



PRELIMINARY ECOLOGICAL ASSESSMENT: Plot 1, Springfield Rise, Treharris, CF46 5RD

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1. INTRODUCTION

1.1. Initial Instruction

1.1.1. Spectrum Ecology were instructed to undertake a Preliminary Ecological Assessment (PEA) of the Proposed Development Site (PDS) Plot 1, Springfield Rise, Treharris (ST 09586 97352). These works were agreed to include:

- A desk study, including the commissioning of a Local Ecological Records Check at 2km.
- A site inspection to complete a Phase 1 Habitat Survey to inform the planning process.
- Suggestions for potential ecological enhancements on a site-specific basis.

1.2. Surveyor Experience

1.2.1. Jen Pilkington (MSc, BSc, HND) is an experienced surveyor with over eight years of survey work and extensive ecological management experience. She holds a Natural Resources Wales licence for Great-crested newts and has recently been the named ecologist on a Natural England licence for a licence to close a badger sett. Jen awaits confirmation of becoming an associate member of CIEEM. Jen has undertaken a large variety of ecological surveys with comprehensive reports including ecological impact assessments, recommendations and mitigations for protected species, biodiversity improvement recommendations, ecological management plans and general habitat/countryside management advice and have worked on many projects related to ecology and conservation.

1.3. Site Profile

From investigation of Google Earth, it can be seen that the PDS appears to have been historically used as steep, rough grazing pasture until as recently as 2006, when the construction of the houses currently on Springfield Rise began. At this point, significant earthworks had been undertaken to level a considerable amount of the land surrounding the southern extent of Reservoir House. This development appears to have been completed by 2010, and the undeveloped area to the NW of Springfield Rise appears to have predominantly revegetated with a scrubby growth form. However, in 2016, the thus so far undeveloped site was again subjected to significant earth works, which appear to have removed the vegetation and installed what seems to be the beginnings of 9 foundations in the SW area of the site (P/15/0276 – Erection of 9 detached dwellings – Approved 27th November 2015) with a number of wide tracks made into the area of the current PDS. Subsequently, both Google Earth and the site inspection, show that this development work hasn't yet been completed. In addition to this, a notice was found on a lamppost near to the PDS stating that the area is planned to be developed to create 23 residential dwellings comprising 14 one-bedroom walk-up flats, 6 two-bedroom houses, 2 three-bedroom house, and a four-bedroom house. Although being directly linked to this site, and previously modified together with it, the PDS is not included within these works and is in fact privately owned.

The two historic periods of significant ground works easily explain both the significant amount of excavation evident on the PDS and the poor quality, freely draining nature of the remaining top soil. The significant presence of buddleia and rosebay willowherb are thought likely to have been brought in on machinery used in this terraforming or to have been blown in, as they are both colonisers of rough bare land. The native aspects of the vegetative sward is surprisingly very diverse, considering the abiotic factors and the levels of disturbance the site has incurred in the not too distant past. The best description of the site would be a failing acidic grassland, which is being heavily encroached by native and non-native scrub on the steeper areas of thicker topsoil.

The historic ground works also appear to have formed a number of terraces in what was presumably a very steep plot sloping from north-west to south-east. Despite these works, it is predicted that a considerable amount of additional ground works will be required to make an area large enough to place a house, associated gardens and the infrastructure to allow them to be functional.

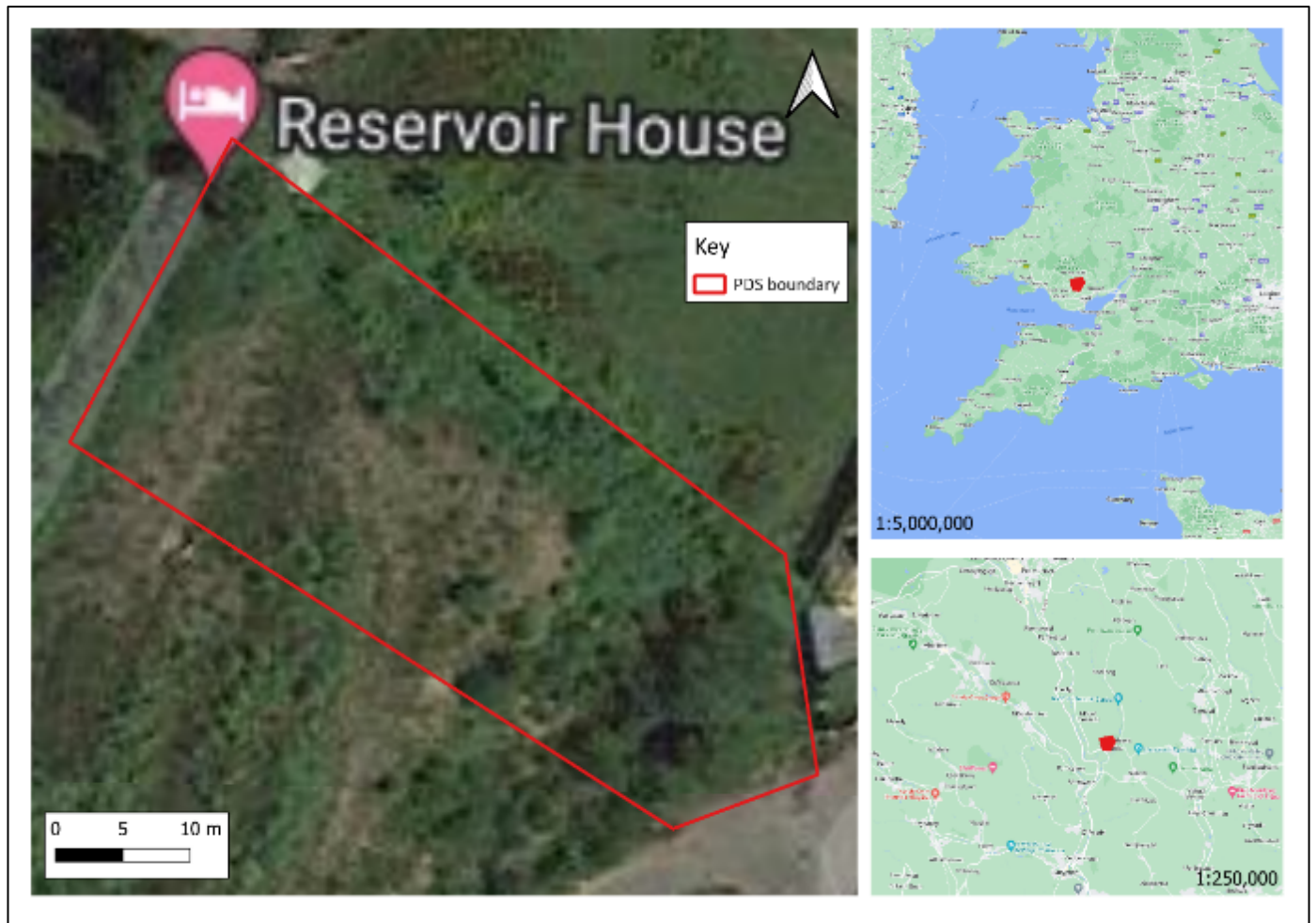


Figure 1: Location and extent of the PDS at Plot 1, Springfield Rise, Treharris

1.4. Proposed Development

1.4.1. It is currently unknown what the proposed development will comprise, but it is assumed from the size and location of the plot it will be a single detached residential dwelling with gardens and parking.

1.5. Predicted Zone of Influence

1.5.1. It is not possible to predict what either the direct or indirect impact of the proposed development might be, as it has not yet been finalised.

2. DESK STUDY

A desk study has been undertaken, utilising a specifically commissioned Local Ecological Records Check performed by SEWBREC at 2km from the centre of the PDS and a number of other online resources, including but not limited to DEFRA MAGICmaps application and Google Earth.

2.1. Pertinent Legislation

2.1.1 Legislation

2.1.1.1. Prior to leaving the European Union we were bound by the *EU Directive 92/43/EEC – Part II - The Habitats Directive 1992 (SEWSPG, 2008)* - European legislation that established a network of internationally important sites (Natura 2000 (N2K) sites) and a number of which were designated for their ecological status. These sites included; Special Protection Areas (SPAs) – designated on the basis of conservation of wild birds under the *Birds Directive 79/409/EEC (Eur-Lex, 2007)* and Special Area of Conservation (SACs) including candidate SACs (cSAC) - designated on the basis of conservation of habitats by the Habitats Directive (Eur-Lex, 1992). In addition to these, the Senedd Cymru expected local authorities to treat the following as European sites; Potential SPAs (pSPA), Ramsar sites – designated on the basis of conservation of wetlands by the *Convention on Wetlands of International Importance 1971 (UNESCO, 2020)* and Offshore Marine Sites (OMS). Articles 6(3) and 6(4) required an Appropriate Assessment to be completed on any plans/projects, which are likely to have a significant effect on one or more N2K site, that are not necessary for the management of that site. They also state that the potential impacts should be analysed in combination with any other plans that may have a cumulative effect on the protected site. In the UK the *Conservation (Natural Habitats & c.) Regulations 1994 (Legislation.gov.uk, 2020)* implemented the Habitat Directive which lists a number of species which are designated as European Protected Species (EPS) and makes it an offence to deliberately kill, capture or disturb individuals or to damage or destroy the breeding or resting places used by them.

2.1.1.2. The Conservation of Habitats and Species Regulations 2017 (Regulation 9(1)), (CIEEM 2021) domestic law, was created to transpose the land and marine aspects of the Habitats Directive and aspects of the Wild Birds Directive (2009/147/EC known as the Nature Directive). These regulations were then amended in 2019 by the Conservation of Habitats and Species (Amendment) (EU Exit) regulations 2019 which were made to ensure the main points and processes of the regulations were operable from 1 January 2021.

The amendments were predominantly focused on transferring functions from the European Commission to appropriate English and Welsh authorities. However, the British sites, excluding RAMSAR sites that originally belonged to the Natura 2000 network, have been redefined into a National Site Network, and new sites will be added to the network under the conditions specified by these regulations. In addition to this, new management objectives (now termed network objectives) will be established for the NSN set, managed and adapted by the UK governments and its devolved administrations. Other provisions have also been made to address; reporting on the implementation of regulations, Imperative Reasons of Overriding Public Interest (IROPI) test where a project affects a priority habitat or species; and for amending the schedules to the Regulations and annexes to the Nature Directives that apply to the UK now that the UK no longer reports to the European commission.

2.1.1.3. Environment Act 2021 (Legislation.gov.uk, 2021)

The UK Environment Act is a wide-ranging act which amends a range of existing environmental and ecological legislation and includes targets, plans and policies for, amongst other things, improving the natural environment, including environmental protection and enhancement (Part 1); and biodiversity and local nature recovery plans and the felling of trees (Part 6). It also introduces a body, the Office for Environmental Protection, to ensure compliance with environmental law.

2.1.1.4. Wildlife and Countryside Act 1981 (Legislation.gov.uk, 2019a)

The Wildlife and Countryside Act 1981 makes it an offence to intentionally kill, injure or take any wild bird or animal listed on Schedules 1 and 5 respectively. It is also an offence to take, damage or destroy the nests of wild birds either whilst they are being built or used, the eggs of wild birds or places of shelter/protection for wild animals, including disturbance of animals using these places. Schedule 8 prohibits the intentional picking, uprooting or destruction of any

species listed. Finally, Schedule 9 prohibits the release of animals or the dispersal of plants detailed on Schedule 9, as they pose a significant detrimental risk to native wildlife.

Since 1 January 2021 the Wildlife and Countryside Act 1981 is also amended so that species of wild birds found in or regularly visiting either the UK or the European territory of a Member State will continue to be protected.

2.1.1.5. Environment (Wales) Act 2016 Section 7 (Wales Biodiversity Partnership, 2019)

This act replaced the duty previously described in section 42 of the NERC Act 2006 in Wales as of 2016. It documents the lists of species and habitats deemed of key significance to improve and sustain Welsh biodiversity, to ensure all reasonable steps are taken to maintain and enhance the species and habitats listed.

2.1.1.6. Countryside Rights of Way Act 2000 (CRoW 2000) (Legislation.gov, 2020b)

The Countryside and Rights of Way Act 2000 implements the so-called "right to roam" on certain upland and uncultivated areas of England and Wales (e.g. mountain, moor, heath and down in addition to registered common land). It reinforced the WCA 1981, in particular Part I, increasing the maximum penalty to imprisonment instead of a fine; increasing disturbance offences against certain birds and animals to cover reckless acts as well as intentional ones; and enabling the Secretary of State to designate "wildlife inspectors" who have a range of powers under the Act.

2.1.1.7. Convention of the Conservation of European Wildlife and Natural Habitats 1982 (Bern Convention) (COE.INT, 2020)

The Convention imposes legal obligations on contracting parties, throughout the continent of Europe and some African states, to ensure protection and conservation of both wild animal and plant species and their natural habitats (listed in Appendices I and II of the Convention), to increase co-operation between contracting parties, and to regulate the exploitation of migratory species listed in Appendix III of the Convention.

2.1.1.8. The Protection of Badgers Act 1992 (Legislation.gov.uk, 2019b)

This Act makes it an offence to wilfully take, injure or kill a badger (*Meles meles*); cruelly mistreat a badger; interfere with badger setts, sell or possess a live badger; mark or ring a badger. A licence is required for work which may damage or disturb a sett.

2.1.1.9. Wild Mammals (Protection) Act 1996

This Act provides protection for all wild animals from intentional acts of cruelty.

2.1.1.10. Hedgerow Regulations 1997

These Regulations establish a set of criteria for assessing the importance of hedgerows. Where a hedgerow is deemed to be 'important', its removal is prohibited without consent from the local Planning Authority

2.2. Designated areas

Interrogation of DEFRA's MAGICmaps app (Fig 2) indicates there are no sites with international, national or local statutory designations within 2km of the centre of the PDS (DEFRA, 2021).

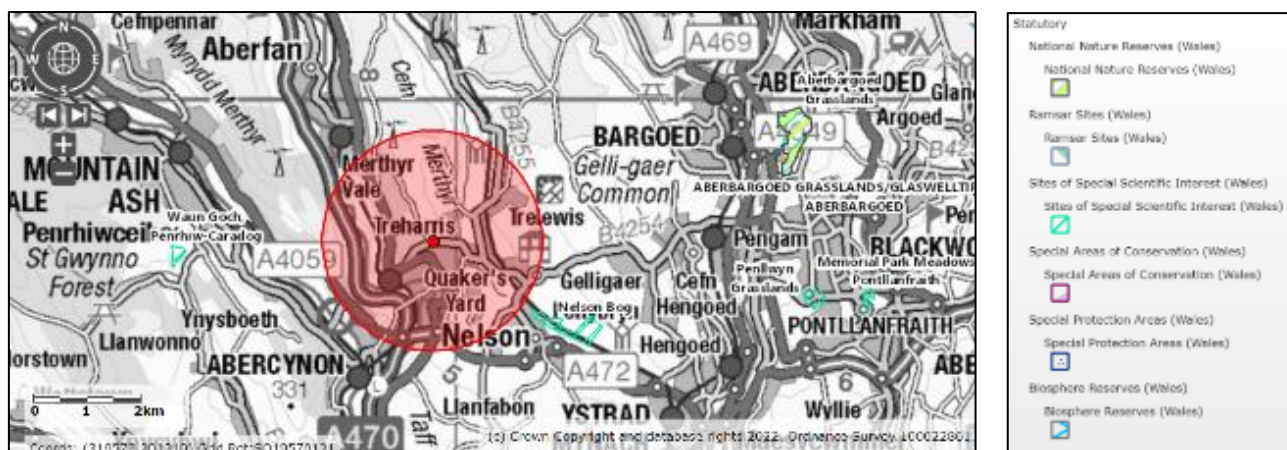


Figure 2: Statutory designations within 2km of the centre of the PDS (DEIRA, 2021)

Interrogation of the LERC (Fig 3) shows that there is a network of 118 priority areas within 2km of the PDS centre, along with 21 sites that have been afforded local non-statutory protection in the form of a SINC.

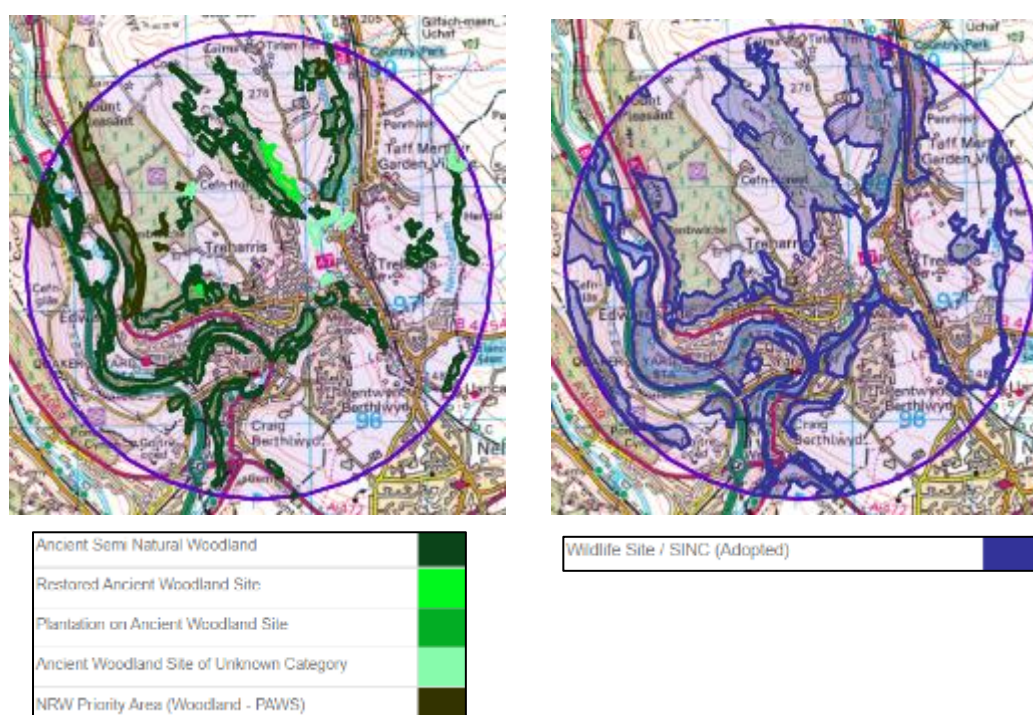


Figure 3: The location and extent of areas with Non-statutory designations within 2km of the centre of the PDS

Table 1: Summary of designated sites within 2km of the centre of the PDS

Site name	Status	Distance (m)	Designation features
Cwm Afon, west of Nelson	SINC	1898	Species-rich marshy grassland/ flush with at least 12 indicator species
Brooklands Marsh, north of Nelson	SINC	1622	Semi-natural wet woodland (in an early stage of development).
Llancaiach-Fawr Meadows, Llancaiach	SINC	1798	Semi-improved neutral grassland with at least 8 indicator species. Semi-natural woodland with an assemblage of indicators.
Nant Caeach, north of Llancaiach	SINC	1695	Semi-natural ancient woodland with an assemblage of indicator species.
Afon Taf	SINC	1221	
Afon Bargoed Taf	SINC	547	

Mynydd y Capel Common	SINC	1907
Gelligaer Common	SINC	1124
Craig-yr-Efail	SINC	1509
Cwm Mafon	SINC	1509
Craig Berthlwyd	SINC	1122
Goatre-coed Wood	SINC	1280
Coed Cefn-fforest & Cwm Cothi	SINC	88
Treharris Park & Cardiff Rd Woodlands	SINC	210
Lower Taf and Edwardsville Woods	SINC	501
Mynydd Goetre-coed	SINC	1714
Whitehall Golf Course	SINC	1683
Lower Cwm Bargoed	SINC	798
Trelewis Wood	SINC	1261
Nant Caeach	SINC	772
Berthlwyd	SINC	670

Unfortunately, many of the reasons for the designation of these sites have not been provided, but all of these sites, especially those within close proximity to the construction zone, should be considered in the EclA, as they fill an important gap not covered by other designations, and they are vital in maintaining the full range of biodiversity across the county.

2.3. Priority habitats

Interrogation of the LERC show that a great deal of the area within 2km of the centre of the PDS has been previously mapped by NRW. Figure 4 shows the locations and extent of those deemed to have potential to hold priority habitats. These areas account for just under 27% of the 2km search radius, indicating that there is a considerable area of habitat within 2km of the centre of the PDS that has good conservation value. Much of this mapped habitat falls within the areas of the 21 SINCs in the search perimeter shown in Figure 4, indicating that it is already afforded a degree of local conservation protection.

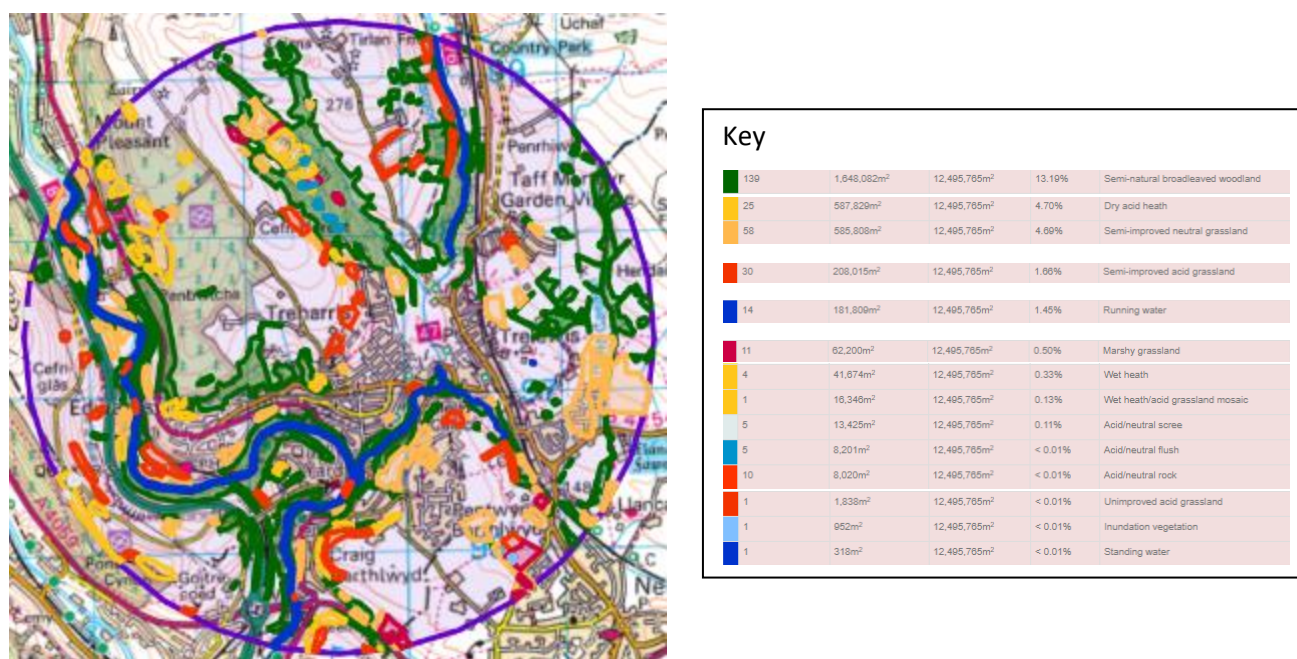


Figure 4: Location and extent of Priority Habitats within 2km of the centre of the PDS

It can be seen that the PDS is located within an area previously classified as Semi-improved Acid Grassland and has no other areas of adjoining habitat that have been historically noted as having potential to hold any priority habitat.

2.4. Protected and priority species

The results of an interrogation of the local ecological records, showing historic records of protected/priority species within 2km of the centre of the PDS, are included in Table 2.

Table 2: LERC results within 2km of the centre of the PDS.

	Latin name	Common name	Distance	Records	Protection(s)
Amphibian	<i>Bufo bufo</i>	Common toad	860	11	WCA5, S7
	<i>Lissotriton helveticus</i>	Palmate newt	1242	4	WCA5
	<i>Rana temporaria</i>	Common frog	758	13	HDir, WCA5
	<i>Triturus cristatus</i>	Great crested newt	2463	1	EPS, HDir, WCA5, S7
Birds	<i>Ancathis cabaret</i>	Lesser redpoll	925	9	S7
	<i>Accipiter gentilis</i>	Goshawk	1148	5	WCA1.1
	<i>Alauda arvensis</i>	Skylark	1096	13	BDir22, S7
	<i>Alcedo atthis</i>	Kingfisher	170	18	BDir1, WCA1.1
	<i>Anthus trivialis</i>	Tree pipit	170	14	S7
	<i>Chroicocephalus ridibundus</i>	Black-headed gull	925	4	BDir22, S7
	<i>Circus aeruginosus</i>	Marsh harrier	1578	1	BDir1, WCA1.1
	<i>Coccothraustes coccothraustes</i>	Hawfinch	170	2	S7
	<i>Cuculus canorus</i>	Cuckoo	857	12	S7
	<i>Dryobates minor</i>	Lesser spotted woodpecker	618	5	S7
	<i>Emberiza citronella</i>	Yellowhammer	1129	1	S7
	<i>Emberiza schoeniclus</i>	Common reed bunting	857	11	S7
	<i>Falco columbarius</i>	Merlin	1380	2	BDir, WCA1.1
	<i>Falco peregrinus</i>	Peregrine	671	16	BDir1, WCA1.1
	<i>Falco subbuteo</i>	Hobby	857	3	WCA1.1
	<i>Falco tinnunculus</i>	Kestrel	857	13	S7
	<i>Ficedula hypoleuca</i>	Pied flycatcher	1148	6	S7
	<i>Fringilla montifringilla</i>	Brambling	857	7	WCA1.1
	<i>Larus argentatus</i>	Herring gull	170	16	BDir22, S7
	<i>Linaria cannabina</i>	Linnet	857	15	S7
	<i>Locustella naevia</i>	Grasshopper warbler	1464	1	S7
	<i>Loxia curvirostra</i>	Crossbill	170	15	WCA1.1
	<i>Milvus milvus</i>	Red kite	669	20	BDir1, WCA1.
	<i>Muscicapa striata</i>	Spotted flycatcher	684	10	S7
	<i>Numenius arquata</i>	Curlew	1148	9	BDir22, S7
	<i>Pandion haliaetus</i>	Osprey	170	2	BDir1, WCA1.1
	<i>Passer domesticus</i>	House sparrow	38	33	S7
	<i>Perdix perdix</i>	Grey partridge	2663	1	BDir21, S7
	<i>Phylloscopus sibilatrix</i>	Wood warbler	170	10	S7
	<i>Poecile montanus</i>	Willow tit	1154	4	S7
	<i>Poecile palustris</i>	Marsh tit	1096	1	S7
	<i>Prunella modularis</i>	Dunnock	170	42	S7
	<i>Pyrrhula pyrrhula</i>	Bullfinch	170	36	S7

	<i>Sturnus vulgaris</i>	Starling	170	24	BDir22, S7
	<i>Tringa ochropus</i>	Green sandpiper	2663	1	WCA1.1
	<i>Turdus iliacus</i>	Redwing	170	17	BDir22, WCA1.1
	<i>Turdus philomelos</i>	Song thrush	114	41	Bdir22, S7
	<i>Turdus pilaris</i>	Fieldfare	1148	7	BDir22, WCA1.1
	<i>Turdus torquatus</i>	Ring ouzel	2090	2	S7
	<i>Tyto alba</i>	Barn owl	660	29	WCA1.1
	<i>Vanellus vanellus</i>	Lapwing	1457	4	BDir22, S7
Fish	<i>Salmo salar</i>	Atlantic salmon	705	2	HDir, S7
	<i>Salmo trutta</i>	Brown trout	636	10	S7, LBAP
Plants	<i>Hyacinthoides non-scripta</i>	Bluebell	170	39	WCA8
	<i>Vicia orobus</i>	Wood bitter-vetch	1904	1	S7
Invertebrates	<i>Boloria selene</i>	Small pearl-bordered fritillary	1181	12	S7, LBAP
	<i>Coenonympha pamphilus</i>	Small heath	925	13	S7
	<i>Erynnis tages</i>	Dingy skipper	170	11	S7
	<i>Euphydryas aurnia</i>	Marsh fritillary	1863	2	HDir, WCA5, S7
	<i>Hipparchia smele</i>	Grayling	642	7	S7
	<i>Lasiommata megera</i>	Wall	1148	5	S7
	<i>Satyrrium w-album</i>	White-letter hairstreak	1587	1	WCA5, S7
	<i>Acronicta rumicis</i>	Knot grass	857	6	S7
	<i>Agrochola helvola</i>	Flounced chestnut	1270	1	S7
	<i>Allophyes oxyacanthae</i>	Green-brindled crescent	1269	2	S7
	<i>Arctia caja</i>	Garden tiger	1269	1	S7
	<i>Atethmia centrago</i>	Centre-barred sawfly	1270	1	S7
	<i>Ceramica psi</i>	Broom moth	1310	2	S7
	<i>Chesias legatella</i>	Streak	1270	1	S7
	<i>Chiasmia clathrata</i>	Latticed heath	1270	1	S7
	<i>Cirrhia icteritia</i>	Sallow	1270	1	S7
	<i>Diarsia rubi</i>	Small square-spot	1270	3	S7
	<i>Eclipopera silaceata</i>	Small phoenix	837	5	S7
	<i>Ennomos fuscantaria</i>	Dusky thorn	1251	2	S7
	<i>Ennomos quercinaria</i>	August thorn	1269	2	S7
	<i>Hepialus humuli</i>	Ghost moth	1863	1	S7
	<i>Hoplondrina blanda</i>	Rustic	1270	2	S7
	<i>Hydraecia minacea</i>	Rosy rustic	1270	1	S7
	<i>Leucania comma</i>	Shoulder-striped wainscot	1228	9	S7
	<i>Lycia hirtaria</i>	Brindled beauty	1269	2	S7
	<i>Melanchra persicariae</i>	Dot moth	1238	3	S7
	<i>Scotopteryx chenopodiata</i>	Shaded broad-bar	547	2	S7
	<i>Spilosoma lubricipeda</i>	White ermine	857	6	S7
	<i>Spilosoma lutea</i>	Buff ermine	1269	8	S7
	<i>Tholera cespitis</i>	Hedge rustic	1269	1	S7
	<i>Timandra comae</i>	Blood-vein	1269	1	S7

	<i>Tyria jacobaeae</i>	Cinnabar	38	14	S7
Lichen	<i>Usnea florida</i>	Witches whiskers lichen	857	2	S7
Reptile	<i>Anguis fragilis</i>	Slow-worm	657	11	WCA5, S7
	<i>Vipera brevis</i>	Adder	1540	2	WCA5, S7
	<i>Zootoca vivipara</i>	Common lizard	639	10	WCA5, S7
Mammals	<i>Arvicola amphibius</i>	Water vole	1464	1	WCA5, S7
	<i>Chiroptera</i>	Unidentified bats	103	32	EPS, WCA5
	<i>Eptesicus serotinus</i>	Serotine bat	2029	1	EPS, HDir, WCA5
	<i>Erinaceus europaeus</i>	Hedgehog	255	27	S7
	<i>Lutra lutra</i>	Otter	551	40	EPS, HDir, WCA5, S7
	<i>Meles meles</i>	Badger	325	6	PBA
	<i>Muscardinus avellanarius</i>	Hazel dormouse	2179	1	EPS, HDir, WCA5, S7
	<i>Mustela erminea</i>	Stoat	1464	1	NRW
	<i>Mustela putorius</i>	Polecat	1872	1	HDir, S7
	<i>Myotis daubentonii</i>	Daubenton's bat	597	2	EPS, HDir, WCA5
	<i>Myotis mystacinus</i>	Whiskered bat	1616	1	EPS, HDir, WCA5
	<i>Myotis nattereri</i>	Natterer's bat	1616	3	EPS, HDir, WCA5
	<i>Nyctalus noctule</i>	Noctule bat	597	12	EPS, HDir, WCA5, S7
	<i>Pipistrellus pipistrellus</i>	Common pipistrelle bat	260	38	EPS, HDir, WCA5, S7
	<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle bat	560	38	EPS, HDir, WCA5, S7
	<i>Plecotus auratus</i>	Brown long-eared bat	452	10	EPS, HDir, WCA5, S7

3. PHASE 1 HABITAT SURVEY

3.1. Aim of survey

To provide a relatively rapid but appropriately thorough and robust assessment of the locations and extents of all of the habitats within the PDS.

3.2. Methodology

A thorough walk-over survey was completed within the PDS, during which all of the habitats present within the PDS were classified according to the definitions found in the 'Handbook for Phase 1 Habitat Survey - Field Manual', and the key defining floral species for each habitat were noted along with their relative abundances. Relative abundances are noted using the DACFOR scale (D Dominant; A Abundant; C Common; F Frequent; O Occasional; R Rare; L Local - used as a prefix to any of the above). All faunal sightings were noted for the site as a whole.

The site was visited on 23/03/2022 between 10:00 and 14:00. On arrival, the temperature was approx. 10°C, warming to 15°C later, with a clear blue sky throughout. There was a gentle NE breeze with occasional slightly stronger gusts.

3.3. Limitations to survey

Whilst it is deemed acceptable to undertake Phase 1 Habitat assessment at any time throughout the year, assessments undertaken outside of the accepted 'growing season' are likely to be less representative of the full potential of floral biodiversity due to some species not being/less obviously represented on site at the time of survey and the difficulty of identification of some species during their vegetative phase.

3.4. Results

The Phase 1 Habitat Map, Target notes, Species Records and Photos of target notes can be found in Appendices 2, 3 and 4 respectively.

3.4.1. Habitat descriptions

Habitat type	Description
Semi-improved acid grassland	There are two distinct variations in the presentation of the semi-improved acid grassland; a juncus-dominated area in the north, near to the highest elevation of the site, and a much sparser, highly degraded, short, bare-earth-dominated sward across much of the rest of the site. All of the grassland within the site appears to be suffering from a high level of drought, with much of the vegetation looking dried or wilted. This is presumed to be a factor of the high levels of exposure of the site and the well-draining, mineral-rich, soil evident through both the numerous patches of bare earth and excavated areas.
	Despite a warmer and drier than average winter, one would expect that, at the beginning of spring, the site would be at, or close to, the wettest it will be during the year. Given the observed drought conditions, it is likely that the grassland sward is likely to suffer more damage as summer brings even drier conditions. When combined with the clear presence of rabbits (as indicated by both the short-cropped forbs and a small number of latrines) and the disturbance from access to the site, it is predicted that the sward cover, diversity and abundance will reduce significantly over a relatively short period of time.
	Juncus-dominated grassland is generally confined to areas that get very wet for a portion of the year, so it is likely that the size of this grassland will decrease rapidly unless there is considerable rainfall soon.
	Despite the LOW conservation value of the areas of grassland, structural diversity is offered by the scattered examples of rushes, gorse and taller grasses, and it is deemed that the grassland is likely to provide a number of foraging and basking resources for reptiles, close enough to their refuge habitat (scrub), to make the habitat optimal for the presence of reptiles.
Spoil	There are two areas of spoil accumulation within the PDS; a small pile of relatively small-grained soils and hardcore with examples of moderate sized rubble (TN4) and a larger area of much larger rock and boulders piled on ground disturbed by excavation (TN7).
	Whilst this habitat is deemed to be of LOW/MODERATE conservation value, it holds significant potential to provide refuge and or hibernation habitats for a wide range of wildlife, including small birds, small mammals, reptiles and amphibians. It is therefore recommended that the dismantlement and removal of these features are undertaken outside of the reptile hibernation period (Nov-Feb), whilst directly supervised by an Ecological Clerk of Works or an Ecologist, outside of this period, due to the potential for providing refuge and oestivation habitat. In addition to this, consideration for the installation of artificial refugia in suitable areas should be informed by the completion of a reptile survey within the PDS.

There are three main types of scrub present within the site: a buddleia-dominated scrub, primarily located along the western edge of the access track (TN10); an area of birch/willow sapling generation (TN1) on the southern-most bank and bramble-dominated scrub, found mainly within the wide ditch (TN3) along the base of the eastern hedge and in the field layer of the two aforementioned scrub types in different stages of development.

These largely undisturbed areas of scrub collectively hold a reasonable potential nesting/refuge resource to a wide range of birds, small mammals, reptiles and amphibians. In addition to this the buddleia dominated scrub, whilst non-native, provides a considerable foraging resource to local pollinators. It is not understood how much of the scrub will be required to be cleared to facilitate the development but it is assumed, due to the perceived low-aesthetic value and inaccessible nature of the habitats that much, if not all, of it will be removed during development.

Whilst this habitat is deemed to hold a LOW/MODERATE conservation value, it provides the majority of the structural diversity present in the floral sward, and it is therefore highly recommended that it is replaced with habitat with similar or better structural diversity that is more suited to the development. For example, this could take the form of double thickness, species-rich hedgerows planted on all boundaries of the development. This should be carefully considered in the development of an ecological enhancements scheme designed to mitigate for the loss of habitats through the development of the land. Bird nesting boxes should be installed to mitigate for the temporary loss of habitat, whilst the replacement habitat is maturing to a suitable standard to be utilised as a nesting resource. In addition to this, consideration for the installation of artificial reptile refugia in suitable areas should be informed by the completion of a reptile survey within the PDS.

There is an outgrown, relatively species rich, hedgerow along the western boundary of the site (TN10). This habitat provides shielding of the site from the road and a link to the wider countryside through the closed canopy with the hedge on the opposite side of the road. In addition to this, the trees and the scrubby field layer provide a considerable potential refuge/nesting resource to a wide range of birds, small mammals and to a lesser extent amphibians and reptiles.

There is an additional hedge-like feature created by dense ivy growth on the wall along the northern boundary (visible in plate 4). This feature was noted to be receiving high interest from a number of bird species displaying nesting behaviours and is deemed to represent a good nesting/refuge for a wide range of birds and potentially small mammals. In addition to this, ivy produces a key late-season foraging resource to pollinators.

These habitats are deemed to be of MODERATE/HIGH conservation value, modification of this habitat should be avoided where possible.

4. PROBABLE PRESENCE OF PROTECTED/PRIORITY SPECIES

Taxa	Probable presence
	No individuals or their field signs were found within the boundary of the PDS during the site visit.
Amphibians	Breeding habitat: There is no suitable breeding habitat within the PDS for any UK protected/priority species of amphibians. ABSENT Foraging and Refuge habitat: There is a considerable amount of terrestrial foraging and refuge habitat within the boundary of the PDS in the sparsely scrubby area.

	Historic records: Common toad (11 records, nearest 860m NE), Common frog (4 records, nearest 758m ENE), Palmate newt (4 records, nearest 1242m NE) and Great crested newt (1 record, 22463m SW) have all been historically recorded. Whilst there is potential terrestrial habitat for all of the aforementioned species within the PDS, there is no suitable breeding habitat within or close enough to the PDS (from inspection of Ordnance Survey maps and the priority habitat maps for standing water on the LERC) to enable the PDS to support a successful breeding population of amphibians. The steep topography and dry nature of the PDS are also believed to be deterring factors for amphibian species colonising the site. In addition to this, the nearest record of each species is a considerable distance from the centre of the PDS, with no direct connectivity between the sites. The discussed factors are deemed sufficient in combination to permit the assumption that amphibians are absent from the site.	
	No individuals or their field signs were found within the boundary of the PDS during the site visit.	ABSENT
Crustaceans	Habitat: There are no areas of habitat within the PDS that are capable of supporting a population of protected crustacea. Historic records: None It can confidently be assumed that protected/priority species of crustaceans are absent from the PDS	
	A good number and variety of birds were witnessed on and over site during the site inspection, some appeared to be undertaking nesting activities primarily within the ivy growth along the northern boundary. Breeding/refuge habitat: The areas of scrub and two defunct hedge-like features running along the northern and western boundaries provide a moderate amount of breeding and refuge habitat for smaller birds. There is no suitable breeding/nesting habitat for ground-nesting birds within the PDS. There is no evidence of nesting behaviours of larger birds e.g. raptors within the PDS. Foraging habitat: There is a moderate amount of sub-optimal foraging habitat for invertivorous, seedivorous and to a lesser degree larger predatory birds within the PDS. There is no foraging habitat suited to riparian, wading or wetland birds.	
Birds	Historic records: There are a considerable number of historic records of birds within 2km of the centre of the PDS. However as previously noted there is no suitable foraging habitat within the PDS for riparian specialists (e.g. kingfisher), wetland/wading (e.g. green sandpiper), conifer specialists (e.g. crossbill) or breeding habitat for ground-nesting birds (e.g. merlin, skylark, lapwing etc.); therefore these classes can be deemed to be absent from the PDS.	ABSENT
	Birds of prey - Whilst two red kites and three buzzard were observed overhead during the site visit, it is deemed that the neighbouring farmland and rough grazing would offer significantly more optimal foraging habitat than the PDS. In addition to this, it is deemed that the majority of the trees within the PDS or its boundaries would not support the nests of larger birds due to their age and growth forms - no signs of nesting birds of prey were noted within the PDS	ABSENT
	Small passerines – There is a moderate amount of breeding/nesting/refuge habitat (e.g. scrub and hedge-like features) for a wide range of smaller birds within the PDS, including wood pigeon, blackbird, dunnoek, wren, bullfinch and starling. Therefore, if necessary to facilitate the development, the removal of these habitats should not be completed during bird nesting season (Mar-Aug inclusive) and should be undertaken utilising a sympathetic two-stage cut (as detailed in the mitigations section). If significant areas of breeding	PRESENT

habitat are to be removed, an appropriate number of bird boxes should be installed to within the PDS to mitigate this loss.

Despite it still being very early in the season for adult butterflies, several sightings were noted on the site visit, including comma, red admiral and brimstone, indicating that the site is likely to be an important foraging resource and holds potential to provide refuge to the overwintering pupae of a number of butterfly species.

Breeding/refuge habitat: Since the most recent evidence of considerable earthworks undertaken in 2016, the majority of the site appears to have been left primarily unmanaged and undisturbed (except for small areas of shallow excavations), meaning the vegetation present within the boundary of the PDS has a good chance of being able to support both breeding (for those that the larval-food plant is present) and over-wintering species.

Foraging habitat: There is a significant coverage of flowering species, primarily buddleia and to a lesser extent rosebay willowherb, present within the site which produce large quantities of flowers known to be popular foraging resources for lepidoptera. This, combined with the fairly open, south-facing aspect of the ground, suggests the site provides a moderate-good foraging resource for pollinating insects.

Historic records: Whilst the LERC includes a huge number of invertebrate species as being present within 2km of the centre of the PDS, only two have statutory protection under UK legislation: the white letter hairstreak and the marsh fritillary

Invertebrates

White letter hairstreak (1 records, 1587m E) - The preferred larval food plant of the white letter hairstreak is elm (*Ulmus procera*), but they will also utilise small leaved elm (*Ulmus minor ssp. minor*) and wych elm (*Ulmus glabra*), none of which were noted within the PDS. It is therefore deemed highly unlikely that this species is using the PDS as a breeding resource. This, in combination with the distance of the record from the PDS and the barriers to dispersal between them (i.e. plantation forestry), would suggest that the species is unlikely to be utilising the PDS, **and it should therefore be deemed absent from the site.**

ABSENT

Marsh Fritillary (2 records nearest 1863m SE) – The preferred larval food plant of the marsh fritillary is Devil's-bit scabious (*Succisa pratensis*) on calcareous grassland, but they will also utilise field scabious (*Knautia arvensis*) and small scabious (*Scabiosa columbaria*). Neither the larval food plants, nor the preferred habitat types, were noted within the PDS which is primarily comprises degraded calcifugous grassland. It is therefore deemed highly unlikely that this species is using the PDS as a breeding resource. In addition to this, the marsh fritillary is well-known to have very poor powers of dispersal and thus the distance and the lack of connectivity between the record and the PDS further reduces the likelihood of this species utilising the PDS. **Therefore, this species should be deemed absent from the PDS.**

ABSENT

The other 127 cumulative records of 29 priority species (as noted on S7 of the EWA 2016) recorded within 2km of the centre of the PDS indicate that the wider environment, in which the PDS is located, holds a strong resource for a wide range of invertebrates. Accordingly, any potentially negative impacts on the wider countryside brought about by this development should be thoroughly investigated to ensure there is no significant or lasting damage to the biodiversity of the wider area. **The larval foodplants and preferred forage of the species within the list of priority invertebrate species noted by the LERC, should be considered when designing the floral sward and landscaping that will be included in any areas of semi-natural habitat which are created as mitigation for loss of habitat through development.**

	No individuals or their field signs were found within the boundary of the PDS during the site visit.	
Fish	Habitat: There are no areas of habitat within the PDS that are capable of supporting a population of fish. Historic records: Whilst there are historic records for both salmon and trout on the LERC both are more than 500m from the centre of the PDS and therefore considerably further from the PDS than the zone of impact for the assumed single dwelling and associated gardens and infrastructure. No additional works are required	ABSENT
	No individuals were found within the boundary of the PDS during the site visit.	
Plants	Bluebell – historically noted within 170m north of the boundary of the PDS at Treharris Park. However, no examples of this plant were noted within the site, despite special attention being paid the field layer of the hedge. Whilst these plants are unlikely to have been in flower at the time of the survey, it is deemed likely that if present the foliage of the plant would have been observed. It is therefore thought to be absent from the site. Wood bitter-vetch (1 record, 1904m) – Whilst the habitat within the PDS is suitable for supporting the species no specimens of the plant were noted within the boundary of the PDS. The distance and physical barriers to dispersal between the PDS and the records site also reduces the likelihood of the species having dispersed to the site from the historic record. This species is deemed to be absent from the site.	ABSENT ABSENT8
INNS	No Invasive Non-Native Species (INNS) as specified by schedule 9 of the Wildlife and Countryside Act 1981 were noted within the boundary of the PDS.	ABSENT
	No individuals or their field signs were found within the boundary of the PDS during the site visit.	
Reptiles	However, the majority of the site is highly sloping with a southern aspect, which is the ideal scenario for reptiles. There is a considerable amount of foraging and refuge habitat within the scrubby areas of the PDS and many open spaces capable of supporting basking behaviours within close proximity to these refuge areas. The PDS should be considered to hold optimal habitat for reptiles. Historic records: Slow worm (11 records, nearest 657m), Adder (2 records, nearest 1540m) and Common lizard (10 records, nearest 639m) are noted on the LERC as being recorded within 2km of the centre of the PDS. However, a data trawl also found a Design and Access Statement, for a development on the adjoining land, produced by LRM Planning Limited in 2021, which states that a reptile survey undertaken to advise their planning process found both slow worm and common lizard, including both adults and juveniles, to be present within their proposed development site. Due to the fact that the PDS considered in this report is directly connected to the habitats in that site, it is deemed necessary that a reptile survey is undertaken within the PDS to establish whether either/both species are present within the PDS and, if present, to establish an estimate of the population.	HIGHLY LIKELY
	No mammalian individuals or their field signs were found within the boundary of the PDS during the site visit.	
Mammals	Water vole (1 record, 1464NE) – There is no suitable habitat for water vole within the PDS and no direct connectivity between the PDS and the historic record site. They can therefore be confidently assumed to be absent from the PDS. Hazel dormouse (1 record, 2179m SE) – There is no suitable habitat for dormice within the PDS and no direct connectivity between the PDS and the historic record site. They can therefore be confidently assumed to be absent from the PDS.	ABSENT ABSENT

Badger (6 records, nearest 925m ENE) – No sett entrances or species-specific field signs were noted within the PDS. In addition to this, the parched and stripped nature of the site means that it is unlikely to support a significant foraging resource to any badger populations. However, there is a considerable area of optimal badger foraging habitat to the west and north of the site, and badgers are known to hold considerable territories. **It is therefore deemed possible that the site could be infrequently used by badger for commuting to other more optimal areas of a held territory. Therefore, precautions to prevent them, or any other large mammal, from becoming entrapped or injured within the site should be installed throughout the clearance and construction phases. These include the covering of, or installation of ramps to, any steep-sided excavations deeper than 150m and any holes or pipes with a diameter of over 120mm, as well as the restriction of the use of artificial light during night-time/dark hours to only necessary and unavoidable circumstances.**

UNLIKELY

Otter (40 records, nearest 511m E) – No holts, resting places or species-specific field signs were noted within the PDS. The habitats within the PDS should be deemed sub-optimal to support foraging, resting or breeding behaviours. In addition to this, all of the live records were directly associated with the Rivers Taff or Taff Bargoed, which are optimal habitats. Interrogation of the maps and aerial imagery available show no obvious reasons (i.e. ponds/lakes or being situated between two suitable water courses) why any otter would need to enter the site in their travels between optimal habitats within the local area. **Therefore, due to the lack of suitability of the site, and species-specific field-signs, otter should be confidently assumed to be absent from the site.**

ABSENT

Bats – Serotines (1 record, 2029m), Daubenton's (2 records, nearest 597m), Whiskered (1 record, 1616m), Natterer's (3 records, nearest 1616m), Noctules (12 records, nearest 597m), common pipistrelles (38 records, nearest 260m), soprano pipistrelles (38 records, nearest 560m), Brown long-eared (10 records, nearest 452m) and 32 records or unidentified bats (within 103m) were included in the LERC.

ABSENT

However, there were no features within the PDS that were noted to hold any roosting potential, due to both the lack of structures and the age and growth forms of the trees and shrubs. In addition to this, the parched, bare-earth dominated nature of the site indicates that the PDS is likely to offer a relatively limited foraging resource to bats. **It is therefore deemed, with high levels of confidence, that the PDS supports no summer or hibernation roosts, and that it does not hold a key foraging resource. It is not deemed necessary to undertake any further surveys relating to the use of the site by bats.**

Polecat (1 record, 1872m SW) and Stoat (1 record, 1464m NE) – No individuals or species-specific field signs were noted within the PDS for either species. Whilst the habitats within the site are sub-optimal for polecat and stoat, the farmland to the west and north may provide optimal habitat. Therefore, whilst it is deemed unlikely that they are utilising the site for breeding, refuge or regular foraging, it is possible they could be infrequently commuting/dispersing through the site. However, the aforementioned 'large mammal precautions' are deemed sufficient to protect this species from harm within the PDS during clearance and construction activities.

HIGHLY
UNLIKELY

Hedgehog (28 records, 170m N) - No individuals or species-specific field signs were noted within the PDS. There are a number of habitats within the PDS (i.e. scrub and the hedge) that hold potential refuge/hibernation resource and a small amount of sub-optimal foraging habitat for hedgehog. **Due to the proximity of the nearest historic record and the direct connectivity to the record site, it is deemed likely that hedgehog could be using the site. Therefore, to avoid the risk of disturbing, injuring or killing a hedgehog, any clearance of scrubby or hedge-like habitats should be avoided during the hedgehog hibernation period (Oct-Apr) and be undertaken using a two-stage sympathetic cut (detailed in the mitigations section).**

LIKELY

5. CONSTRAINTS TO DEVELOPMENT

Presence of habitats with MODERATE/HIGH conservation value – the hedge along the western boundary and the hedge-like feature created by the dense growth of ivy along the northern boundary wall should not be modified or removed unless absolutely necessary. Where modification or removal is deemed unavoidable for the facilitation of the development, a similar area of habitat with the same or better conservation value should be installed within the boundary of the PDS. In addition to this, an appropriate number of bird boxes and artificial refugia should be installed to mitigate for these habitat losses.

Presence of habitats with LOW/MODERATE conservation value – habitat lost to development should be mitigated for by the installation of habitats with the same or better conservation value. In addition to this, an appropriate number of bird boxes and artificial refugia should be installed to mitigate for these habitat losses.

Highly likely presence of reptiles – a reptile survey should be undertaken to gain a full understanding of the presence/absence of slow worm, common lizard and adder within the PDS. If found, a population estimate should be utilised to design appropriate mitigations or translocation if necessary.

6. ADDITIONAL SURVEYS RECOMMENDED

- Reptile surveys to establish the presence and a population estimate of any reptiles utilising the PDS.
- A biodiversity enhancements scheme should be developed to mitigate for habitat loss as a result of the implementation of the development.

7. REQUIRED MITIGATIONS

The mitigations currently recommended to reduce the risk of direct negative environmental impacts occurring from the installation of the proposed development within the PDS include, but are not limited to:

7.1. Risk avoidance strategies

- No clearance of trees, dense scrub or accumulations of stone/vegetation or waste should be undertaken during bird nesting season (Mar-Aug inclusive), reptilian (Oct-Apr) or hedgehog (Oct-Apr) hibernation periods.

7.2. Risk minimisation strategies

- All clearance of the waste accumulations, trees, hedges, tall grasses or scrub to be undertaken utilising sympathetic methods:
 - Supervision of all clearance works by a suitably qualified/experienced ecologist is deemed advisable.
 - Thorough checks of the habitat by a suitably experienced person, directly prior to the commencement of works, to check for protected/priority species and their field signs.
 - All clearance personnel should be made aware of potential presence of protected/priority species and their field signs.
 - If an individual of a protected/priority species or their field signs are discovered during clearance, works should immediately cease until a suitably qualified ecologist has had ample time to investigate the sighting and implement reasonable measures to allow continuation.
 - Employment of a 2-cut methodology, where the scrub is cut no lower than 150mm and left for a suitable period (generally 24-48hrs) for faunal species to clear the area before cutting to ground level.

- All clearance should be performed uni-directionally towards an area of remaining suitable habitat that will be left intact to allow successful escape.
- Maintenance of all current mammalian access points through any linear boundaries within or surrounding the PDS.
- Covering of, or installation of an escape ramp (a roughed plank) to, any steep-sided excavations deeper than 150mm, and covering of any pipes of diameter 120mm or above and preservation of any existing access points to the PDS.
- Prohibition of artificial lighting between dusk and dawn during clearance and construction activities.

7.3. Biodiversity enhancements and mitigations for loss of habitats

- If it is deemed necessary to remove areas of habitat that provide a nest/breeding habitat for birds, an appropriate number of assorted bird boxes should be installed within the PDS to mitigate this loss.
- If it is deemed necessary to remove areas of habitat that provide a refuge/hibernation habitat for reptiles, an appropriate number of artificial refugia should be installed within the PDS to mitigate this loss.
- Wherever possible, generic seed mixes should be avoided, and a bespoke assemblage of appropriate species should be compiled by comparing the assemblage of other similar high-quality examples of the same habitat in the local area and with consideration of the larval foodplants of key local pollinators.
- Unless specifically inappropriate for the design of the proposed development, all of the plants, seeds, bulbs and trees installed within the PDS as part of the key green infrastructure (i.e. hedges, lawns and screening) should be native and of local provenance.

It should be understood that the above are based on the information currently available and are likely to be increased/modified with the addition of new data captured by any additional recommended works and/or changes to the design of the proposed development.

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APPENDIX 1: Phase 1 Habitat Map

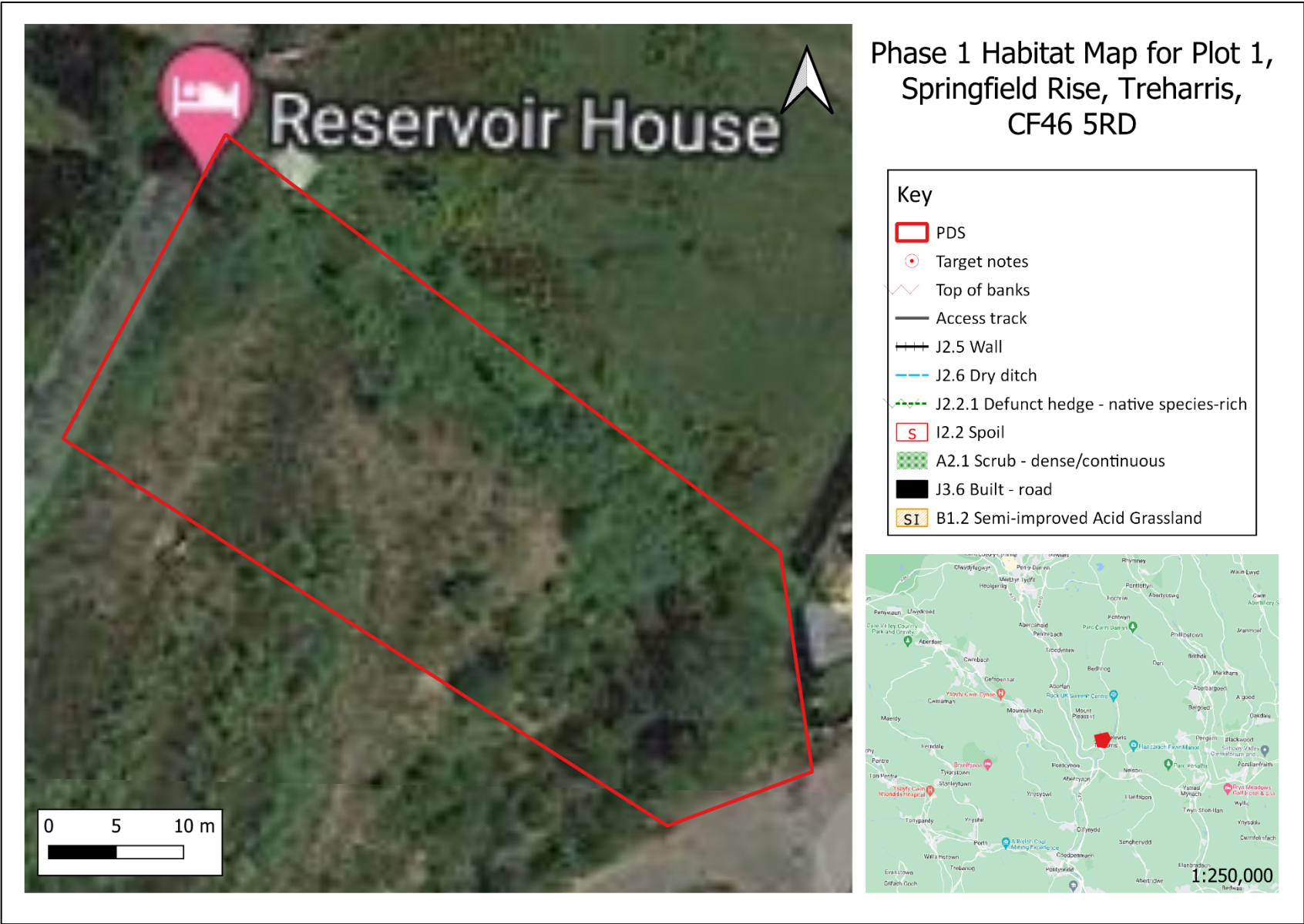


Figure 5: Phase 1 habitat map or the PDS at Plot 1 Springfield Rise, Treharris

APPENDIX 2: Species Lists and Target Notes

Table 3: Target Notes

1	Steep bank rising from the road to the east of the PDS. Dominated by birch and willow sapling generation with a scrubby (bramble) field layer which included small scattered areas of forb-rich grassland
2	Small plateau in the southern most bank. Forb rich, semi-improved acid grassland with high percentage of bare earth
3	Dry, wide, bramble-scrub-dominated ditch running parallel to the northern boundary wall and ivy 'hedge'
4	Small accumulation of soil and hardcore
5	Heavily parched, semi-improved acid grassland dominated by areas of bare soil
6	Small area of heavily parched Juncus-dominated acid grassland
7	Area of excavation and dumped rocks/boulders and a small amount of other waste
8	Heavily parched plateau along the western edge of the site. Semi-improved acid grassland dominated by bare earth with a degree of encroaching, sprawling bramble scrub.
9	Defunct hedge along the road to the west of the site – dominated by elder with examples of hawthorn, blackthorn and buddleia with a bramble dominated field layer
10	Embankment running along the western edge of the track running into the site. Dominated by buddleia scrub.
11	Area of numerous man-hole covers

Table 4: Floral Species List

Common Name	Scientific Name	TN1	TN2, 5 7&8	TN3	TN6	TN9	TN10
Birch	<i>Betula pendula</i>	A	F/LA	C/LA			R
Blackthorn	<i>Prunus spinosa</i>					R	
Buddleia	<i>Buddleia davidii</i>	O	O	F	R	O	A
Dog rose	<i>Rosa canina</i>				O		
Elder	<i>Sambucus nigra</i>					F	
Gorse	<i>Ulex europaeus</i>	R	R	O	R		R
Hawthorn	<i>Crataegus monogyna</i>					O	
Goat willow	<i>Salix caprea</i>	C/LA	O	F		O	
Grey willow	<i>Salix cinerea</i>	C/LA	O				
Bent	<i>Agrostis capillaris</i>	F	O		C		C
Crested dog's tail	<i>Cynosurus cristatus</i>	F					O
Fescue	<i>Festuca rubra</i>	O	R		O		
Hard rush	<i>Juncus inflexus</i>				O		
Soft rush	<i>Juncus effusus</i>		R		A		F
Yorkshire fog	<i>Holcus lanatus</i>	F	O		A		F
Ornamental grass	<i>nk</i>	R					R
Barren strawberry	<i>Potentilla sterilis</i>	F					
Bittercress	<i>Cardamine sp</i>	O	O		O		O
Bracken	<i>Pteridium aquilinum</i>			C		R	
Bramble	<i>Rubus fruticosus</i>	F	F	D	R	LD	O
Broad leaf dock	<i>Rumex obtusifolius</i>				R		
Cats ear	<i>Hypochaeris radicata</i>				O		
Cleavers	<i>Galium aparine</i>					R/LA	

Clover	<i>Trifolium sp</i>	R		R		
Club moss	<i>Lycopodiopsida</i>	F/LA	F		C	
Coltsfoot	<i>Tussilago farfara</i>					R/LC
Creeping buttercup	<i>Ranunculus repens</i>	R		R		
Creeping cinquefoil	<i>Potentilla reptans</i>			O		
Creeping thistle	<i>Cirsium arvense</i>			O		
Curled dock	<i>Rumex crispus</i>	O	R	R		R
Dandelion	<i>Taraxacum officinale</i>	R	O	O	O	O
Dove's foot cranesbill	<i>Geranium molle</i>	O		O		
Fern	<i>Athyrium filix-femina</i>					R
Fleabane	<i>Erigeron sp</i>		O			O
Foxglove	<i>Digitalis purpurea</i>			O		
Herb robert	<i>Geranium robertianum</i>			R		
Ivy	<i>Hedera helix</i>			C/LD	LA	
Ribwort plantain	<i>Plantago lanceolata</i>	R	O	C		
Rosebay willowherb	<i>Chamaenerion angustifolium</i>	R	O/LA			A
Scarlet pimpernel	<i>Anagallis arvensis</i>			O/LC		
Spiked sedge	<i>Carex spicata</i>			O/LC		
Sphagnum moss	<i>Sphagnum sp</i>	O/LC		A		A
Vetch	<i>Vicia satvia</i>	R		O		

Common Name	Scientific Name	Notes
Rabbit	<i>Oryctolagus cuniculus</i>	Droppings and heavily cropped grass but no burrows
Blackbird	<i>Turdus merula</i>	3 showing nesting behaviour – NE shrubs
Buzzard	<i>Buteo buto</i>	3 sighted together overhead
Dunnock	<i>Prunella modularis</i>	1 in E scrub
House sparrow	<i>Passer domesticus</i>	3 in NE shrubs
Magpie	<i>Pica pica</i>	1 overflying
Red kite	<i>Milvus milvus</i>	3 individual sightings overhead
Robin	<i>Erithacus rubecula</i>	Several in surrounding shrubs
Wood pigeon	<i>Columba palumbus</i>	Several in surrounding trees
Wren	<i>Troglodytes troglodytes</i>	2 sightings E scrub
Brimstone	<i>Gonepteryx rhamni</i>	1 sighting
Red Admiral	<i>Vanessa atalanta</i>	3 sightings
Comma	<i>Polygonia c-album</i>	4 sightings

APPENDIX 3: Photographs of the Site



Plate 1: Target Note 1 - Steep southern bank



Plate 2: Target Note 2 - Small plateau in the southern bank



Plate 3: Target Note 3 - Bramble-scrub dominated, wide, dry ditch.



Plate 4: Target Note 4 - small accumulation of spoil



Plate 5: Target Note 5 - Heavily parched bare earth dominated semi-improved acid grassland



Plate 6: Target Note 6 - Juncus dominated semi-improved acid grassland



Plate 7: Target Note 7 - area of large rubble deposited onto excavated land



Plate 8: Target Note 8: Northern most plateau - bare earth dominated Semi-improved acid grassland with sprawling bramble scrub encroachment from hedge



Plate 9: Target Note 9 - Hedge along northern boundary



Plate 10: Target Note 10 - bank to the north of the access track into the PDS from the west



Plate 11: Target Note 11 - area of numerous man-hole covers