woodland bird habitat, the open structure	Possible - the survey area lies outside the designated area, so no direct impacts are anticipated. However, there may be potential for indirect impacts through air pollution and recreational pressure as a result of the development.

<b>Table 1: Designated Sites Evaluation</b>			
<b>Site Name and Status<sup>16</sup></b>	<b>Distance and direction from Central Site Grid Reference</b>	<b>Reason for Designation/identification</b>	<b>Potential Adverse Effects</b>
		woodland has a high potential for pied flycatcher, wood warbler and redstart.	

### **3.2 Woodlands**

- 3.2.1 A 23.94 ha<sup>17</sup> coniferous woodland is located to the north of the Penrhys Estate, within the boundary of the Mynydd Ty'n-tyle Slopes SINC.

#### *Ancient Semi-natural Woodland*

- 3.2.2 There are several areas of ancient semi-natural woodland within 2km of the survey area. The nearest is approximately 1.58 ha, located immediately east of the survey area. There is another located to the south east of the survey boundary, immediately beyond the B4512 road and a further located south of the B5412 road, south of Penrhys Cemetery.


### **3.3 Habitats**

- 3.3.1 All habitats within the survey area are described in Table 2, below, together with an indication of their S.7 status and status and reference within the Local BAP (LBAP)<sup>18</sup>.
- 3.3.2 Habitats which could be subject to adverse effects (yellow or red) are discussed in the latter sections of the report. Habitats for which potential adverse effects are not anticipated are excluded from further assessment. The location and extent of habitats within the 'survey area' are shown on Drawing Number CA13129-005 (UKHab Habitat Plan – Site 1 (2024)).
- 3.3.3 A review of OS data has identified a series of spring lines and wet flushes found to the west/southwest of the survey area, and smaller areas of surface water within 500m to the northeast, east, and south of the survey area as shown on Drawing Number CA13129-003 (Waterbody Location Plan – Site 1). The Rhondda River lies just outside 500m, to the southwest of the survey area. The Afon Rhondda Fach is located approximately 528m to the east.



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<sup>17</sup> [Celebrate our Woodlands | Let's Talk Trees | Let's Talk RCTCBC](#)

<sup>18</sup> Action for Nature: A Local Biodiversity Action Plan for Rhondda Cynon Taf (October 2000).

<b>Table 2: Habitat Descriptions and Evaluation within the Survey Area</b>				
<b>Habitat Description</b>	<b>UK Hab Classification</b>	<b>Photograph</b>	<b>Local BAP/S.7</b>	<b>Potential Constraints</b>
<p><u>Buildings</u></p> <p>There are 50 blocks of residential buildings present within the survey area. 'Blocks' refer to buildings that are connected, that may comprise multiple separate dwellings. The Penrhys Primary School and the Penrhys Children and Family Centre are also present within the survey area. There are two substations present, one in the northwest corner (TN 13) and another towards the centre-west of the survey area (TN 14).</p>	<p><u>Primary Code</u></p> <p>Buildings (u1b5)</p> <p><u>Secondary Codes</u></p> <p>Residential building (818)</p> <p>Educational building (813)</p>	 <p><i>Example of residential buildings.</i></p>	-	<p>No – the built features are not of conservation value.</p> <p><b>Recommendations are made in Table 3 regarding protected species.</b></p>

<b>Table 2: Habitat Descriptions and Evaluation within the Survey Area</b>				
<b>Habitat Description</b>	<b>UK Hab Classification</b>	<b>Photograph</b>	<b>Local BAP/S.7</b>	<b>Potential Constraints</b>
<u>Hardstanding</u> There are numerous areas of hardstanding present within the survey area that function as car parking spaces for the residents.	<u>Primary Code</u> Developed land – sealed Surface (u1b)	 <i>Example of hardstanding areas present.</i>	No	No – this habitat is not of conservation value.
<u>Roads</u> Concrete roads run along the perimeter of the residential estate and connect the internal areas.	<u>Primary Code</u> Other developed land (u1b6)  <u>Secondary Codes</u> Road (800)	 <i>Section of perimeter road.</i>	No	No – this habitat is not of conservation value.

<b>Table 2: Habitat Descriptions and Evaluation within the Survey Area</b>				
<b>Habitat Description</b>	<b>UK Hab Classification</b>	<b>Photograph</b>	<b>Local BAP/S.7</b>	<b>Potential Constraints</b>
<p><u>Subways</u></p> <p>There are two subways that provide underground access. The located of these are indicated by TN 7 / TN 10.</p>	<p><u>Primary Code</u></p> <p>Other developed land (u1b6)</p>	 <p><i>Subway entrance to the southeast.</i></p>	No	No – this habitat is not of conservation value.
<p><u>Built Linear Features</u></p> <p>Built linear features include stone walls, paved pathways, and steps. Areas of wooden fencing and metal palisade fencing are present around the estate, separating residential gardens/properties, and bordering the Penrhys Primary School and Children and Family Centre.</p>	<p><u>Primary Code</u></p> <p>Built linear features (u1e)</p>	 <p><i>Concrete footpaths and steps.</i></p>	No	<p>No – the built linear features are not considered to be of conservation value.</p> <p><b>If the linear features, including walls, are to be affected by the proposed development, this may have impacts for common reptiles depending on their condition – see Table 3.</b></p>

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**



Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
		 <i>Retaining wall to the south.</i>		
<u>Secondary Code 32 - Scattered Trees (broadleaved and conifer)</u> There are several young, semi-mature, and mature trees scattered across the survey area. Some occur within mixed scrub and others are planted within parcels of modified grassland. Species in the centre/west of the survey area include common alder <i>Alnus glutinosa</i> (F), sycamore <i>Acer pseudoplatanus</i> (O), Leyland	<u>Primary Code/s</u> The scattered trees are associated with the following primary habitats: Modified grassland (g4) Other neutral grassland (g3c) Mixed scrub (h3h) Dwarf shrub heath (h1)	 <i>Scattered willow to the south.</i>	No	<p>Possibly – some of the mature trees are likely to be lost or damaged to facilitate the development.</p> <p>This habitat has the potential to support birds and bats (see Table 3).</p> <p>Furthermore, although the trees within the survey area are of limited intrinsic ecological value, it</p>



Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>cypress <i>Cupressus × leylandii</i> (O), rowan <i>Sorbus aucuparia</i> (O), Italian alder <i>Alnus cordata</i> (O), spruce sp. <i>Picea</i> sp. (O), wild cherry <i>Prunus avium</i> (O), small-leaved lime <i>Tilia cordata</i> (O), elder <i>Sambucus nigra</i> (O), European larch <i>Larix decidua</i> (O), ash <i>Fraxinus excelsior</i> (O), Norway maple <i>Acer platanoides</i> (R), silver birch <i>Betula pendula</i> (R), and cherry laurel <i>Prunus laurocerasus</i>.</p> <p>The scattered trees in the east of the survey area mainly comprise young willow <i>Salix</i> sp. (F), with occasional-frequent mature/semi-mature ash, sycamore, and pedunculate oak <i>Quercus robur</i> present in the steep bracken slope beyond Heol Pendyrus. Some of the ash present in this area looks like it may be subject to an infection of ash dieback <i>Hymenoscyphus</i></p>	<p>Lowland dry acid grassland (g1a)</p> <p><u>Secondary Code</u> Scattered trees (32)</p>	 <p>Example of scattered broadleaf trees found throughout the centre/east of the site.</p>  <p>Scattered broadleaf trees to centre-west.</p>		<p>would be necessary to undertake a BS5837 Tree Survey in the event that their removal, damage or incursion into roost zone is unavoidable.</p>







Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<i>fraxineus</i> due to the thinning canopy.				
<p><u>Line of trees</u></p> <p>There are three lines of trees, one in the northwest, the others bordering the Penrhys Primary School and Children and Family Centre to the north and south. The latter is comprised of hawthorn <i>Crataegus monogyna</i> (locally D), mature-semi-mature sycamore, holly <i>Ilex aquifolium</i> (O), ash (R), and contains INNS cotoneaster sp. and montbretia.</p> <p>The area in the northwest is comprised of young alder (D).</p>	<p><u>Primary Code/s</u></p> <p>Other broadleaved woodland (w1g)</p> <p><u>Secondary Code</u></p> <p>Line of trees (33)</p>	 <p>Line of trees to the North of Children &amp; Family Centre.</p>	No	<p>Possibly – but this habitat does provide a wildlife corridor and has potential to support birds and bats (see Table 3).</p> <p>Section of this habitat have species of cotoneaster and montbretia, which are invasive non-native plant species listed under Schedule 9 of the WCA 1981 (as amended).</p> <p>Furthermore, although the trees within the survey area are of limited intrinsic ecological value, it would be necessary to undertake a BS5837 Tree Survey in the event that their removal, damage or incursion into roost zone is unavoidable.</p>


Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
		 <p>Line of trees in the North Western Park of the Suryve Area.</p>		
<p><u>Ornamental Garden Area</u></p> <p>There is a fenced off community garden area present to the centre-east of the survey area. This is comprised of a hardstanding path, modified grassland, and various scattered trees including conifer sp. (F), willow (R), sycamore (R) and barberry (R).</p>	<p><u>Primary Code/s</u></p> <p>Urban u1d</p> <p><u>Secondary Codes</u></p> <p>Community Garden - 830</p> <p>Fence (612)</p>		No	<p>No – in the context of the wider area this is not considered of conservation value.</p> <p><b>Recommendations are made in Table 3 regarding protected species.</b></p>

<b>Table 2: Habitat Descriptions and Evaluation within the Survey Area</b>				
<b>Habitat Description</b>	<b>UK Hab Classification</b>	<b>Photograph</b>	<b>Local BAP/S.7</b>	<b>Potential Constraints</b>
		<i>Garden to the centre-east.</i>		
<u>Dry Ditch</u> There is a dry drainage ditch present to the north of the survey area. This is colonised by neutral grassland, of a similar species composition to that described above.	<u>Primary Code/s</u> Other neutral grassland (g3c)  <u>Secondary Code</u> Ditch (50)	 <i>Dry drainage ditch.</i>	No	No – this habitat is dry and does not add any additional value to the grassland in which it is present.  <b>Please see row referring to 'Grassland'.</b>

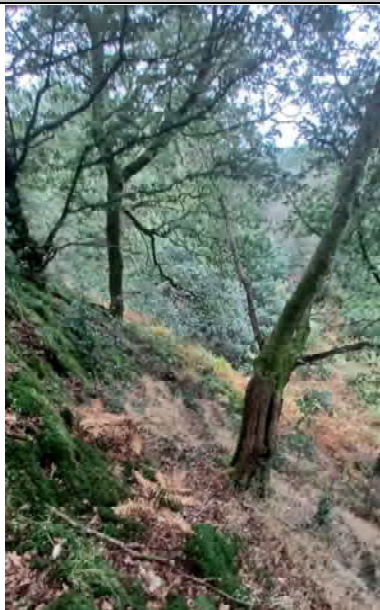
**Table 2: Habitat Descriptions and Evaluation within the Survey Area**

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Bracken</u></p> <p>There are areas of dense bracken <i>Pteridium aquilinum</i> (D) present in the northern and eastern parts of the survey area. The largest area covers the steep slope to the east beyond Heol Pendyrus. Areas of scattered bramble agg. <i>Rubus fruticosus</i> scrub are also present within the bracken. The area along the northern boundary also has hawthorn (O), larch (O), Franchet's cotoneaster <i>Cotoneaster franchetii</i> (O), ash (R), and foxglove <i>Digitalis purpurea</i> (O) present.</p> <p>The species goldenrod <i>Solidago virgaurea</i> was recorded growing amongst the bracken underneath a silver birch tree in the southeastern part of the survey area.</p>	<p><u>Primary code</u></p> <p>Bracken (g1c)</p> <p><u>Secondary code/s</u></p> <p>Scattered trees (32) Scattered scrub (10) Dry stone wall (114) Anthills (124) Young trees – self set (202) Landslips (512) Rock outcrop (513) Abandoned (519) Unmanaged (521) Ecotone (530)</p>	 <p>Dense bracken to the east.</p>  <p>Goldenrod <i>Solidago virgaurea</i> (GR: ST00681 94964)</p>	<p>LBAP (Ffridd / bracken slopes and acidic scree)</p>	<p>Possibly – the bracken slopes present within the eastern part of the survey area form part of the Mynydd Ty'n-tyle Slopes SINC.</p> <p>Recommendations are made in Table 3 regarding protected species.</p>

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
		 <i>Dry stone wall (GR: ST00666 94989)</i>		

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Western acidic oak woodland</u></p> <p>Along the eastern boundary of the survey area there is a strip of oak woodland lining the lower valley slope. Species include sessile oak <i>Quercus petraea</i> with an understorey of bilberry <i>Vaccinium myrtillus</i> (F), holly <i>Ilex aquifolium</i>, hard fern, <i>Blechnum occidentale</i> and many other ferns, mosses and lichens.</p>	<p><u>Primary code</u></p> <p>Western acidic oak woodland (w1a5)</p> <p><u>Secondary code</u></p> <p>Temperate rainforest (25)</p> <p>Scattered bracken (12)</p> <p>Scattered dwarf shrubs (13)</p> <p>Forest brash (207)</p> <p>Rock outcrop (513)</p>	 <p><i>Sessile oak woodland to the east</i></p>	<p>Annex 1 Subset of Priority Habitat LBAP/S7</p>	<p><b>Yes – this habitat is high priority for conservation</b></p> <p><b>Badger <i>Meles meles</i> (suspected tracks in woodland).</b></p> <p><b>Bats sp. Various Potential Roost Features PRFs in sessile oak woodland.</b></p> <p><b>Will provide habitat for other fauna including birds.</b></p>

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**



Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Mixed Scrub</u></p> <p>There are large areas of mixed scrub in the northwest, south, and north/northeast. The area to the southeast is dominated by bramble with abundant ruderal species. Species present here include rosebay willowherb <i>Chamaenerion angustifolium</i> (F), hemp-agrimony <i>Eupatorium cannabinum</i> (F), meadow vetchling <i>Lathyrus pratensis</i> (O), soft rush <i>Juncus effusus</i> (O), Perforate St. John's wort <i>Hypericum perforatum</i> (O), buddleia <i>Buddleja davidii</i> (F), yellow loosestrife <i>Lysimachia punctata</i> (R), saxifrage sp. <i>Saxifraga</i> sp. (R – reserved to boundaries). Other understory species include broad-leaved dock <i>Rumex obtusifolius</i> (O), and common ragwort <i>Senecio jacobaea</i> (F).</p>	<p><u>Primary Code</u></p> <p>Mixed scrub (h3h)</p> <p><u>Secondary Code</u></p> <p>Scattered scrub (10)</p> <p>Tall forbs (16)</p> <p>Scattered trees (32)</p>	 <p>Mixed scrub in the northwest of the Survey Area.</p>  <p>Mixed scrub in the south of the Survey Area.</p>	No	<p>No – this habitat is not of significant conservation concern.</p> <p>Sections of this habitat have Japanese knotweed and small-leaved cotoneaster, which are invasive non-native plant species listed under Schedule 9 of the WCA 1981 (as amended).</p> <p>Refer to section 4 for discussion on eradication of invasive species. There may be constraints relating to protected/notable species from any adverse effects on these habitats which are set out in Table 3 - breeding birds, common reptiles, and European hedgehog.</p>

Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>Smaller areas are scattered throughout the survey area. These comprise bramble, bracken, rugosa rose <i>Rosa rugosa</i> (locally A), hawthorn, shrubby honeysuckle <i>Lonicera nitida</i> (O), late cotoneaster <i>Cotoneaster lacteus</i> (O), dogwood <i>Cornus sanguinea</i> (O), creeping thistle <i>Cirsium arvense</i> (O), hazel <i>Corylus avellana</i> (R), holly, willow, ash, and trailing blackberry <i>Rubus ursinus</i> (locally D). There is also small-leaved cotoneaster <i>Cotoneaster microphyllus</i> present, as identified by TN9.</p> <p>Species present in the area along the northwest boundary include bush vetch <i>Vicia sepium</i> (A), bramble (A), elder (A), barberry <i>Berberis sp.</i> (A), hedge mustard <i>Sisymbrium officinale</i> (O), nettle <i>Urtica dioica</i> (F), hogweed <i>Heracleum sphondylium</i> (F),</p>		 <p>Section of mixed scrub to the North centre-East.</p>  <p>Japanese knotweed within mixed scrub.</p>		

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>meadowsweet <i>Filipendula ulmaria</i> (locally A), and fox and cubs <i>Pilosella aurantiaca</i> (O).</p> <p>In addition to the species listed above, the large area present in the north to the centre-east has Norway maple (R), gorse <i>Ulex europaeus</i> (O), lady's mantle <i>Alchemilla mollis</i> (O), and very tall, dense stands of Japanese knotweed <i>Fallopia japonica</i> (locally A) (TN11). A telephone pole is present in the area to the northeast (TN 1).</p>				

<b>Table 2: Habitat Descriptions and Evaluation within the Survey Area</b>				
<b>Habitat Description</b>	<b>UK Hab Classification</b>	<b>Photograph</b>	<b>Local BAP/S.7</b>	<b>Potential Constraints</b>
<p><u>Willow Scrub</u></p> <p>There are stands of willow scrub scattered throughout the northeast/east of the Survey Area. The trees are young, and the majority are no more than 5m tall.</p>	<p><u>Primary Code</u></p> <p>Willow scrub (h3j)</p>	 <p><i>Willow scrub to the Northeast.</i></p>	No	<p>No – this habitat is of low conservation value.</p> <p><b>Recommendations are made in Table 3 regarding protected species.</b></p>
<p><u>Bramble Scrub</u></p> <p>There are some areas of bramble scrub, including in the northeast corner where bramble is dominant, but other species present include foxglove (F), rosebay willowherb (O), nettle (O), bracken (F), scattered trees such as rowan (O) and European larch (O).</p> <p>The small area to the northwest within the grassland also has young</p>	<p><u>Primary Code</u></p> <p>Bramble scrub (h3d)</p> <p><u>Secondary Code</u></p> <p>Scattered scrub (10) Tall forbs (16) Scattered trees (32)</p>	 <p><i>Bramble scrub to the Northwest</i></p>	No	<p>No – this habitat is of low conservation value.</p> <p><b>Recommendations are made in Table 3 regarding protected species.</b></p>


<b>Table 2: Habitat Descriptions and Evaluation within the Survey Area</b>				
<b>Habitat Description</b>	<b>UK Hab Classification</b>	<b>Photograph</b>	<b>Local BAP/S.7</b>	<b>Potential Constraints</b>
elder present (O). There is also a substantial area present around the building in the northwest corner.				
<u>Gorse Scrub</u> There are small areas of gorse scrub within the north-east. Species present here include gorse (D), trailing blackberry (A), and broom <i>Cytisus scoparius</i> (F).	<u>Primary Code</u> Gorse scrub (h3e)  <u>Secondary Code</u> Scattered scrub (10)	 <i>Gorse scrub to the NE.</i>	No	No – this limited section of gorse is of low conservation value, but there may be constraints associated with species using the habitat if it is subject to impacts.  <b>Recommendations are made in Table 3 regarding protected species.</b>



Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Hedgerow (Non-Native)</u></p> <p>There are two non-native hedgerows, one to the centre-west of the Survey Area and another to the northwest, that are comprised of dominant shrubby honeysuckle (<i>Lonicera nitida</i>). There is also a willow tree present in the hedgerow to the centre-west.</p>	<p><u>Primary Code</u></p> <p>Non-native and ornamental hedgerow (h2b)</p> <p><u>Secondary Code</u></p> <p>Scattered trees (33)</p>	 <p>Hedgerow to centre-west.</p>	No	<p>No – this habitat is of low conservation value, but there may be constraints associated with species using the habitat if it is subject to impacts.</p> <p>Please see section 4 for recommendations.</p>
<p><u>Modified Grassland</u></p> <p>Modified grassland is present in the centre/west of the Survey Area, between the residential properties. Some areas are managed as a short sward, whereas others have been left to grow rank and occasionally mown around the margins. Species present in these areas include perennial rye-grass <i>Lolium perenne</i> (A), Yorkshire fog <i>Holcus lanatus</i> (F), annual meadow-grass <i>Poa annua</i></p>	<p><u>Primary Code</u></p> <p>Modified grassland (g4)</p> <p><u>Secondary Codes</u></p> <p>Mown (106)</p> <p>Scattered trees (32)</p>	 <p>Modified grassland between properties.</p>	No	<p>No – this habitat is of low conservation value, but there may be constraints associated with species using the habitat if it is subject to impacts.</p> <p>Please see section 4 for recommendations.</p>


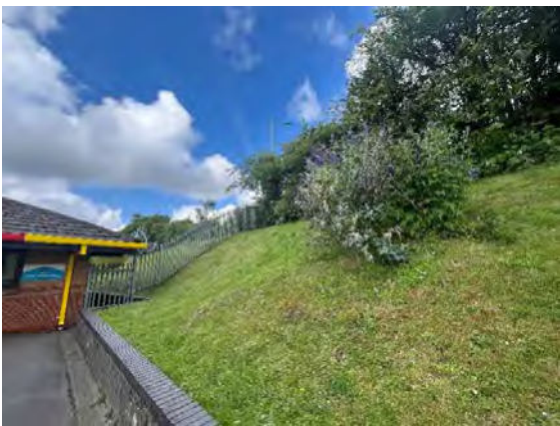




Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>(F), creeping buttercup <i>Ranunculus repens</i> (F), white clover <i>Trifolium repens</i> (F), red clover <i>Trifolium pratense</i> (O), greater plantain <i>Plantago major</i> (O), dandelion <i>Taraxacum officinale</i> (O), common daisy <i>Bellis perennis</i> (O), common chickweed <i>Stellaria media</i> (O), and cut-leaved cranesbill <i>Geranium dissectum</i> (O). This habitat is poached in some areas due to well-worn footpaths and burning of refuse. A poached area of this habitat in the southwest corner has Japanese knotweed present (TN 4). There is a manhole cover present in the area to the northwest (TN 8).</p>		 <p>Modified grassland between properties.</p>  <p>Grassland within Primary School.</p>		

Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Other Neutral Grassland</u></p> <p>Twenty-seven species were recorded across the neutral grassland but less than 15 were recorded per m<sup>2</sup>. The grassland present within the northwest and east of the survey area is mainly comprised of rank poor semi-improved neutral grassland, however, species indicators for acid and calcareous grassland were also found. Species present in the northeast/east include Yorkshire fog (F), cock-s-foot (F), creeping buttercup (F), nettle (F), tall oat-grass <i>Arrhenatherum elatius</i> (F), common bent <i>Agrostis capillaris</i> (F), crested dog's-tail <i>Cynosurus cristatus</i> (O), sweet vernal grass <i>Anthoxanthum odoratum</i> (O), daisy (O), common knapweed <i>Centaurea nigra</i>, ribwort plantain (O), greater bird's-foot trefoil <i>Lotus pedunculatus</i> (O), broad-leaved</p>	<p><u>Primary Code</u></p> <p>Other neutral grassland (g3c)</p> <p><u>Secondary Codes</u></p> <p>Mature tree (203)</p> <p>Scattered trees (32)</p>	 <p>Grassland within North East/ East</p>  <p>Open shaft within North East/East</p>	No	<p>Possible - This habitat may be lost to facilitate the proposed development. Whilst it does not meet the criteria of a Priority Habitat (lacking key forb indicator species) it is relatively species rich with grass species present associated with neutral grasslands. pr.</p> <p>See section 4 for recommendations.</p> <p>Yellow meadow ant <i>Lasius flavus</i> (presence of ant hills)</p> <p>Green woodpecker <i>Picus viridis</i></p>

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>dock (O), rosebay willowherb (locally A), dandelion (O), soft rush <i>Juncus effusus</i> (O), foxglove (O), meadow buttercup <i>Ranunculus acris</i> (O), creeping thistle (O), red clover <i>Trifolium pratense</i> (O), white clover <i>Trifolium repens</i> (O), creeping cinquefoil <i>Potentilla reptans</i> (O), greater plantain (O), hemp-agrimony <i>Eupatorium cannabinum</i> (O), lesser trefoil <i>Trifolium dubium</i> (O), tufted vetch <i>Vicia cracca</i> (O), silverweed <i>Potentilla anserina</i> (R) hawkweed sp. <i>Hieracium</i> sp. (R) and sedge sp. <i>Carex</i> sp. (R),</p> <p>Scattered trees such as willow, oak, and rowan are present, as well as scattered bramble and bracken. There are also a few open shafts present in this area of the survey area, those observed are identified by <b>TNs 2 and 3</b>. The grassland in the</p>		 <p>Grassland to North West.</p>  <p>Grassland to North West</p>		

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**


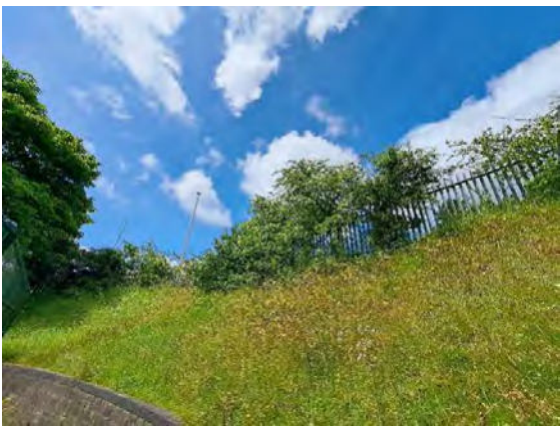

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>north western part of the survey area reflects this composition, with the addition of common ragwort (O), dandelion (O), ox-eye daisy <i>Leucanthemum vulgare</i> (O), fox and cubs <i>Pilosella aurantiaca</i> (O), selfheal <i>Prunella vulgaris</i> (O), and hogweed (O). This area had recently been mown around its perimeter, with the sward more rank towards the middle of this parcel reaching approximately 50cm in height. This management regime was typical of numerous areas around the survey area.</p> <p>INNS recorded in the grassland along the northeastern boundary include montbretia (GR: ST00508 95237) and hollyberry cotoneaster <i>Cotoneaster rehderi</i>.(GR: ST00480 95237).</p> <p>The grassland within the boundary of the Penrhys Primary School and</p>		 <p>Grassland in the South East</p>  <p>Grassland within School/Family centre grounds.</p>		

Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>Penrhys Children and Family Centre was more intensively managed, and in addition to the above, included lesser trefoil (F), mouse ear hawkweed <i>Pilosella officinarum</i> (F), oxeye daisy (O), creeping cinquefoil (O), dove's-foot cranesbill <i>Geranium molle</i> (O), cock's-foot (O), prickly sow-thistle <i>Sonchus asper</i> (O), ribwort plantain (O), birds foot trefoil <i>Lotus corniculatus</i> (O), fox and cubs (O), thyme leaved speedwell <i>Veronica serpyllifolia</i> (R) and common fleabane <i>Pulicaria dysenterica</i> (R). Buddelia and montbretia were also present within the school grounds.</p> <p>The grassland present in the southeast corner reflected the composition above but has frequent patches of bramble scrub present along with scattered young willow (F), ash (O), and oak (O).</p>				

Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Other neutral grassland/Disturbed Ground</u></p> <p>There is a parcel of grassland towards the northeast of the survey areas. The vegetation is mainly low growing and there are significant areas of bare/poached ground on a substrate that looks like colliery spoil. Species present here include coltsfoot <i>Tussilago farfara</i> (locally A to the western area), black medick <i>Medicago lupulina</i> (A), ribwort plantain (F), creeping cinquefoil (F), yarrow (F), red clover (F), and sedge sp. <i>Carex sp.</i> (F) and lady's-mantle <i>Alchemilla mollis</i> (R). There are areas of locally frequent hard rush <i>Juncus inflexus</i> and sphagnum moss <i>Sphagnum sp.</i> is frequent which indicates damper ground conditions. Two orchid species, bee orchid <i>Medicago lupulina</i> (O), and southern marsh orchid (O), were</p>		 <p>Other neutral grassland with locally abundant hard rush.</p>		<p>Possibly – areas of this habitat are likely to be lost to facilitate the development. Whilst the grassland has less species diversity than other areas it does contain indicator species of neutral grassland including orchids and Lady's mantle. It may also be a mycologically rich grassland which can be associated with a low diversity of vascular plants.</p> <p>See section 4 for recommendations.</p> <p>The presence of Yellow meadow ants <i>Lasius flavus</i> and their hills are indicators of unimproved grassland. They can be the primary food source for birds such as green woodpecker <i>Picus viridis</i>, and reptiles such as common lizard</p>

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**


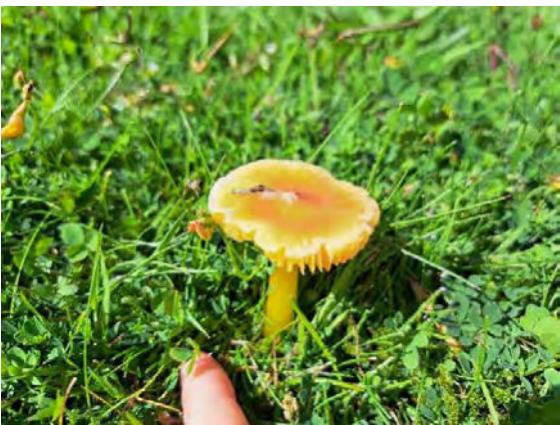

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
found in the eastern part of this area. A waxcap fungi, thought to be golden waxcap <i>Hygrocybe chlorophane</i> was also found in this habitat (TN 12).		  <i>Waxcap (TN12)</i>		<i>Zootoca vivipara</i> and slow worm <i>Anguis fragilis</i> .

Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Dwarf Shrub Heath (h1)</u></p> <p>There is an area of lowland dwarf shrub heath just inside the northern boundary to the centre. Species in this area include heather (A) and bracken (F). Foxglove (F), rosebay willowherb (F), and ragwort (F) can also be seen in this area, as well as other species typical of the neutral grassland habitat present within the survey area.</p>	<p><u>Primary Code</u> Dwarf shrub heath (h1)</p> <p><u>Secondary Code</u> Scattered bracken (12)</p>	 <p><i>Dwarf shrub heath in the Northern Part of the Survey Area associated with the SINC</i></p>	LBAP / S.7	<p>High Priority Habitat for Conservation (LBAP) and Section 7 Priority Habitat.</p> <p>Possible – this habitat could be adversely affected /lost by any proposals in this area during construction.</p> <p>See section 4 for recommendations.</p>

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**


Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Dry Heaths: Lowland</u></p> <p>Within the southeast in the triangular area of the survey area there is a patch of lowland dry heath which used to be used by dirt bikes that had made an area of bare ground. Due to the inaccessibility the area is now regenerating with heather (<i>Calluna vulgaris</i>) and other heathland species.</p>	<p><u>Primary Code</u></p> <p>h1a5 Dry Heaths – Lowland (H4030)</p> <p><u>Secondary Code</u></p> <p>Invasive Non-native Species (524)</p>	 <p>Regenerating lowland dry heath</p>	LBAP / S.7	<p>High Priority Habitat for Conservation (LBAP) and Section 7 Priority Habitat.</p> <p>Possible – this habitat could be adversely affected /lost by any proposals in this area during construction.</p> <p>See section 4 for recommendations.</p> <p>Yellow meadow ant <i>Lasius flavus</i> (presence of ant hills)</p>
<p><u>Lowland Dry Acid Grassland</u></p> <p>There is an area of lowland dry acid grassland located in the southeastern triangular-shaped part of the survey area. Species in this area include bell heather <i>Erica cinerea</i> (O), bilberry, bird's-foot trefoil <i>Lotus corniculatus</i> (O), common centaury <i>Centaureium</i></p>	<p><u>Primary Codes</u></p> <p>Lowland dry acid grassland (g1a)</p> <p><u>Secondary Codes</u></p> <p>Tall forbs (16)</p> <p>Tall or tussocky sward (129)</p> <p>Scattered trees (32)</p>		LBAP / S7	<p>High Priority Habitat for Conservation (LBAP) and Section 7 Priority Habitat.</p> <p>Possibly – areas of this habitat are likely to be lost to facilitate the development.</p>





Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><i>erythraea</i> (O), heath bedstraw <i>Galium saxatile</i> (O), heath speedwell (O), heather <i>Calluna vulgaris</i> (O), lichens <i>various</i>, sheep's sorrel <i>Rumex acetosella</i>, and tormentil <i>Potentilla erecta</i> (F).</p> <p>There is also a patch of acid grassland that is dominated by soft rush <i>Juncus effusus</i> (A), GR: ST00524 94823.</p> <p>INNS recorded in this area include rock cotoneaster <i>Cotoneaster horizontalis</i> (GR: ST00524 94934 and ST00385 94842), Himalayan cotoneaster <i>Cotoneaster simonsii</i> (GR: ST00567 94860) and montbretia (GR: ST00507 94929).</p>	<p>Scattered scrub (10)</p> <p>Scattered bracken (12)</p> <p>Scattered rushes (14)</p> <p>Scattered dwarf shrubs (13)</p> <p>Mature tree (203)</p> <p>Rock outcrop (513)</p>	 <p>Marshy rush habitat where there is holding water</p>  <p>Yellow meadow ant hills <i>Lasius flavus</i></p>		<p>See section 4 for recommendations.</p> <p>Yellow meadow ant <i>Lasius flavus</i> (presence of ant hills)</p>

Table 2: Habitat Descriptions and Evaluation within the Survey Area				
Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p>There is a second area of lowland dwarf shrub heath located in the southeastern triangular-shaped part of the survey area. Species in this area include heather (A), bell heather (O), heath bedstraw, sheep's-bit <i>Jasione montana</i> (O), tormentil (F), Bracken (D), gorse (R), bilberry, Fern <i>sp.</i> (F), Moss <i>sp.</i> (F) and Lichen <i>sp.</i></p> <p>Invasive species include Himalayan cotoneaster (F).</p>			LBAP / S.7	<p>High Priority Habitat for Conservation (LBAP) and Section 7 Priority Habitat.</p> <p>Possible – this habitat could be adversely affected /lost by any proposals in this area during construction.</p> <p>See section 4 for recommendations.</p> <p>Yellow meadow ant <i>Lasius flavus</i> (presence of ant hills)</p>

**Table 2: Habitat Descriptions and Evaluation within the Survey Area**

Habitat Description	UK Hab Classification	Photograph	Local BAP/S.7	Potential Constraints
<p><u>Acidic Scree</u></p> <p>There is a large area of acidic scree which has been lost to bracken and bramble due to the lack of management located on the eastern slope of the valley. With appropriate management this area can be made much more diverse and more of an asset to biodiversity.</p>	<p><u>Primary Code</u></p> <p>Acidic scree (s1a5)</p>	 <p>Acidic scree with associated Maidenhair spleenwort <i>Asplenium trichomanes</i> and moss species</p>	LBAP/S.7	<p>High Priority Habitat for Conservation (LBAP) and Section 7 Priority Habitat.</p> <p>Possible – this habitat could be adversely affected /lost by any proposals in this area during construction.</p> <p>See section 4 for recommendations.</p> <p>Yellow meadow ant <i>Lasius flavus</i> (presence of ant hills)</p>
<p><u>Residential Gardens</u></p> <p>Despite the residential gardens being omitted from the survey, these have been mapped on Drawing Number CA13129-005 (UKHab Survey Results) as 'Suburban mosaic of developed and natural surface' (u1d) to reflect the likely composition of the habitats present.</p>	<p><u>Primary Code</u></p> <p>Suburban mosaic of developed and natural surface (u1d)</p> <p><u>Secondary Code</u></p> <p>Garden (827)</p>	No photo provided.	X	<p>No – this habitat is likely to be of low conservation value, but there may be constraints associated with species using the habitat if it is subject to impacts.</p> <p>Please see section 4 for recommendations.</p>

### **3.4 Species**

3.4.1 Protected and S.7 species are evaluated in order to identify potential adverse effects in Table 3 below, based on the following criteria:

- Desk study records;
- Evidence found during the survey;
- Presence, extent, quality, and viability of supporting on-site habitat;
- Ecological connectivity to viable off-site habitats; and
- Perceived impacts of habitat loss/impact to individuals in relation to proposals.

3.4.2 Species for which adverse effects are predicted (yellow or red) are discussed in more detail in the Discussion and Recommendations section. Species/taxa for which potential adverse effects are not anticipated (green) are excluded from further assessment.

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status <sup>19</sup>	Supporting Habitat(s)Present	Potential Constraints
<b>Badger</b> <i>Meles meles</i>	There are no recent or historical records of badger within 2km.	BA	<p>The grassland and scrub on the eastern portion of the survey area, as well as the western developed section, are suitable for foraging by badgers.</p> <p>The eastern section of the survey area,beyond Heol Pendyrus also has a steep sloping gradient that may present opportunities for sett building, particularly as there are a number of mature broadleaved trees present that are protected from anthropogenic disturbance due to the steep slope and dense vegetative cover. The coniferous woodland present outside of the survey area boundary to the north also has potential for sett building.</p> <p>A clump of fur indicative of badger was identified within the north-east of the survey area.</p>	<p><b>Possibly – there is potential for a sett to be present within/within close proximity to the survey area and potential for badgers to forage/commute across the site. There is potential for both direct impacts through habitat loss and death/injury to individuals and indirect impacts through disturbance, both through the construction and operational phases.</b></p> <p><b>See section 4 for recommendations.</b></p>
<b>Bats</b> <i>Chiroptera</i>	There is one record of bats from 2019, approximately 0.6km. It is a maternity roost record of a pipistrelle species ( <i>Pipistrellus</i> sp.).	EPS, WCA, S.7,	The grasslands, scattered trees, lines of trees, bracken and scrub within the survey area provides potential commuting and foraging habitat for bats.	<b>Yes – if habitats used for roosting / foraging / commuting are directly or indirectly impacted upon by the proposed development in the operational and construction phases through artificial</b>

<sup>19</sup> **EPS** – European Protected Species, **WCA** – Wildlife and Countryside Act, **WCA (9)** – species listed under Schedule 9, **A1** – Annex 1 (Birds Directive), **BA** – Protection of Badgers Act, **S.7** – species listed under section 7 of the Environment (Wales) Act as species of principal importance, **BoCC** – Birds of Conservation Concern.

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status <sup>19</sup>	Supporting Habitat(s)Present	Potential Constraints
			The buildings and trees within the survey area provide potential roosting opportunities for bats. The survey area is also connected to/surrounded by suitable habitat in the wider landscape.	<b>lighting and clearance/modification of suitable habitat features.</b>  <b>See section 4 for recommendations.</b>
<b>Birds</b>	Approximately 127 records of bird species within 2km in the last 10 years. A wide range of BoCC and Red List species and WCA Schedule listed species including: <ul style="list-style-type: none"> <li>• Bullfinch</li> <li>• Corn bunting</li> <li>• Curlew</li> <li>• Dunnock</li> <li>• Grey partridge</li> <li>• Herring gull</li> <li>• House sparrow</li> <li>• Linnet</li> <li>• Lapwing</li> <li>• Reed bunting</li> <li>• Skylark</li> <li>• Song thrush</li> <li>• Starling</li> </ul>	S.7, WCA BoCC	Both foraging and breeding habitat is present in the form of scattered trees, scrub, lines of trees, and grassland. The buildings within the survey area also provide nesting opportunities. Three nests were observed on-site – two house sparrow ( <i>Passer domesticus</i> ) nests on block 41 towards the east of the survey area and one on block 11 to the southwest of the survey area. There were also several species observed on site during the survey, including green woodpecker <i>Picus viridis</i> , chiffchaff <i>Phylloscopus collybita</i> , song thrush <i>Turdus philomelos</i> , blackbird <i>Turdus merula</i> , and jackdaw <i>Corvus monedula</i> . These were all observed in the north/eastern sections of the survey area, amongst the grassland, scrub, and trees. Chaffinch <i>Fringilla coelebs</i> and greenfinch <i>Chloris chloris</i> were also heard in this area. Across the wider Suvey Area, carrion crow <i>Corvus corone</i> and house sparrow were recorded, and numerous swallows <i>Hirundo</i>	<b>Yes – the development is likely to lead to a loss of foraging and potential breeding habitat which may result in direct/indirect impacts to various bird species.</b>  <b>See section 4 for recommendations.</b>

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status <sup>19</sup>	Supporting Habitat(s)Present	Potential Constraints
	<ul style="list-style-type: none"> <li>Tree sparrow</li> <li>Yellowhammer</li> </ul>		<p><i>rustica</i>, and swifts <i>Apus apus</i> were observed overhead.</p> <p>A local resident shared in a personal communication that European nightjar <i>Caprimulgus europaeus</i> are known to occupy the SINC to the north of the survey area boundary in the summer months. This species is present on the Section 7 list of species of principal importance in Wales. The nearest record of this species is approximately 1.5km away.</p>	
Brown hare <i>Lepus europaeus</i>	There are no recent or historical records of brown hare within 2km.	S.7	The survey area lacks the open arable farmland and hedgerow habitats favoured by brown hare both within the survey area boundary and surrounding landscape.	No – the species is likely absent.
European hedgehog <i>Erinaceus europaeus</i>	<p>There are eight records of European Hedgehog within 2km within the last 10 years.</p> <p>The most recent record was from 2020, 0.1km.</p>	S.7	<p>There are multiple habitats within the survey area suitable for supporting hedgehogs including residential gardens and grassland for foraging, and dense vegetation, mature trees, and scrub for nesting and hibernation.</p> <p>A deceased individual was observed in the grassland habitat within the northern part of the survey area confirming their presence within the survey area.</p>	<p><b>Yes – potential for direct impacts to individuals through injury/death if present at the time of works and indirect impacts through disturbance and destruction of habitat.</b></p> <p><b>See section 4 for recommendations.</b></p>

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status <sup>19</sup>	Supporting Habitat(s)Present	Potential Constraints
<b>Great crested newt</b> <i>Triturus cristatus</i>	There are no recent or historical records of GCN within 2km.	EPS, WCA, S.7	There are some terrestrial habitats within the survey area with potential to support great crested newt including rank/cropped grassland and scrub that provide opportunities for foraging and refuge, however there are no aquatic habitats within the survey area that are suitable for supporting breeding GCN. All waterbodies within a 500m buffer of the survey area boundary consist of isolated spring lines within moderately steep terrain mainly covered with dense bracken / ground water. A majority of these are also separated from the survey area by residential areas and/or roads.	No - it is considered to be unlikely due to the suboptimal waterbodies within 500m of the survey area and the terrestrial habitats not being of higher value than those already abundant in the wider landscape.
<b>Common toad</b> <i>Bufo bufo</i>	There is 1 record of common toad from 2018, 1.8km.	S.7	The habitats within the survey area have potential to support common toad, including rank/cropped grassland, scrub, and scattered trees that provide opportunities for foraging and refuge.	<b>Possibly - there is potential for direct/indirect adverse effects on common toad resulting from the development, if present.</b>  <b>See section 4 for recommendations.</b>
<b>Reptiles</b>	There are 10 records of common reptiles within 2km within the Suvey Area, within the last 10 years, including: - Slow worm <i>Anguis fragilis</i> ; and	WCA, S.7	There are multiple habitats within the survey area that could support common reptiles. These include areas of hardstanding and grassland suitable for foraging/basking which are connected to scrub and rank grassland that provide cover and add structural complexity. There are a number of hibernacula	<b>Yes – works could impact common reptiles, if present, directly through injury/death to individuals and indirectly through the clearance of suitable habitat and disturbance.</b>

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status <sup>19</sup>	Supporting Habitat(s) Present	Potential Constraints
	- Common lizard <i>Zootoca viviparia</i> .		features such as small mammal burrows, tussocky grass, rubble/stone piles and other debris, and old walls.  The topography of the survey area is also favourable to reptiles, sloping north to south. The habitats within the survey area provide connectivity to suitable habitat in the wider landscape offering opportunities for dispersal and wider foraging.	See section 4 for recommendations.
Hazel dormouse <i>Muscardinus avellanarius</i>	There are no recent or historical records of Hazel dormouse within 2km.	EPS, WCA, S.7	Although there are some suitable food plants present (e.g., bramble, oak, and sycamore), there is extremely limited hazel within the survey area and a lack of continuous linear features that provide uninterrupted connectivity with suitable habitat in the wider landscape. This, combined with a lack of records within 2km of the survey area, indicates that they are likely absent from the survey area.	No – the species is likely to be absent.
<b>Invertebrates (Protected and notable species)</b>	There are 75 records of protected and notable invertebrates within 3km of the survey area, from the last 10 years.  Including, but not exclusive to:	LBAP, S.7	The habitats within the survey area, including grassland, scrub, and scattered trees, have potential to support a variety of invertebrate species. Several invertebrates were observed during the site survey, including cinnabar moth, six-spot burnet moth <i>Zygaena filipendulae</i> , a species of parasitic wasp, thick-legged flower beetle <i>Oedemera nobilis</i> ,	<b>Yes – the site has the potential to support a range of common and protected/notable invertebrate species. Therefore, the development has potential to directly and indirectly impact invertebrate populations through death of individuals, permanent</b>

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status <sup>19</sup>	Supporting Habitat(s)Present	Potential Constraints
	<ul style="list-style-type: none"> <li>- Cinnabar moth <i>Tyria jacobaeae</i>;</li> <li>- Wall <i>Lasiommata megera</i>;</li> <li>- Latticed heath <i>Chiasmia clathrate</i>;</li> <li>- Small Heath <i>Coenonympha pamphilus</i>;</li> <li>- Broom moth <i>Ceramica pisi</i>;</li> <li>- Golden-ringed dragonfly <i>Cordulegaster boltonii</i>; and</li> <li>- Dingy skipper <i>Erynnis tages</i>.</li> </ul> <p>The most recent record is a cinnabar moth from 2023, 0.5km from the survey area.</p>		gatekeeper <i>Pyronia tithonus</i> , and speckled wood <i>Pararge aegeria</i> .	<p><b>loss of breeding/foraging habitat, and habitat fragmentation.</b></p> <p><b>Please see section 4 for recommendations.</b></p>
<b>Otter</b> <i>Lutra lutra</i>	There is 1 record of otter from 2024, 1.3km from the survey area.	EPS, WCA, S.7	There are no watercourses suitable for supporting otters within the survey area, and the watercourses present within 500m comprise isolated spring lines that are separated from the development site by moderately steep terrain.	<b>Possibly – this species is likely absent from the survey area, so no direct impacts are anticipated. However, indirect impacts are possible should there be any pollution incidents that impact local watercourses.</b>
<b>Water vole</b> <i>Arvicola amphibius</i>	There are no records of water vole within 2km of the survey area, from the last 10 years but water vole populations are present within Rhondda Cynon Taf.	WCA, S.7	No - there are no watercourses suitable for supporting water vole within the survey area, and the watercourses present within 500m comprise isolated spring lines that are separated from the development site by moderately steep terrain.	<b>Possibly – this species is likely absent from the survey area, so no direct impacts are anticipated. However, indirect impacts are possible should there be any pollution incidents that impact local watercourses.</b>

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status <sup>19</sup>	Supporting Habitat(s)Present	Potential Constraints
<b>White-clawed crayfish</b> <i>Austropotamobius pallipes</i>	There are no recent or historical records of white-clawed crayfish within 2km.	EPS, WCA, S.7	There are no watercourses suitable for supporting white-clawed crayfish within the survey area.	<b>Possibly – this species is likely absent from the survey area site, so no direct impacts are anticipated.</b>
<b>Protected and notable plant species</b>	There are 33 records of vascular plant species recorded within 2km of the survey area in the last 10 years, including but not limited to: <ul style="list-style-type: none"> <li>• Bluebell <i>Hyacinthoides non-scripta</i>;</li> <li>• Pyramidal orchid <i>Anacamptis pyramidalis</i>; and</li> <li>• Welsh poppy <i>Meconopsis cambrica</i>.</li> </ul>	WCA, S.7	The habitats within the survey area are suitable for supporting numerous protected and notable plant species. Southern marsh orchid <i>Dactylorhiza praetermissa</i> and bee orchid <i>Ophrys apifera</i> were observed in the centre-east of the Survey Area, which are present on the LBAP for Rhondda Cynon Taf.	<b>Yes – species of local conservation concern have been identified within the survey area. The development is likely to result in adverse impacts to notable plant species present. An individual golden waxcap was also identified in grassland habitat (TN 12).  Please see section 4 for recommendations.</b>
<b>Invasive Non-Native Species (INNS)</b>	There are 74 records of INNS (plants) from within 2km of the survey area, in the last 10 years. Including but not limited to: <ul style="list-style-type: none"> <li>- Japanese knotweed <i>Reynoutria japonica</i>;</li> <li>- Himalayan balsam <i>Impatiens glandulifera</i></li> </ul>	WCA (9)	Multiple invasive species were observed within the survey area. These include a large stand of Japanese knotweed towards the north of the survey area (TN 11) and a smaller area in the southwest corner of the survey area (TN 4), and areas of small-leaved cotoneaster (TN 9). Montbretia was also present within the grounds of Penrhys Primary School. Buddleia is also present as well as cherry laurel identified as TN 5 / TN 6 / TN 15.	<b>Yes – as invasive species identified are present on Schedule 9 of the Wildlife &amp; Countryside Act (1981), these must be eradicated under direction of a method statement devised by an invasive species specialist to avoid causing the spread of these species and therefore committing an offence. The other INNS should be subject to eradication to benefit local biodiversity.</b>

Receptor (species/taxa)	Desk Study records within 2km of the Central Grid Reference of the Survey Area	Status 19	Supporting Habitat(s)Present	Potential Constraints
	<ul style="list-style-type: none"><li>- cherry laurel <i>Prunus laurocerasus</i>; and</li><li>- butterfly-bush <i>Buddleja davidii</i>.</li></ul>			Please see section 4 for recommendations.

## **4 DISCUSSION AND RECOMMENDATIONS**

### **4.1 Sensitive Receptors**

4.1.1 The following conservation sites, habitats, and species (receptors) have been evaluated as being subject to potential adverse effects and hence can be constraints to the proposals:

- Statutory Designations (Craig Pont Rhondda SSSI and Glyn cornel LNR)
- Non-statutory Designations (Mynydd Ty'n-tyle Slopes SINC, Ystrad Slopes SINC, Mynydd Brith-weunydd/ Llwynypia hillside SINC, Taff and Rhondda Rivers SINC, Mynydd Troed-y-rhiw Slopes SINC, Pont-y-gwaith Hillside SINC, Old Smokey Slopes SINC, Gelli Slopes SINC, Twyn Tyllaudefaid Valley Mire SINC, Blaenllechau Woodland SINC, Glyn cornel SINC, Darran Park SINC.
- Bracken (form part of the Mynydd Ty'n-tyle Slopes SINC);
- Ancient semi-natural woodlands;
- S.7 Western acidic oak woodland;
- Mature scattered trees/Line of trees;
- Other neutral grassland (& waxcap fungi);
- S.7 Lowland dry acid grassland;
- S.7 Dwarf shrub heath;
- S.7 Dry heaths; lowland;
- S.7 Acidic scree;
- Badgers;
- Bats;
- Birds;
- Amphibians (common toad);
- Reptiles;
- European hedgehog;
- Invertebrates;

- Otter & water vole; and
- Invasive Non-Native Species – plants.

4.1.2 The nature of potential effects, requirements for further surveys and proposed mitigation/compensation are discussed below for each of the identified receptors.

## **4.2 Statutory Designated Sites**

### *Craig Pont Rhondda SSSI & Gly Glyncornel LNR*

4.2.1 The proposed development lies wholly outside of these designated sites but has the potential to significantly increase foot traffic to this designation, which could impact the qualifying features of the SSSI through an increase in recreational activities and from air pollution from road traffic emissions.

4.2.2 Further assessment should be undertaken once details of the development are known as part of an Ecological Impact Assessment (EclA).

## **4.3 Non-Statutory Designated Sites & Ancient Semi-Natural Woodlands (including S.7 Western acidic oak woodland)**

4.3.1 Mynydd Ty'n-tyle Slopes SINC is directly to the north and extending within the eastern section of the survey area. It is recommended that the SINC habitat is retained and protected as part of the development and a suitable buffer from development is put in place.

4.3.2 It is recommended that appropriate pollution prevention measures are implemented during construction to prevent damage and pollution. This can be achieved through following CIRIA's Environmental Good Practice (2015) guidance with regards to the prevention of environmental pollution, the degradation of the water, environment and associated habitats. This information should be provided in a Construction Environmental Management Plan (CEMP) which is approved by the Local Planning Authority prior to commencement of any works.

4.3.3 A sensitive lighting scheme will be required to ensure habitats valuable for biodiversity are not indirectly degraded by light pollution and to maintain foraging /commuting corridors for wildlife.

4.3.4 Further assessment should be undertaken to assess any significant effect of impacts arising from the proposed development (e.g. recreation, air and water quality) on non-statutory designations and areas of ancient semi natural woodland as part of an EclA.

#### 4.4 Habitats

##### *Mature scattered trees/Line of trees*

4.4.1 It is recommended that mature scattered/line of trees are retained within the survey area as far as possible. Retained habitat should be protected in accordance with BS 5837:2012 *Trees in relation to Design, Demolition and Construction* and in accordance with any Tree Protection Plans approved by the Local Authority. For trees that are to be retained, or areas to be planted, an Arboricultural Method Statement and a Tree Protection Plan should be provided and Construction Exclusion Zones identified on the site layout plan. Any specified works to trees etc. should conform to BS 3998: Recommendations for Tree work<sup>20</sup>. If the removal of mature trees cannot be avoided, any losses should be replaced or compensated for by the provision of new tree planting following a 3:1 ratio (i.e., 3 trees planted for every one lost) within the development design scheme. Species used should be of local provenance and ideally be positioned to strengthen/create connectivity with the wider landscape.

4.4.2 Any ash trees with suspected dieback should be inspected, monitored, and any appropriate further measures devised by the Council's Tree Officer/Arboriculture team.

##### *Other neutral grassland (& waxcap fungi)*

4.4.1 A waxcap fungus was observed within the survey area during a habitat walkover undertaken in August 2024. Waxcaps are indicators of unimproved grasslands which are of biodiversity value. It is recommended that an eDNA survey is undertaken to identify the spread of waxcaps across the survey area.

4.4.2 It is recommended that as much as possible of this habitat is retained and/or enhanced within the scheme. Species of local provenance should be planted to best support local biodiversity and strengthen the character of the existing habitat.

4.4.3 Retained grassland should be subject to a long-term management plan with details provided within in Landscape and Ecological Management Plan (LEMP).

##### *Lowland dry acid grassland*

4.4.4 Lowland dry acid grassland is listed as a priority habitat under Section 7 – list of the habitats of principal importance for the purpose of maintaining and enhancing

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<sup>20</sup> Rhondda Cynon Taf Local Development Plan. Supplementary Planning Guidance: Nature Conservation (Adopted March 2011).

biodiversity in relation to Wales, it is recommended that areas of this habitat are retained within the scheme. This habitat is also present within the LBAP as a priority habitat for conservation. This will maintain the character of the landscape and ensure that the site can continue to provide habitat and connectivity for notable species. This will also need to be subject to a management plan that ensures this habitat remains in optimal condition for supporting local biodiversity. Details should be outlined in the LEMP.

- 4.4.5 Where lost habitat cannot be avoided, compensation options should be discussed with the Council's Ecologist as part of any future development proposals.

*Dry Heath: Lowland / Dwarf shrub heath and bracken*

- 4.4.6 Lowland dry heath and dwarf shrub heath are listed as priority habitats under Section 7 – list of the habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

- 4.4.7 As the dwarf shrub heath and bracken slope habitats within the survey area are a continuation of the mosaic ffridd habitat that characterises the SINC located to the north/east (Mynydd Ty'n-tyle Slopes, It is recommended that areas of this habitat are retained and buffered within the scheme. This will maintain the character of the landscape and ensure that the site can continue to provide habitat and connectivity for notable species. This will also need to be subject to a management plan that ensures this habitat remains in optimal condition for supporting local biodiversity. Details should be outlined in a LEMP.

*Acidic Scree*

- 4.4.8 Inland rock and scree habitats are listed as a priority habitat under Section 7 – list of the habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. Rocky habitats are mostly found in the uplands wherever the underlying rock reaches the surface. For Penrhys, acidic scree has formed on the valley sides lower than 400m from sea level and has mostly been encroached on by bracken and scrub. These habitats contain lime-loving plant species, ferns and mosses, and create the conditions required for reptiles and breeding birds. Bracken management would enhance this habitat and improve its condition.

*Protected Species*

*Badger*

- 4.4.9 As possible field signs (fur and tracks indicative of badger) were observed within the survey area in July 2024 and the habitats have potential to be utilised by badger for both foraging and sett building, it is recommended that a badger survey is undertaken to determine the status of badger within the survey area.
- 4.4.10 If present in the vicinity, the construction works have potential to harm badgers and other small mammals that may be using the site. Therefore, it is recommended that measures to prevent harm and disturbance are undertaken including avoiding night-time working and providing a means of egress if excavations need to be left open overnight (i.e., a wooden plank with the slop not exceeding 1:2) that will avoid badgers and small mammals becoming entrapped.
- 4.4.11 To ensure that the site remains viable for foraging/commuting badgers, it is recommended that any fencing erected as part of the construction/operational phases of the development are permeable to badgers to enable passage through the site.
- 4.4.12 An update pre-commencement badger walkover will be required if works do not begin within 12 months from the date that the badger survey is undertaken.

#### *Bat Roosts – Buildings*

- 4.4.13 As the buildings within the survey area are proposed for demolition to facilitate the development, a Preliminary Roost Assessment (PRA) to assess the potential suitability of the buildings for roosting bats is recommended, as per the BCT Good Practice Guidelines (Collins, 2023)<sup>21</sup>. The survey will assess each building as having negligible, low, moderate, or high suitability for roosting bats, and determine whether the buildings have hibernation potential. This assessment will determine whether any further emergence surveys will be required, in line with best practice guidance.

#### *Bat Roost - Trees*

- 4.4.14 There are several scattered trees and lines of trees within the survey area that bats could roost within. It is recommended that any trees that will be impacted by the development, either directly through loss of habitat, death/injury or indirectly through lighting/disturbance, be subject to a Ground Level Tree Assessment (GLTA) to assess their suitability to support roosting bats, identify any evidence of roosting bats, and determine whether there is a requirement for further survey.

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<sup>21</sup> Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

- 4.4.15 Trees may be assessed as possessing either Potential Roosting Feature (PRF) PRF-I suitability (suitable for individual/small numbers of bats) or PRF-M (suitable for multiple bats e.g. could be used by a maternity colony), based on their potential roosting features (PRFs). Examples of PRFs include overhanging bark, knotholes, mature ivy, or other cavities that bats could utilise to roost within the tree. Trees assessed as 'Further Assessment Required' (FAR) relate to trees that could not be fully inspected from ground level (with foliage obscuring the trunk).
- 4.4.16 Trees should not be removed without a GLTA survey having been undertaken, and efforts should be made to ensure that any connectivity between habitats be maintained if trees are to be removed post survey. Further surveys would be required if the trees are assessed as 'PRF-M' suitability for roosting bats (PRF inspection surveys and/or bat emergence surveys). GLTA and PRF inspection surveys can be undertaken any time of year, but emergence surveys need to be carried out between May and August.
- 4.4.17 Any lighting introduced permanently as part of the development should be designed with input from an ecologist and with reference to the ILP and BCT Guidelines on Bats and Artificial Lighting at Night (ILP & BCT, 2023)<sup>22</sup>. A sensitive lighting scheme will be required to ensure habitats created/retained for biodiversity are not indirectly impacted by light pollution and maintain dark foraging/commuting corridors for wildlife including bat species sensitive to artificial light.
- 4.4.18 Any temporary lighting installed during the construction phase should also avoid lighting key habitats such as scattered trees, lines of trees, and scrub, if works are to be undertaken under darkness, but this should be avoided wherever possible.

*Bat Activity (Foraging/Commuting)*

- 4.4.19 Development proposals could affect populations of foraging and commuting bats through habitat loss and fragmentation, introduction of artificial lighting and introduction of predators e.g. cats. It is therefore recommended that a bat activity survey is undertaken to establish which bat species are using the survey area and their distribution and use of habitats within the survey area.
- 4.4.20 For habitats assessed as having 'moderate' suitability with reference to the BCT Guidance, a bat activity survey consists of seasonal 'Night-time Bat Walkover' (NBW) surveys (spring, summer and autumn), and the use of automated/static detectors

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<sup>22</sup> ILP/BCT - Guidance Note GN08/23 - Bats and Artificial Lighting at Night 2023.

deployed for a minimum of five consecutive nights each month from April – October (in suitable weather conditions for bats). Further surveys may be required if the NBW/automated detector surveys reveal activity of interest that requires more observation.

#### *Breeding Birds*

4.4.21 Breeding and foraging habitat for birds are located within the survey area including building, other neutral grassland, scrub and trees. A high number of birds were observed during the UKHab survey (refer to Table 3 for a full species list), mainly within the grassland and scattered trees within the northeastern part of the survey area. It is confirmed that the buildings support breeding birds through the observation of three house sparrow nests.

4.4.22 As breeding and foraging habitat for birds are located within the survey area, it is recommended that further bird surveys are carried out to identify all notable breeding bird species (and their territory locations) present within the survey area. Current survey guidelines (Bird Survey & Assessment Steering Group, 2023)<sup>23</sup> recommends that six bird survey visits are undertaken as part of a survey for breeding birds but as a minimum we would recommend a one survey in March, April, one early May and one Late May, with the early May comprising a dusk visit.

4.4.23 Any vegetation clearance should be undertaken outside of bird breeding season (March to August, inclusive). If this is not possible, then areas of vegetation clearance should be checked by a suitably qualified ecologist no more than 48 hours in advance of any affecting works for the presence of occupied nests. If nesting birds are recorded a suitable buffer will need to be put in place and works in the vicinity avoided until the young have fledged.

#### *Amphibians (common toad)*

4.4.24 Although there are no ponds or lakes nearby, the mosaic of scrapes and marshy grasslands within parts of the survey area has the potential to support amphibians such as common toad. Vegetation clearance and direct habitat loss have the potential to harm amphibians if present at the time of works. Amphibians should be protected and translocated to a safe location by an Ecological Clerk of Works (ECow), under a Precautionary Working Method Statement (PWMS).

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<sup>23</sup> <https://birdsurveyguidelines.org/methods/survey-method/>

### *Reptiles*

- 4.4.25 The mosaic of habitats within the survey area has the potential to support reptiles. Vegetation clearance and direct habitat loss have the potential to harm reptiles if present at the time of the works.
- 4.4.26 It is recommended that a reptile presence/absence survey is undertaken to determine whether reptile populations are present within the survey area. Optimum survey months for reptiles are April, May and September.

### *European Hedgehog*

- 4.4.27 It is anticipated that the loss of habitat as a result of the development will not significantly/permanently impact the local conservation status of this mobile species, especially if suitable habitat is returned to its former state or enhanced for this species, and the works are phased. However, the construction works have potential to directly impact individuals through injury/death.
- 4.4.28 The risk of harm to hedgehogs can be reduced by the implementation of suitable reasonable avoidance measures set out in a Precautionary Working Method Statement. Such measures should include a toolbox talk, limiting night-time working, providing means of escape from excavations left open overnight (also see Section 4.4.2), avoiding the removal of suitable hibernacula during the hibernation period (November – March) and details on appropriate vegetation removal.
- 4.4.29 It is recommended that any boundary features (including walls) implemented as part of the development provide hedgehog access via a 13cm x 13cm gap, to limit habitat fragmentation and provide passage through the development site.

### *Invertebrates*

- 4.4.30 The habitats within the survey area could potentially support a range of invertebrate species including Section 7 species.
- 4.4.31 It is recommended that existing habitat on the peripheries of the survey area are retained, protected and enhanced for invertebrates, where possible.
- 4.4.32 It is recommended that the requirement for full invertebrate surveys is discussed with the County Ecologist.

### *Otter and water vole*

- 4.4.33 It is recommended that appropriate pollution prevention measures are implemented during construction to prevent damage and pollution to local watercourses that may have an indirect impact on these species, and these can be outlined in a CEMP.

*Invasive Non-Native Species (INNS) - Plants*

- 4.4.34 Japanese knotweed (TN 4 / TN 11), montbretia, and small-leaved cotoneaster (TN 9) are present within the survey area. These are listed as INNS under Schedule 9 of the Wildlife & Countryside Act 1981 (WCA9). Since stands of these species are present across different areas of the survey area, it is recommended that their locations are mapped by an invasive species specialist contractor.
- 4.4.35 These species will need to be eradicated from the site following a suitable framework (mitigation strategy) devised by an invasive species specialist contractor prior to any works commencing to help prevent the spread of these species into the wider environment and avoid an offence being committed.
- 4.4.36 It is also recommended that buddleia and cherry laurel present within the survey area, which are also considered non-native invasive species despite not being present on Schedule 9, are included within the eradication framework for the benefit of local biodiversity.

#### **4.5 General Recommendations**

- 4.5.1 It is recommended that the requirement for further surveys is scoped with the Council's Ecologist prior to submission of a planning application.
- 4.5.2 If the survey area boundary alters and any other habitats are identified to be lost or affected by the development, then further surveys for habitats and protected species may be required.
- 4.5.3 It is recommended that an EcIA is prepared once the development proposals are known (refer to Section 6 - Conclusions).
- 4.5.4 Night-time work should be avoided whenever possible to limit the potential for disturbance to nocturnal animals.
- 4.5.5 It is recommended that an update walkover is undertaken if 12 months has elapsed since this report is issued to see if there have been any substantial changes to the habitats present within the survey area.

## **5 NET BENEFITS FOR BIODIVERSITY**

### **5.1 Biodiversity Enhancement**

5.1.1 In accordance with the requirements of the Planning Policy Wales (PPW) Edition 12 (2024) and BSI 42020:2013, ecological enhancements should be proposed which will result in a net benefit for biodiversity.

5.1.2 A planning application will need to be accompanied by a Green Infrastructure Statement as per the requirement under PPW 12. The design of GI should consider: the key priorities identified within the local authority Green Infrastructure Assessment, how the Stepwise approach<sup>24</sup> has been followed (i.e. how the role of GI within the development has been guided by the results within the PEA) and should set out how net benefits for biodiversity will be delivered. Design of high-quality GI should consider information contained within 'Building with Nature Standards in Wales<sup>25</sup>'.

### **5.2 Habitats**

5.2.1 It is recommended that S7 Priority habitats are retained (Western acidic oak woodland; Lowland dry acid grassland; Dwarf shrub heath, lowland heathland; Inland rock outcrop and scree habitat (acidic scree) where possible within the development proposals and enhanced.

5.2.2 The development masterplan should be designed to include a diversity of habitats that create a mosaic to benefit wildlife, such as:

- Grassland – to include areas sown with an appropriate native wildflower mix reflecting a species profile of local provenance suitable for supporting pollinators of regional importance.
- Tree lines and hedgerows – to include native species of local provenance and be planted strategically to maintain/create connectivity with natural features in the wider landscape, if present.

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<sup>24</sup> The Stepwise approach considers how biodiversity has been considered within each stage of the development process.

<sup>25</sup> [Delivering High Quality Green Infrastructure in Wales, a briefing for developers, planners and placemakers — Building with Nature](#)

- Scrub – to include species of native local provenance and be strategically planted giving thought to where this might provide best refuge for species and/or connectivity within the site and/or wider landscape.
  - Biodiverse sustainable urban drainage (SUDS) creation.
- 5.2.3 To compensate for loss of grassland within an urban environment, consideration should be given to incorporating green infrastructure such as biodiverse green roofs and walls wherever possible.
- 5.2.4 It is recommended that mature broadleaf trees and tree lines are retained as far as possible within the development proposals and enhanced. Other existing habitats within the proposed development could be enhanced for biodiversity through appropriate management regimes, including maintaining structural complexity (i.e., open habitats and areas of refuge) within the development site.
- 5.2.5 Thought should be given to the boundary features around/within the development site. The planting of species-rich hedgerows would add biodiversity value. Native species and/or species with a known attraction to wildlife should be included in the planting schedule of any landscape scheme. This can include berry and nut bearing trees and shrubs.
- 5.2.6 Inclusion of nectar-rich plant species, in any landscaping areas, will benefit insects which in turn could benefit other species. Bulb planting of daffodils *Narcissus* sp., snowdrop *Galanthus nivalis* and crocuses *Crocus* sp. will also provide an early nectar source for insects.
- 5.2.7 It is recommended that areas to be managed for biodiversity are designed to facilitate the ease of long-term management (i.e. making them as large as possible and having them located on the periphery of built development to act as a buffer between built development uses and the adjacent SINCS). These areas could be designed to be multifunctional (biodiverse public amenity space, biodiverse SUDs and contribute to local initiatives including the ‘Healthy Hillside’<sup>26</sup>).
- 5.2.8 Any grassland areas on the development site avoids the use of fertilisers as artificial chemicals are known to decrease biodiversity.

### 5.3 Species

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<sup>26</sup> [Healthy Hillside - South Wales Fire and Rescue Service](#)

5.3.1 There are a variety of simple and cost-effective measures that could be implemented as part of the development proposals to enhance the site for a range of wildlife including bats, reptiles and breeding birds, including species which are UK BAP and Welsh S.7 Priority listed species. These include, but are not limited to, the following:

- Bird boxes, including a variety of designs, such as 45mm entrance boxes, 32mm entrance boxes, sparrow terraces, owl/kestrel boxes, swift boxes/house martin cups on trees and the installation of integrated bird bricks directly into the brickwork of new buildings/structures;
- Bat boxes including for a variety of species and for a variety of seasons, to be installed on retained mature trees and use of integrated bat boxes directly into the brickwork of new buildings and structures;
- Sowing of areas of open space with a diverse native wildflower seed mix would provide a foraging resource for a range of species including invertebrates and birds;
- Provision of a hibernaculum for the benefit of reptiles;
- Provision of insect/invertebrate houses/hotels, and/or management of retained standing/fallen deadwood;
- Use of hedgehog houses would enhance the scheme for this species; Other enhancement measures include a minimum 10cm gap under all fences for hedgehogs or provision of hedgehog highway gaps (13cm x 13cm holes) in boundary fencing; and
- New biodiversity friendly SUDs drainage.

## **6 CONCLUSION**

6.1.1 Given the identified evidence of presence and/or likely presence of ecological receptors which may be adversely impacted by the development scheme, further surveys and/or assessments have been recommended in order to inform a full evaluation of adverse effects. Consequently, additional protected species survey and assessment reports will be required to compliment the planning application. The results of further protected species surveys and evaluations should be considered within Ecological Impact Assessment (EclA) reports for each planning application within the scheme, in line with standard industry practice (CIEEM 2018, updated 2022). This report should include a formal assessment of impacts and will be suitable to fully inform the planning application.

### **6.2 Report Validity**

- 6.2.1 In general, this report remains valid for a period of 18 months following the date of the habitat survey.
- 6.2.2 If the survey area boundary or layout is subsequently modified and any other habitats are identified to be lost or affected by the development, then further surveys for habitats and protected species may be required.

## APPENDICES

## **Appendix 1**

### **Summary of Legislative Framework and Planning Policy**

## Appendix 1: Summary of Legislative Framework and Planning Policy

### *Legislation for Designated Sites*

<b>Designated Site</b>	<b>Status</b>
Ramsar Sites	Ramsar Sites are wetlands of international importance designated following the Ramsar Convention. RAMSAR sites have the same level of protection as SACs and SPAs under the Wildlife and Countryside Act 1981 (as amended).
SPA (Special Protection Areas)	SPAs seek to protect the habitats of rare and vulnerable European and UK birds. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SAC (Special Areas for Conservation)	SACs are strictly protected areas which represent important and threatened habitats in Europe and the UK. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SSSI (Sites of Special Scientific Interest)	SSSIs protect the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were renotified under the Wildlife and Countryside Act 1981 (as amended). Modified provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.
NNR (National Nature Reserves)	NNRs are examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 or the Wildlife and Countryside Act 1981 (as amended). Legal protection of NNRs is provided under the Wildlife and Countryside Act 1981 (as amended).
Hedgerows	All hedgerows are protected by the Hedgerows Regulations 1997, under which it is an offence to remove or destroy certain hedgerows without planning consent or permission from the Local Planning Authority. These regulations do not apply to any hedgerow within the curtilage of, or marking the boundary of the curtilage of, a dwelling house.
LNR (Local Nature Reserves)	Designated by the National Parks and Access to the Countryside Act 1949, LNRs may be declared for nature conservation by local authorities after consultation with the relevant statutory nature conservation agency. Legal protection of LNRs is provided under the Wildlife and Countryside Act 1981 (as amended).

## Legislation for Species

<b>Protection for animals included on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended)</b>		
<b>A person commits an offence if they:</b>		
Regulation 43	Part 1(a)	Deliberately captures, injures or kills any wild animal of a European protected species
	Part 1(b)	Deliberately disturbs wild animals of any such species. (1A) For the purpose of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely a) to impair their ability i. to survive, breed or reproduce or to rear or nurture their young; or ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate. b) to affect significantly the local distribution or abundance of the species to which they belong
	Part 1(c)	Deliberately take or destroy the eggs of such an animal
	Part 1(d)	Damage or destroy a breeding site or resting place of such an animal
	Part 3	To: a) be in possession of, or to control, b) transport, c) sell or exchange, or d) to offer for sale or exchange. (4) For the purpose of (3) this applies to: a) any live or dead animal or part of animal i) which has been taken from the wild, and ii) which is a species or subspecies listed in Annex IV(a) to the Habitats Directive; and b) anything derived from such an animal or any part of such an animal.
<b>Protection for animals included on Schedule 5 of the Wildlife and Countryside Act 1981 (As Amended)</b>		
Section 9	Part 1	Intentionally kill, injure, take a scheduled animal
	Part 2	Possess or control (live or dead animal, part or derivative)
	Part 4 (a)	Intentionally or recklessly damage, destroy or obstruct access to any structure or place used by a scheduled animal for shelter or protection
	Part 4 (b)	Intentionally or recklessly disturb an animal occupying such a structure or place
	Part 5 (a)	Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative)
	Part 5 (b)	Advertise for buying or selling such things

A large number of species are also included under Section 7 of the Environment (Wales) Act 2016 as Species of Principal Importance which places the “biodiversity

duty” on the Welsh Government (and therefore public authorities) for the purpose of maintaining and enhancing biodiversity in relation to Wales. This stems from a review of the now superseded UK Biodiversity Action Plan and the continued need for global action on conserving biodiversity as result of the Convention on Biological Diversity.

### **Bats**

All UK bat species are afforded full protection (including their habitats) through inclusion on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended) and further partial protection by Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared (*Plecotus auritus*), greater horseshoe (*Rhinolophus ferrumequinum*) and lesser horseshoe (*Rhinolophus hipposideros*) bats are listed under Section 7 of The Environment (Wales) Act 2016 to be taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales”.

### **Great Crested Newts and Other Amphibians**

Great crested newts are afforded full protection (including their habitats) through inclusion on Schedule 2 of The Conservation of Habitats and Species regulations 2017 (as amended) and further partial protection by Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Under the Wildlife and Countryside Act 1981, other amphibians, including smooth and palmate newts, common frogs and common toad cannot be sold or be offered for sale.

Great crested newts and common toad are listed under Section 7 of The Environment (Wales) Act 2016 to be taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the

Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales” within Section 7 of The Environmental (Wales) Act 2016.

### ***Hedgehog***

Hedgehogs are protected under Section 1 of the Wild Mammals (Protection) Act 1996, which makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering to this species. Hedgehog is listed under Section 7 of The Environment (Wales) Act 2016 to be taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales”.

### ***Otter***

Otters are afforded full legal protection through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended).

Otters are included within Section 7 of The Environmental (Wales) Act 2016. Species listed on this section are considered to be of principal importance for the conservation of biodiversity and as such are listed as a priority species on the UK Biodiversity Action Plan (BAP).

### ***Reptiles***

Six native reptiles occur in Britain: the adder (*Vipera berus*), the grass snake (*Natrix natrix*), the smooth snake (*Coronella austriaca*), the sand lizard (*Lacerta agilis*), the common lizard (*Zootoca vivipara*) and the slow worm (*Anguis fragilis*).

The smooth snake and sand lizard are afforded full protection (including their habitats) through inclusion on Schedule 2 of The Conservation of Habitats and Species regulations 2017 (as amended) and further partial protection by Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Five of the six native reptile species (excluding smooth snake) are listed under Section 7 of The Environment (Wales) Act 2016 to be taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales”.

### ***Birds***

All wild birds, their nests and eggs are protected under Part 1 Section 1 of the Wildlife and Countryside Act, 1981 (as amended), which makes it an offence (with certain limited exceptions and in the absence of a licence) to:

- Kill or injure any wild bird;
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built (this includes several species of birds whose nests are reused under Schedule ZA1);
- Take or destroy the egg or any wild bird.

It is also an offence to possess any live or dead wild bird or egg, or anything derived from a wild bird or egg. Restrictions on trade and advertising also apply.

Bird species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) are afforded additional protection against intentional or reckless disturbance whilst it is building a nest, or at a nest containing eggs, young or disturbance to the young.

Further a number of bird species are listed under Section 7 of The Environment (Wales) Act 2016 to be taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales” within Section 7 of The Environmental (Wales) Act 2016.

In addition to this legal protection, leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds regularly found here and produced a list of Birds of Conservation Concern

(Edition 5). Of the 245 species assessed, 70 were placed on the red list of high conservation concern, 103 on the amber list of medium conservation concern and 72 on the green list of low conservation concern. Consideration is therefore given to those species listed as being of conservation concern although they have no greater legislative protection.

### ***Invasive Species***

A number of animal and plant species are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order 2019. It is an offence to:

- Allow the release or allow to escape into the wild any animal which is of a kind which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state; or included in Part I of Schedule 9; and
- If any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9.

Under Schedule 9A of the act species control agreements and orders can be made in accordance with The Invasive Alien Species (Enforcement and Permitting) Order 2019.

### ***Invertebrates***

A number of invertebrates are afforded full protection (including their habitats) through inclusion on Schedule 2 of The Conservation of Habitats and Species regulations 2017 (as amended) and further partial protection by Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

In addition, a number of species of invertebrates are fully or partially protected only under Schedule 5 of the Wildlife and Countryside Act 1981.

A number of invertebrates are listed under Section 7 of The Environment (Wales) Act 2016 to be taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales”.

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### ***Protected Plant Species***

A number of plants are afforded full protection through inclusion on Schedule 5 of The Conservation of Habitats and Species regulations 2017 (as amended) and further partial protection by Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

In addition, a number of species of plants are fully protected only under Schedule 5 of the Wildlife and Countryside Act 1981.

A number of plants are listed under Section 7 of The Environment (Wales) Act 2016 to be taken into account as part of the biodiversity duty on local planning authorities. Species included in this list are considered by the Welsh Ministers to be “of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales”.

### ***Planning policy***

#### ***Planning Policy Wales (PPW) Edition 12 (February 2024)***

Planning Policy Wales (PPW) is a material consideration for the purposes of planning decision making. PPW translates the principles of Sustainable Management of Natural Resources (SMNR) into use for the planning system.

Edition 12 of PPW puts stronger emphasis on taking a proactive approach to green infrastructure covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards. Further clarity is provided on securing net benefit for biodiversity through the application of the stepwise approach, including the acknowledgement of off-site compensation measures as a last resort, and the need to consider enhancement and long-term management at each step. A strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a ‘living landscape’ and a closer alignment with the stepwise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

The Environment (Wales) Act 2016 introduces the SMNR and sets out a framework to achieve this as part decision-making. The objective of the SMNR is to maintain and enhance the resilience of ecosystems and the benefits they provide.

Relevant key features of the SMNR relating to biodiversity include:

- improving the resilience of ecosystems and ecological networks;
- halting and reversing the loss of biodiversity; and
- maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions

PPW states *“The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.”*

Extract from PPW:

*Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)*

*“6.4.5 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.*

*In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:*

- *diversity between and within ecosystems;*
- *the connections between and within ecosystems;*
- *the scale of ecosystems;*
- *the condition of ecosystems including their structure and functioning; and*
- *the adaptability of ecosystems.”*

Extract from PPW:

*“When all other options have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes, offsite compensation for unavoidable damage must be sought:*

- a. *This should normally take the form of habitat creation, or the provision of long-term management arrangements to enhance existing habitats and deliver a net benefit for biodiversity. It should also be informed by a full ecological assessment before habitat creation or restoration starts.*
- b. *The Green Infrastructure Assessment should be used to identify suitable locations for securing offsite compensation. Where possible, a landscape-scale approach, focusing on promoting wider ecosystem resilience, should help guide locations for compensation. This exercise will determine whether locations for habitat compensation should be placed close to the development site, or whether new habitat or additional management located further away from the site would best support biodiversity and ecosystem resilience at a wider scale.*
- c. *Where compensation for specific species is being sought, the focus should be on maintaining or enhancing the population of the species within its natural range. This approach might also identify locations for providing species-specific compensation further away from the site. Where they exist, Spatial Species Action Plans should be used to help identify suitable locations.*
- d. *Any proposed compensation should take account of the Section 6 Duty (Biodiversity and Resilience of Ecosystems Duty), and the five key ecosystem resilience attributes that it outlines. It should also be accompanied by a long term management plan of agreed and appropriate mitigation and compensation measures."*

Extract from PPW:

#### *Protected Species*

*"6.4.35 The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained."*

#### **Section 7 of the Environment (Wales) Act 2016**

Section 7 (S7) of the Environment (Wales) Act 2016 affords protection to priority species listed, by requiring that the local authority 'take all reasonable steps to

*maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.'*

**Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009)**

Extract from TAN:

*"1.4.4 Section 40(1)) of Natural Environment and Rural Communities Act 2006 (NERC) places a duty on every public authority, in exercising its functions, to "have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". This TAN sets out the manner in which planning authorities should comply with this duty."* This is replaced by the duty in the Environment (Wales) Act 2016.

**Local Planning Policy**

Relevant current policies from the Rhondda Cynon Taf Local Development Plan up to 2021 (Adopted March 2011) and emerging policies from the Revised Local Development Plan Preferred Strategy (Published January 2024) are summarised in Box 1, below.

Policy Reference	Policy Summary
Policy AW 4: Community Infrastructure & Planning Obligations	<p>Planning obligations may be sought where development proposals require the provision of new, improved or rely on existing services, facilities, infrastructure and related works, to make the proposal acceptable in land use planning terms. Contributions may be sought in respect of:</p> <ol style="list-style-type: none"> <li>1. Affordable housing;</li> <li>2. Physical infrastructure works;</li> <li>3. Open space, sport/play space and access to natural green space;</li> <li>4. Educational facilities;</li> <li>5. Recreational and leisure facilities;</li> <li>6. Management of Strategic Transport Corridors;</li> <li>7. Public transport facilities and services;</li> <li>8. Travel plan initiatives;</li> <li>9. Highway infrastructure works;</li> <li>10. Walking and cycling schemes;</li> </ol>

	<ul style="list-style-type: none"> <li>11. Waste management and recycling;</li> <li>12. Renewable energy and energy efficiency initiatives.</li> <li>13. Environmental and landscape improvements;</li> <li>14. Nature conservation;</li> <li>15. Public Art;</li> <li>16. Culture and community facilities; and</li> <li>17. Any other contribution the Council considers appropriate to the development.</li> </ul>
Policy AW 8: Protection And Enhancement Of The Natural Environment	<p>Rhondda Cynon Taf's distinctive natural heritage will be preserved and enhanced by protecting it from inappropriate development. Development proposals will only be permitted where:</p> <ul style="list-style-type: none"> <li>1. They would not cause harm to the features of a Site of Importance for Nature Conservation (SINC) or Regionally Important Geological Site (RIGS) or other locally designated sites, unless it can be demonstrated that: <ul style="list-style-type: none"> <li>a) The proposal is directly necessary for the positive management of the site; or</li> <li>b) The proposal would not unacceptably impact on the features of the site for which it has been designated; or</li> <li>c) The development could not reasonably be located elsewhere and the benefits of the proposed development clearly outweigh the nature conservation value of the site.</li> </ul> </li> <li>2. There would be no unacceptable impact upon features of importance to landscape or nature conservation, including ecological networks, the quality of natural resources such as air, water and soil, and the natural drainage of surface water.</li> </ul> <p>All development proposals, including those in built up areas, that may affect protected and priority species will be required to demonstrate what measures are proposed for the protection and management of the species and the mitigation and compensation of potential impacts. Development proposals must be accompanied by appropriate ecological surveys and appraisals, as requested by the Council. Development proposals that contribute to the management or development of Ecological Networks will be supported.</p>
Policy AW 10: Environmental Protection	<p>Development proposals will not be permitted where they would cause or result in a risk of unacceptable harm to health and / or</p>

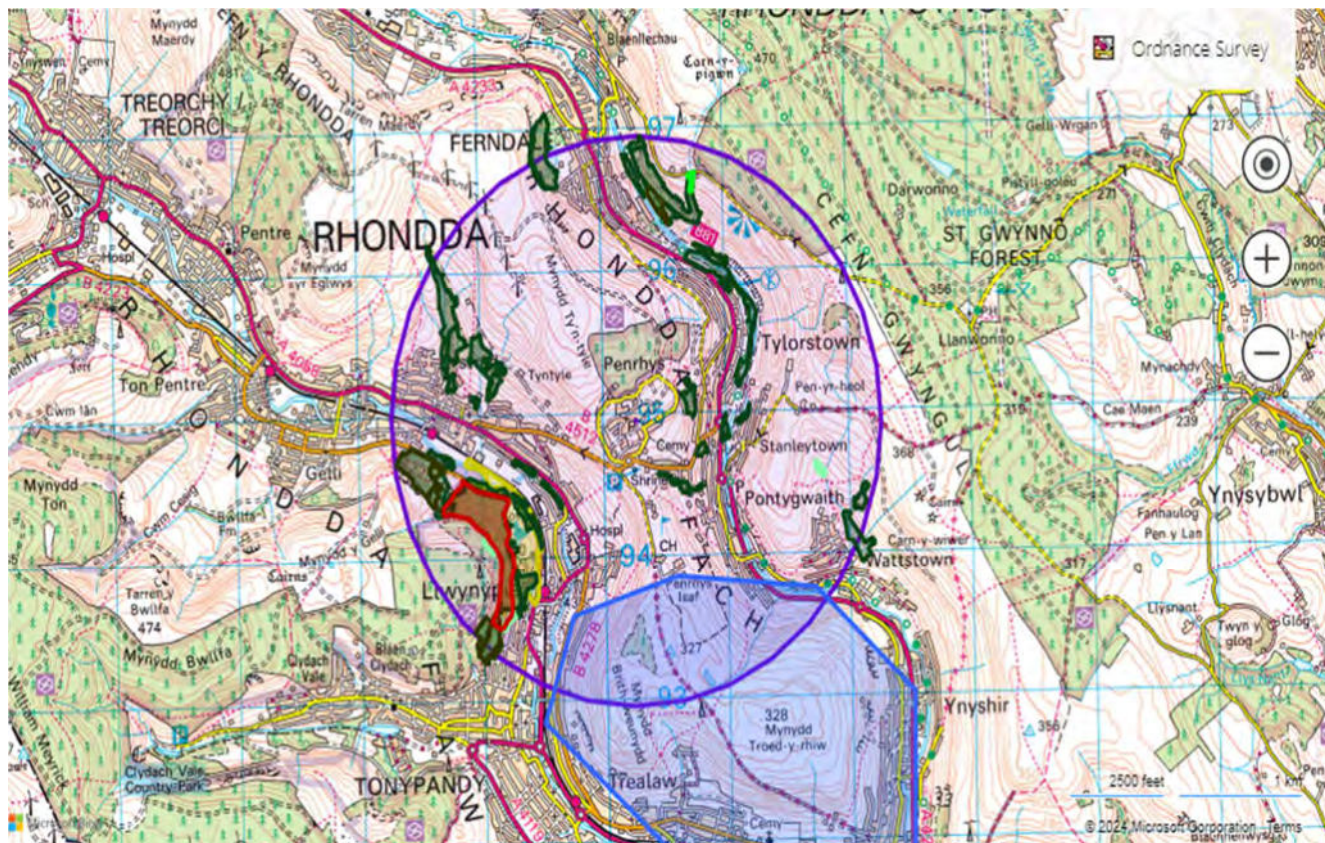
and Public Health	<p>local amenity because of:-</p> <ol style="list-style-type: none"> <li>1. Air pollution;</li> <li>2. Noise pollution;</li> <li>3. Light pollution;</li> <li>4. Contamination;</li> <li>5. Landfill gas;</li> <li>6. Land instability;</li> <li>7. Water pollution;</li> <li>8. Flooding;</li> <li>9. Or any other identified risk to the environment, local amenity and public health or safety unless it can be demonstrated that measures can be taken to overcome any significant adverse risk to public health, the environment and / or impact upon local amenity.</li> </ol>
Policy SP4: Biodiversity and the Natural Environment	<p>RCT is an area of biodiverse and varied landscapes, supporting a range of priority habitats and species. The Revised LDP will seek to maintain and enhance these qualities and features and leave the natural environment in a more biodiverse and resilient condition. Our biodiversity landscape is protected by Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI) and Sites of Importance for Nature Conservation (SINC) designations. As set out in PPW, SAC and SSSI designations are the responsibility of NRW. SINC's are a Local Planning Authority designation.</p> <p>Development and SINC:</p> <ul style="list-style-type: none"> <li>• Development should be avoided on designated SINC sites.</li> <li>• The intention of RCT is to provide strong protection for those elements of biodiversity in our SINC that are irreplaceable.</li> <li>• Some SINC's support habitats that may have some capacity for mitigation, compensation and enhancement. Proposals on these sites will be expected to evidence that acceptable mitigation, compensation and enhancement is possible, whilst protecting the habitats and species for which they were designated.</li> </ul> <p>All Development:</p> <ul style="list-style-type: none"> <li>• All future development must evidence effective biodiversity mitigation and enhancement.</li> <li>• On SINC, there will be a requirement for effective mitigation to be delivered on site. Only in cases where biodiversity delivery will be demonstrably more effective, and where local biodiversity connectivity, area and function are not compromised, will off-site</li> </ul>

	<p>provision be considered.</p> <ul style="list-style-type: none"> <li>Where mitigation or enhancement is demonstrably not achievable onsite, but where the mitigation and enhancement of habitat or species impacts incurred by development can be effectively delivered, off-site provision may be considered.</li> </ul>
Policy SP5: Green Infrastructure and Open Space	<p>All Green Infrastructure plays a significant role in providing appropriate habitats for biodiversity in RCT. The protection, management and enhancement of such places in RCT is therefore a key responsibility of the RLDP.</p> <p>Further, several of the objectives and strategic policies within the Preferred Strategy allude to the wider ranging benefits of natural and more formal open spaces, including:</p> <ul style="list-style-type: none"> <li>Providing natural habitats for a range of biodiversity;</li> <li>Physical and Mental Health and Well-being;</li> <li>Active travel;</li> <li>Sport and Recreation;</li> <li>Flood Risk attenuation;</li> <li>Carbon Storage; and</li> <li>Cooling Environments</li> </ul> <p>There is a duty in the RLDP to ensure we fully identify and understand our Green Infrastructure in the County Borough. Accordingly, the Deposit Stage of the RLDP will undertake a comprehensive Green Infrastructure assessment, including additional Open Space and Play Space assessments. These assessments will be further utilised to prepare a range of policy that would seek to:</p> <ul style="list-style-type: none"> <li>Appropriately protect Green Infrastructure and other public open spaces;</li> <li>Increase the number and total area of green space;</li> <li>Enhance the quality of green space through the implementation of well-designed management plans; and</li> <li>Consider potential additional uses for them such as flood alleviation and carbon storage</li> </ul>

## **Appendix 2**

### **Sites Designated for Conservation within 2km**

## Appendix 2: Sites Designated for Nature Conservation within 2km



Site Type	Key	Number of sites	Category
Site of Special Scientific Interest		1	National - Statutory
Local Nature Reserve		1	Local - Statutory
Ancient Semi Natural Woodland		40	Priority Area
Restored Ancient Woodland Site		1	Priority Area
Plantation on Ancient Woodland Site		6	Priority Area
Ancient Woodland Site of Unknown Category		3	Priority Area
NRW Priority Area (Woodland - PAWS)		6	Priority Area
NRW Priority Area (Lowland Wetland)		1	Priority Area

### **Appendix 3**

#### **Phased Masterplan Overview produced by The Urbanists (Dwg 003 – Revision D)**



## **Appendix 4**

### **Target Notes**

#### **Appendix 4: Target Note Descriptions and Photographs**

The target notes (TN) are shown on Drawing CA13129-005 (UKHab Survey Results).

##### **TN1**

Telephone pole.

*No image provided.*

##### **TN2 / TN3**



Photo 1: Open shafts.

##### **TN4**



Photo 2: Japanese knotweed (INNS).

##### **TN5 / TN6**

Cherry laurel (Invasive).

*No image provided.*

**TN7**



Photo 3: Entrance to subway.

**TN8**

Manhole cover.

*No image provided.*

**TN9**



Photo 4: Small-leaved cotoneaster (INNS).

**TN10**



Photo 5: Entrance to subway.

**TN11**



Photo 6: Japanese knotweed (INNS).

**TN12**

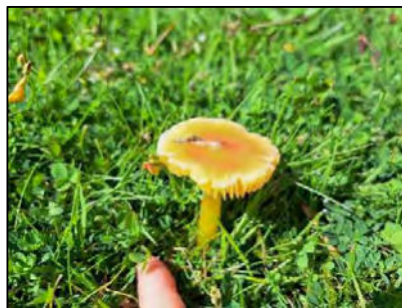


Photo 7: Waxcap found in northeast (golden waxcap *Hygrocybe chlorophana*).

**TN13**



Photo 8: Substation.

**TN14**



Photo 9: Substation.

**TN15**



Photo 10: Cherry laurel (Invasive).

**TN 16**



Photo 11: Presence of yellow meadow ant hills.

**TN 17**



Photo 12: Montbretia (INNS).

**TN 18**

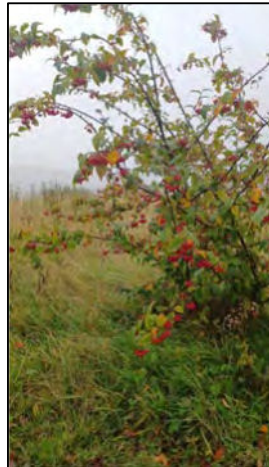


Photo 13: Hollyberry cotoneaster (INNS)

**TN 19**



Photo 14: Rock cotoneaster (INNS)

**TN 20**



Phot 16: Rock cotoneaster (INNS)

**TN 21**

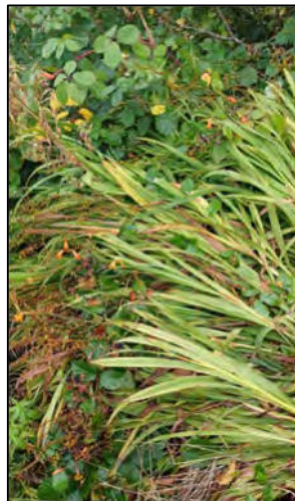


Photo 15: montbretia (INNS)

**TN 22**



Photo 17: Dense bramble scrub

**TN 23**



Photo 17: Rush habitat

**TN 24**



Photo 18: Himalayan cotoneaster (INNS)

**TN 25**



Photo 19: Remnant dry-stone wall

**TN 26**



Photo 20: Goldenrod (Notable plant species)

**TNs 27, 28 and 29**



Photo 21: Yellow meadow ant hills

**TN 30**



Photo 22: Deer tracks (patches of bruised bracken showing bounding through dense vegetation)

**TN 31**

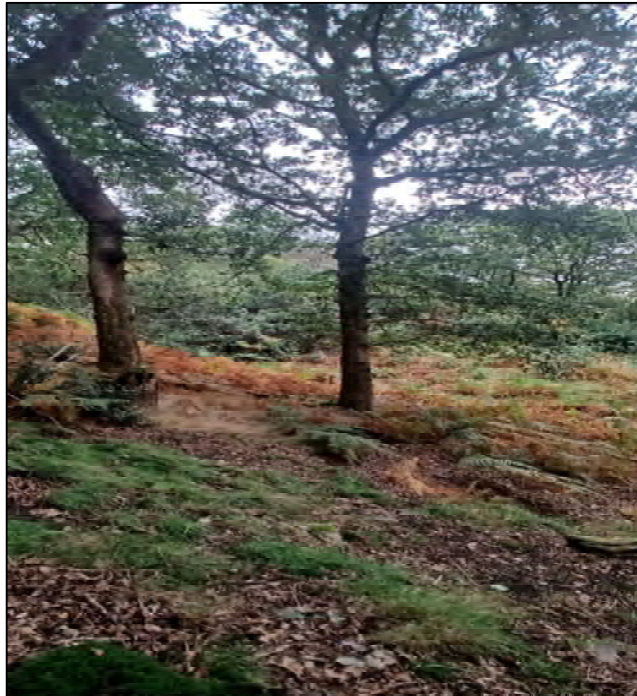
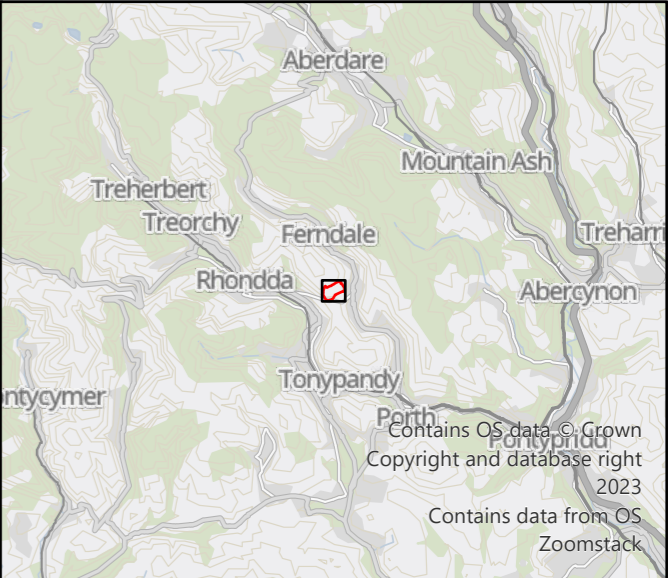


Photo 23: Mammal tracks (badger/fox) through woodland

## DRAWINGS



**KEY**

Approximate Site Boundary - Site 1

**Notes:**

Boundaries are indicative. Aerial imagery shown for context purposes only.

Site Boundary approximately digitised from Bing Aerial Imagery by WA.

A	FIRST ISSUE	31/10/24	RCB	JH	JH
REVISION	DETAILS	DATE	DRAWN	CHKD	APPD

CLIENT

TRIVALLIS

PROJECT

PENRHYS RESIDENTIAL ESTATE

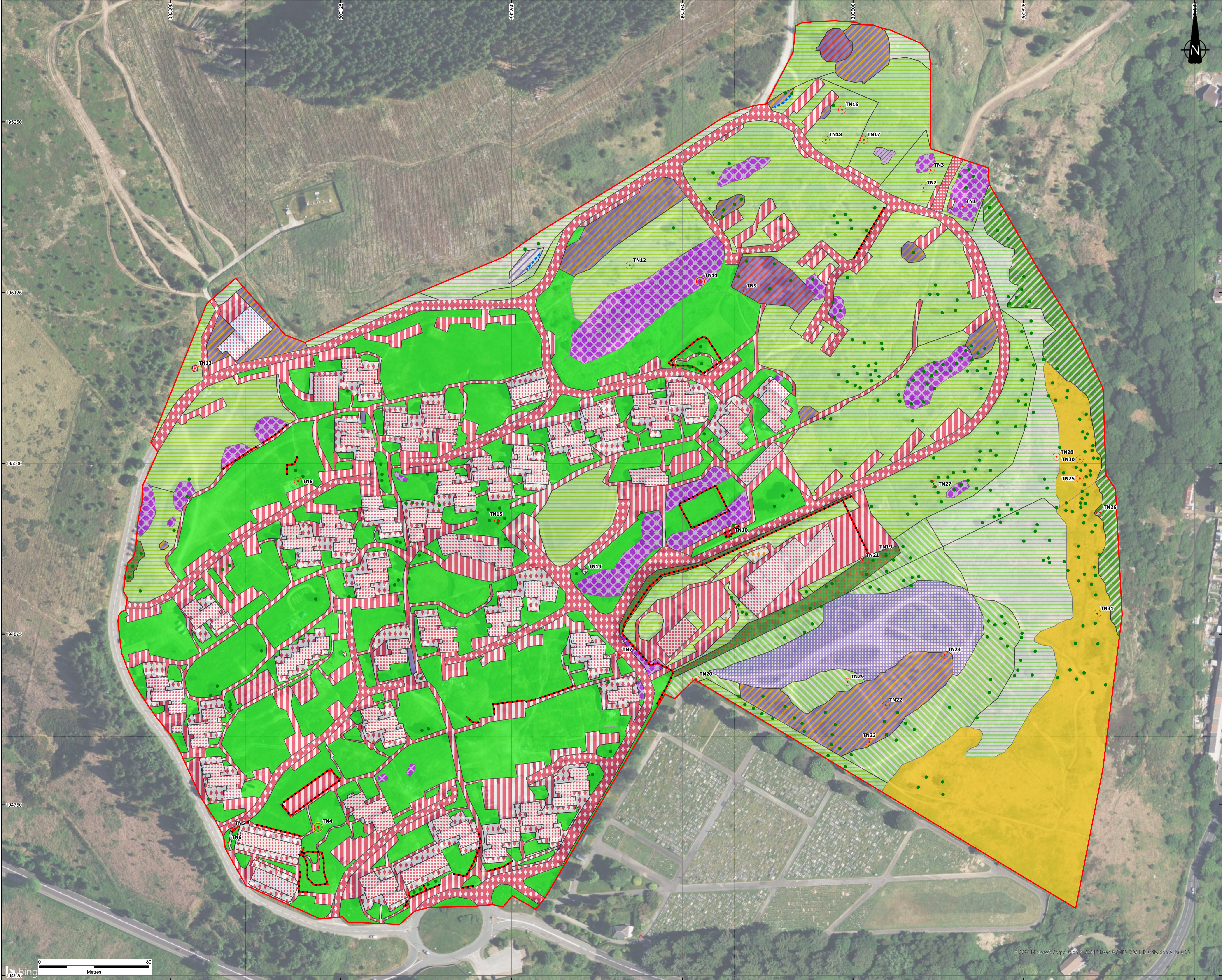
DRAWING TITLE

SITE LOCATION PLAN - SITE 1

DRG No.	CA13129-001	REV	A	SUIT. CODE	---
DRG SIZE	A3	SCALE	1:2,500	DATE	31/10/2024
DRAWN BY	BL	CHECKED BY	JH	APPROVED BY	JH









- KEY
- Approximate Survey Area (31.805 Ha)
  - g1a - Lowland dry acid grassland (0.978 Ha)
  - g1c - Bracken (1.782 Ha)
  - g3c - Other neutral grassland (5.998 Ha)
  - g4 - Modified grassland (7.392 Ha)
  - h1 - Dwarf shrub heath (0.027 Ha)
  - h1a5 - Dry heaths; lowland (0.812 Ha)
  - h2b - Non-native and ornamental hedgerow (0.010 Ha)
  - h3 - Dense scrub (0.203 Ha)
  - h3d - Bramble scrub (0.758 Ha)
  - h3e - Gorse scrub (0.011 Ha)
  - h3h - Mixed scrub (1.081 Ha)
  - h3j - Willow scrub (0.333 Ha)
  - s1a5 - Acidic scree (2.155 Ha)
  - u - Ornamental Garden (0.016 Ha)
  - u1b - Developed land; sealed surface (3.961 Ha)
  - u1b5 - Buildings (2.175 Ha)
  - u1b6 - Other developed land (2.090 Ha)
  - u1c - Artificial unvegetated, unsealed surface (0.030 Ha)
  - u1d - Suburban/ mosaic of developed/ natural surface (1.236 Ha)
  - w1a5 - Western acidic oak woodland (0.486 Ha)
  - w1g - Other woodland; broadleaved (0.269 Ha)
  - r1e - canal or ditch
  - u1e - Built linear feature
  - 32 - Scattered trees
  - Target note
  - Target note - Japanese Knotweed

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

Scattered Trees are approximate locations - for accurate locations refer to the Arboricultural report.

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A		FIRST ISSUE		21/11/2024		CP	DS	JH
REVISION		DETAILS		DATE		ISSUED	APPROVED	CHECKED
CLIENT								
TRIVALLIS								
PROJECT								
PENRHYS RESIDENTIAL ESTATE								
DRAWING TITLE								
UK HAB HABITAT PLAN – SITE 1 (2024)								
PROJ. NO.		CA13129-005				REV		ISSUE CODE
						A		----
PROJ. SIZE		SCALE		DATE		01/11/2024		
A1		1:1,250						
DRAWN BY		CHECKED BY		APPROVED BY		JH		
CP		DS						
								



**KEY**

Survey Extent July 2024

Additionally Surveyed Areas Sept 2024

**Notes:**

Boundaries are indicative. Aerial imagery shown for context purposes only.

A	FIRST ISSUE	01/11/24	CP	DS	JH
REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
CLIENT					
TRIVALLIS					
PROJECT					
PENRHYS RESIDENTIAL ESTATE					
DRAWING TITLE					
UKHAB SURVEY AREAS					
DRG No.		CA13129-012		REV	A
				SUIT. CODE	---
DRG SIZE		A3		SCALE	1:2,500
				DATE	01/11/2024
DRAWN BY		CP		CHECKED BY	DS
				APPROVED BY	JH

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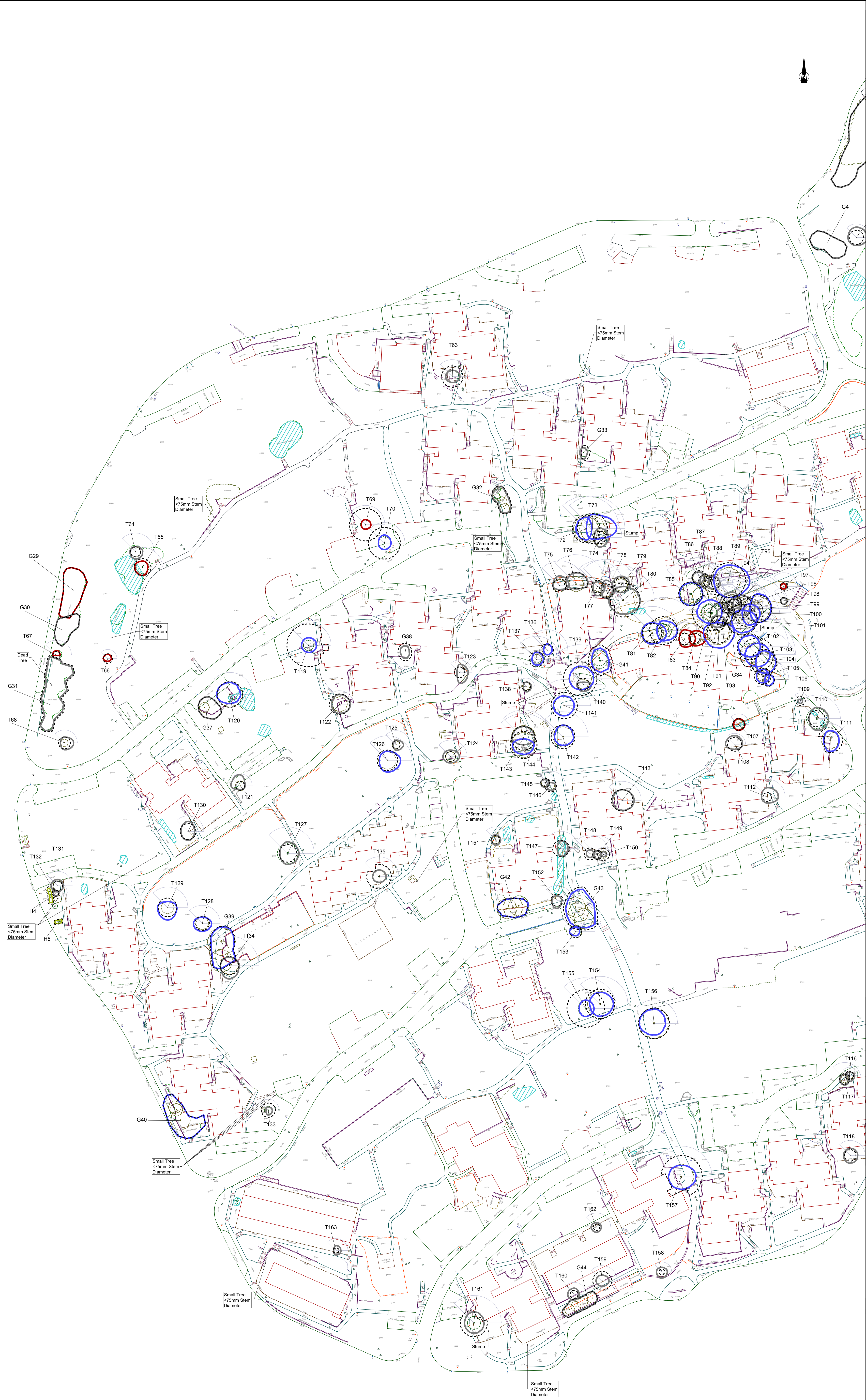
**International office:**

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Tel: +7(727) 334 1310

## **APPENDIX 5**

### **Tree Location and Constraints Plan, WA (part of SLR), 2025**



**KEY**

- HEDGE
- SCRUB

**TREES**

Category categories based on BS5837:2012 Trees in relation to design, retention and construction - Recommendations

RPA - Root Protection Area

Where RPA is not visible it extends to the same distance as the canopy

The original of this drawing was produced in colour - a monochrome copy should not be relied upon

- CATEGORY A CROWN SPREAD
- CATEGORY B CROWN SPREAD
- CATEGORY C CROWN SPREAD
- CATEGORY U CROWN SPREAD
- ROOT PROTECTION AREA
- VETERAN TREE BUFFER ZONE

T100 - TREE TREE GROUP

W101 - WOODLAND HEDGE NUMBER

POTENTIAL DIRECT OBSTRUCTION OF SUNLIGHT

**REFERENCED DATA:**

ZENITH LAND SURVEYS LTD.

TOPOGRAPHICAL SURVEY

21948\_A 2D DATED 06/03/24

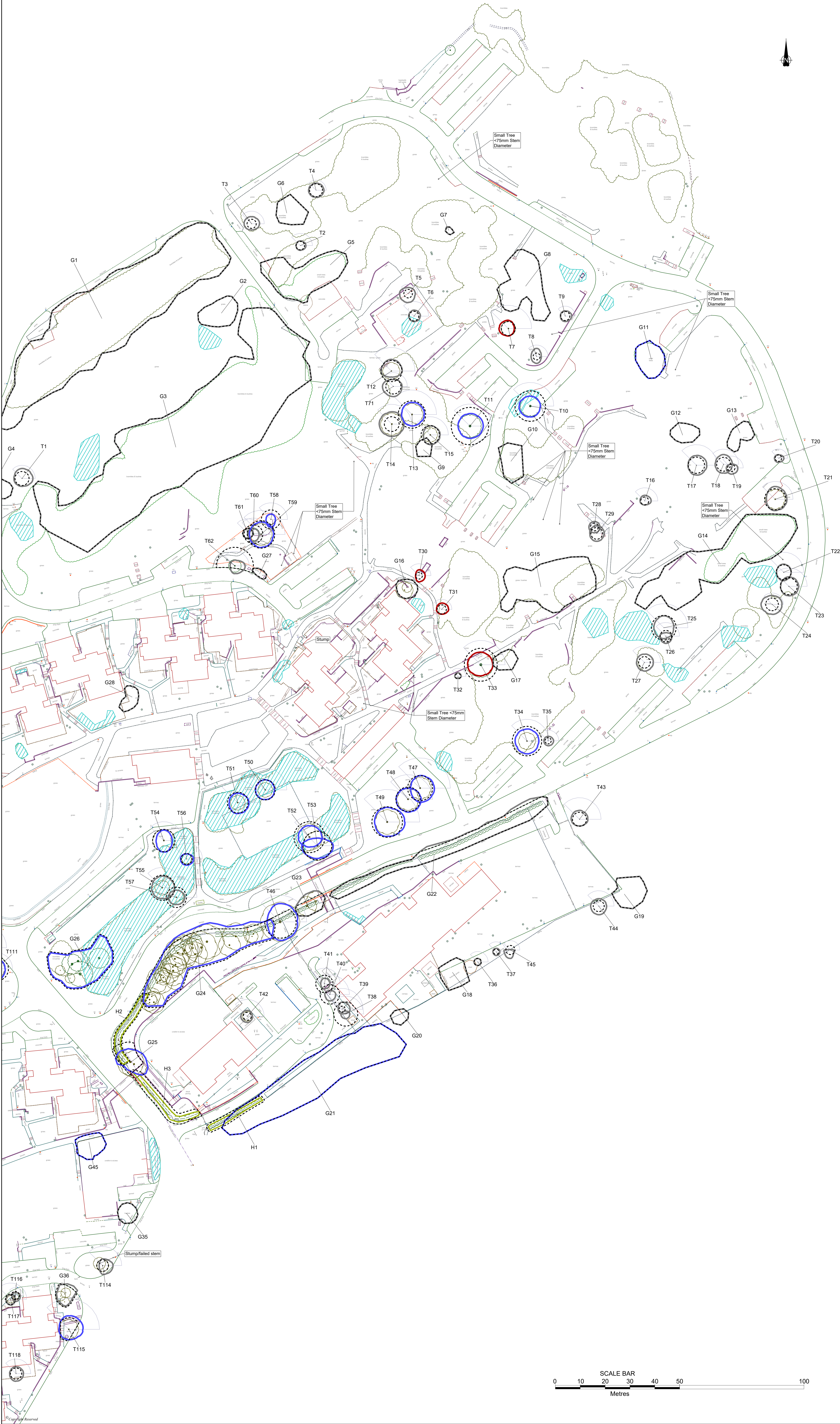
**SHEET OVERVIEW (NOT TO SCALE)**

**Sheet 2**

**Sheet 1**

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REV	DESCRIPTION	DATE	BY	CHK
CLIENT	TRIVALLIS			
PROJECT	PENRHYS RESIDENTIAL			
DRAWING TITLE	TREE LOCATION AND CONSTRAINTS PLAN SHEET 1 OF 2			
DRG NO.	ST21313-001	REV	A	BLT CODE
DRG SIZE	A0	SCALE	1:500	DATE
DRAWN BY	MAB	CHECKED BY	AR	APPROVED BY
				MS

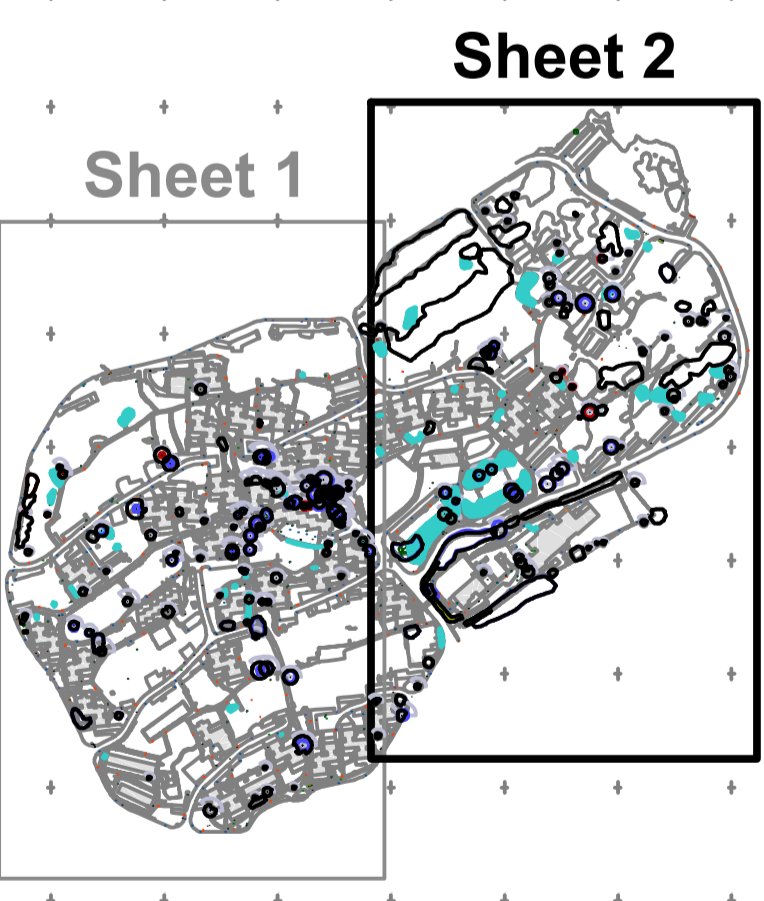
PART OF SLR







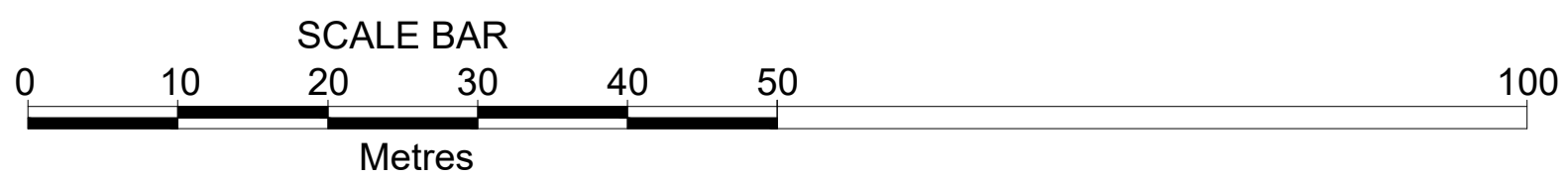
- KEY**
- HEDGE
  - SCRUB
- TREES**
- Quality categories based on BS5837:2012 Trees in relation to design, retention and construction - Recommendations
- RPA - Root Protection Area
  - Where RPA is not visible it extends to the same distance as the canopy
  - The original of this drawing was produced in colour - a monochrome copy should not be relied upon
- CATEGORY A CROWN SPREAD
  - CATEGORY B CROWN SPREAD
  - CATEGORY C CROWN SPREAD
  - CATEGORY U CROWN SPREAD
  - ROOT PROTECTION AREA
  - VETERAN TREE BUFFER ZONE
- T100 TREE/TREE GROUP/ WOODLAND/HEDGE NUMBER
- POTENTIAL DIRECT OBSTRUCTION OF SUNLIGHT

REFERENCED DATA:  
ZENITH LAND SURVEYS LTD.  
TOPOGRAPHICAL SURVEY  
21948\_A 2D DATED 06/03/24

SHEET OVERVIEW  
(NOT TO SCALE)



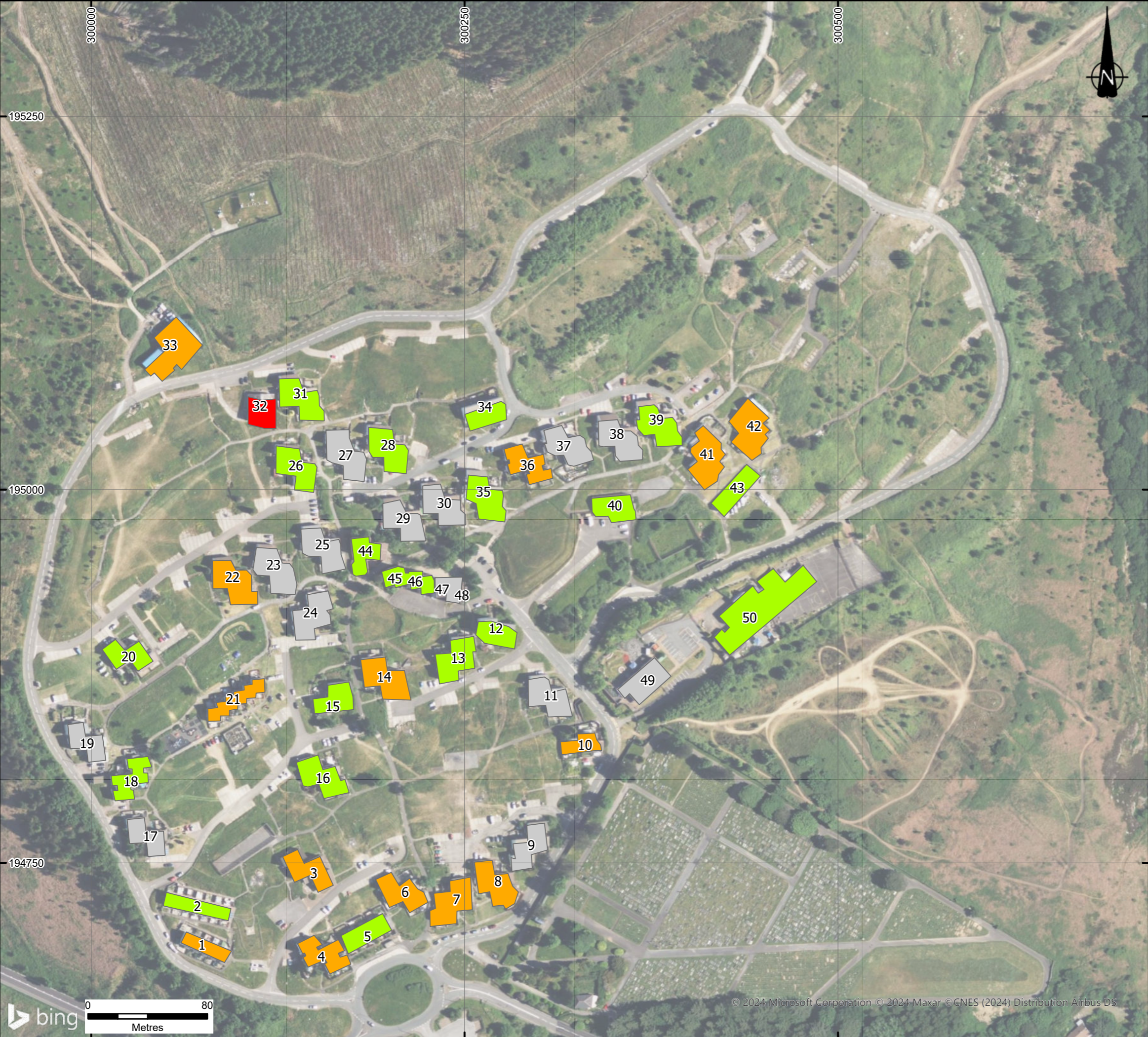
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DESIGNED		DATE			BY	CHECKED	DATE
CLIENT		TRIVALLIS					
PROJECT							
PENRHYS RESIDENTIAL							
DRAWING TITLE							
TREE LOCATION AND CONSTRAINTS PLAN SHEET 2 OF 2							
DRG NO.		ST21313-001			REV	A	SUIT CODE
DRG SIZE		A0		SCALE	1:500	DATE	07/01/2025
DRAWN BY		MAB		CHECKED BY	AR	APPROVED BY	MS
							
							





## **APPENDIX 6**

### **Preliminary Roost Assessment Results**



**KEY**

**Bat Roost Suitability**

High

Moderate

Low

Negligible

**Notes:**

Boundaries are indicative. Aerial imagery shown for context purposes only.

REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
CLIENT					
TRIVALLIS					
PROJECT					
PENRHYS RESIDENTIAL					
DRAWING TITLE					
PRELIMINARY ROOST ASSESSMENT RESULTS					
DRG No.		CA13129-011		REV	P0.01
				SUIT. CODE	--
DRG SIZE		SCALE		DATE	
A3		1:2,500		24/10/2024	
DRAWN BY		CHECKED BY		APPROVED BY	
BL		--		--	

## **APPENDIX 7**

### **Ecological Services Ltd – Bat Survey Penrhys**



**Bat Survey:** Penrhys Estate, Penrhys, Rhondda Cynon Taff, CF43 3NW



**Instructed by:** Trivallis

**Reported by:** Ecological Services Ltd  
10 Mount Pleasant, Llanelly Hill, Abergavenny, Monmouthshire, NP7 0NT

Author	Date	Version
Richard Watkins	October 2024	V1.0

T: 07866461726    E: [rich@ecologicalservices.wales](mailto:rich@ecologicalservices.wales)    W: [www.ecologicalservices.wales](http://www.ecologicalservices.wales)

## **CONTENTS**

1. Background and Purpose
2. Site Description
3. Report Constraints
4. Legal Constraints
5. General Information
6. External Scoping Survey
7. Emergence Surveys
8. Concluding Remarks and Recommendations
9. Appendices

**Aerial Site Photographs**

**OS Map**

**Surveyor & NVA Positions**

**Guidance Note**

**Warning! The building is now a confirmed bat roost.**

**No works can be undertaken that may impact or disturb the roost without the legal owner being in possession of a European Protected Species License. Please refer to section 4 and section 9 of the report for further details.**

**If there is any doubt of what is permissible please contact the author on: Tel:07866461726 or Email [rich@ecologicalservices.wales](mailto:rich@ecologicalservices.wales) prior to any works commencing.**

**Disturbance or destruction of a bat roost is a criminal offence that may result in any granted planning permission being revoked, the legal owner receiving a fine and or a prison sentence.**

## **1.0 Background and Purpose**

**1.1** The buildings being surveyed consist of 6 residential flat blocks which are situated in a semi-rural environment in the town of Ferndale in Rhondda Cynon Taff. The buildings currently contain a number of separate residential dwellings and planning permission is sought to demolish the existing buildings. This report will investigate if there is potential to disturb bats and will be used to assist in the planning process.

**1.2** To support the planning application a bat report has been commissioned to investigate if bats use the current property in any capacity during the maternity season, and for any evidence suggesting that bats use the property at other times of the year.

**1.3** The report is prepared and undertaken by Mr. Richard Watkins BSc., an experienced Natural Resources Wales licensed bat ecologist with 13 years experience, license number S0931358-1.

**1.4** A data search was undertaken with SEWBRc (0234-391) to provide information on local bat and bird species in the area. The data search did not identify any historic records of bats being present in the buildings. The nearest recorded roosts are approximately 710m from the site which is a record for an unidentified bat species roost from 2003; 770m from the site which is a record for an unidentified bat species roost from 2006 and 810m from the site which is a record for a Pipistrelle Species (*Pipistrellus sp.*) maternity roost from 2019.

**1.5** There are various non roosting records for bats, the nearest being approximately 1140m from the site which is a record for a foraging unidentified bat species.

**1.6** No records for nesting birds were returned as part of the data search within 500m of the proposed development site.

**1.7** The buildings are not within 10km of a designated SAC or SSSI for bats.

## **2.0 Site Description**

**2.1** The buildings being surveyed consist of 6 residential flat blocks; 224-231 & 248-255 Pen Tyntyla and 436-443; 452-459; 468-475 & 484-491 Heol Y Waun. The majority of the flats are now empty, however, a small number of the flats are currently occupied.



**2.2** All of the flat blocks are of the same construction. They are prefabricated buildings which are two storeys in height with multiple single pitched, tiled roofs. There are areas of uPVC fasciae present but no soffits or barge boards. A small number of roofs have solar panels installed. There are single storey, lean-to porch extensions around all of the flat blocks with tiled roofs and verge protectors present. There is likely to be a cavity wall within each of the buildings.

**2.3** The buildings date back to in excess of 60 years and are situated in a semi-rural environment. There are likely to be minimal amounts of ambient lighting within the vicinity of the buildings.

**2.4** The nearest significant watercourse is the Rhondda River, approximately 805m to the south west of the site and Afon Rhondda Bach, approximately 930m to the east of the site at their nearest points.

**2.5** The buildings being surveyed are situated in a semi-rural environment in the town of Ferndale in Rhondda Cynon Taff. The estate is situated on a mountain and is immediately surrounded by substantial amounts of open mountain land and areas of forestry. There is optimal ecological connectivity for bats to the wider environment.

**2.6** The National Grid Reference of the site is: **ST 0005 9491**.

### **3.0 Report Constraints**

**3.1** Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviours. The survey methods employed can provide evidence for the potential presence of bats at the times when the site was visited. Although the methods follow best practice guidance and were carried out in such a way as to maximise the chances of detection, failure to detect the target species cannot be considered as definitive proof of their absence.

**3.2** The report is solely concerned with bats in relation to these buildings. Trees and other buildings not mentioned directly have not been included in this report.

**3.3** Even though bats are habitual creatures they can still move to new roosts if more suitable. Therefore this report cannot predict the status of the structure in regard to bat occupancy in the future. This report should be acted upon as soon as practical. Natural Resources Wales will only accept survey data up to two years old from date of issue for licence applications, although some Local Planning Authorities will only accept survey data up to eighteen months old. If planning or building works are delayed, it is the responsibility of the client to discuss and gain approval from the *author* before work commences.

**3.4 Internal access into the buildings was not possible due to each flat having individual tenants. This was not considered to be a significant constraint. Given the fact that the buildings are proposed for demolition, at least one activity survey will be undertaken on each of the flat blocks.**

### **4.0 Legal Constraints**

**4.1** Bats, and any place a bat uses for breeding or shelter, either currently occupied or unoccupied are protected by European and British law, predominantly by **The Conservation of Habitats and Species Regulations 2017**, which are the principal means by which the Habitats Directive is transposed from European directive into law in England and Wales.

**4.2** In summary this law states that it is an offence to:

- **Deliberately capture or kill a bat**
- **Deliberately disturb a bat**
- **Damage or destroy a breeding site or resting place of a bat**
- **Keep; transport; sell; exchange or offer for sale or exchange a living or dead bat or any part of a bat**

**4.3** ‘Deliberately’ may also be interpreted, as not intending to injure or kill a bat but having done so due to being insufficiently informed and unaware of the consequences of the action.

**4.4** For a more comprehensive description and exact wording of the legislation please refer to:

**4.5** Where there is a risk that a bat roost may be present, it is incumbent upon the owner to commission a specialist bat survey to identify bat roosts before any work commences. Maximum penalties for offences relating to disturbance to bats or their roosts can amount to imprisonment for a term not exceeding six months or fines of up to Level 5 on the standard scale under the Criminal Justice Act 1982/1991 (i.e. £5000 in April 2001) per roost or bat disturbed or killed, or to both.

**4.6** If a bat roost is discovered, no work that could affect the roost can be undertaken until Natural Resources Wales grants a licence endorsing the work. A thorough method statement and adequate mitigation proposal will need to be submitted to support any licence application.

**4.7** The Environment (Wales) Act 2016 puts an onus onto responsible bodies such as Local Planning Authorities to not only preserve, but also to enhance biodiversity meaning that planning applications must offer an element of ecological gain as well as preserving any aspects of ecological importance.

## **5.0 General Information**

**5.1** Bats are unable to build roosts themselves but instead rely on both man made and naturally occurring features to provide suitable accommodation. Bats generally prefer older buildings built with traditional materials, as traditional building methods provide more opportunities for gaps and entrances to buildings. Traditional cut roofs are preferred to a roof with trusses. Bats also prefer to roost where the external roost area has access to sunlight during the day such as south facing roof elevations.

**5.2** Bats can utilise the following features on a building; end tiles, barge boards, soffit, gable ends, porches, lead flashing, hanging tiles, ridge tiles, broken tiles, eaves, sash window frames, wood cladding, fascia boards, window sills and internal roof spaces and timbers. Although this list demonstrates the most popular roosting sites it is by no means definitive. Bats can use apertures as small as 10mm in diameter to gain access.

**5.3** The U.K bat population is divided into two distinct families, Rhinolophidae and Vespertilionidae. In general, Rhinolophidae (Horseshoe) bats differ in their roosting requirements to Vespertilionidae (the remainder of UK bat species). Horseshoe bats prefer to roost in large areas such as internal attic spaces and hang in the open from the roof of the roost. They tend to roost in visible clusters to maintain the high temperatures that a maternity colony needs. Horseshoe bats also prefer free flight access and egress into the roosting area. Horseshoe bats tend to be more light averting to other UK bat species, and routinely fly around the internal roosting area to warm up before exiting. It is noted that Plecotus (Long Eared) bats share some of these preferences. Vesper bats are, on the whole, crevice dwelling bats who squeeze into small apertures to access the roost. These, like Horseshoe bats, will cluster in maternity colonies, but are normally hidden from view. Vesper bats, with the exception of Long Eared bats, do not require a large internal roost to fly around before exit. Long Eared bats, although part of the vesper family, are very light averting and will, on occasions share the roosting patterns of both Horseshoe and crevice dwelling species.

## **6.0 External Scoping Survey**

The external scoping survey was undertaken on the **1st September 2023** in conditions of good natural light. All external aspects of the buildings were comprehensively evaluated for roost potential. Evidence was also sought for any staining or droppings which could suggest bat occupation.

**6.2** The buildings were inspected for overt evidence of bat presence and occupation such as:

- Staining around the entry of roosting point caused by oils secreted by the bat into its fur
- Scratching on surfaces caused by the bat in the acts of take off and landing
- Bat droppings on walls; floors; roof voids; window sills or panes and barge boards
- Urine stains below a possible entrance site, within the entrance to a cavity or on timbers used for roosting
- Bats can produce chatter on warm evenings prior to leaving the roost. A heterodyne bat detector is used to help determine this
- Flies around the entrance or on the floor of possible roosts, which may be attracted to bat guano

**6.3** Due to the age and condition of the buildings, there were a number of opportunities present for bats to access and use the buildings and those that were available were deemed as having low to moderate potential for roosting bats. The only building deemed as having moderate potential was 224-231 Pen Tyntyla due to the additional number of features for bat access and use.

**6.4** No droppings or evidence of bats were discovered on any external features.

**6.5** No evidence of nesting bird use of the buildings was observed during the scoping survey.

**6.6 224-231 Pen Tyntyla:**

- Slightly raised tiles
- Apertures around the tops of the garage doors
- A missing ridge tile
- Apertures in the verge protectors
- Missing tiles
- Missing fascia and verge protector
- Broken tiles
- Broken windows

**6.7 248-255 Pen Tyntyla:**

- Slightly raised verge protector
- Slightly raised tiles
- Apertures around the tops of the garage doors

**6.8 436-443 Heol Y Waun:**

- Slightly raised lead flashing
- Slightly raised tiles
- Open vents
- Apertures around the tops of the garage doors

**6.9 452-459 Heol Y Waun:**

- Missing ridge tiles
- Raised ridge tile

**6.10 468-475 Heol Y Waun:**

- Raised end ridge tiles
- Open vents
- Aperture above an area of fascia

**6.11 484-491 Heol Y Waun:**

- Areas of missing cladding
- Slightly raised tiles

**6.12 Examples of apertures allowing access to cavities in the buildings:**

224-231 Pen Tyntyla:







248-255 Pen Tyntyla:





436-443 Heol Y Waun:





*452-459 Heol Y Waun:*







**6.13 An internal scoping survey of the buildings was not possible during the site visit due to each flat having individual tenants. The logistics of arranging a suitable day and time to visit each separate flat was not possible to co-ordinate. Given the presence of single pitched roofs and likely limited attic space, the lack of an internal survey is not considered a large constraint to the survey assessment.**

## **7.0 Emergence Surveys**

**7.1** The emergence surveys were carried out during the maternity season and adhered to current best practice guidelines. These surveys were conducted from half an hour before sunset until two hours post sunset. The surveyors used are all experienced bat counters who have undergone sufficient training in basic bat ecology and bat activity. All sound analysis was undertaken by Richard Watkins.

**7.2** The emergence surveys gave extra consideration to the features identified during the external scoping survey which could be utilised by bats.

### **7.3 First Emergence Survey on 14th August 2024 on 452-459; 468-475 & 448-491 Heol Y Waun**

- Sunset: 20:38
- Weather: Dry and calm with approximately 10% cloud cover
- Temperature: 15 degrees celsius
- Surveyors: Jonathan Daniels; Hannah Evans; Tyrone Evans; Adam Hughes; Jennifer James; Lloyd James; Ryan Offers; Debbie Parry; Sarah Seward; Caitlin Smith; Mason Smith; Keith Watkins and Richard Watkins

**No bats were observed emerging from the buildings.**

### **7.4 First Emergence Survey on 18th August 2024 on 436-443 Heol Y Waun and 224-231 & 248-255 Pen Tyntyla**

- Sunset: 20:30
- Weather: Dry and calm with approximately 20% cloud cover
- Temperature: 14 degrees celsius
- Surveyors: David Cunvin; Jonathan Daniels; Adam Hughes; Jennifer James; Lloyd James; Matthew Kedward; Ryan Offers; Sarah Seward; Caitlin Smith; Mason Smith; Matthew Thomas and Richard Watkins

**2 Common Pipistrelles (*Pipistrellus pipistrellus*) were observed emerging from 436-443 Heol Y Waun. The exact roosting location could not be confirmed due to the height of the buildings.**

### **7.5 Second Emergence Survey on 24th September 2024 on 452-459; 468-475 & 448-491 Heol Y Waun**

- Sunset: 19:07
- Weather: Dry and calm with approximately 75% cloud cover
- Temperature: 12 degrees celsius
- Surveyors: David Cunvin; Jonathan Daniels; Allen Harvey; Adam Hughes; Matthew Kedward; Ryan Offers; Debbie Parry; Caitlin Smith; Mason Smith; Matthew Thomas; Kieran Turner; Keith Watkins and Richard Watkins

**No bats were observed emerging from the buildings.**

### **7.6 Second Emergence Survey on 25th September 2024 on 436-443 Heol Y Waun and 224-231 & 248-255 Pen Tyntyla**

- Sunset: 19:04
- Weather: Dry and calm with full cloud cover
- Temperature: 12 degrees celsius
- Surveyors: Jonathan Daniels; James Day; Adam Hughes; Matthew Kedward; Kieran Meek; Ryan Offers; Debbie Parry; Caitlin Smith; Mason Smith; Matthew Thomas; Kieran Turner; Keith Watkins and Richard Watkins

**No bats were observed emerging from the buildings.**

**7.7** The weather conditions were dry and calm with little wind and no rain and therefore conducive for bat activity. The temperature was above 10 degrees celsius during the emergence surveys.

**7.8** The best viewing conditions were obtained.

**7.9** Echo-meter Touch 2 Pro bat detectors were present to acoustically record any bat calls. Nightfox Night Vision Goggles with record features were also used alongside additional infrared spotlights. These were positioned with the surveyors.

**7.10** Analysis of sound recording on bat detectors:

Species of Bats Recorded Emerging from the Buildings:	
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>

Species of Bats Recorded in the Area:	
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>

**7.11** During the 14th August emergence survey, only a single Common Pipistrelle bat call was recorded and the bat was observed commuting past 468-475 Heol Y Waun in an east to west direction.



**7.12** During the 18th August emergence survey, a very low number of bat calls were recorded. 2 Common Pipistrelles were observed emerging from 436-443 Heol Y Waun and a small number of Common Pipistrelles were observed foraging and commuting in the area.

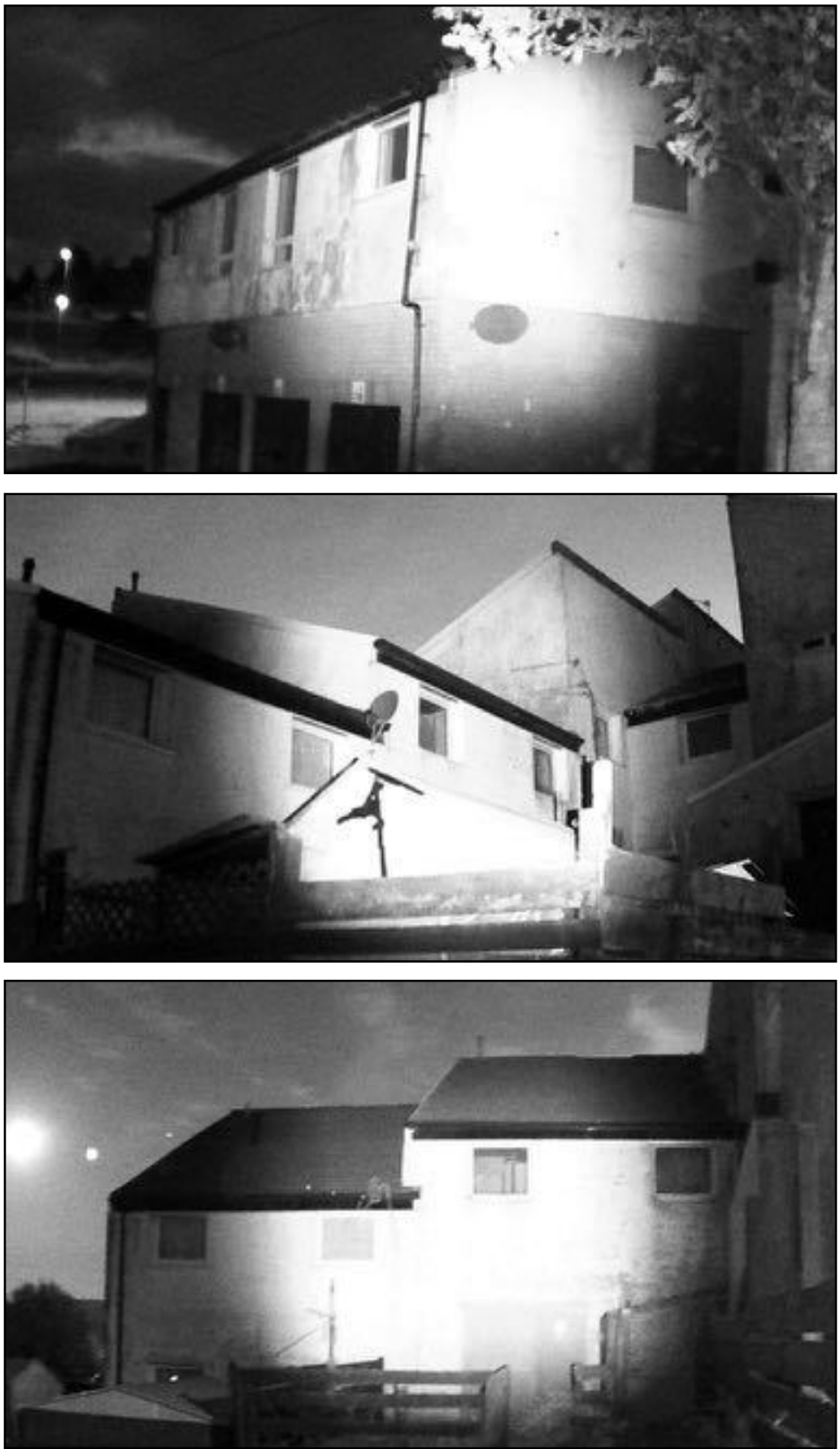


7.13 During the 24th September emergence survey, a very low number of bat calls were recorded. A small number of Common Pipistrelles were observed foraging to the eastern side of Heol Y Waun.



7.14 During the 25th September emergence survey, no bats were detected or observed.

7.15 Examples of NVA Still Shots:





## **8.0 Concluding Remarks and Recommendations**

**8.1 During the emergence surveys, bats were observed using 436-443 Heol Y Waun as a day roost. The exact roosting location could not be confirmed due to the height of the buildings.**

**8.2 Common Pipistrelles (*Pipistrellus pipistrellus*) were observed emerging from 436-443 Heol Y Waun during the emergence surveys. Common Pipistrelles are a common species of bat and are often found roosting in buildings. These types of bats are more tolerant to light disturbance than other species of bats.**

**8.3 Throughout the surveys, a very low number of bat calls were recorded and a maximum of 2 bats were observed using 436-443 Heol Y Waun as a day roost during any emergence survey.**

**8.4 The emergence surveys did not identify a maternity roost. The bats using 436-443 Heol Y Waun as a day roost are probably males or non breeding females.**

**8.5 The buildings do not offer significant hibernation potential for bats. The external walls were sound with no visible apertures for bats preventing access into the wall structure. The buildings provide a number of residential flats, some of which are occupied and therefore central heating will be on which does not provide a thermally stable environment for hibernating bats. When considering the limited bat access points into the buildings, the hibernation use of the buildings is considered to be limited.**

**8.6 No evidence of nesting bird use of the buildings was observed during the surveys.**

**8.7 Due to the age and condition of the buildings, there were a small number of opportunities present for bats to access and use the buildings and those that were available were deemed as having low to moderate potential for roosting bats. The only building deemed as having moderate potential was 224-231 Pen Tyntyla due to the additional number of features for bat access and use the building.**

**8.8 The site is located in an area with optimal ecological connectivity for bats to the wider environment and the surrounding environment does offer potential for bat use.**

**8.9 There were moderate amounts of ambient lighting within the vicinity of the site given the presence of residential properties in directions immediately around.**

**8.10 As 436-443 Heol Y Waun is proposed to be demolished, the bat roosting location will be destroyed. Therefore a European Protected Species Licence, issued by Natural Resources Wales will be legally required to destroy the roost.**

**8.11 If careful consideration is made to incorporate improved roosting conditions into the new build scheme, then this project could offer ecological gain for the resident bats. New roost creation in the new building scheme is required to accommodate crevice dwelling species of bats. There is potential to offer ecological gain for bats and nesting birds if the project proceeds. This would help satisfy the local planning authorities legal responsibility to preserve and enhance biodiversity under the Environment (Wales) Act 2016. The creation of new roosting**

features will be incorporated into the schedule of works. This can be achieved at very little expense and with no impact to the owners of the property.

8.12 436-443 Heol Y Waun is now a confirmed bat roost. No work that could affect the bat roost is permitted by law, without the permission from Natural Resources Wales, including any works to the roof. Direct illumination of the building is also not permitted, as this could constitute disturbance. (Please see Section 5 of this report for further information).

8.13 If planning is approved, the legal owner must apply and be in possession of a European Protected Species Licence to destroy the roost, this is issued by Natural Resources Wales. This will take approximately 40 working days to be issued. This licence would have to offer a methodology to ensure that any loss of roosting sites be replaced and preferably enhanced in the new build and the project be undertaken in a way which minimises any risk to bats. An ecological clerk of works will be appointed and retained for the duration of the project.

8.14 A bat box will be erected prior to works in a suitable location by a suitably qualified ecologist. This will be used to relocate any bats found during an ecological soft strip of the building under European Protected Species Licence.

8.15 A detailed external lighting plan will be required to minimise any external light disturbance to the bats using the building and surrounding area. Any new external lighting must not directly illuminate any roosting location. Any external lighting must be downward angled and activated by passive infrared. The lights will be baffled to avoid any unnecessary lateral or vertical light spill. The lux levels of any external lights will be as low as required for health and safety purposes.

8.16 Following commencement of works on the remaining buildings; outside any ecologically supervised period and in the unlikely event that the contractor encounters any bats during any works, then work must immediately stop and the bat worker summoned. If for any reason they cannot be contacted, advice must be sought from Natural Resources Wales, (Telephone Number 0300 065 3000). No works would recommence until a licence is issued by NRW sanctioning works going forward. The guidance note on finding bats found in the appendices must be followed.

8.17 Proposed detailed architectural drawings are not currently available. Once available, further advice must be sought from a suitably qualified ecologist in regard to the size, type and location of any proposed new roosting mitigation.

8.18 Once the new mitigation has been agreed between relevant parties, this must be added to the architectural drawings prior to submission of the Planning Application or Listed Building Consent.

8.19 Any new mitigation must not be directly illuminated and a dark corridor must be established allowing undisturbed access for any bat away from the site.

Signed: *Richard Watkins* Date: October 2024

## **9.0 Appendix**

**Aerial Site Photographs**

**OS Map**

**Surveyor & NVA Positions**

**Guidance Note**

### **Appendix 1 Aerial Site Photographs**

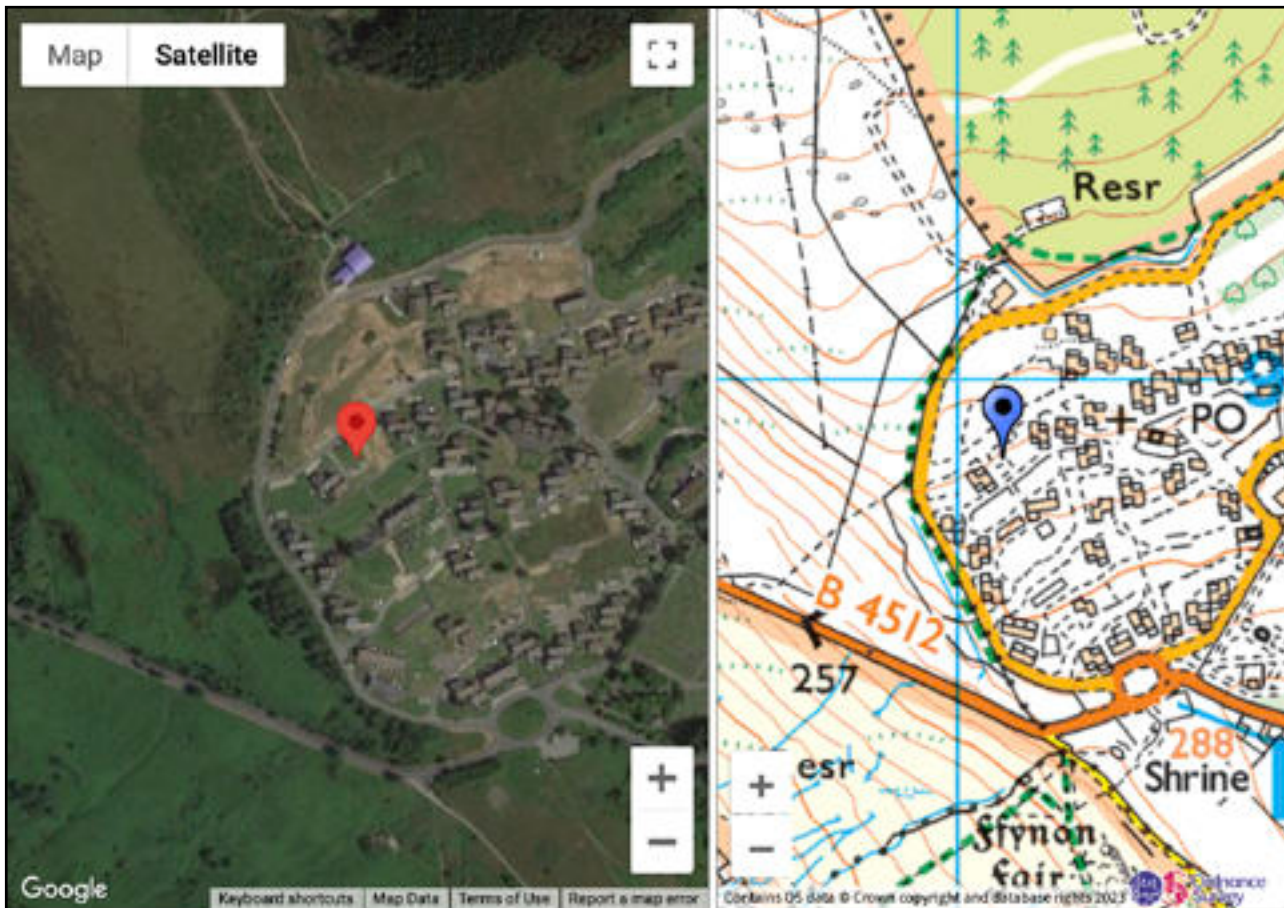


**The site in its immediate environment.**



**The site in its wider environment offering optimal ecological connectivity to the surrounding habitat.**

## Appendix 2 OS Map National Grid Reference ST 0005 9491



### Appendix 3 Surveyor & NVA Positions





**Guidance Note (Important information in the unlikely event that bats are discovered)**

Where any building or demolition work is to commence, all contractors should remain vigilant at all times during the course of the works, looking for signs that bats are present or that bats have formerly occupied the building. Whilst this survey has been undertaken and no visible evidence of bats found within the building, the possibility of a bat or bats being present cannot be absolutely ruled out. In the extremely unlikely event that bats are discovered during the works, then work must **stop** as soon as it is safe to do so, The bat worker must be contacted immediately and Natural Resources Wales informed in order for a licence to be granted to complete the works. No works will be permitted until such time a license is approved.

If in the unlikely event a roost is accidentally opened up, any loose bats should be returned to the roost and apertures closed to prevent their escape until they can be examined for injury by a bat worker. Dead bats should be retained. Bats are very fragile and should be handled by a professional, and unless absolutely necessary should not to be approached and disturbed. However, where a bat is clearly injured and distressed, the contractor should carefully collect them and place in a light proof box. Gloves must be worn when handling bats\*

**In the Event of a Bats being discovered the bat worker must be contacted immediately that it is safe to do so on 07866461726**

**If the bat worker is not available, Natural Resources Wales must be contacted on 0300 065 3000**

---

\*Bats can potentially carry European Bat Lyssa Virus (EBLV) which is a strain of rabies virus that is found in some bat species although extremely uncommon, a potential risk occurs; therefore, all bats must be handled with thick gloves.



## **APPENDIX 8**

### **Bat Emergence Surveys – date, time and weather conditions**

### Appendix 8: Bat Emergence Surveys - Dates, Times, and Weather conditions

Table 1: Bat Emergence Surveys – Penrhys – Phase 1a					
Building Number/Location to application boundary	Date	Sunset	Start Time	End Time	Weather Conditions
20 (adjacent)	17.07.2025	21:33	21:08	22:53	<b>Start:</b> 17°C, wind 4mph W, 7/8 cloud cover, dry.  <b>End:</b> 16°C, wind 3mph W, 7/8 cloud cover, dry.
22 (surveyed by another consultancy)	18.08.2024	20:28	20:13	21:58	<b>Start:</b> 16°C, wind 4mph NW, 0/8 cloud cover, dry.  <b>End:</b> 15°C, wind 2mph E, 0/8 cloud cover, dry.
	25.09.2024	19:03	18:48	20:33	<b>Start:</b> 15°C, wind 5mph W, 8/8 cloud cover, light rain.  <b>End:</b> 15°C, wind 5mph SW, 8/8 cloud cover, low clouds, dry.
23	01.06.2025	21:20	21:05	22:50	<b>Start:</b> 15°C, wind 11mph E, 0/8 cloud cover, dry.  <b>End:</b> 11°C, wind 11mph SE, 0/8 cloud cover, dry.
24	02.06.2025	21:21	21:06	22:51	<b>Start:</b> 15°C, wind 11mph SE, 0/8 cloud cover, dry.  <b>End:</b> 12°C, wind 11mph E, 0/8 cloud cover, dry.
	23.07.2025	21:13	20:57	22:27	<b>Start:</b> 14°C, wind 8mph NW,

					8/8 cloud cover, dry.  <b>End:</b> 12°C, wind 8mph NW, 8/8 cloud cover, dry.
25	30.06.2025	21:33	21:18	23:03	<b>Start:</b> 27°C, wind 6mph N, 0/8 cloud cover, dry.  <b>End:</b> 17°C, wind 6mph SE, 0/8 cloud cover, dry.
26 (surveyed by another consultancy)	14.08.2024	20:36	20:21	22:06	<b>Start:</b> 19°C, wind 11mph E, 2/8 cloud cover, dry.  <b>End:</b> 14°C, wind 9mph E, 2/8 cloud cover, dry.
	25.09.2024	19:03	18:48	20:33	<b>Start:</b> 15°C, wind 10mph NW, 8/8 cloud cover, light rain.  <b>End:</b> 14°C, wind 7mph N, 4/8 cloud cover, dry.
27	15.05.2025	20:58	20:43	22:28	<b>Start:</b> 12°C, wind 6mph NE, 3/8 cloud cover, dry.  <b>End:</b> 11°C, wind 7mph NE, 2/8 cloud cover, dry.
28	03.07.2025	21:32	21:17	23:02	<b>Start:</b> 14°C, wind 6mph W, 2/8 cloud cover, dry.  <b>End:</b> 13°C, wind 5mph W, 2/8 cloud cover, dry.
29	29.06.2025	21:33	21:18	23:03	<b>Start:</b> 22°C, wind 7mph NE,

					6/8 cloud cover, dry.  <b>End:</b> 16°C, wind 6mph SE, 0/8 cloud cover, dry.
30 (surveyed by another consultancy)	<b>18.08.2024</b>	<b>20:28</b>	<b>20:13</b>	<b>22:58</b>	<b>Start:</b> 17°C, wind 6mph E, 3/8 cloud cover, dry.  <b>End:</b> 14°C, wind 6mph E, 0/8 cloud cover, dry.
	<b>25.09.2024</b>	<b>19:03</b>	<b>18:48</b>	<b>20:33</b>	<b>Start:</b> 15°C, wind 10mph NW, 7/8 cloud cover, light rain.  <b>End:</b> 14°C, wind 7mph N, 0/8 cloud cover, dry.
31	<b>12.05.2025</b>	<b>20:55</b>	<b>20:40</b>	<b>22:25</b>	<b>Start:</b> 14°C, wind 3mph E, 3/8 cloud cover, dry.  <b>End:</b> 13°C, wind 3mph E, 3/8 cloud cover, dry.
32	<b>12.08.2024</b>	<b>20:40</b>	<b>20:25</b>	<b>22:10</b>	<b>Start:</b> 19°C, wind 11mph E, 0/8 cloud cover, dry.  <b>End:</b> 14°C, wind 11mph SE, 0/8 cloud cover, dry.
	<b>02.09.2024</b>	<b>19:55</b>	<b>19:40</b>	<b>21:25</b>	<b>Start:</b> 17°C, wind 4mph W, 6/8 cloud cover, dry.  <b>End:</b> 15°C, wind 3mph S, 4/8 cloud cover, dry.

	18.06.2025	21:34	21:19	23:04	<p><b>Start:</b> 16°C, wind 4mph WNW, 0/8 cloud cover, dry.</p> <p><b>End:</b> 15°C, wind 3mph W, 0/8 cloud cover, dry.</p>
33 (adjacent)	07.05.2025	20:45	20:30	22:15	<p><b>Start:</b> 13°C, wind 3mph SW, 2/8 cloud cover, dry.</p> <p><b>End:</b> 14°C, wind 5mph SW, 6/8 cloud cover, dry.</p>
	02.06.2025	21:21	21:06	22:51	<p><b>Start:</b> 11°C, wind 11mph SW, 4/8 cloud cover, dry.</p> <p><b>End:</b> 11°C, wind 11mph WSW, 7/8 cloud cover, dry.</p>
	01.07.2025	21:32	21:17	23:02	<p><b>Start:</b> 17°C, wind 4mph WSW, 7/8 cloud cover, dry.</p> <p><b>End:</b> 16°C, wind 3mph WSW, 7/8 cloud cover, dry.</p>
34	08.05.2025	20:49	20:34	22:19	<p><b>Start:</b> 11°C, wind 4mph SW, 1/8 cloud cover, dry.</p> <p><b>End:</b> 10°C, wind 3mph S, 1/8 cloud cover, dry.</p>
35	28.05.2025	21:16	21:01	22:46	<p><b>Start:</b> 12°C, wind 7mph WSW, 8/8 cloud cover, dry.</p> <p><b>End:</b> 12°C, wind 7mph SW, 8/8</p>

					cloud cover, dry.
36 (surveyed by another consultancy)	<b>14.08.2024</b>	<b>20:36</b>	<b>20:21</b>	<b>22:06</b>	<b>Start:</b> 19°C, wind 9mph W, 6/8 cloud cover, dry.  <b>End:</b> 14°C, wind 9mph SE, 0/8 cloud cover, dry.
	<b>24.09.2024</b>	<b>19:06</b>	<b>18:51</b>	<b>20:36</b>	<b>Start:</b> 13°C, wind 11mph SW, 7/8 cloud cover, dry.  <b>End:</b> 11°C, wind 6mph SW, 6/8 cloud cover, dry.
37	<b>15.05.2025</b>	<b>20:58</b>	<b>20:43</b>	<b>22:28</b>	<b>Start:</b> 18°C, wind 10mph W, 0/8 cloud cover, dry.  <b>End:</b> 14°C, wind 10mph W, 0/8 cloud cover, dry.
40 (adjacent)	<b>11.06.2025</b>	<b>21:29</b>	<b>21:14</b>	<b>22:59</b>	<b>Start:</b> 17°C, wind 9mph NW, 2/8 cloud cover, dry.  <b>End:</b> 16°C, wind 7mph W, 3/8 cloud cover, dry.
	<b>23.07.2025</b>	<b>21:13</b>	<b>20:58</b>	<b>22:43</b>	<b>Start:</b> 14°C, wind 11mph NW, 8/8 cloud cover, dry.  <b>End:</b> 12°C, wind 9mph N, 6/8 cloud cover, dry.

## **APPENDIX 9**

### **Field of View of Night Vision Aids**

## Appendix 9: Field of View of Night Vision Aids

**NB: not every NVA screenshot is shown, this appendix is used to show to competence of surveyors during the survey and correct use of NVA. Some NVA positions compromised due to gardens**

### **B20 – 17.07.2025**

Lightest Frame



Darkest Frame



### **B22 – 18.06.2024 and 25.09.2024**

Surveys conducted by another consultancy.

### **B23 – 01.06.2025**

Lightest Frame

Darkest Frame



**B24 – 02.06.2025 and 23.07.2025**

Lightest Frame



Darkest Frame



**B25 – 30.06.2025**

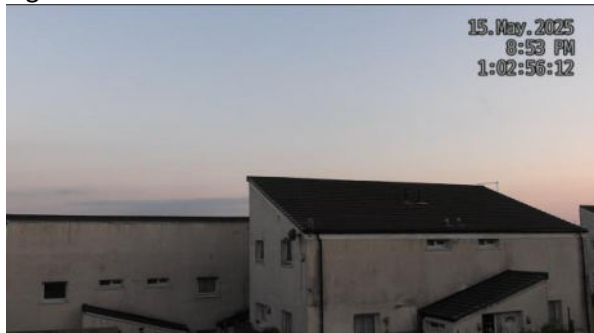


**B26 – 14.08.2024 and 25.09.2024**

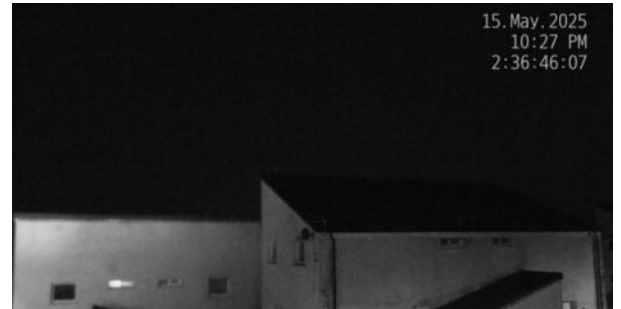
Surveys conducted by another consultancy.

**B27 – 15.05.2025**

Lightest Frame



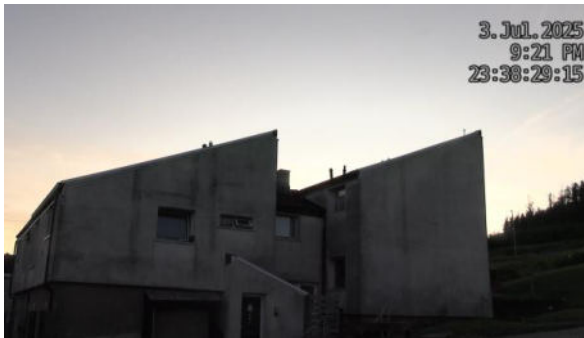
Darkest Frame



**B28 – 03.07.2025**

Lightest Frame

Darkest Frame

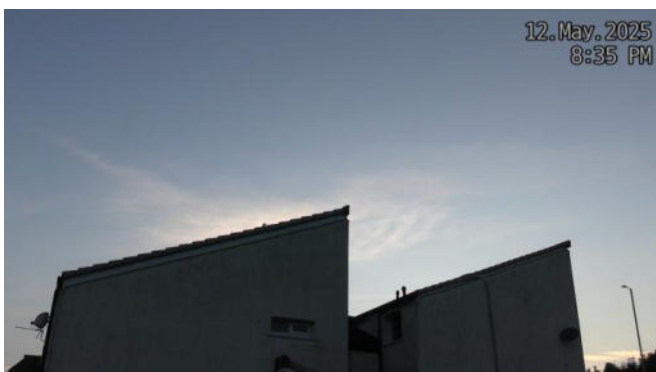


**B29 – 29.06.2025**

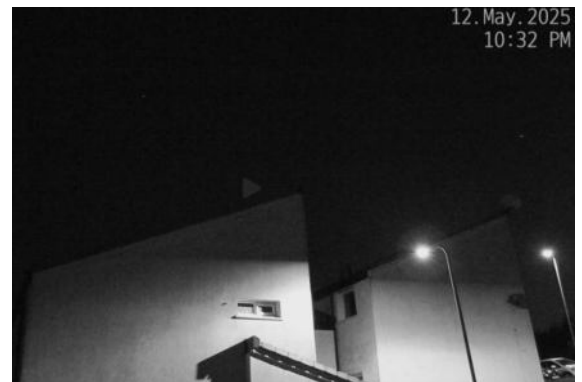


**B31 – 12.05.2025**

Lightest Frame



Darkest Frame



**B32 – 12.08.2024, 02.09.2024 and 18.06.2025**

Lightest Frame

Darkest Frame



**B33 – 07.05.2025, 02.06.2025 and 01.07.2025**

Lightest Frame



Darkest Frame

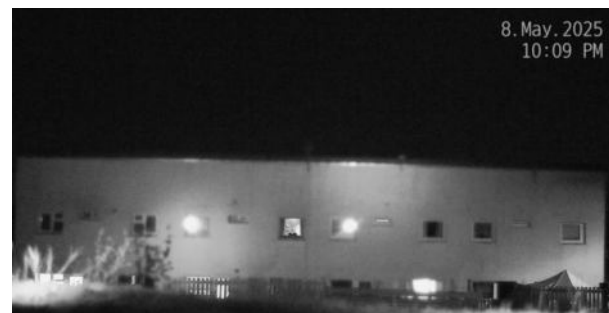


**B34 – 08.05.2025**

Lightest Frame



Darkest Frame



**B35 – 28.05.2025**

Lightest Frame



Darkest Frame



**B36 – 14.08.2024 and 24.09.2025**

Surveys conducted by another consultancy.

**B37 – 15.05.2025**



**B40 – 11.06.2025 and 23.07.2025**

Lightest Frame



Darkest Frame



## **APPENDIX 10**

**Reptile presence / likely absence survey – Trivallis site – date, times and weather  
conditions and results**

## Appendix 10: Survey Dates, Times, and Weather Conditions

**Table 1: Summary of Survey Dates, Times, and Weather Conditions.**

Date	Survey Visit	Weather	Start Time	End Time
01.04.2025	1	Sunny, no cloud cover, 15mph winds Start: 10°C. End: 14°C	13:15	17:00
07.04.2025	2	Sunny, no cloud cover, 5mph winds E Start: 14°C. End: 12°C	15:00	19:00
11.04.2025	3	Sunny, no cloud cover, 5mph winds E Start: 13°C. End: 17°C	10:00	13:30
17.04.2025	4	Sunny, no cloud cover, 6mph winds (E) Start: 14°C. End: 13°C	13:30	17:00
24.04.2025	5	Mostly cloudy, 10mph winds (E) Start: 13°C. End: 13°C	13:30	17:30
01.05.2025	6	Partly cloudy, 5pmh winds (E) Start: 12°C. End: 19°C	07:00	10:00
08.05.2025	7	Partly cloudy, 9mph winds (E) Start: 11°C. End: 13°C	12:30	14:30

## **APPENDIX 11**

### **Phase 1a Invertebrate Survey Report – Entomologica Ltd (July 2025)**



**Phase 1a Invertebrate Survey Report  
Penrhys residential estate, Rhondda Cynon Taf.  
ST 00036 95015**

**Produced by:** Matthew Harrow  
**Contact:** matt.harrow@hotmail.com  
**Client:** Wardell Armstrong LLP  
**Client contact:** kroberts@wardell-armstrong.com  
**Dated:** 31<sup>st</sup> July 2025

Entomologica Limited  
Registered office:  
Bulls House Henfield Road, Cowfold, Horsham, England, RH13 8DT  
Correspondence address:  
28 The Green, Cheddington Road, Pitstone, Buckinghamshire, LU7 9QS  
Company registered in England and Wales  
Company No. 16057639

## Contents

<b>Introduction.....</b>	<b>3</b>
<b>Methodology .....</b>	<b>3</b>
<b>Results .....</b>	<b>3</b>
Data search .....	3
Survey Results .....	4
Table of notable species .....	4
Notable species profiles.....	4
Results analysis.....	5
<b>Discussion.....</b>	<b>6</b>
<b>Appendices .....</b>	<b>7</b>
Appendix 2 – Data Search Species List .....	12
Appendix 3 .....	15

# Introduction

The purpose of the assessment was to evaluate the site's principal habitats and features by recording invertebrate presence. The findings were used to determine the ecological value of those habitats specifically in relation to their function as invertebrate resources. This approach provided a basis for assessing the site's value for invertebrate communities.

The site was surveyed on two occasions: 16th May 2025 and 30th June 2025. Weather conditions were fine, with very light to light wind on both occasions, providing suitable conditions for invertebrate survey.

The centroid grid reference of Phase 1a is located at ST 00036 95015. A map outlining the boundary of Phase 1a can be found in appendix 3.

The Phase 1a parcel of land is situated to the northwest of the Penrhys residential estate. The western side of this parcel is characterised by herbaceous grassland with scattered mixed scrub, south facing hillside, with some sheltered areas. Brownfield features are present where previous development has occurred and subsequently been demolished. The eastern side of this parcel consists largely of urban dwellings and amenity grassland. A patch of herb rough grassland is present to the north of the urban area with a similar species composition to the western section of the parcel.

## Methodology

The methods used in this assessment followed the principles set out in Natural England's guidance document *Surveying Terrestrial and Freshwater Invertebrates for Conservation Evaluation* (Drake, 2007). Where necessary, techniques were adapted to suit site-specific conditions while maintaining a focus on evaluating features and habitats for their conservation value. The following methods were employed: **sweep netting** (to collect invertebrates from herbaceous vegetation), **spot sampling** (to target specific microhabitats or features), **grubbing** (manual searching through leaf litter, under stones, or logs), and **suction sampling** (to extract invertebrates from vegetation or soil using a modified vacuum device).

## Results

### Data search

A data search was provided to the surveyor to identify species with conservation status that had been recorded within 2 km of Penrhys Residential Estate (ST0027194945). A total of 65 invertebrate species were identified in the search; a full list is provided in appendix 2. Targeted searches were carried out for the species identified in this search, three species from this list were recorded from the Phase 1a parcel and are detailed below.

## Survey Results

A total of 126 species were recorded from the Phase 1a parcel of land, four species were recorded with current conservation status. A full annotated species list can be found in appendix 1.

### Table of notable species

Scientific name	Vernacular name	Conservation status
<i>Bembecia ichneumoniformis</i>	Six-belted Clearwing	Nationally Scarce (Nb)
<i>Coenonympha pamphilus</i>	Small Heath	Section 7 Priority Species; Vulnerable
<i>Erynnis tages</i>	Dingy Skipper	Section 7 Priority Species
<i>Lasiommata megera</i>	Wall	Section 7 Priority Species; Endangered

Ω

### Notable species profiles

***Erynnis tages* (Dingy Skipper)** is listed as a Section 7 priority species under the Environment (Wales) Act 2016, reflecting ongoing conservation concern and the significant declines the species has undergone. *E. tages* is particularly associated with early successional conditions and requires flower rich and structurally varied grasslands, with a mosaic of short turf, bare ground, taller vegetation and nectar-rich foraging habitat which are all currently present at the site. Larvae feed predominantly on *Lotus corniculatus* (Common bird's-foot-trefoil) which is abundant at this location. These habitat features should be maintained through rotational cutting and scrub control to prevent succession.

***Coenonympha pamphilus* (Small Heath)** is listed as a Section 7 priority species under the Environment (Wales) Act 2016 and assessed as Vulnerable on the 2022 Great Britain Red List, due to significant declines in both distribution and abundance. Effective conservation of *C. pamphilus* requires the maintenance of open, structurally diverse grasslands with short, sparse vegetation and bare-ground patches that support thermoregulation, basking, and egg-laying. The species is found in a wide range of habitats including brownfield, where fine-leaved grasses dominate. Taller vegetation should be limited, as the species is highly sensitive to changes in sward structure and is particularly vulnerable to scrub encroachment. Habitat conditions are best maintained through light grazing or rotational cutting, with occasional scrub removal to prevent succession and preserve early successional structure.

***Lasiommata megera* (Wall Brown)** is listed as a Section 7 priority species under the Environment (Wales) Act 2016, reflecting its recognised conservation importance in Wales. It is also assessed as Endangered on the 2022 Great Britain Red List, following substantial long-term declines in both distribution and abundance. Notably, the record at Penrhys is of interest as *L. megera* has undergone significant inland declines and is now largely restricted to coastal areas in many regions. Effective conservation of this species requires the maintenance of grass-rich habitats with broken turf, stony ground, or other suitable open patches that provide warm, sunlit basking areas. A variety of grasses are used for larval feeding, and a diverse

assemblage of flowering plants is important as nectar sources throughout its flight period. Conservation management should focus on maintaining early-successional conditions through grazing or rotational cutting, alongside targeted scrub control to preserve the open, sunlit structure required by this species.

***Bembecia ichneumoniformis* (Six-belted Clearwing)** is a nationally scarce species in Britain, locally distributed in southern and central England, with scattered populations in south Wales. It is closely associated with dry, calcareous grasslands where the larval foodplants *Lotus corniculatus* (Common Bird's-foot-trefoil) and *Anthyllis vulneraria* (Kidney Vetch) are well established. The presence of open, flower-rich swards and lightly disturbed ground is essential for maintaining suitable breeding conditions. Conservation management should aim to preserve structurally diverse, sunny grasslands through low-intensity, periodic cutting while preventing scrub encroachment.

## Results analysis

Species data collected during the assessment were analysed using the Pantheon software, a tool developed by Natural England and the UK Centre for Ecology & Hydrology (UKCEH) to support invertebrate conservation in England. Pantheon allows species lists to be evaluated by linking recorded invertebrates to associated habitats, ecological traits, and resource requirements. It also incorporates the most current national conservation statuses where available. This analysis helps to interpret the ecological value of a site, inform habitat management priorities, and identify any need for further targeted survey work. It is important to note that not all species of potential importance are represented within Pantheon outputs, particularly where specific ecological information is incomplete or still under review.

The Pantheon analysis highlights the importance of open habitats at the site, with 96 species specifically associated with this biotope. These are further subdivided into tall sward and scrub (78 species, including the Section 7 priority species Dingy Skipper *Erynnis tages*) and short sward and bare ground (18 species, including the Vulnerable Small Heath *Coenonympha pamphilus* and Endangered Wall *Lasiommata megera*).

The ISIS Specific Assemblage Types (SATs) analysis provides a measure of assemblage quality based on the number of specialist species present. As the survey methodology is considered semi-ISIS compliant, this analysis is interpreted with a medium level of confidence. Although the "open habitats" biotope is assessed as "unfavourable" in the analysis, this result may be influenced by location bias and may not accurately reflect the site's local ecological value.

An analysis of ecological (feeding) guilds shows that 41 species are nectar associated, representing 32% of the total recorded, emphasising the significance of flower-rich habitats at the site.

In addition to the four species mentioned above with conservation status, a further three species have an outdated legacy status listed through Pantheon analysis. These are: *Campiglossa malaris* (Tephritidae, Diptera); *Lasioglossum malachurum* (Halictidae, Hymenoptera); and *Lygus pratensis* (Miridae, Hemiptera). All three were formerly rare southern species that have undergone recent range expansions.

# Discussion

The focus regarding invertebrate interest at phase 1a is the structurally diverse herbaceous grassland, with a limited but ecologically valuable presence of bramble and other mixed species scrub. This habitat is located throughout the western and northern sections of the parcel. The eastern side of this parcel consists largely of urban dwellings and amenity grassland providing little invertebrate interest.

The grassland sward includes a moderate density of flowering plants such as clovers (*Trifolium* spp.), Common Bird's-foot-trefoil (*Lotus corniculatus*), and vetches (*Vicia* spp.), species known to attract and sustain a wide range of invertebrates. This floral composition is strongly reflected in the survey findings, with 32% of recorded species being nectar feeding. Scattered bramble scrub helps provide microclimatic variation without shading out the herb layer, enhancing habitat heterogeneity, offering both shelter and basking areas for thermophilic species and contributing to the site's suitability for a wide range of ecological niches.

Bare ground habitat, formed primarily through informal recreational activity, and brownfield substrates from former development introduce additional early-successional features and contribute to the thermal heterogeneity across the site. The mix of brownfield substrates, short sward, exposed soil, and flowering herbs creates a highly functional invertebrate resource.

The presence of four species with formal conservation status, including one IUCN classified Endangered and one Vulnerable species, highlights the site's invertebrate interest. Notably, the occurrence of *Lasiommata megera* at this inland location is significant, given the species' ongoing retreat from inland areas in favour of coastal localities.

In conclusion, the Penrhys Phase 1a parcel provides invertebrate interest due to its structural complexity, floral richness, and early successional features.

# Appendices

## Appendix 1 – Survey Species List

Scientific name	Vernacular	Family	Order	Status
Eutrichapion ervi	A seed weevil	Apionidae	Coleoptera	
Oxystoma subulatum	A seed weevil	Apionidae	Coleoptera	
Perapion violaceum	A seed weevil	Apionidae	Coleoptera	
Protapion apricans	A seed weevil	Apionidae	Coleoptera	
Protapion assimile	A seed weevil	Apionidae	Coleoptera	
Protapion trifolii	A seed weevil	Apionidae	Coleoptera	
Cantharis flavilabris	A soldier beetle	Cantharidae	Coleoptera	
Cantharis rustica	A soldier beetle	Cantharidae	Coleoptera	
Rhagonycha fulva	Common Red Soldier beetle	Cantharidae	Coleoptera	
Bruchidius varius	A seed beetle	Chrysomelidae	Coleoptera	
Neocrepidodera transversa	A flea beetle	Chrysomelidae	Coleoptera	
Sphaeroderma rubidum	A flea beetle	Chrysomelidae	Coleoptera	
Coccinella septempunctata	7-spot Ladybird	Coccinellidae	Coleoptera	
Rhyzobius litura	Pointed-keeled ladybird	Coccinellidae	Coleoptera	
Ceutorhynchus obstrictus	A weevil	Curculionidae	Coleoptera	
Mecinus pascuorum	A weevil	Curculionidae	Coleoptera	
Polydrusus cervinus	A weevil	Curculionidae	Coleoptera	
Sitona lineatus	Pea weevil	Curculionidae	Coleoptera	
Sitona obsoletus	A weevil	Curculionidae	Coleoptera	
Sitona suturalis	A weevil	Curculionidae	Coleoptera	
Trichosirocalus troglodytes	A weevil	Curculionidae	Coleoptera	
Cortinicara gibbosa	A minute brown scavenger beetle	Latridiidae	Coleoptera	

Meligethes aeneus	A pollen beetle	Nitidulidae	Coleoptera
Oedemera lurida	A false blister beetle	Oedemeridae	Coleoptera
Oedemera nobilis	Thick-legged Flower Beetle	Oedemeridae	Coleoptera
Hoplia philanthus	Welsh Chafer	Scarabaeidae	Coleoptera
Phyllopertha horticola	Garden Chafer	Scarabaeidae	Coleoptera
Philonthus cognatus	A rove beetle	Staphylinidae	Coleoptera
Lagria hirta	A darkling beetle	Tenebrionidae	Coleoptera
Botanophila striolata		Anthomyiidae	Diptera
Pegoplata aestiva		Anthomyiidae	Diptera
Anthomyza elbergi		Anthomyzidae	Diptera
Dilophus febrilis		Bibionidae	Diptera
Calliphora vicina		Calliphoridae	Diptera
Melinda gentilis		Calliphoridae	Diptera
Cetema neglectum		Chloropidae	Diptera
Chlorops calceatus		Chloropidae	Diptera
Conioscinella mimula		Chloropidae	Diptera
Dicraeus vagans		Chloropidae	Diptera
Meromyza bohemica		Chloropidae	Diptera
Meromyza femorata		Chloropidae	Diptera
Sicus ferrugineus		Conopidae	Diptera
Chrysotus cilipes		Dolichopodidae	Diptera
Chrysotus laesus		Dolichopodidae	Diptera
Dolichopus plumipes		Dolichopodidae	Diptera
Empis praevia		Empididae	Diptera
Empis tessellata		Empididae	Diptera
Hydrellia albiceps		Ephydriidae	Diptera
Meiosimyza decipiens		Lauxaniidae	Diptera
Sapromyza quadripunctata		Lauxaniidae	Diptera

Coenosia tigrina		Muscidae	Diptera	
Helina reversio		Muscidae	Diptera	
Phaonia tuguriorum		Muscidae	Diptera	
Schoenomyza litorella		Muscidae	Diptera	
Rivellia syngenesiae		Platystomatidae	Diptera	
Rhagio tringarius	Marsh Snipefly	Rhagionidae	Diptera	
Sarcophaga carnaria		Sarcophagidae	Diptera	
Scathophaga stercoraria		Scathophagidae	Diptera	
Tetanocera elata		Sciomyzidae	Diptera	
Beris vallata		Stratiomyidae	Diptera	
Chloromyia formosa		Stratiomyidae	Diptera	
Cheilosia illustrata		Syrphidae	Diptera	
Episyrphus balteatus		Syrphidae	Diptera	
Eristalis pertinax		Syrphidae	Diptera	
Melanostoma mellinum		Syrphidae	Diptera	
Melanostoma scalare		Syrphidae	Diptera	
Platycheirus albimanus		Syrphidae	Diptera	
Sphaerophoria interrupta		Syrphidae	Diptera	
Sphaerophoria philanthus		Syrphidae	Diptera	
Xylota segnis		Syrphidae	Diptera	
Haematopota pluvialis	Notch-horned Cleg	Tabanidae	Diptera	
Solieria pacifica		Tachinidae	Diptera	
Campiglossa malaris		Tephritidae	Diptera	[RDB 1]
Chaetorellia jaceae		Tephritidae	Diptera	
Tephritis leontodontis		Tephritidae	Diptera	
Tephritis neesii		Tephritidae	Diptera	
Tephritis vespertina		Tephritidae	Diptera	
Urophora stylata		Tephritidae	Diptera	

Xyphosia miliaria		Tephritidae	Diptera	
Tipula vernalis		Tipulidae	Diptera	
Herina lugubris		Ulididae	Diptera	
Anthocoris nemorum	A flower bug	Anthocoridae	Hemiptera	
Philaenus spumarius	Common Froghopper	Aphrophoridae	Hemiptera	
Adarrus ocellaris	A leafhopper	Cicadellidae	Hemiptera	
Eupelix cuspidata	A leafhopper	Cicadellidae	Hemiptera	
Euscelis incisus	A leafhopper	Cicadellidae	Hemiptera	
Cixius nervosus	A lacehopper	Cixiidae	Hemiptera	
Tachycixius pilosus	A lacehopper	Cixiidae	Hemiptera	
Calocoris roseomaculatus	A plant bug	Miridae	Hemiptera	
Closterotomus fulvomaculatus	A plant bug	Miridae	Hemiptera	
Closterotomus norwegicus	A plant bug	Miridae	Hemiptera	
Leptopterna dolabrata	A plant bug	Miridae	Hemiptera	
Lygus pratensis	A plant bug	Miridae	Hemiptera	[RDB 3]
Notostira elongata	A plant bug	Miridae	Hemiptera	
Orthocephalus saltator	A plant bug	Miridae	Hemiptera	
Pithanus maerkelii	A plant bug	Miridae	Hemiptera	
Plagiognathus arbustorum	A plant bug	Miridae	Hemiptera	
Plagiognathus chrysanthemi	A plant bug	Miridae	Hemiptera	
Stenodema laevigata	A plant bug	Miridae	Hemiptera	
Nabis flavomarginatus	A damsel bug	Nabidae	Hemiptera	
Nabis rugosus	A damsel bug	Nabidae	Hemiptera	
Dictyonota strichnocera	A lacebug	Tingidae	Hemiptera	
Dolycoris baccarum	Hairy Shieldbug	Pentatomidae	Hemiptera	
Apis mellifera	Honey bee	Apidae	Hymenoptera	
Bombus lapidarius	Red-tailed bumblebee	Apidae	Hymenoptera	
Bombus lucorum	White-tailed bumblebee	Apidae	Hymenoptera	

<i>Bombus pascuorum</i>	Common carder bee	Apidae	Hymenoptera	
<i>Bombus pratorum</i>	Early bumblebee	Apidae	Hymenoptera	
<i>Bombus terrestris</i>	Buff-tailed bumblebee	Apidae	Hymenoptera	
<i>Lasioglossum leucopus</i>	White-footed Green Furrow Bee	Apidae	Hymenoptera	
<i>Lasioglossum malachurum</i>	Sharp-collared Furrow Bee	Apidae	Hymenoptera	[Nb]
<i>Argogorytes mystaceus</i>		Crabronidae	Hymenoptera	
<i>Vespula germanica</i>	German Wasp	Vespidae	Hymenoptera	
<i>Euclidia glyphica</i>	Burnet companion	Erebidae	Lepidoptera	
<i>Erynnis tages</i>	Dingy Skipper	Hesperiidae	Lepidoptera	Section 41 Priority Species
<i>Thymelicus sylvestris</i>	Small Skipper	Hesperiidae	Lepidoptera	
<i>Polyommatus icarus</i>	Common Blue	Lycaenidae	Lepidoptera	
<i>Aglais io</i>	Peacock	Nymphalidae	Lepidoptera	
<i>Aglais urticae</i>	Small tortoiseshell	Nymphalidae	Lepidoptera	
<i>Aphantopus hyperantus</i>	Ringlet	Nymphalidae	Lepidoptera	
<i>Coenonympha pamphilus</i>	Small Heath	Nymphalidae	Lepidoptera	Section 7 Priority Species; VU
<i>Lasiommata megera</i>	Wall Brown	Nymphalidae	Lepidoptera	Section 41 Priority Species; EN
<i>Maniola jurtina</i>	Meadow Brown	Nymphalidae	Lepidoptera	
<i>Pieris rapae</i>	Small White	Pieridae	Lepidoptera	
<i>Bembecia ichneumoniformis</i>	Six-belted Clearwing	Sesiidae	Lepidoptera	
<i>Zygaena trifolii</i>	Five-spot Burnet	Zygaenidae	Lepidoptera	

## Appendix 2 – Data Search Species List

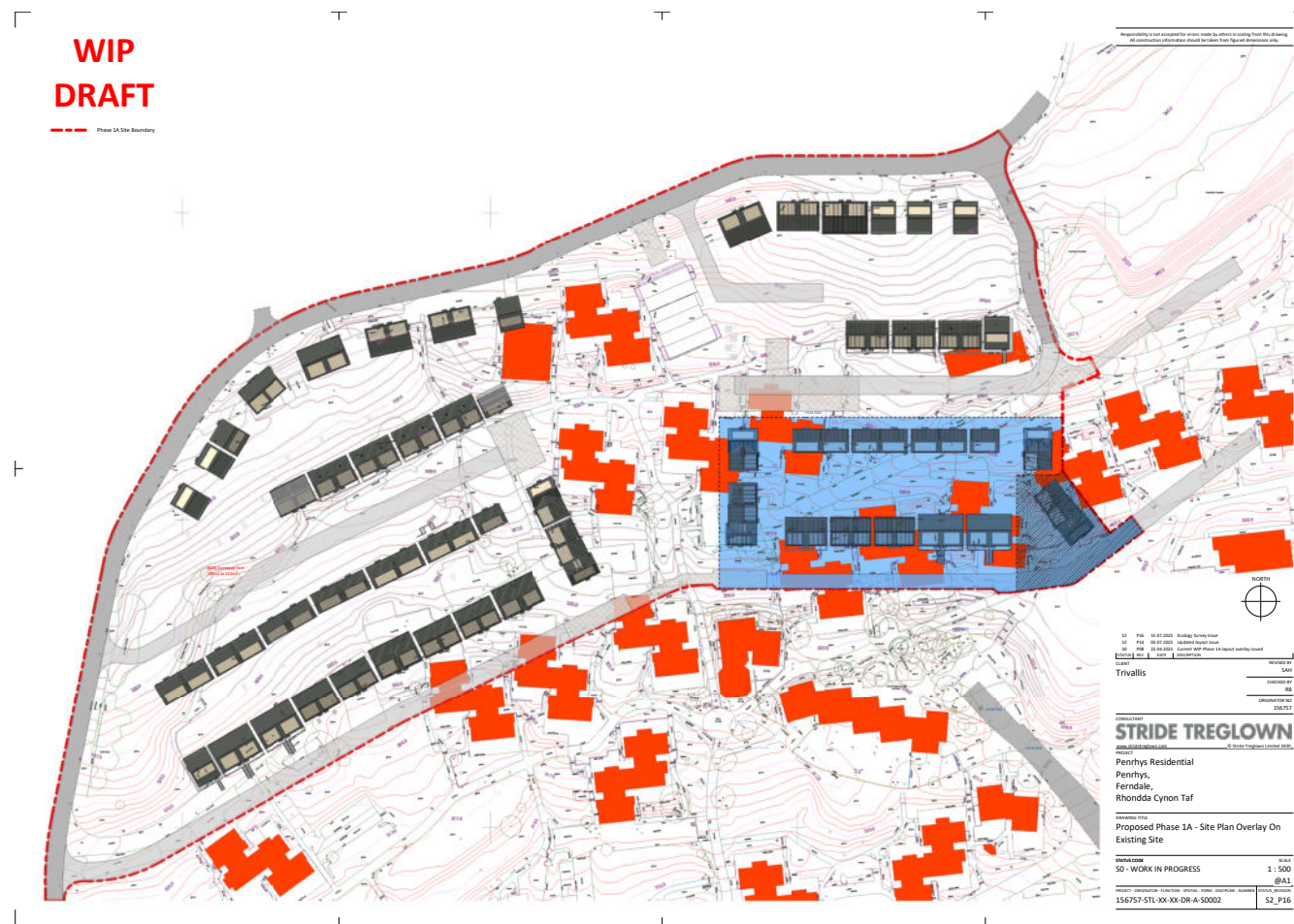
Priority species within 2km of Penrhys

Scientific name	Vernacular	Status
<i>Acronicta rumicis</i>	Knot Grass	S7, LBAP (GWY, VOG)
<i>Andrena falsifica</i>	Thick-margined Mini-miner	RDB2 (UK) - NA
<i>Andrena similis</i>	Red-backed Mining Bee	RDB2 (UK) - NB
<i>Anoscopus albifrons</i>	<i>Anoscopus albifrons</i>	RDB2 (UK) - NB
<i>Apamea remissa</i>	Dusky Brocade	S7, LBAP (GWY, VOG)
<i>Arctia caja</i>	Garden Tiger	S7, LBAP (GWY, VOG)
<i>Boloria euphrosyne</i>	Pearl-bordered Fritillary	WCA5, S7, RDB1 (UK) - EN, LBAP (BBNP, CER, CON, DEN, FLI, PEM, POW), LI(SEWBRcC), LI(VC43), WS_P
<i>Boloria selene</i>	Small Pearl-bordered Fritillary	S7, RDB1 (UK) - NT, LBAP (BGW, BRG, CON, DEN, FLI, GWY, MTR, NEW, POW, RCT, SNP, SWN, TRF, VOG), LI(SEWBRcC), LI(VC43), WS_C
<i>Bombus humilis</i>	Brown-Banded Carder Bee	S7, LBAP (CER, CON, FLI, GWY, PEM, POW, VOG)
<i>Cantharis nigra</i> (=thoracica)	<i>Cantharis nigra</i> (=thoracica)	LI(BIS)
<i>Catapion pubescens</i>	<i>Catapion pubescens</i>	RDB2 (UK) - NB, LI(BIS)
<i>Ceramica pisi</i>	Broom Moth	S7, LBAP (GWY, VOG)
<i>Chaetarthria seminulum/simillima</i>	<i>Chaetarthria seminulum/simillima</i>	RDB2 (UK) - S
<i>Chaetocnema confusa</i>	<i>Chaetocnema confusa</i>	RDB2 (UK) - S
<i>Chartoscirta cocksii</i>	<i>Chartoscirta cocksii</i>	RDB2 (UK) - S
<i>Chiasmia clathrata</i>	Latticed Heath	S7, LBAP (GWY, VOG)
<i>Cirrhia icteritia</i>	Sallow	S7, LBAP (GWY, VOG)
<i>Coenonympha pamphilus</i>	Small Heath	S7, RDB1 (UK) - NT, LBAP (GWY, VOG), WS_C
<i>Conocephalus fuscus</i>	Long-winged Cone-head	LI(SEWBRcC), WS_P
<i>Cordulegaster boltonii</i>	Golden-ringed Dragonfly	LBAP (CLY, SNP), LI(BIS), LI(SEWBRcC), WS_C
<i>Crambus pratella</i>	Scarce Grass-veneer	RDB2 (UK) - NB
<i>Cupido minimus</i>	Small Blue	WCA5, S7, RDB1 (UK) - NT, LBAP (CON, PEM, VOG), LI(SEWBRcC), WS_P

Dicranotropis divergens	Dicranotropis divergens	RDB2 (UK) - NB
Drymus (Sylvadrymus) pumilio	Drymus (Sylvadrymus) pumilio	RDB2 (UK) - NB
Ecliptopera silaceata	Small Phoenix	S7, LBAP (GWY, VOG)
Epirrhoe galiata	Galium Carpet	S7, LBAP (GWY, VOG)
Erynnis tages	Dingy Skipper	S7, RDB1 (UK) - VU, LBAP (BGW, BRG, CON, FLI, GWY, SWN, VOG), LI(SEWBRcC), WS_C
Eugnorisma glareosa	Autumnal Rustic	S7, LBAP (GWY, VOG)
Fabriciana adippe	High Brown Fritillary	WCA5, S7, RDB1 (UK) - CR, LBAP (CER, CON, PEM, POW, VOG), LI(SEWBRcC), WS_P
Forficula lesnei	Lesne's Earwig	RDB2 (UK) - S, LBAP (BRG), LI(SEWBRcC), WS_P
Harmonia axyridis	Harlequin Ladybird	INNS
Hipparchia semele	Grayling	S7, RDB1 (UK) - VU, LBAP (BRG, CDF, GWY, RCT, VOG), LI(SEWBRcC), LI(VC43), WS_C
Hipparchia semele semele	Grayling	S7, RDB1 (UK) - VU, LBAP (BRG, CDF, GWY, RCT, VOG), LI(SEWBRcC), LI(VC43)
Hydraecia micacea	Rosy Rustic	S7, LBAP (GWY, VOG)
Ischnura pumilio	Scarce Blue-tailed Damselfly	RDB1 (UK) - NT, LBAP (BGW, BRG, CLY, GWY, PEM, SNP, TRF), LI(BIS), LI(SEWBRcC), WS_C
Lasiommata megera	Wall	S7, RDB1 (UK) - NT, LBAP (GWY, VOG), WS_C
Lestes sponsa	Emerald Damselfly	LBAP (CLY, SNP), LI(SEWBRcC), LI(VC42), LI(VC43), LI(VC47), LI(VC50), WS_C
Leucania comma	Shoulder-striped Wainscot	S7, LBAP (GWY, VOG)
Litologia literosa	Rosy Minor	S7, LBAP (GWY, VOG)
Lycia hirtaria	Brindled Beauty	S7, LBAP (GWY, VOG)
Melanchra persicariae	Dot Moth	S7, LBAP (GWY, VOG)
Opomyza lineatopunctata	Opomyza lineatopunctata	RDB2 (UK) - N
Orthetrum coerulescens	Keeled Skimmer	LBAP (BGW, BRG, CLY, SNP), LI(BIS), LI(SEWBRcC), WS_P
Orthosia gracilis	Powdered Quaker	S7, LBAP (GWY, VOG)
Oxycera morrisii	White-barred Soldier	RDB2 (UK) - N
Oxycera pygmaea	Pygmy Soldier	RDB2 (UK) - N

Polydrusus formosus	Polydrusus formosus	RDB2 (UK) - NA
Rheumaptera undulata	Scallop Shell	LI(BIS)
Sapromyza opaca	Sapromyza opaca	RDB2 (UK) - N
Scaphidema metallica	Scaphidema metallica	RDB2 (UK) - NB
Spilosoma lubricipeda	White Ermine	S7, LBAP (GWY, VOG)
Spilosoma lutea	Buff Ermine	S7, LBAP (GWY, VOG)
Stilbia anomala	Anomalous	S7, LBAP (GWY, VOG)
Sympetrum danae	Black Darter	LBAP (CLY, SNP), LI(BIS), LI(SEWBRc), WS_C
Tachyura parvula	Tachyura parvula	RDB2 (UK) - NB
Temnocerus coeruleus	Temnocerus coeruleus	RDB2 (UK) - NB
Temnocerus longiceps	Temnocerus longiceps	RDB2 (UK) - NB
Tetrix subulata	Slender Ground-hopper	LBAP (BRG), LI(SEWBRc), WS_C
Tholera cespitis	Hedge Rustic	S7, LBAP (GWY, VOG)
Timandra comae	Blood-vein	S7, LBAP (VOG)
Tyria jacobaeae	Cinnabar	S7, LBAP (GWY, VOG)
Watsonalla binaria	Oak Hook-tip	S7, LBAP (GWY, VOG)
Xanthodelphax flaveola	Xanthodelphax flaveola	RDB2 (UK) - NA
Xanthorhoe ferrugata	Dark-barred Twin-spot Carpet	S7, LBAP (GWY, VOG)
Xestia castanea	Neglected Rustic	S7, LBAP (GWY)

Map showing Phase 1A Boundary





## **APPENDIX 12**

### **Grassland CHEGD Fungi eDNA Report (Aberystwyth University, April 2025)**

# Final Report

## Assessment of grassland fungi via soil eDNA around the Penrhys Estate, Rhondda Cynon Taf Council Area

AP Detheridge and GW Griffith  
DLS, Aberystwyth University  
April 2025

### Introduction/Methods

We were requested to undertake eDNA metabarcoding of seven soil samples (ca. 1300-1800 g fresh wt; 30-36% moisture) collected by Kris Roberts (Wardell Armstrong) from seven grassland areas on the periphery of the Penrhys Estate, Ferndale. The soil was taken (36 cores; pooled as single sample) from four ca. 30x30m (900m<sup>2</sup>) grassland areas (**Table 1**) on 12th December 2024, stored cold before transit and frozen on arrival in Aberystwyth (17/12/24). Location of the seven quadrats are shown in **Fig. 1**. Soil grinding, DNA extraction, ITS2 DNA barcode PCR amplification, high-throughput DNA sequencing and sequence analysis was all undertaken using standardized procedures, as described by [Detheridge et al., \(2021\)](#).

The method used here detects all fungi but the focus of this report are the larger grassland fungi (waxcaps and allies), often referred to as CHEGD fungi, which are associated with undisturbed grassland, and many of which are of global conservation concern. (**C**=Clavariaceae [fairy clubs], **H**=Hygrophoraceae [waxcaps], **E**=Entolomataceae [pink gills], **G**=Geoglossaceae [earthtongues] and **D**=*Dermoloma* spp. [crazed caps]).

The rationale for undertaking this eDNA survey was to determine whether plans to undertake building work in these areas, which could negatively impact populations of grassland fungi of conservation concern.

### Results

High throughput DNA sequencing of the ITS2 DNA barcode locus yielded ca. 151,000 fungal DNA sequences per quadrat. Since most species present were sequenced multiple times, it is possible both to identify the species present and assess relative abundance of the various CHEGD species.

A total of 72 CHEGD species C:H:E:G:D=25:16:11:13:7=72) were detected across the seven samples, with 24-36 species of CHEGD fungi present in each quadrat (**Table 2**). Amongst these species were three assessed as globally vulnerable (VU) by IUCN (<https://www.iucnredlist.org/>), namely *Hygrocybe punicea* (Q6), *Hygrocybe spadicea* (Q7; also in Section 7 of Environment Wales Act, 2016) and *Trichoglossum walteri* (Q7). Additionally, four other species, assessed as globally Vulnerable but not yet formally published as such were present (all in Q6 and/or Q7) (<https://redlist.info/en/iucn/welcome>).

Whilst the species of greatest conservation concern are present in Q6/Q7. However, both in terms of species richness and relative abundance of CHEGD in the soil, the other quadrats (Q1-Q5) are also species-rich (30-36 CHEGD spp.), though not for waxcaps (2-5 spp. vs 8/9 spp. in Q6/Q7 respectively).

Several of these quadrats are located in areas of the site, close to where houses were formerly present (in 2001) but later demolished (before 2006), according to Google Earth images (Fig. 2). Q1, with the lowest relative abundance of CHEGD (9.6%; Table 2) appears to be the quadrat most directly affected by the former presence of housing, with Q4/Q5 also somewhat affected (i.e. in garden areas of the former houses). It is likely that the CHEGD species detected in the current survey represent the recolonisation of the soil by CHEGD fungi during the 20 years since the houses were demolished. We also note that eDNA cannot determine whether the species present are mature individuals.

Thus, the CHEGD fungi of greatest conservation concern are exclusively present in the Q6/Q7 to the east of Heol Pendyrus. We note that these are quadrats closest to Penrhys Cemetery, a site known to be home to exceptionally diverse populations of CHEGD fungi.

Whilst below current thresholds for SSSI notification ( $\geq 19$  waxcap species; Bosanquet et al., 2018), some the quadrats (Q6/Q7) at Penrhys represent areas of ancient grassland habitat and an important habitat for grassland fungi. With regard to earthtongues, 13 species were detected (with up to 9 spp. in a single quadrat [Q4]). Similarly for fairy clubs, 27 species were detected, with up to 16 spp. in a single quadrat (Q1/Q2). These numbers exceed the guideline thresholds stated by Bosanquet et al. (2018), namely 5 and 7 species respectively.

However, the taxonomy of these data is currently in flux, as evidenced by the high proportions of sequences attributed to Clavariaceae and Geoglossaceae that could not be placed in a named species (45% and 39% respectively), as is commonly observed in eDNA surveys. The reason for this is that either suitable reference DNA barcodes are not available and/or that species as yet unknown to science are present.

For Entolomataceae and *Dermoloma* spp., recent advances in molecular taxonomy have greatly improved the robust connection of DNA barcodes to well-defined species, this has also led to the creation of many new species. Thus, for all the CHEGD fungi apart from the waxcaps, there is a need to revise the SSSI threshold levels in light of recent advances in taxonomy.

## Conclusions

None of the quadrats surveyed here approach the species richness of the single quadrat previously surveyed at the nearby Penrhys Cemetery (C:H:E:G:D score= 17:22:8:10:3=60), where six of the 22 waxcap species present are assessed as globally Vulnerable. However, Q6/Q7 each contain several species of conservation concern, as noted above. Q7 is outside the area of the proposed development (Fig. 3), so presumably will not be affected by this development. It is not clear how and to what extent Q6 will be

affected by the proposed development but it is the only quadrat where the distinctive and charismatic *Hygrocybe punicea* (crimson waxcap) was detected.

Nonetheless, 16 waxcap species were detected across the site in the seven quadrats, not far below the 19 species threshold stated by Bosanquet et al. (2018). As noted above, the species richness for earthtongues and fairyclubs detected both significantly exceeded the SSSI thresholds, a factor which must be considered despite the taxonomic uncertainties mentioned above. Thus the whole site

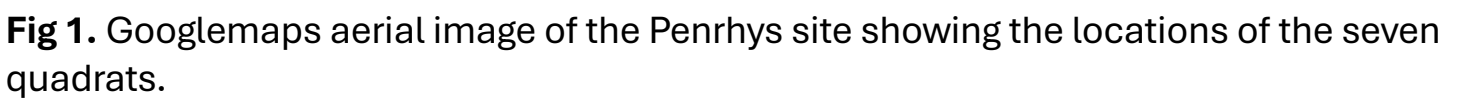
It was surprising to find such an abundance of non-waxcap CHEGD in the other quadrats which had previously been subject to some degree of disturbance in the course of the building/demolition of houses 20-25 years ago. However, given the taxonomic uncertainty associated with the non-waxcap CHEGD species, we would regard these five areas as of lower conservation concern than Q6/Q7.

Since the biodiversity interest in terms of grassland fungi is all in the northerly and easterly areas (Q3-Q7) of the site, these areas could be maintained as species-rich meadow areas (retaining interspersed trees). The fact that this suggested area is contiguous with the already highly-biodiverse Cemetery would provide a corridor for grassland fungi and other organisms. Future management for such an area would ideally involve mowing or grazing to prevent scrub encroachment. If the former, then haycut in July would be the optimal management regime, followed by 3-4 weekly cutting to maintain a short sward in autumn. It is important that grass-cutting arisings are removed from the main grassland areas (not left in place). These could be placed in piles at the edge of the grassland areas

## **References**

Bosanquet, S.D.S., Ainsworth, A.M., Cooch, S.P., Genney, D.R., & Wilkins, T.C. 2018. Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 14 Non- lichenised Fungi. [Joint Nature Conservation Committee, Peterborough.](#)

Detheridge, A.P. and Griffith, G.W., 2021. Standards, methodology and protocols for sampling and identification of grassland fungus species. [Natural England Commissioned Reports, Number NECR374.](#)



**Fig 1.** Googlemaps aerial image of the Penrhys site showing the locations of the seven quadrats.

**Table 1.** Summary data for the four quadrats at Penrhys.

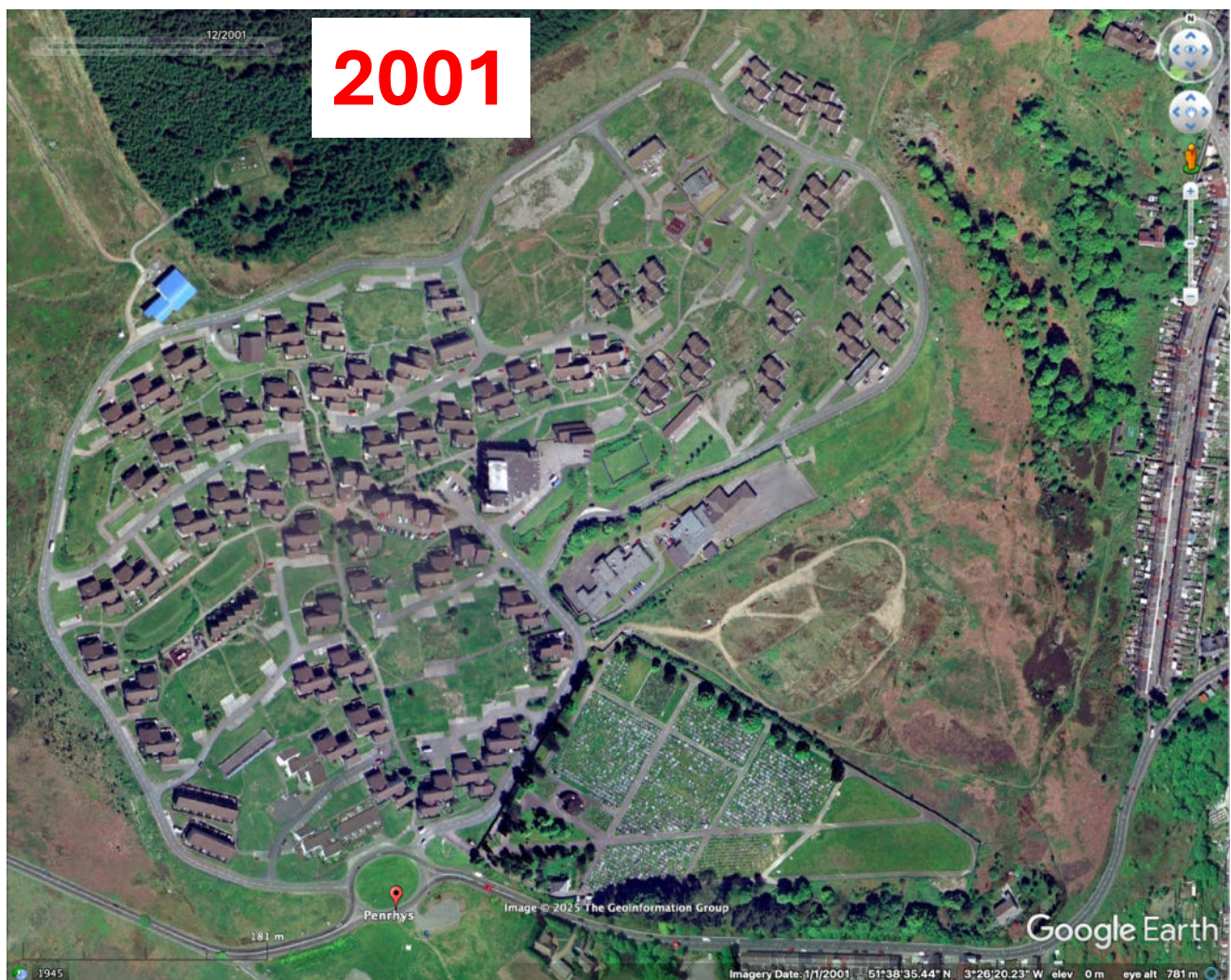
% Relative Abundance (of ALL fungi)												Species Count					
Code	Date Coll	Lat	Long	Fresh Wt	Moisture	Clav	Hyg	Ent	Geog	Derm	CHEGD	Clav	Hyg	Ent	Geog	Derm	CHEGD
PEN01	12/12/2024	51.645024	-3.445971	1808.00	29.8%	3.51%	0.88%	0.15%	4.65%	0.37%	9.55%	16	3	4	5	3	31
PEN02	12/12/2024	51.646223	-3.441915	1505.00	34.8%	6.82%	4.38%	0.12%	4.39%	2.22%	17.95%	16	2	5	8	3	34
PEN03	12/12/2024	51.646972	-3.440636	1397.00	36.2%	9.66%	6.29%	0.32%	4.61%	4.69%	25.57%	12	3	5	9	6	35
PEN04	12/12/2024	51.647265	-3.439263	1471.00	31.5%	7.03%	11.10%	0.14%	5.91%	8.66%	32.83%	12	3	6	6	3	30
PEN05	12/12/2024	51.645927	-3.438866	1726.00	33.5%	4.10%	4.92%	0.18%	1.68%	18.59%	29.46%	13	5	5	8	5	36
PEN06	12/12/2024	51.645257	-3.437549	1735.00	35.6%	6.12%	10.42%	0.37%	1.96%	0.33%	19.20%	13	8	5	7	1	34
PEN07	12/12/2024	51.643453	-3.439163	1644.00	33.8%	6.28%	4.02%	0.18%	1.08%	2.21%	13.79%	7	9	4	3	1	24

**Table 2.** Detailed results of eDNA survey for CHEGD fungi at Penrhys. Data indicate relative abundance of each species in each quadrat. Species of particular conservation concern (global IUCN extinction threat are) indicated in red font.

Gp	species	IUCN	Count	Relative Td	Mean	Max	Min	PEN01	PEN02	PEN03	PEN04	PEN05	PEN06	PEN07
C01	Camarophyllopsis_atrovelutina	[VU]	1	0.43%	0.43%	0.43%	0.43%							0.434%
C02	Camarophyllopsis_schulzeri		1	0.17%	0.17%	0.17%	0.17%							0.169%
C03	Clavaria_amoenoides		1	0.08%	0.08%	0.08%	0.08%						0.078%	
C04	Clavaria_argillacea		7	0.70%	0.10%	0.24%	0.02%	0.038%	0.119%	0.111%	0.237%	0.068%	0.109%	0.019%
C05	Clavaria_californica		6	0.20%	0.03%	0.07%	0.01%	0.030%	0.043%	0.015%	0.072%	0.022%	0.014%	
C06	Clavaria_falcata		4	0.57%	0.14%	0.48%	0.02%			0.021%		0.022%	0.481%	0.042%
C07	Clavaria_flavipes		6	1.12%	0.19%	0.88%	0.00%	0.093%	0.013%	0.002%		0.031%	0.099%	0.878%
C08	Clavaria_fragilis		6	1.43%	0.24%	0.79%	0.01%	0.095%	0.235%	0.788%	0.017%	0.289%	0.009%	
C09	Clavaria_neonigrita		1	0.04%	0.04%	0.04%	0.04%		0.041%					
C10	Clavaria_pullei		1	0.03%	0.03%	0.03%	0.03%	0.033%						
C11	Clavaria_redoleoalii		1	0.06%	0.06%	0.06%	0.06%						0.060%	
C12	Clavaria_rosea		5	0.14%	0.03%	0.05%	0.00%	0.033%	0.038%		0.003%	0.053%	0.017%	
C13	Clavaria_tenuipes		5	0.08%	0.02%	0.04%	0.00%	0.041%	0.016%		0.003%	0.018%	0.006%	
C14	Clavulinopsis_corniculata		5	5.28%	1.06%	4.25%	0.04%	0.083%	0.043%		0.604%	0.297%	4.255%	
C15	Clavulinopsis_helvola		1	2.97%	2.97%	2.97%	2.97%							2.968%
C16	Clavulinopsis_laeticolor		5	2.29%	0.46%	2.01%	0.01%		0.011%	2.006%	0.130%	0.135%	0.005%	
C17	Clavulinopsis_luteoalba		2	0.37%	0.18%	0.36%	0.01%					0.013%		0.357%
C18	Clavulinopsis_trigonospora		4	0.72%	0.18%	0.56%	0.01%	0.007%		0.561%	0.013%	0.137%		
C19	Hodophilus_phaeoxanthus		4	1.97%	0.49%	1.20%	0.02%	0.023%	0.697%	0.045%	1.201%			
C20	Hodophilus_stramineus		6	4.89%	0.82%	2.45%	0.02%	0.056%	0.236%	2.445%	1.004%	1.129%	0.022%	
C21	Hodophilus_tenuicystidiatus		2	0.14%	0.07%	0.13%	0.01%	0.008%	0.128%					
C22	Hodophilus_variabiltipes		3	1.44%	0.48%	1.25%	0.00%	0.182%	1.254%		0.002%			
C23	Ramariopsis_kunzei		3	1.06%	0.35%	0.78%	0.01%	0.277%	0.010%	0.777%				
C24	Ramariopsis_minutula		6	3.00%	0.50%	1.03%	0.08%	0.361%	0.735%	0.404%	1.029%	0.389%	0.083%	
C25	Ramariopsis_pulchella		3	0.23%	0.08%	0.18%	0.02%	0.185%	0.021%	0.026%				
CX	Unidentified: Clavariaceae (45.0%)			14.11%	2.02%	3.18%	0.88%	1.961%	3.180%	2.455%	2.717%	1.496%	0.884%	1.417%
H01	Cuphophyllus_borealis		1	0.12%	0.12%	0.12%	0.12%	0.119%						
H02	Cuphophyllus_flavipes		1	0.20%	0.20%	0.20%	0.20%							0.205%
H03	Cuphophyllus_fornicatus		2	2.98%	1.49%	2.98%	0.00%					2.980%	0.003%	
H04	Cuphophyllus_virgineus		6	11.18%	1.60%	4.19%	0.00%	0.114%	4.192%	2.535%	1.359%	0.910%	2.070%	0.000%
H05	Gliophorus_psittacinus		4	0.76%	0.19%	0.65%	0.00%			0.652%		0.003%	0.091%	0.011%
H06	Hygrocybe_aff_calciphila		1	0.21%	0.21%	0.21%	0.21%					0.209%		
H07	Hygrocybe_cantharellus		1	0.01%	0.01%	0.01%	0.01%							0.009%
H08	Hygrocybe_conica		6	8.09%	1.35%	3.21%	0.12%	0.644%	0.189%	3.108%	3.209%	0.821%	0.121%	
H09	Hygrocybe_glutinipes		2	4.77%	2.38%	3.91%	0.86%						3.913%	0.857%
H10	Hygrocybe_helobia		1	0.03%	0.03%	0.03%	0.03%							0.025%
H11	Hygrocybe_inspida		1	0.01%	0.01%	0.01%	0.01%							0.008%
H12	Hygrocybe_mucronella	[VU]	1	0.70%	0.70%	0.70%	0.70%						0.697%	
H13	Hygrocybe_punicea	VU	1	0.00%	0.00%	0.00%	0.00%						0.002%	
H14	Hygrocybe_quieta	[VU]	3	10.07%	3.36%	6.53%	0.01%				6.528%		3.529%	0.014%
H15	Hygrocybe_spadicea	VU	1	1.96%	1.96%	1.96%	1.96%							1.955%
H16	Hygrocybe_subpapillata	[VU]	1	0.94%	0.94%	0.94%	0.94%							0.937%
E01	Entoloma_albotomentosum		2	0.09%	0.04%	0.08%	0.01%						0.011%	0.078%
E02	Entoloma_ameides		1	0.00%	0.00%	0.00%	0.00%				0.003%			
E03	Entoloma_conferendum		6	0.14%	0.02%	0.09%	0.00%		0.004%	0.017%	0.004%	0.018%	0.010%	0.090%
E04	Entoloma_dysthales		3	0.04%	0.01%	0.03%	0.00%	0.032%	0.004%	0.002%				
E05	Entoloma_graphitipe		1	0.02%	0.02%	0.02%	0.02%				0.019%			
E06	Entoloma_incarnatofuscescens		1	0.01%	0.01%	0.01%	0.01%					0.005%		
E07	Entoloma_incognitum		1	0.00%	0.00%	0.00%	0.00%							0.004%
E08	Entoloma_pleurotoides		1	0.01%	0.01%	0.01%	0.01%							0.005%
E09	Entoloma_sericeum		6	0.48%	0.08%	0.11%	0.05%	0.086%	0.072%	0.099%	0.056%	0.052%	0.109%	
E10	Entoloma_terreum		6	0.06%	0.01%	0.02%	0.00%	0.005%	0.004%	0.010%	0.002%	0.015%	0.024%	
E11	Entoloma_tortiliforme		6	0.29%	0.05%	0.16%	0.01%	0.009%	0.011%	0.029%	0.021%	0.060%	0.164%	
EX	Unidentified: Entolomataceae (22.6%)			0.33%	0.05%	0.16%	0.01%	0.022%	0.030%	0.163%	0.032%	0.026%	0.050%	0.007%
G01	Geoglossum_cookeanum		4	4.63%	1.16%	3.47%	0.00%		0.937%	0.005%	3.473%	0.216%		
G02	Geoglossum_fallax		3	0.17%	0.06%	0.15%	0.01%			0.009%	0.011%		0.149%	
G03	Geoglossum_glabrum		2	0.04%	0.02%	0.04%	0.01%	0.008%	0.036%					
G04	Geoglossum_umbratile		4	0.33%	0.08%	0.28%	0.00%		0.003%	0.031%		0.278%	0.015%	
G05	Geoglossum_variabiltisporum		2	0.06%	0.03%	0.06%	0.01%			0.007%		0.056%		
G06	Glutinoglossum_glutinosum		6	0.39%	0.06%	0.21%	0.00%	0.033%	0.055%	0.076%	0.003%	0.014%	0.206%	
G07	Glutinoglossum_heptaseptatum		6	1.89%	0.32%	0.88%	0.00%		0.002%	0.021%	0.283%	0.219%	0.876%	0.490%
G08	Glutinoglossum_pseudoglutinosum		5	0.10%	0.02%	0.06%	0.00%	0.004%	0.009%	0.018%		0.007%	0.057%	
G09	Hemileucoglossum_alveolatum		1	0.27%	0.27%	0.27%	0.27%							0.272%
G10	Leucoglossum_leucosporum		5	0.44%	0.09%	0.24%	0.01%	0.241%	0.119%		0.054%	0.013%	0.017%	
G11	Trichoglossum_octopartitum		1	2.99%	2.99%	2.99%	2.99%			2.991%				
G12	Trichoglossum_variabile		6	3.26%	0.54%	1.34%	0.04%	0.785%	1.338%	0.354%	0.680%	0.063%	0.041%	
G13	Trichoglossum_walteri	VU	1	0.27%	0.27%	0.27%	0.27%							0.270%
GX	Unidentified: Geoglossaceae (38.8%)			9.43%	1.35%	3.57%	0.05%	3.574%	1.893%	1.101%	1.403%	0.810%	0.597%	0.048%
D01	Dermoloma_atrocinerum		1	0.61%	0.61%	0.61%	0.61%			0.608%				
D02	Dermoloma_bellerianum		5	4.65%	0.93%	4.19%	0.00%	0.227%	0.200%	0.003%	4.188%	0.028%		
D03	Dermoloma_cuneifolium		7	31.50%	4.50%	18.41%	0.14%	0.137%	2.015%	3.928%	4.463%	18.415%	0.329%	2.215%
D04	Dermoloma_emiliae-dlouhyi		5	0.08%	0.02%	0.04%	0.01%	0.007%	0.009%	0.012%	0.011%	0.041%		
D05	Dermoloma_hymenocephalum		2	0.03%	0.02%	0.02%	0.01%			0.024%		0.007%		
D06	Dermoloma_cf_phaeopodium		1	0.10%	0.10%	0.10%	0.10%					0.101%		
D07	Dermoloma_pseudocuneifolium		1	0.12%	0.12%	0.12%	0.12%			0.116%				

Table 2. (Continued)

% Relative abundance (of ALL fungi)	Clavariaceae	43.52%	6.22%	9.66%	3.51%	3.51%	6.82%	9.66%	7.03%	4.10%	6.12%	6.28%
	Hygrophoraceae	42.02%	6.00%	11.10%	0.88%	0.88%	4.38%	6.29%	11.10%	4.92%	10.42%	4.02%
	Entolomataceae	1.47%	0.21%	0.37%	0.12%	0.15%	0.12%	0.32%	0.14%	0.18%	0.37%	0.18%
	Geoglossaceae	24.27%	3.47%	5.91%	1.08%	4.65%	4.39%	4.61%	5.91%	1.68%	1.96%	1.08%
	Dermoloma	37.08%	5.30%	18.59%	0.33%	0.37%	2.22%	4.69%	8.66%	18.59%	0.33%	2.21%
	CHEGD	148.36%	21.19%	32.83%	9.55%	9.55%	17.95%	25.57%	32.83%	29.46%	19.20%	13.79%
Species count	Clavariaceae	12.7	16	7	16	16	12	12	13	13	7	
	Hygrophoraceae	4.7	9	2	3	2	3	3	5	8	9	
	Entolomataceae	4.9	6	4	4	5	5	6	5	5	4	
	Geoglossaceae	6.6	9	3	5	8	9	6	8	7	3	
	Dermoloma	3.1	6	1	3	3	6	3	5	1	1	
	CHEGD	32.0	36	24	31	34	35	30	36	34	24	
%ID Species		82.59%	95.33%	54.56%	80.25%	88.60%	89.62%	89.67%	89.16%	88.00%	83.05%	
% ID Genus		93.27%	98.95%	67.39%	93.40%	94.84%	95.68%	95.86%	95.06%	95.33%	92.38%	
% ID Family		94.72%	99.35%	69.81%	94.11%	95.68%	96.47%	97.06%	95.79%	96.43%	93.99%	
Fungi Total		151059.1	299,533	67,935	121,394	138,161	170,005	180,315	111,242	171,966	170,361	
Non Fungi Total		6948.646	30,998	1,152	30,998	19,382	14,570	12,057	9,963	9,827	8,291	
Barcode Total		164902.9	331,747	75,071	159,737	165,652	193,451	201,279	128,330	190,110	186,309	
% Fungi		95.74%	99.28%	79.66%	79.66%	87.70%	92.11%	93.73%	91.78%	94.59%	95.36%	
% Accepted Seqs		95.74%	97.27%	92.65%	95.40%	95.10%	95.41%	95.57%	94.45%	95.63%	95.89%	
Shannon Taxon		5.0	5.9	2.4	5.5	5.5	5.7	5.4	5.2	5.4	5.5	
Inv Simpson Taxon		49.5	109.1	2.7	95.6	64.0	109.1	66.0	25.8	69.4	68.7	
Taxon Count		1280.215	2156	601	1249	1649	1737	1558	1557	1564	1465	
Shannon OTU		5.2	6.1	2.5	5.7	5.8	6.0	5.7	5.5	5.7	5.8	
Inv Simpson OTU		62.1	137.7	2.7	109.1	71.5	121.9	84.3	27.1	86.3	114.8	
OTU Count		1585.938	2564	717	1647	2155	2256	2053	1954	2005	1898	



**Fig 2.** Google Earth historic aerial photographs on the Penrhys area



## **APPENDIX 13**

### **Nature Conservation Evaluation Criteria**

## Appendix 13: Nature Conservation Evaluation Criteria

Criteria	Description
<i>Size</i>	Large, continuous areas of habitat are considered to be of greater importance than small or fragmented areas.
<i>Diversity</i>	Species and habitat diversity, including variations in topography and wetness, increase the wildlife value.
<i>Naturalness</i>	This reflects man's intervention or management of the habitat. Most habitats of this survey are semi-natural. Naturalness indicates the amount of modification of the land by man. Generally, a less modified area results in an increase in the nature conservation value.
<i>Rarity</i>	The scarceness of a habitat, and the presence of rare/uncommon species, relates to its importance and priority for nature conservation. Rarity is related to the frequency of occurrence at national or county level.
<i>Fragility</i>	Fragile habitats are those where changes due to man's intervention, environmental factors or natural succession can directly threaten it. Scrub invasion, agricultural improvement, fire and changes in hydrological regime are the most common threats.
<i>Typicalness</i>	This relates to the quality of the habitat in terms of how good an example it is of a recognised type.
<i>Position in an ecological/geographical unit</i>	The relationship of a site to adjacent areas of nature conservation value. It is important to recognise the important and characteristic formations, communities and species of a district.
<i>Recorded history</i>	The extent to which a site has been used for scientific study and research is a factor of some importance.
<i>Potential wildlife value</i>	The likely quality of the habitat for birds, mammals, reptiles, amphibians and invertebrates if it is managed for wildlife. If appropriate habitat management is undertaken, it is possible for an increase in the diversity and nature conservation value of an area.
<i>Intrinsic appeal</i>	The knowledge of the distribution and numbers of popular groups of species such as birds, is greater than for obscure groups. Similarly, colourful wild flowers and rare orchids arouse more enthusiasm than liverworts. It is pragmatic to give more weight to some groups than to others.
Criteria are based on Ratcliffe, D.A. (1977). <i>A Nature Conservation Review</i> , Cambridge University Press	

## **APPENDIX 14**

### **Breeding Bird Survey Results 2025 – Phase 1a**

















APPENDIX 1: PENRHYS PHASE 1A BIRD SPECIES LIST (March to July 2025)											Month						General activity description / notable observations	Breeding Evidence					
Common name	Scientific name	Annex 1	Schedule 1	BoCC Red	BoCC Amber	BoCC Green	BoCC Not assessed	S7	Europe Red	Rhondda LBAP	March	April	April (Dusk)	May	June	July		Confirmed	Probable	Possible	Not breeding		
Blackbird	Turdus merula	1				1			LC		1	1	1	1	1	1	Present throughout the site, foraging and breeding. Calling and singing within scrub and trees.Observed in July entering scrub along northern boundary with foraging material, and leaving without foraging material - implying presence of a nest. Juvenile blackbirds observed in northwest of site.	1					
Blue Tit	Cyanistes caeruleus					1			LC		1			1		1	Present throughout the site. Observed nesting in artificial nest boxes in building 40, just outside of Phase 1 area in March and May.	1					
Bullfinch	Pyrrhulla pyrrhulla				1			1	LC							1	Family of bullfinch (female and several juvenile) observed in trees adjacent to boiler house, within phase 1 area.	1					
Buzzard	Buteo buteo					1			LC	1	1					1	Seen flying over the site, and heard calling in distance northwest of the phase 1 area.				1		
Canada goose	Branta canadensis					1			LC		1						Heard and seen flying over the site in March.				1		
Carrion Crow	Corvus corone	1				1			LC		1	1		1	1	1	Present throughout the site, and seen flying overhead. One parent and two juveniles seen in July along western bounday.		1				
Chaffinch	Fringilla coelebs				1				LC		1		1		1	1	Heard and seen singing in areas of scrub and trees within and just outside of phase 1 area .		1				
Chiffchaff	Phylloscopus collybita					1			LC		1	1	1	1			Heard and seen singing in areas of scrub and trees within and just outside of phase 1 area .		1				
Coal tit	Periparus ater				1				LC		1						Heard singing in northwestern scrub.				1		
Dunnock	Prunella modularis				1			1	LC		1			1		1	Heard singing in scrub north and west of site boundary.				1		
Goldcrest	Regulus regulus			1					LC							1	Heard singing in trees north of phase 1 area.				1		
Goldfinch	Carduelis carduelis					1			LC		1	1	1	1			Observed flying over the site, and singing from rooftops and trees.				1		
Great Tit	Parus major					1			LC		1	1	1	1	1		Present throughout the site. Seen calling from rooftop in April. Seen entering nest in Building 22, just outside boundary to the south.	1					
Greenfinch	Chloris chloris			1					LC				1				Only heard in the phase 1 area during the dusk survey in April.				1		
Herring gull	Larus argentatus	1		1				1	VU		1	1		1	1	1	Predominantly seen flying over the site, and perching on rooftops.				1		
House sparrow	Passer domesticus				1			1	LC		1	1		1	1		Present throughout the site. Seen nesting on rooftops in the southeast of the Phase 1 area, and flying around site. Observed in a large group in the trees northwest of site.	1					
Jay	Garrulus glandarius	1				1			LC					1		1	Seen and heard calling in scrub/trees northwest of the site boundary, in May and July. Seen in a pair in July.		1				
Jackdaw	Corvus monedula	1				1			LC		1						Present throughout the site, predominantly seen flying over the site.				1		
Lesser black back	Larus fuscus	1			1				LC							1	Predominantly observed flying over site.				1		
Linnet	Linaria cannabina			1				1	LC		1			1			Seen and heard flying over site, from west of site boundary to east.				1		
Meadow pipit	Anthus pratensis			1					LC		1						Only seen/heard in March, foraging on patches of grassland in northwestern corner of site, and perched in patches of scrub. Sometimes in large groups.				1		
Mistle thrush	Turdus viscivorus	1			1				LC		1	1					Singing in scrub north of site, March and April.				1		
Nightjar	Caprimulgus europaeus	1				1		1	LC							1	Sighting of a nightjar in scrub to the west of the boiler house in Phase 1 area. Incidentally heard nightjar churring, in scrub and trees north of site boundary during bat emergence surveys in May and June, therefore presence is confirmed.				1		
Pied wagtail	Motacilla alba					1			LC		1						Observed on hardstanding outside houses.				1		
Common redstart	Phoenicurus phoenicurus					1							1				Only heard during the dusk survey in April, singing from scrub north of the phase 1 area.				1		
Robin	Erithacus rubecula					1			LC		1	1	1			1	Present throughout the site. Juvenile seen in scrub adjacent to boiler house.	1					
Siskin	Carduelis spinus					1			LC		1	1				1	Two individuals heard singing to/at each other in trees adjacent to boiler house, in March. Heard in trees north of boundary throughout other months.				1		
Skylark	Alauda arvensis	1			1			1	LC		1				1	1	Heard singing west of phase 1 area.				1		
Song Thrush	Turdus philomelos	1				1		1	LC		1	1	1		1		Observed singing in scrub north of the site boundary, in March. Seen on patch of grass, foraging.				1		
Spotted flycatcher	Muscicapa striata			1				1	LC							1	Observed nesting in northern elevation of building 31, flitting between nest and trees north of building.	1					
Stonechat	Saxicola torquata					1			LC	1	1					1	A pair was observed in trees west of site, in March. Heard singing in scrub north of site, in July.		1				
Whitethroat	Sylvia communis			1					LC					1		1	Heard singing in scrub west of site boundary, in May. Heard and seen repeatedly calling when surveyor walked past.				1		
Willow warbler	Phylloscopus trochilus			1					LC		1	1	1		1	1	Heard in scrub/trees north and west of the boundary. Heard and seen repeatedly calling and flitting between bushes when surveyor walked past. Could indicate presence of a nest.		1				
Woodpigeon	Columba palumbus					1			LC		1	1		1	1	1	Present throughout the site. Often seen in pairs.		1				
Wren	Troglodytes troglodytes					1			LC		1	1	1	1	1	1	Heard and seen singing in areas of scrub and trees within and just outside of phase 1 area .		1				
											10	0	8	8	19	0	9	1	2				
TOTAL SPECIES																							
Confirmed, Probable or Possible Breeding																26							
Annex 1 Species																0							
Schedule 1 Protected Species																0							
BoCC Wales 4 Red Listed Species																8							
BoCC Wales 4 Amber Listed Species																8							
BoCC Wales 4 Green Listed Species																19							
BoCC Wales 4 Species Not Assessed (na)																0							
S7 Species of Principal Importance																9							
IUCN European Red List species																1							
Rhondda LBAP species																2							
Key: Annex 1: listed on Annex 1 of the European Birds Directive, Schedule 1:listed on Sch 1 of the Wildlife and Countryside Act (WCA) 1981 Birds of Conservation Concern Wales 4 <a href="https://birds.wales/wp-content/uploads/2024/09/BoCCW4-consolidated-list-September-2024.pdf">https://birds.wales/wp-content/uploads/2024/09/BoCCW4-consolidated-list-September-2024.pdf</a> Environment (Wales) Act 2016, Section 7 - <a href="https://www.gov.wales/sites/default/files/publications/2023-01/list-living-organisms-principal-importance-purpose-maintaining-enhancing-biodiversity-wales.pdf">https://www.gov.wales/sites/default/files/publications/2023-01/list-living-organisms-principal-importance-purpose-maintaining-enhancing-biodiversity-wales.pdf</a> International Union for Conservation of Nature (IUCN) European Red List. IUCN Global Red List. Rhondda LBAP - <a href="https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelateddocumentsEvidenceBase/EB47a.pdf">https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelateddocumentsEvidenceBase/EB47a.pdf</a>																							

## **APPENDIX 15**

### **Softworks and Planting Plan**



KEY

- |   |   |
|---|---|
|  | Site boundary   |
|  | Existing tree   |
|  | Proposed tree   |
|  | Retaining structure   |
|  | Native scrub mix (defensive) 1 - NSMD1                              |
|  | Native shrub mix 1 - NSM1   |
|  | Ornamental shrub mix 1 - OSM1                                       |
|  | Ornamental shrub mix 2 - OSM2                                       |
|  | Bulb mix - BM1  |
|  | Ornamental planting mix 1 (groundcover) - OM1                       |
|  | Ornamental planting mix 2 - OM2                                     |
|  | Rain garden mix - RGM1  |
|  | SuDs basin turf seed mix 1 - SBM1                                   |
|  | *Wet/marshy grassland to colonise naturally from local topsoil      |
|  | Amenity grass - GM1   |
|  | *Indicating area of local topsoil to be left to cultivate naturally |

WIP  
DRAFT

**NOTES:**

**1. INTENT FOR SITE PURPOSES:** This drawing is a general arrangement plan only and is not intended for site purposes.

**2. SCALE:** Do not scale from this drawing.

**3. TYPING OUT:** All setting out, levels, dimensions to be agreed on site. Do not use the dimension on the drawing without checking all dimensions on site. Any discrepancies between drawings, specifications and site works are to be reported to The Urbanists. Order of construction and setting out is to be agreed on site.

**4. REDUCTION:** This drawing must be the latest revision, read in conjunction with all other drawings, schedules, specifications and schedules. All dimensions are in millimetres unless otherwise stated. Where contradiction or uncertainty arises between the drawings and/or the schedule of works, it is the contractor's responsibility to seek verification from The Urbanists before proceeding. No claims will be met by The Urbanists, where the contractor continues in the absence of such confirmation.

Date	By	Revision Notes
29/08/2025	LMC	Draft 1st issue for ecology
01/09/2025	LMC	Planting amendments

PROJECT STATUS: S0 (WORK IN PROGRESS)

theurbanists

ent Trivallis

Project Penrhys

Phase 1A Softworks & Planting Plan  
.....

Object ID	Organiser	Block	Level	Type	Role	Dwg	Rev.	Status
384	URB	XX	XX	SK	L	0006	B	A1

```

*****
wn CW   Date 02/09/2025   Checked DS   Scale 1:500 @ A1
*****

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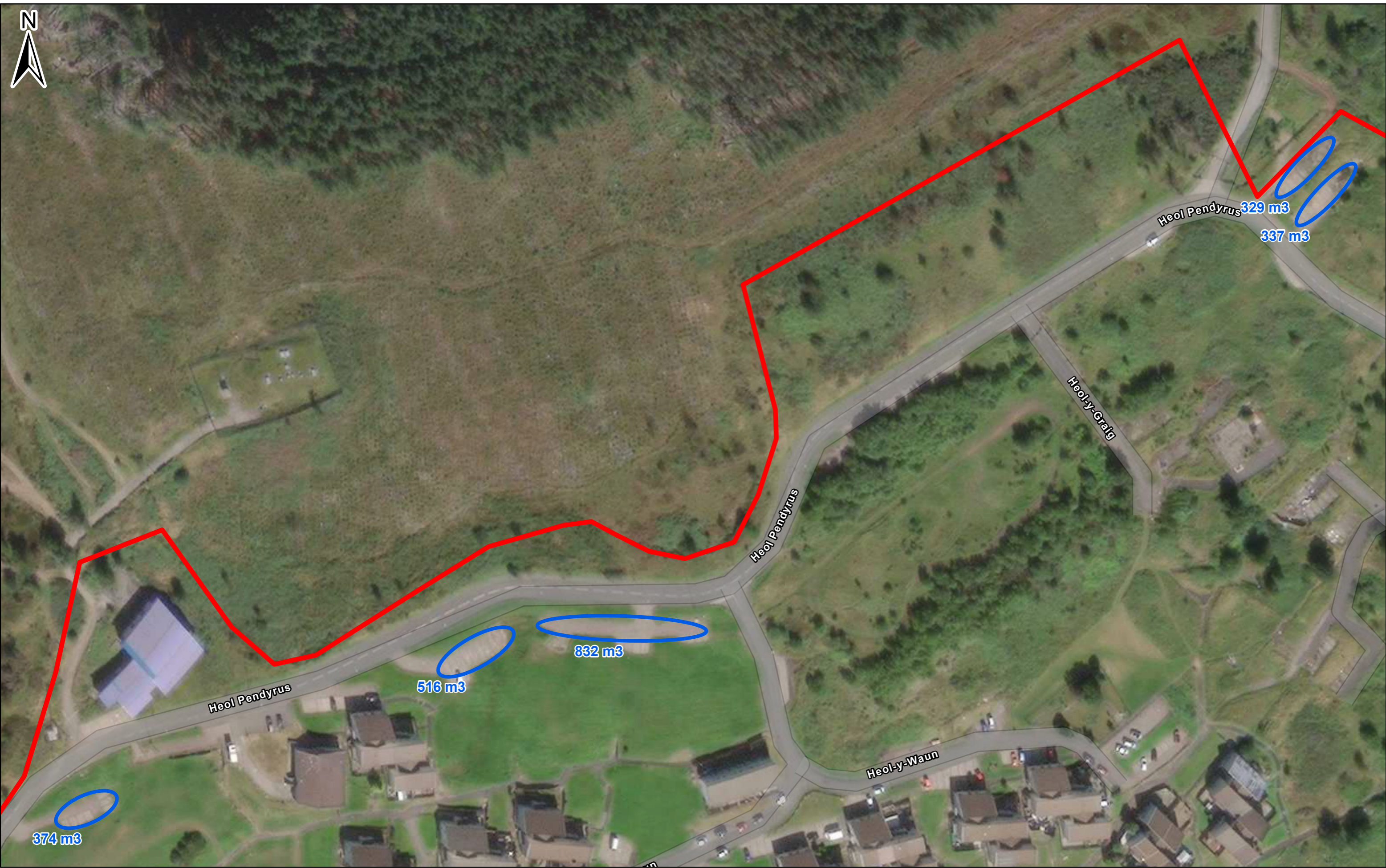
**T:** 029 2023 6133 **E:** info@theurbanists.net **W:** www.theurbanists.net

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**APPENDIX 16**  
**Sustainable Drainage Scheme (SuDs)**  
**Illustrative Sketch Layout (The Urbanists)**



**APPENDIX 17**  
**Potential Stockpiles Plan**



Potential Stockpiles

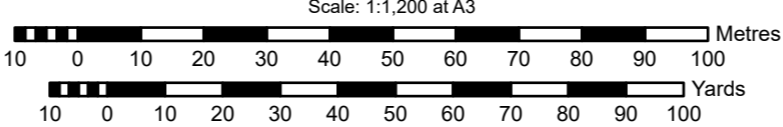
Project: 30603 - Penrhys

Figure Ref: 30603-HYD-XX-XX-DR-GE-1019

Client: TRIVALLIS

Hydrock now Stantec

**Notes:** Estimated volume is displayed next to each stockpile location. This is calculated from the area of the polygon multiplied by two.



LEGEND

Boundary

Stockpiles + Estimated Volume



## **APPENDIX 18**

### **Planting Schedule**

Proposed Scattered Trees												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
A ps	1	Acer pseudoplatanus	Standard (Standard)	2x	8-10	250-300	min 200	RB			3	
B pub	1	Betula pubescens	Standard (Selected)	2x	10-12	300-350	175-200	RB	50 x 35cm		4	
P ni	1	Pinus nigra		4x		175-200		RB		Leader with Laterals		Feathered to base
P sy	1	Pinus sylvestris		4x		200-250		RB		Leader with Laterals		Feathered to base
Q r	1	Quercus robur	Standard (Heavy)	3x	12-14	350-425	175-200	RB	50 x 35cm		5	
Total: 5 plants												
Proposed Street Trees												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
A pl	1	Acer platanoides	Standard (Heavy)	3x	12-14	350-425	175-200	RB	50 x 35cm		4	
B pe	1	Betula pendula	Standard (Heavy)	3x	12-14	350-425	175-200	RB	50 x 35cm		5	
C mon 'S'	1	Crataegus monogyna 'Stricta'	Standard (Extra Heavy	3x	14-16	400-450	175-200	RB	60 x 40cm		5	
P tre	1	Populus tremula	Standard (Heavy)	3x	12-14	350-425	175-200	RB	50 x 35cm		5	
S auc	1	Sorbus aucuparia	Standard (Heavy)	3x	12-14	350-425	175-200	RB	50 x 35cm		5	
Total: 5 plants												
Native Scrub mix (Defensive) - NSMD1												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
C mon	100	Crataegus monogyna	Transplant - seed raise	1+1		60-80		C	3L	Branched	4	
P sp	200	Prunus spinosa				60-80		C	3L	Branched	5	
R can	200	Rosa canina				40-60		C	3L	Branched	5	
V l	200	Viburnum lantana				30-40		C	3L	Branched	4	
Total: 700 plants												
Native Shrub Mix 1 - NSM1												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
C av	300	Corylus avellana	Transplant - seed raise	1+1		40-60		B		Branched	2	
C mon	100	Crataegus monogyna	Transplant - seed raise	1+1		40-60		B				
S ni	200	Sambucus nigra				40-60		C	2L	Branched	3	
V op	200	Viburnum opulus	Transplant - seed raise	1+1		40-60		B		Branched	2	
Total: 800 plants												
Ornamental Shrub Mix 1 - OSM1												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
C san 'M F'	400	Cornus sanguinea 'Midwinter Fire'				40-60		C	2L	Branched	3	
Gt	200	Genista tinctoria				60-80		C	3L	Branched	5	
I x a 'G K'	300	Ilex x altaclerensis 'Golden King'				30-40		C	2L	Leader with Laterals		
J co	400	Juniperus communis				40-60		C	5L	Leader with Laterals		
P sp	200	Prunus spinosa				60-80		C	3L	Branched	5	
Total: 1500 plants												
Ornamental Shrub Mix 2 - OSM2												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
C al 'S'	200	Cornus alba 'Sibirica'				40-60		C	3L	Branched	3	
C mon	100	Crataegus monogyna	Transplant - seed raise	1+1		60-80		C	3L	Branched	4	
J co	400	Juniperus communis				40-60		C	5L	Leader with Laterals		
R fru	200	Rubus fruticosus	Cutting	0/1		40-60(D)		B		Branched	2	
Total: 900 plants												
Bulb Mix - BM1												
Abbrev.	Number	Botanical Name	Grade	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
G n	100	Galanthus nivalis	Grade 5/6									
H n-s	100	Hyacinthoides non-scripta	Grade 6/7									
N p	100	Narcissus pseudonarcissus	Grade 5/6									
Total: 300 plants												
Ornamental Planting Mix (Groundcover) - OM1												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
C can	700	Cornus canadensis				10-15		C	0.5L	Several Shoots	5	
G ma	40	Geranium macrorrhizum						C	2L			Full pot; vegetative propagation
H h 'P C'	600	Hedera helix 'Parsley Crested'				30-40		C	0.5L	Several Shoots	2	
M a 'A'	500	Mahonia aquifolium 'Apollo'				15-20		RB		Branched	2	
Total: 1840 plants												
Ornamental Planting Mix - OM2												
Abbrev.	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
A sco	400	Asplenium scolopendrium						C	1.5-2L			Full pot; seed propagation
D f-m	200	Dryopteris filix-mas						C	1.5-2L			Full pot
P ac	300	Polystichum aculeatum						C	1.5-2L			Full pot; seed or vegetative propagation
Total: 900 plants												
Rain Garden Mix - RGM1												
Mix %	Number	Botanical Name	Form	Age	Girth cm	Height cm	Clear Stem	Root Type	Container Size	Habit	Min. Breaks	Comments
10	10	Angelica sylvestris 'Vicar's Mead'						C	2L			Full pot; vegetative propagation
10	40	Asplenium scolopendrium						C	1.5-2L			Full pot; seed propagation
10	50	Bergenia cordifolia						C	2L			Full pot; vegetative propagation
17.5	35	Cardamine pratensis						C	1L			Full pot; Sept to April planting; British native-origin
15	60	Deschampsia cespitosa						C	2L			Full pot; vegetative propagation
10	20	Dryopteris filix-mas						C	1.5-2L			Full pot
17.5	70	Filipendula ulmaria						C	1.5-2L			Full pot; Sept to April planting; British native-origin
10	30	Iris pseudacorus						C	1.5-2L			Full pot; seed or vegetative propagation
Total: 315 plants												

### Amenity Grass Seed Mix

EG22 Strong Lawn Grass Mixture by Emorsgate Seeds or similar approved.

Suggested Sowing Rates: 25g/m2

WIP  
DRAFT  
PLANTING MIX  
RATES TBC

NOTES:  
NOT FOR SITE PURPOSES: This drawing is a general arrangement plan only and is not intended for site purposes.  
SCALE: One space for the drawing.  
SETTINGS OUT: All settings out, levels, dimensions to be agreed on site. Do not use the information on this drawing without checking all dimensions on site. Any discrepancies between drawings, specifications and site work are to be reported to the Librarians. Order of construction and setting out is to be agreed on site.  
CHECK: This drawing must be checked against the design, and in conjunction with all other drawings, details, specifications and schedules. All dimensions are in millimetres unless otherwise stated. Where not indicated as otherwise, errors between the drawings and/or the schedule of works, it is the contractor's responsibility to seek verification from The Librarians before proceeding. No claims will be met by The Librarians, where the contractor continues work in absence of such confirmation.

No.	Class	By	Revision Notes
A	28/08/2025	LMD	Draft 1st issue for ecology

PROJECT STATUS:  
SO (WORK IN PROGRESS)

theurbanists

Client

Trouils

Project

Penrhye

Title

Phase 1A Plant Schedule

Project ID	Organiser	Block	Level	Type	Rate	Orig	Rev.	Status
2204	URB	XX	XX	OK	L	0007	A	A1

Drawn

CW

Date

28/08/2025

Checked

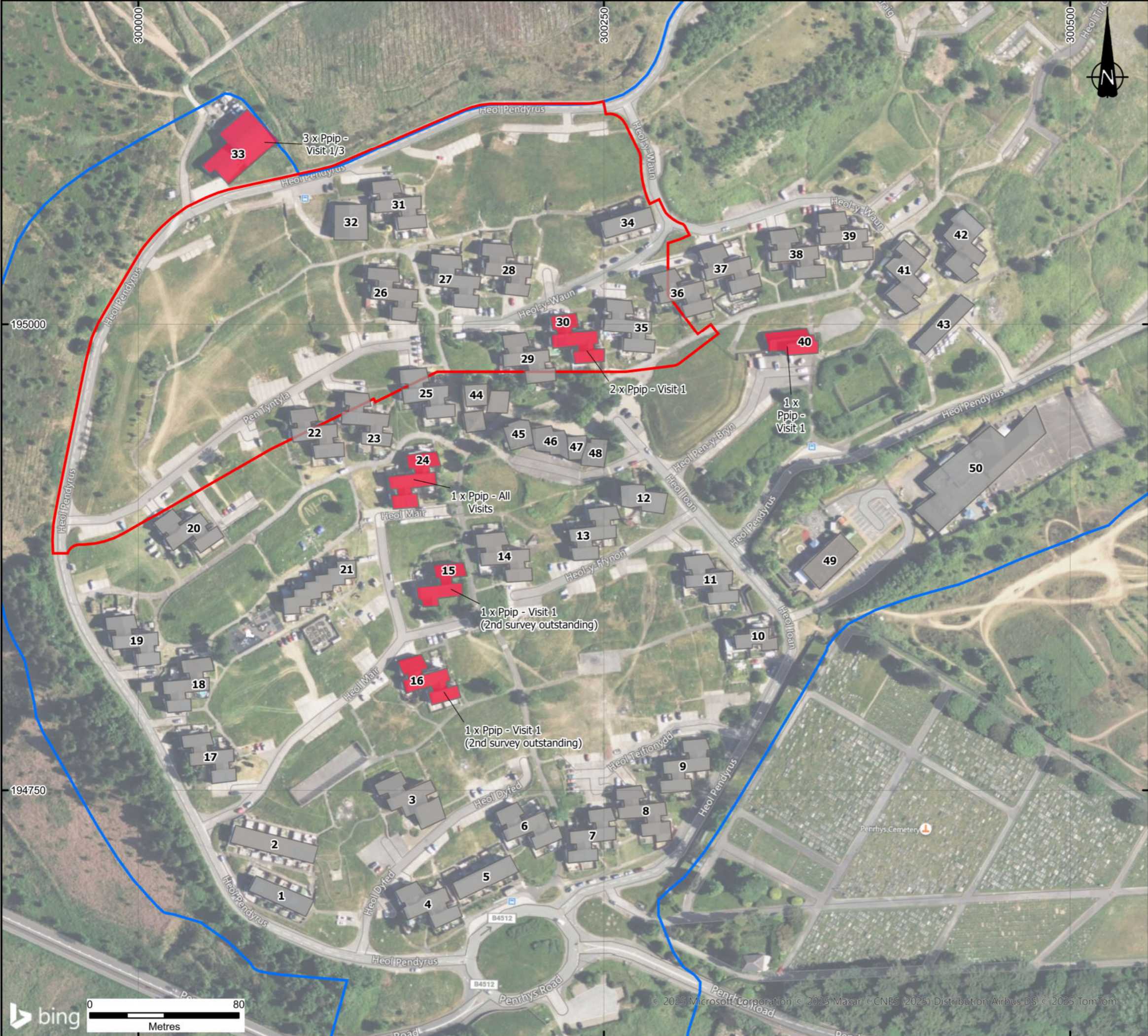
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Scale

1:500 @ A1

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## DRAWINGS



**KEY**

- Phase 1a Boundary
- Masterplan Boundary
- Building
- Building with Confirmed Roost

**Notes:**

Boundaries are indicative. Aerial imagery shown for context purposes only.

Data showing confirmed roosts (results 2 x emergence surveys per building).

Phase 1a Boundary and Masterplan Boundary taken from "156757-STL-XX-XX-DR-A-09010-Phase 1A - Proposed Site Plan" provided by Client and georeferenced by Wardell Armstrong (part of SLR Consulting).

REVISION	DETAILS	DATE	DRAWN	CHECKED	APPROVED
CLIENT					
TRIVALLIS					
PROJECT					
PENRHYS RESIDENTIAL ESTATE					
DRAWING TITLE					
BUILDING LOCATION PLAN AND CONFIRMED ROOSTS -2024/2025					
DRG No.		CA13129-029		REV	P0.02
DRG SIZE		A3		SUIT. CODE	--
SCALE		1:2,000		DATE	28/08/2025
DRAWN BY		BL		CHECKED BY	--
APPROVED BY		--			

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armstrong

PART OF SLR




**KEY**

- Approximate Site Boundary - Site 2
- Approximate Site Boundary - Site 3
- Automated Detectors


**Notes:**


Boundaries are indicative. Aerial imagery shown for context purposes only.

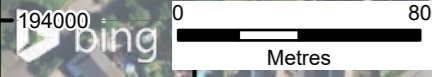
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CLIENT					
TRIVALLIS					
PROJECT					
PENRHYS RESIDENTIAL ESTATE					
DRAWING TITLE					
AUTOMATED DETECTOR LOCATION PLAN - SITE 2/3					
DRG No.		CA13129-014		REV	P0.01
				SUIT. CODE	--
DRG SIZE		A3		SCALE	1:2,500
				DATE	12/11/2024
DRAWN BY		CP		CHECKED BY	--
				APPROVED BY	--



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PART OF  SLR







KEY

- Phase 1a Boundary
- Masterplan Boundary
- Transect Route
- Listening Stop

Species

- Nathusius' Pipistrelle

Bat Activity

- Common Pipistrelle
- Myotis species
- Soprano Pipistrelle

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

Phase 1a Boundary and Masterplan Boundary taken from "156757-STL-XX-XX-DR-A-09010-Phase 1A - Proposed Site Plan" provided by Client and georeferenced by Wardell Armstrong (part of SLR Consulting).

REVISION	DETAILS	DATE	DRAWN	CHECKED	APPROVED
CLIENT	TRIVALLIS				

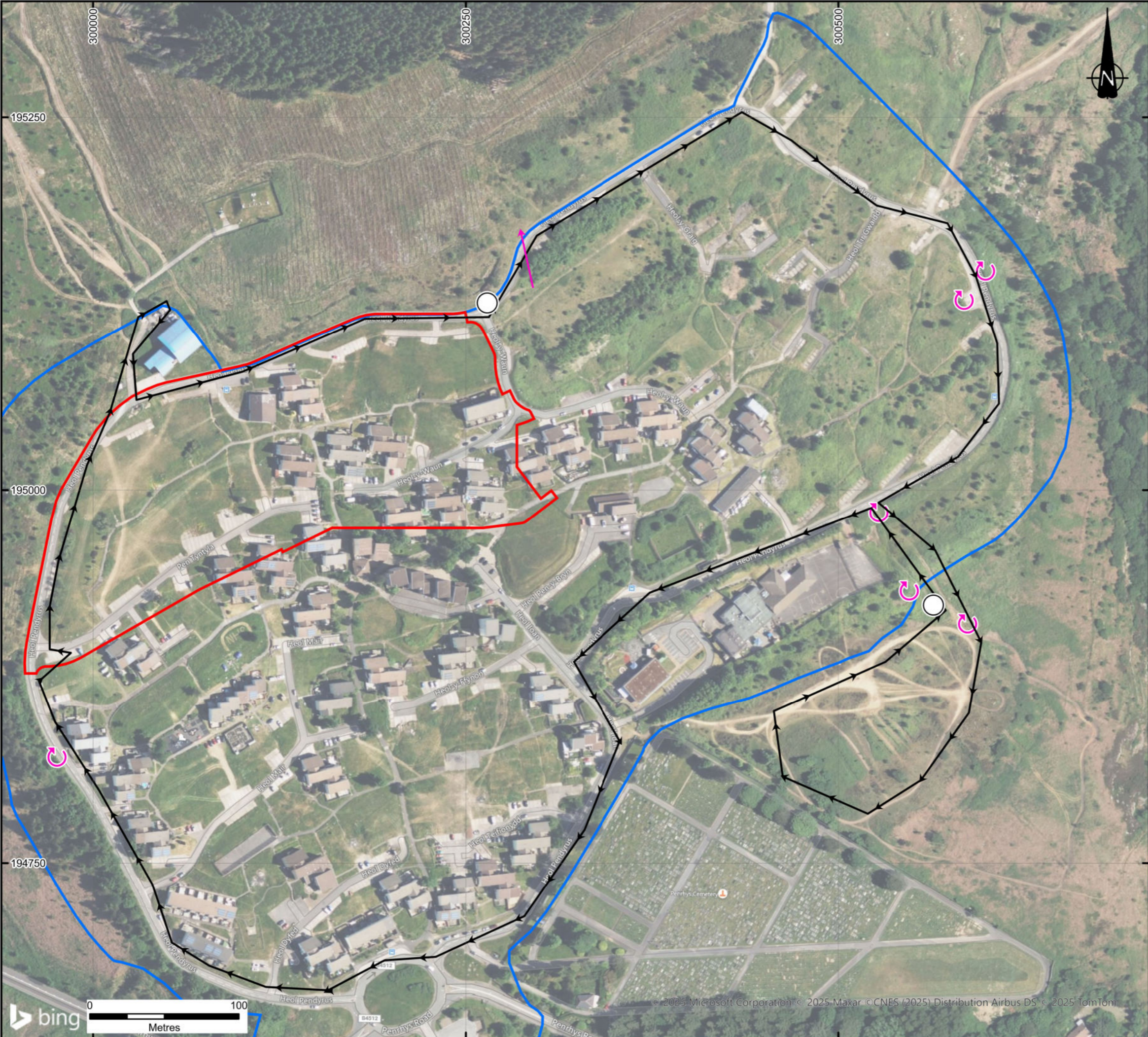
PROJECT	PENRHYS RESIDENTIAL ESTATE				
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DRAWING TITLE	NIGHT TIME BAT WALKOVER SURVEY RESULTS - SUMMER (JULY 2024)				
---------------	---	--	--	--	--

DRG No.	CA13129-015	REV	P0.02	SUIT. CODE	--
DRG SIZE	A3	SCALE	1:2,500	DATE	28/08/2025
DRAWN BY	BL	CHECKED BY	--	APPROVED BY	--

wardell armstrong	PART OF SLR				
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**KEY**

- Phase 1a Boundary
- Masterplan Boundary
- Transect Route
- Listening Stop

**Species**

- Common Pipistrelle

**Bat Activity**

- Common Pipistrelle

**Notes:**

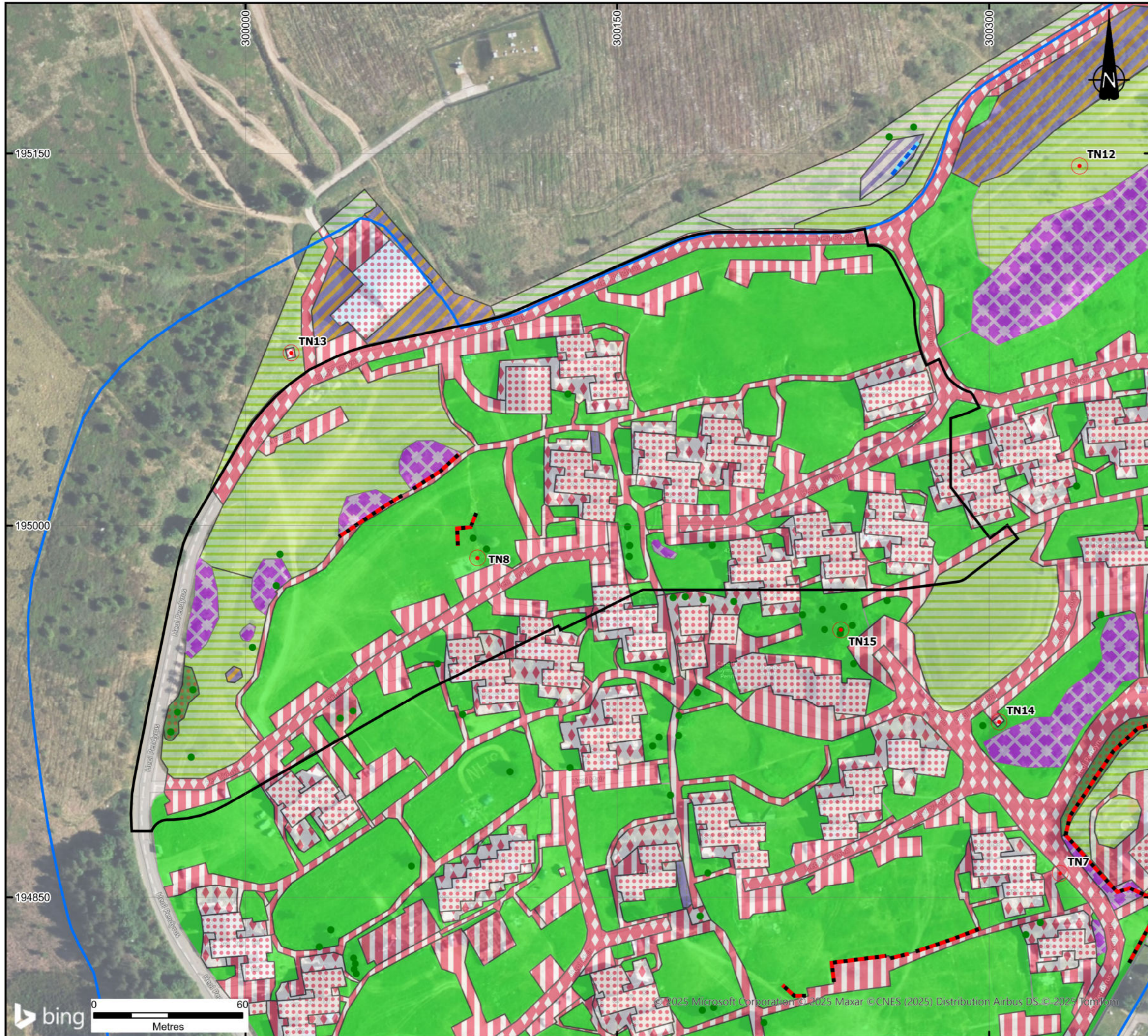
Boundaries are indicative. Aerial imagery shown for context purposes only.

Phase 1a Boundary and Masterplan Boundary taken from "156757-STL-XX-XX-DR-A-09010-Phase 1A - Proposed Site Plan" provided by Client and georeferenced by Wardell Armstrong (part of SLR Consulting).

REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
CLIENT					
TRIVALLIS					
PROJECT					
PENRHYS RESIDENTIAL ESTATE					
DRAWING TITLE					
NIGHT TIME BAT WALKOVER SURVEY RESULTS - AUTUMN (OCTOBER 2024)					
DRG No.		CA13129-016		REV	P0.02
DRG SIZE		A3		SUIT. CODE	--
SCALE		1:2,500		DATE	28/08/2025
DRAWN BY		BL		APPROVED BY	--

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#### KEY

- Phase 1a Boundary
- Masterplan Boundary
- g3c - Other neutral grassland
- g4 - Modified grassland
- h2b - Non-native and ornamental hedgerow
- h3d - Bramble scrub
- h3h - Mixed scrub
- u1b - Developed land; sealed surface
- u1b5 - Buildings
- u1b6 - Other developed land
- u1d - Suburban/ mosaic of developed/ natural surface
- w1g - Other woodland; broadleaved
- r1e - canal or ditch
- u1e - Built linear feature
- 32 - Scattered trees
- Target note

#### Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

Scattered Trees are approximate locations - for accurate locations refer to the Arboricultural report.

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Phase 1a Boundary and Masterplan Boundary taken from "156757-STL-XX-XX-DR-A-09010-Phase 1A - Proposed Site Plan" provided by Client and georeferenced by Wardell Armstrong (part of SLR Consulting).

REVISION	DETAILS	DATE	DRAWN	CHECKED	APPROVED
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CLIENT

TRIVALLIS

PROJECT

PENRHYS RESIDENTIAL ESTATE

DRAWING TITLE

PHASE 1A UKHAB HABITAT SURVEY-2024

DRG No.	CA13129-024	REV	P0.03	SUIT. CODE	--
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DRG SIZE	A3	SCALE	1:1,500	DATE	28/08/2025
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DRAWN BY	BL	CHECKED BY	--	APPROVED BY	--
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KEY

Survey Area Boundary

Phase 1a Boundary

Pair of birds

Bird(s) repeatedly calling

Sighting of Bird(s)

Calling bird(s)

Juvenile with parent(s)

A female bird

A group of birds

A male bird

Bird nest with adult sitting.

An occupied nest of birds.

Singing bird(s)

BTO Species Code	Bird Species
BF	Bullfinch
CH	Chaffinch
CT	Coal Tit
D	Dunnock
GC	Goldcrest
GR	Greenfinch
GW	Garden Warbler
HG	Herring Gull
HS	House Sparrow
LI	Linnnet
LR	Redpoll (Lesser)
M	Mistle Thrush
MP	Meadow Pipit
S	Skylark
SF	Spotted Flycatcher
ST	Song Thrush
WH	Whitethroat
WW	Willow Warbler

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

Phase 1a Boundary taken from "156757-STL-XX-XX-DR-A-09010-Phase 1A - Proposed Site Plan" provided by Client and georeferenced by Wardell Armstrong (part of SLR Consulting).

TRIVALLIS

PENRHYS RESIDENTIAL ESTATE

BREEDING BIRD SURVEY: PHASE 1A – NOTABLE SPECIES

CA13129-026

P0.02

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A1

1:2,000

28/08/2025

SRW

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PART OF SLR



**KEY**

- Phase 1a Boundary
- Masterplan Boundary
- Transect Route
- Listening Stop

**Species**

- Unidentified/Inconclusive

**Bat Activity**

- Common Pipistrelle

**Bat Activity (Foraging)**

- Common Pipistrelle

**Notes:**

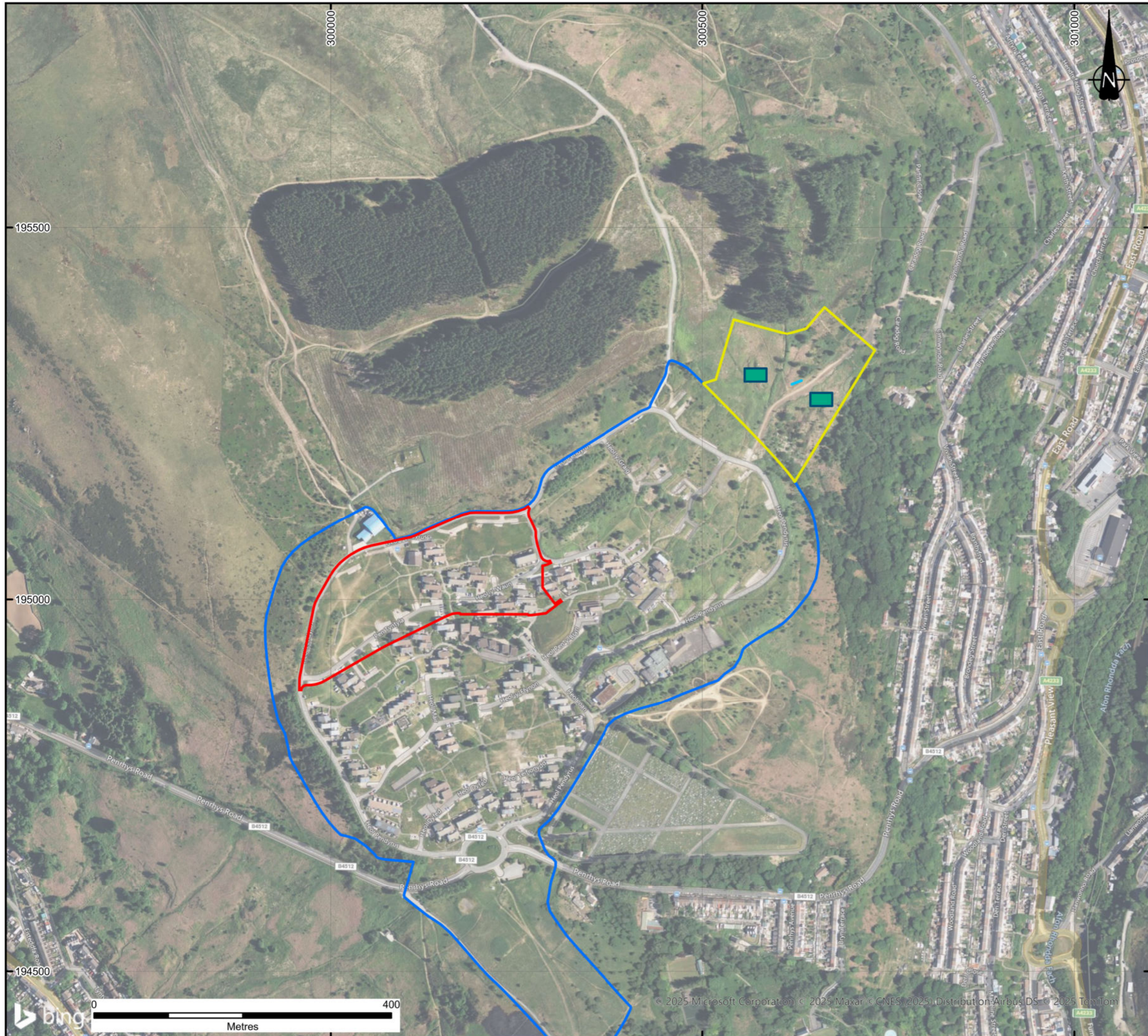
Boundaries are indicative. Aerial imagery shown for context purposes only.

Phase 1a Boundary and Masterplan Boundary taken from "156757-STL-XX-XX-DR-A-09010-Phase 1A - Proposed Site Plan" provided by Client and georeferenced by Wardell Armstrong (part of SLR Consulting).

REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
CLIENT					
TRIVALLIS					
PROJECT					
PENRHYS RESIDENTIAL ESTATE					
DRAWING TITLE					
NIGHT TIME BAT WALKOVER SURVEY RESULTS - SPRING (MAY 2025)					
DRG No.		CA13129-027		REV	P0.02
DRG SIZE		A3		SUIT. CODE	--
SCALE		1:2,500		DATE	28/08/2025
DRAWN BY		SRW		CHECKED BY	--
APPROVED BY		--			

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**KEY**

- Approximate Phase 1 Site Boundary
- Survey Area Boundary
- Phase 1a Reptile Receptor Site
- Locations of Reptile Hibernaculum
- Indicative Waterbody

**Notes:**

Boundaries are indicative. Aerial imagery shown for context purposes only.

Boundary approximately digitised from 156757-STL-XX-XX-DR-A-S0002-Proposed Phase 1A - Site Plan Overlay On Existing Site.pdf, approximately georeferenced using boundary from 2384-URB-XX-XX-SK-L-0001-Phase 1A Sketch Layout.dwg

Site Boundary extracted from 2384-URB-XX-XX-SK-L-0001-Phase 1A Sketch Layout.dwg following georeference/correction.

REVISION	DETAILS	DATE	DRAWN	CHKD	APPR
CLIENT					
TRIVALLIS					
PROJECT					
PENRHYS RESIDENTIAL ESTATE					
DRAWING TITLE					
REPTILE RECEPTOR PLAN - PHASE 1A					
DRG No.		CA13129-028		REV	P0.02
DRG SIZE		A3		SUIT. CODE	--
SCALE		1:5,000		DATE	26/08/2025
DRAWN BY		BL		APPROVED BY	--

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