

Preliminary Ecological Appraisal & Preliminary Roost Assessment for Bats

for

Land off Heolgerrig, Merthyr Tydfil



Project data

Client	Siobhan Mahoney
Project reference	149 Land off Heolgerrig, Merthyr Tydfil
Report title	Preliminary Ecological Appraisal
File reference	149 PEA report FINAL V4.docx
Team leader	Diana Clark MSc MCIEEM

Revision tracking

	Name	Version	Date
Author	Diana Clark	149 PEA report DRAFT 1.docx	29/11/2021
Reviewed	Siân Musgrave	149 PEA report DRAFT 1 SMQA.docx	02/12/2021
Revised	Diana Clark	149 PEA report DRAFT 2.docx	14/12/2021
Reviewed	Siobhan Lynch	Comments via email/phone	17/12/2021
Revised	Diana Clark	149 PEA report FINAL.docx	17/12/2021
Reviewed	NRW	Comments via letter	22/02/2022
Reviewed	Matt Davies	Comments via memo	23/02/2022
Revised	Diana Clark	149 PEA report FINAL V2.docx	04/04/2022
Reviewed	Matt Davies	Comments via email	07/04/2022
Revised	Diana Clark	149 PEA report FINAL V3.docx	07/04/2022
Reviewed	Matt Davies	Comments via memo	13/04/2022
Revised	Diana Clark	149 PEA report FINAL V4.docx	26/04/2022



**Koru
Ecology
Associates**

Koru Ecology Associates
Killay, Swansea
07591 504840

koruecologyassociates@gmail.com

Contents

1	SUMMARY	1
1.1	SITE ASSESSMENT	1
1.2	RECOMMENDATIONS	1
2	INTRODUCTION	2
2.1	THE PROPOSED DEVELOPMENT	2
2.2	STUDY AIMS	3
3	METHODOLOGY	4
3.1	STUDY SCOPE	4
3.2	SURVEYOR QUALIFICATIONS AND EXPERIENCE	4
3.3	STUDY LIMITATIONS	5
3.4	DESK STUDY	5
3.5	PHASE 1 HABITAT SURVEY	6
3.6	ASSESSMENT OF PROTECTED/NOTABLE SPECIES POTENTIAL	6
3.7	PRELIMINARY ROOST ASSESSMENT FOR BATS	7
4	RESULTS	8
4.1	DESIGNATED SITES	8
4.2	NOTABLE SPECIES RECORDS	9
4.3	SITE CONTEXT	9
4.4	HABITATS	10
4.5	PRELIMINARY ROOST ASSESSMENT OF WILLOW TREE	13
4.6	PROTECTED/NOTABLE SPECIES	14
5	ASSESSMENT	16
5.1	PLANNING POLICY CONTEXT	16
5.2	IMPACTS ON CWM GLO A GLYNDYRYS SSSI	19
5.3	IMPACTS ON SITES OF IMPORTANCE FOR NATURE CONSERVATION	20
5.4	BUGLIFE B-LINES	20
5.5	IMPACTS ON HABITATS	20
5.6	IMPACTS ON PROTECTED/NOTABLE SPECIES	21
5.7	ENHANCEMENTS	26
5.8	SUMMARY ASSESSMENT	26
6	RECOMMENDATIONS	27
6.1	PLAN OF PROPOSED PLANTING SCHEME	27
6.2	PLAN OF PROPOSED BAT AND BIRD BOX LOCATIONS	27
6.3	LIGHTING	28
6.4	PROVISION OF A NON-LICENSED METHOD STATEMENT	28
6.5	ONGOING GRAZING OF THE SITE	28
6.6	REPEAT SURVEYS	28
7	REFERENCES	29
	APPENDIX 1	30

NON-LICENSED METHOD STATEMENT	30
APPENDIX 2	33
PROPOSED SITE PLAN WITH ECOLOGY ANNOTATIONS	33
APPENDIX 3	34
PROPOSED ELEVATION DRAWINGS WITH ECOLOGY ANNOTATIONS	34

1 Summary

1.1 Site Assessment

1.1.1 A Preliminary Ecological Appraisal (PEA) – including a desk study, Phase 1 Habitat survey and assessment for protected/notable species suitability – has been completed for an area of land off Heolgerrig, Merthyr Tydfil, in relation to the proposed construction of a new dwelling.

1.1.2 A number of potential ecological features have been identified in relation to the development proposals, and include the following:

1. One nationally designated site and four Sites of Importance for Nature Conservation (SINCs).
2. Areas of semi-improved neutral grassland, scrub and mature trees.
3. Habitat with suitability for low numbers of reptile and amphibian species, together with small mammals including hedgehogs.
4. Habitat with suitability for foraging/commuting bats and badgers.
5. Habitat with suitability for foraging/nesting birds.
6. Habitat suitable for a range of invertebrate species.

1.1.3 A Preliminary Roost Assessment of an individual tree has also been completed in relation to suitability for roosting bats.

1.2 Recommendations

1.2.1 A number of recommendations are given in the report in order to keep potential impacts on habitat and species receptors to a minimum and ensure net benefit for biodiversity. These are given within Section 6 and Appendix 1 of this report.

1.2.2 Repeat surveys are recommended if a period of more than two years elapses between the date of this survey and commencement of the works.

2 Introduction

2.1 The Proposed Development

- 2.1.1 Koru Ecology Associates was commissioned in July 2021 by Siobhan Mahoney (“the Applicant”) to complete a Preliminary Ecological Appraisal (PEA) of land off Heolgerrig, Merthyr Tydfil (“the Site”).
- 2.1.2 The Site is centred on approximate National Grid Reference SO027057, and its location is shown in Figure 1 below.

Figure 1. Site location.



- 2.1.3 This report has been prepared as part of a planning application to Merthyr Tydfil County Borough Council for the construction of a five-bedroom property together with an associated detached double garage and driveway.

2.2 Study Aims

- 2.2.1 This report considers the potential impacts of the proposed development on ecological features identified within the Site, and/or its surroundings. The report details the methodology (Section 3) and results (Section 4) of the survey, describing features of ecological value found to be present, and impacts that may occur (Section 5). The report also gives recommendations for actions that should be undertaken by the Applicant to help minimise development impacts, as well as result in net benefit to biodiversity (Section 6).

3 Methodology

3.1 Study Scope

3.1.1 Koru Ecology Associates was commissioned by the Applicant in July 2021 to complete a PEA of the Site, based on standard methods set out by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017). This included the following:

1. **Desk-based study.** Written consultation with consultees, together with interrogation of online databases, to identify statutory and non-statutory designated sites of nature conservation importance, as well as records of protected and/or notable species.
2. **Phase 1 Habitat Survey.** To record the nature and extent of vegetation and habitats within and immediately adjacent to the Site.
3. Identification and/or assessment of potential for protected/otherwise notable flora and fauna that may require **further species-specific surveys**, together with any requirements for mitigation or potential mitigation.
4. Identification of **opportunities for ecological enhancement**.

3.1.2 A more detailed description of tasks 1 – 3 is provided in Sections 3.4 – 3.6 below.

3.1.3 A **Preliminary Roost Assessment (PRA)** of a single tree in relation to bat roost suitability was also completed. A more detailed description of this is given in Section 3.7 below.

3.2 Surveyor Qualifications and Experience

3.2.1 Diana Clark MSc MCIEEM led all survey work and wrote this report. Diana has worked as a consultant ecologist since 2003 and holds two degrees in related disciplines. She is also a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), and Koru Ecology Associates is a CIEEM Registered Practice. She holds a Science, Education and Conservation licence from Natural Resources Wales (NRW) with respect to bats (licence number is S088381/1).

3.2.2 Diana was assisted during the Preliminary Roost Assessment by Kate Davies MRes. Kate has worked as a consultant ecologist for seven years and holds two degrees in

related disciplines. Kate also holds an NRW Science, Education and Conservation licence with regards to bats (licence number S089117/1).

- 3.2.3 This report has been subject to technical review by Siân Musgrave BSc (Hons) MCIEEM. Siân has worked in nature conservation and land management since 1989 and as a consultant ecologist since 2008 and is a full member of CIEEM.

3.3 Study Limitations

- 3.3.1 Every effort was made during the field visit to complete a comprehensive survey and produce a detailed description of the Site. However, no investigation can ensure the complete characterisation and prediction of the environment 100% of the time. Natural and semi-natural habitats change over time, and thus results given in this report may become less reliable in the future. Repeat surveys are usually recommended if a significant period of time elapses between when surveys were completed and when works commence. Further details are given in Section 6 of this report.
- 3.3.2 No significant constraints were noted in relation to this project. Where minor constraints occurred, these are described within the relevant methodology and/or results sections of this report.

3.4 Desk Study

- 3.4.1 Records of protected and/or otherwise notable species within 1km of the Site were requested from the South East Wales Biodiversity Records Centre (SEWBReC) late September 2021 (reference number 0212-541). Records of designated sites within the same search area were requested at the same time.
- 3.4.2 Further details in relation to any designated sites identified were sought via the Joint Nature Conservancy Council (JNCC) website (www.jncc.defra.gov.uk), the Natural Resources Wales (NRW) website (www.naturalresourceswales.gov.uk) and the Merthyr Tydfil County Borough Council (MCBC) Replacement Local Development Plan (MCBC 2020) where necessary.

3.5 Phase 1 Habitat Survey

- 3.5.1 Diana Clark MSc MCIEEM conducted a Phase 1 Habitat Survey of the Site on the 18th August 2021. Vegetation types and habitats present were described and mapped during a walkover of the Site, based on standard published guidelines for Phase 1 Habitat Survey (JNCC, 2010). Features of particular interest were recorded as Target Notes (TNs).

3.6 Assessment of Protected/Notable Species Potential

- 3.6.1 In addition, the habitats within the Site were appraised for their suitability to support protected or notable species, or assemblages that could be sensitive to the proposed development, in accordance with 'Guidelines for Baseline Ecological Assessment' (IEA, 1995).
- 3.6.2 The protected and notable habitats and species referred to above include those listed under the Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species Regulations 2017 (as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019); and Species and Habitats of Principal Importance in England/Wales – currently listed under the Natural Environment and Rural Communities (NERC) Act 2006 but also endorsed by the Environment (Wales) Act 2016 (see Section 5 for more information).
- 3.6.3 During the survey, consideration was given to features such as potential breeding bird habitat, bat roosting locations, reptile habitat and the suitability of other features for protected/otherwise notable species. Exotic and invasive species (e.g. Japanese knotweed *Reynoutria japonica*, Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*) were noted by the surveyor, if present.
- 3.6.4 The survey approach taken is designed to identify broad habitat types and the potential of these habitats to support notable/protected species, thereby providing an overview of the ecological interest at a site. It is the most widely used and professionally recognised method for initial ecological site appraisal.

3.7 Preliminary Roost Assessment for Bats

- 3.7.1 Following completion of the PEA, a single tree was identified on the Site with features that could potentially support roosting bats (see Section 4 for more details). A Preliminary Roost Assessment (PRA) of the tree was completed by Diana Clark and Kate Davies on the 24th August 2021, and included a detailed inspection of all identified features with the help of a ladder, torch and endoscope where required.
- 3.7.2 During the inspection, signs indicating the presence of bats or a bat roost were searched for, including droppings, condition of the feature and the presence of bats themselves. Any evidence identified was recorded as appropriate.

4 Results

4.1 Designated Sites

- 4.1.1 One nationally designated site, Cwm Glo a Glyndyrys Site of Special Scientific Interest (SSSI), was identified within the desk study search area.
- 4.1.2 Four locally designated Sites of Importance for Nature Conservation (SINCs) were also identified within the desk study search area, including Winchfawr West, Winchfawr East & Clwydyfagwyr, Cwm Glo and Blaen-canaid.
- 4.1.3 A summary of each designated site is given in Table 1 below.

Table 1. Summary of designated sites.

Site name	Approximate distance	Habitats present / reasons for designation
Cwm Glo a Glyndyrys SSSI	30m	Marshy grassland, species-rich neutral grassland and acid grassland, woodland and heath. Great crested newts recorded.
Cwm Glo SINC	Adjacent to Site	Marshy grassland, species-rich neutral grassland and acid grassland, woodland and heath. Marsh fritillary and great crested newt recorded.
Winchfawr West SINC	16m	Upland habitats, mosaic of moorland and ffridd habitats including heathland, marshy grassland and unimproved acid grassland. Ponds present support small population of great crested newts and there is diverse waxcap fungi present.
Winchfawr East & Clwydyfagwyr SINC	680m	Semi-upland area with mosaic of dry heathland and acid grassland, marshy grassland, acid flushes and neutral grassland.
Blaen-canaid SINC	940m	Species-rich semi-improved neutral grassland, acid and marshy grassland, scrub and hedgerows, alongside conifer plantation.

- 4.1.4 In addition, one area of ancient semi-natural woodland was identified approximately 500m away, and the Site is located within a B-line area (designated by the Buglife B-line project).
- 4.1.5 The Site is also close to a NRW Priority Area (heathland and grassland). NRW Priority Areas are large scale areas which are prioritised for targeted conservation work, based on factors which include the habitats within them.

4.2 Notable Species Records

- 4.2.1 Due to confidentiality requirements of the biological records centre, a copy of the full desk study report is not included here. However, a summary of the most relevant records is given in Table 1 below and within the following paragraphs.

Table 2. Summary of Notable Species Records.

Common name	Scientific name	Conservation status*
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	EPS
Brown long-eared bat	<i>Plecotus auritus</i>	EPS
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>	EPS
Badger	<i>Meles meles</i>	PBA
Water vole	<i>Arvicola amphibius</i>	WCA5
Hedgehog	<i>Erinaceus europaeus</i>	Section 7
Great crested newt	<i>Triturus cristatus</i>	EPS
Palmate newt	<i>Lissotriton helveticus</i>	WCA5
Common frog	<i>Rana temporaria</i>	WCA5
Common toad	<i>Bufo bufo</i>	WCA5
Grass snake	<i>Natrix helvetica</i>	WCA5

Key:

EPS = European Protected Species (listed in Annex 4 of the EC Habitats Regulations and Schedule 2 of the Habitats Regulations).

WCA5 = Animals listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Section 7 = Species of Principle Importance under the Environment (Wales) Act 2016.

PBA = Protection of Badgers Act 1992.

* The highest level of protection is noted here.

- 4.2.2 In addition, records of 49 notable bird species (including 18 Section 7 species and 8 protected under Section 1 of the Wildlife and Countryside Act) and 44 notable invertebrate species (including 3 beetle species, 7 butterfly species, 4 dragonfly species, 2 bee species, 26 moth species and 2 fly species (27 of which are Section 7 species)) were noted. In addition, 45 notable plant species were highlighted, including 1 club moss species, 2 fern species, 23 flowering plant species, 11 fungi, 1 lichen and 7 bryophytes.

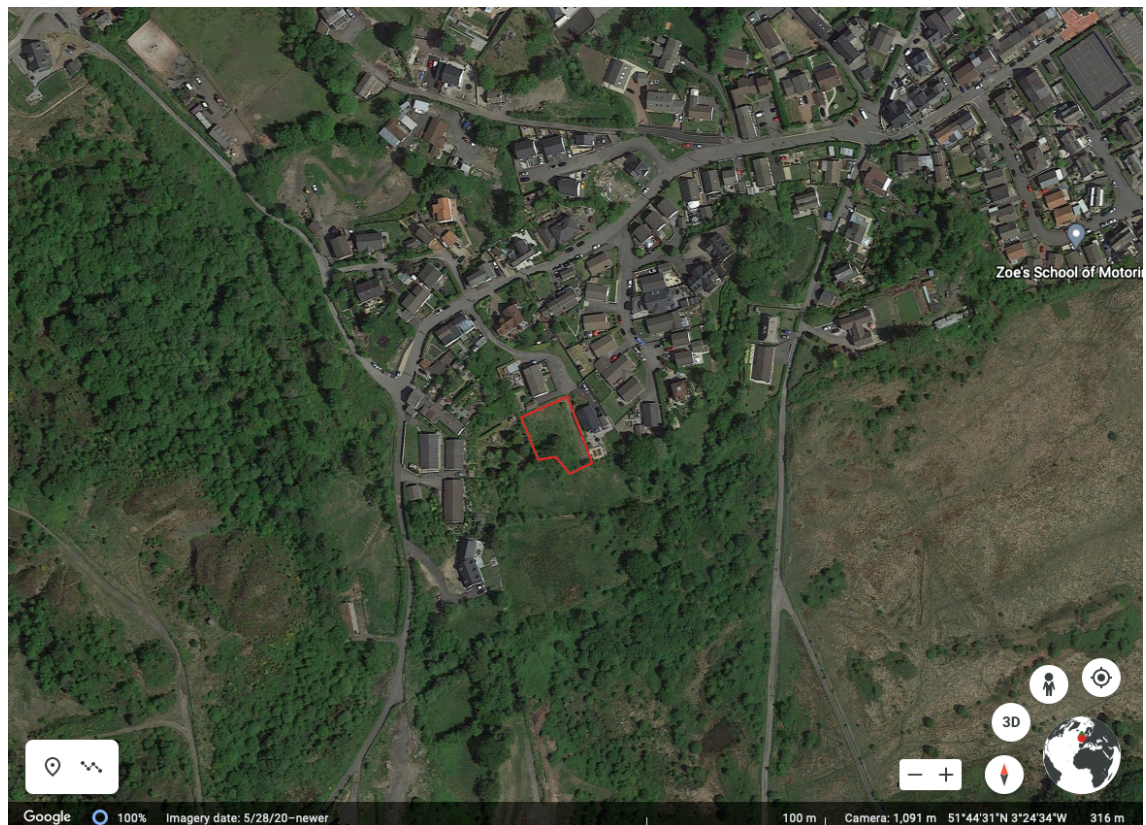
4.3 Site Context

- 4.3.1 The Site is located on the western edge of the town of Merthyr Tydfil, within an area known as Heolgerrig. The Site is surrounded to the west, north and east by existing

housing development and associated road infrastructure, whilst to the south are several small grassy paddocks and wider open landscape further afield.

4.3.2 The Site context is shown in Figure 2 below.

Figure 2. Site context.



4.4 Habitats

4.4.1 The habitat types recorded during the Phase 1 Habitat Survey of the Site itself are described within the following paragraphs. Scientific names are given after the first mention of a species; thereafter, common names are used. Target notes are shown in Figure 3, nomenclature follows Stace (2019) for vascular plant species.

4.4.2 The majority of the Site comprises semi-improved grassland (see Figures 4, 5 and 6 below), with some areas of scattered scrub, some dense scrub (largely to the south east) and a single mature grey willow *Salix cinerea* tree (TN1). The Site has been (and continues to be) grazed by horses, although none were present on the Site during the survey.

Figure 3. Phase 1 Habitat map.



Figure 4. Semi-improved grassland & scattered scrub, looking south-west.



Figure 5. Semi-improved grassland & scattered scrub, looking north-east.



4.4.3

Grassy species include Yorkshire-fog *Holcus lanatus* (dominant in shady areas towards the southern edge of the Site), rye grass *Lolium perenne*, crested dog's-tail *Cynosaurus cristatus*, bent grass *Agrostis* sp. false oat-grass *Arrhenatherum elatius*, and annual meadow-grass *Poa annua* (particularly in trampled areas close to the gate and track

along the eastern edge). Several small patches of soft rush *Juncus effusus* were noted, alongside occasional sharp-flowered rush *J. acutiflorus* and a small amount of carnation sedge *Carex panacea* in one area.

- 4.4.4 Forb species include ribwort plantain *Plantago lanceolata*, greater plantain *P. major*, red clover *Trifolium pratense*, white clover *T. repens*, lesser trefoil *T. dubium*, dandelion *Taraxacum* sp., self-heal *Prunella vulgaris*, autumn hawkbit *Scorzonoides autumnalis*, pineappleweed *Matricaria discoidea*, creeping buttercup *Ranunculus repens*, meadow buttercup *R. acris*, broad-leaved dock *Rumex obtusifolius*, daisy *Bellis perennis*, wild carrot *Daucus carota* ssp *carota*, spear thistle *Cirsium vulgare*, creeping thistle *C. arvense*, common ragwort *Jacobaea vulgaris*, broad-leaved willowherb *Epilobium montanum*, common knapweed *Centaurea nigra*, tufted vetch *Vicia cracca*, common bird's-foot trefoil *Lotus corniculatus*, horsetail *Equisetum* sp., fox-and-cubs *Pilosella aurantiaca*, devil's bit scabious *Succisa pratensis* (c. six plants in one very small area), common nettle *Urtica dioica* and yarrow *Achillea millefolium*.



- 4.4.5 Scrubby species are largely confined to the edges of the Site, particularly to the south and include bramble *Rubus fruticosus*, rose *Rosa* sp., grey willow, holly *Ilex aquifolium*, elder *Sambucus nigra* and hawthorn *Crataegus monogyna*. Birch *Betula pendula*, alder *Alnus glutinosa* and hazel *Corylus avellana* saplings were also noted in places.
- 4.4.6 A single mature grey willow tree is present at Target note 1 (see Figures 3 and 7 above).

- 4.4.7 Two sections of intact hedge were noted, including a cultivated evergreen clipped hedge along the eastern boundary, and a short section of hedge to the south, largely hawthorn. The south west boundary also has larger scrubby species along it, indicating that it is formed partly from a historical hedge that is no longer managed as such.

4.5 Preliminary Roost Assessment of willow tree

- 4.5.1 Two hazard beams and one transverse snap were identified associated with the willow tree (see Figures 8, 9 and 10 below). A further feature at the base of the tree was also noted, where a branch has partially detached itself from the main stem (see Figure 11 below).
- 4.5.2 No signs of bats were noted in any of the features, however all features have some suitability for bats and future colonisation by this species group cannot be ruled out.



Figure 10. Transverse snap on willow tree.	Figure 11. Feature at base of willow tree.
	

4.6 Protected/Notable Species

- 4.6.1 There is potential for several protected / notable species / species groups to be present on the Site or close by, these are summarised in Table 3 below.
- 4.6.2 A more detailed assessment of the potential for each species and / or species group to be present is given in Section 5 of this report, together with an assessment of likely impacts of the development proposals.

Table 3. Protected/Notable Species Summary.

Species	Notes
Bats	Records of common pipistrelle, brown long-eared and lesser horseshoe were highlighted by the desk study. The Site forms a very small part of a wider landscape of good quality foraging habitat for bats. A single tree on the Site has the potential for roosting bats, although no signs indicating their presence were noted during the PRA.
Otter	No records of otter were highlighted by the desk study, and there is limited potential for otters to be using the Site, although it is possible that otters may pass through the Site on occasion. This species is not considered further here.
Water vole	Water voles have been recorded around 100m to the south of the Site, presumably associated with waterbodies / watercourses on the SSSI. No suitable aquatic habitat is present on the Site, which is also located a considerable distance from other waterbodies. Water voles are therefore considered likely to be absent from the Site and are not considered further here.
Amphibians	Records of palmate newts, great crested newts, frogs and toads were highlighted by the desk study. There is some limited suitable terrestrial habitat on the Site for all of these amphibian species.
Reptiles	Records of grass snake were highlighted by the desk study. The habitat associated with the Site has some suitability for low numbers of common reptile species, including grass snake, common lizard <i>Zootoca vivipara</i> and slow worm <i>Anguis fragilis</i> .
Breeding birds	A good number of notable bird species were highlighted by the desk study. There is suitable habitat for breeding and foraging birds associated with the trees and scrub on the Site, though this is likely to be limited to common passerines and song birds.
Badger	Several records of badgers were highlighted by the desk study. No evidence of badgers was noted on the Site during the survey, however suitable habitat for this species is present.
Hedgehog	Records of hedgehog were identified by the desk study, and suitable habitat for this species is present on the Site.
Invertebrates	Records of a number of notable invertebrate species were highlighted by the desk study. A reasonable range of invertebrates is likely to be associated with Site, and a small number of the food plant for marsh fritillary butterflies were noted on the Site.
Plants	Records of a number of notable plant species were highlighted by the desk study. A few plants (c. 6) of devil's-bit scabious were noted during the survey.

5 Assessment

5.1 Planning Policy Context

5.1.1 Planning Policy Wales (PPW) (11th Edition, February 2021) is the national planning document setting out the devolved planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs) and Circulars. Of particular importance is TAN 5 (Welsh Assembly Government 2009), which provides national policy guidance in respect of nature conservation and planning.

5.1.2 PPW, the TANs and Circulars should all be taken into account by local planning authorities in Wales when preparing development plans and assessing planning applications. Those of most relevance are discussed further below.

TAN5: Nature Conservation and Planning

5.1.3 TAN 5 Nature Conservation and Planning sets out the manner in which planning authorities should comply with their duty to “...have a regard, so far as is consistent with the proper exercise of [their] functions, to the purpose of conserving biodiversity”, as required by the NERC Act.

5.1.4 The key principles of positive planning for nature conservation in TAN 5 are:

1. Work to achieve nature conservation objectives through a partnership between local planning authorities, Countryside Council for Wales (CCW), the Environment Agency (EA) Wales (CCW and EA Wales are now collectively Natural Resources Wales (NRW)), voluntary organisations, developers, landowners and other key stakeholders;
2. Integrate nature conservation into all planning decisions looking for development to deliver social, economic and environmental objectives together over time.
3. Ensure that the United Kingdom’s (UK) international and national obligations for site, species and habitat protection are fully met in all planning decisions;
4. Look for development to provide net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally;

5. Help to ensure that development does not damage, or restrict access to, or the study of, geological sites and features or impede the evolution of natural processes and systems especially on rivers and the coast;
6. Forge and strengthen links between the town and country planning system and biodiversity action planning particularly through policies in local development plans and the preparation of supplementary planning guidance that adds value to Local Biodiversity Action Plans (LBAP) by highlighting the ways in which the planning system can help to deliver the objectives of LBAPs in practical ways;
7. Plan to accommodate and reduce the effects of climate change by encouraging development that will reduce damaging emissions and energy consumption and that helps habitats and species to adapt to climate change.

Local Policy Context

- 5.1.5 Merthyr Tydfil County Borough Council (MTCBC) Replacement Local Development Plan 2016-2031 (MTCBC, 2020), was adopted in January 2020 and provides a framework for the sustainable development of the Merthyr Tydfil County Borough area up until 2031.
- 5.1.6 Of key importance to ecology, are the following objectives and policies:
1. **LDP Objective 10 – Biodiversity**, which is *‘to improve ecosystem resilience and connectivity which support habitats and species of principle importance.’*
 2. **Policy EnW1 – Nature Conservation and Ecosystem Resilience**, which states *‘development proposals will be required to promote the resilience of ecosystems. In particular, proposals will be required to maintain and enhance biodiversity interests unless it can be demonstrated that:*
 1. *The need for the development clearly outweighs the biodiversity value of the site; and*
 2. *The impacts of the development can be satisfactorily mitigated and acceptably managed through future management regimes.’*
 3. **Policy EnW2: Internationally and Nationally Protected Sites and Species**, which states *‘development likely to have an adverse effect either directly or indirectly on the conservation value of an internationally or nationally designated site, including the area,*

structure and function of designated features, will only be permitted where it is demonstrated that:

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

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

- 1. The population size, range, distribution and long-term prospects of the species will not be significantly adversely impacted;*
- 2. There is no suitable alternative to the proposed development;*
- 3. The benefits of the development clearly outweigh the adverse impacts on the protected species; and*
- 4. Appropriate, avoidance, minimisation, mitigation, compensation and enhancement measures are provided.'*

- 4. Policy EnW3: Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves and Priority Habitats and Species,** which states '*development proposals likely to have an adverse impact on Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves, or Priority Habitats and Species will only be permitted where it can be demonstrated that:*

- 1. The need for the development clearly outweighs the conservation value of the site;*
- 2. Adverse impacts on nature conservation features or geological features can be avoided;*
- 3. Appropriate and proportionate mitigation and compensation measures can be provided;*
and
- 4. The development maintains and where possible enhances biodiversity and geodiversity interests.'*

The Environment (Wales) Act 2016

5.1.7 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions (Biodiversity and Resilience of Ecosystems Duty, or Section 6 Duty). 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:

1. Diversity between and within ecosystems
2. The connections between and within ecosystems;
3. the scale of ecosystems;
4. the condition of ecosystems including their structure and functioning; and
5. the adaptability of ecosystems.

5.1.8 In fulfilling this duty, the Environment Act (Wales) 2016 requires public authorities to seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales. Public authorities must have regard to a list of living organisms and types of habitat which in their opinion are of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. This list must be prepared and published by the Welsh Ministers under Section 7 (1) of the same Act. Until this list has been published, the list of Habitats and Species of Principal Importance previously published under Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006, should be used.

5.2 Impacts on Cwm Glo a Glyndyrys SSSI

5.2.1 The proposed development is located approximately 30m from Cwm Glo a Glyndyrys SSSI, which is located to the south of the Site. Due to the distance (no direct land take or adjacent land take effects) small size (0.1ha) and nature of the development proposals (single dwelling), impacts on the SSSI are considered unlikely.

5.2.2 Several (approximately six) individual devil's-bit scabious plant were noted on the Site, close to the gated entrance and clustered together within an area of approximately 1m². This species is the food-plant of the marsh fritillary butterfly, which provides an important quality element of the notified marshy grassland feature of the nearby SSSI. These plants will be lost as a result of the development proposals, however given the

low number of plants present on the Site this is considered unlikely to negatively impact on a) the local marsh fritillary population and b) the quality of the nearby SSSI.

- 5.2.3 In addition, we note that great crested newts have been recorded within the SSSI. Impacts on these species are addressed in more detail later in Section 5.6 of this report.

5.3 Impacts on Sites of Importance for Nature Conservation

- 5.3.1 The Site is located adjacent to Cwm Glo SINC and very close (16m) to Winchfawr West SINC. Two further SINC, Blaen-canaid SINC and Winchfawr East & Clwydyfagwyr SINC, are located 940m and 680m away respectively.

- 5.3.2 Impacts of the development proposals on Blaen-canaid SINC and Winchfawr East & Clwydyfagwyr SINC are considered unlikely due to the size / nature of the development proposals, and their distance from the Site.

- 5.3.3 Impacts of the development proposals on Cwm Glo SINC and Winchfawr West SINC are considered likely to be limited, largely due to the lack of any direct land take within the proposals. However, it is acknowledged that an 'edge effect' may occur, therefore a suitable buffer area between the proposed development and the SINC will be put into place. This is discussed further in Section 6 of this report.

- 5.3.4 In addition, the presence of great crested newts is also highlighted within the SINC descriptions. Again, impacts on this species are addressed in more detail later in Section 5.6 of this report.

5.4 Buglife B-Lines

- 5.4.1 The Site falls within the Buglife B-Lines project area. There is an opportunity for the development proposals to provide habitat improvements of benefit to pollinators and other invertebrate species. This is discussed further in Section 6 of this report.

5.5 Impacts on Habitats

- 5.5.1 The habitats on the Site largely comprise unremarkable semi-improved neutral grassland, dense and scattered scrub. A semi-mature willow tree is also present on the Site and it is understood that this will be lost as a result of the development.

Appropriate replacement of this tree is recommended, this is discussed further in Section 6 of this report.

- 5.5.2 Due to the presence of a SINC immediately adjacent to the Site, along with the presence of a great crested newt population nearby, appropriate recommendations have been made in relation to a) retention of existing scrub/boundary feature habitat where possible, b) appropriate precautions taken during site strip/tree felling, c) buffer planting between the SINC and the southern end of the Site, and d) additional boundary planting in order to provide net benefit for biodiversity. These recommendations are discussed further in Section 6 of this report.

5.6 Impacts on Protected/Notable Species

Bats

- 5.6.1 Bats and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended), and by the Conservation of Habitats and Species Regulations 2017 (as amended). Taken together, these make it an offence to:
- a) Deliberately capture, injure or kill a bat;
 - b) Deliberately disturb any bat, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.
 - c) To be in possession or control of any live or dead bat or any part of, or anything derived from a bat.
 - d) Damage or destroy a breeding site or resting place of a bat;
 - e) Intentionally or recklessly obstruct access to any place that bat uses for shelter or protection;
 - f) Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
- 5.6.2 A bat roost may be any structure a bat uses for breeding, resting, shelter or protection. It is important to note that since bats tend to re-use the same roost sites, current legal opinion is that a bat roost is protected whether or not the bats are present at the time.

- 5.6.3 Eight species of bat are listed as Species of Principal Importance under NERC Act 2006/The Environment (Wales) Act 2016, including barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, noctule *Nyctalus noctula*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, brown long-eared *Plecotus auritus*, greater horseshoe *Rhinolophus ferrumequinum* and lesser horseshoe *R. hipposideros*.
- 5.6.4 Records of bats have been highlighted by the desk study, including common pipistrelle, brown long-eared and lesser horseshoe.
- 5.6.5 The Site is suitable for foraging and commuting bats, and links to wider open landscape to the south. Whilst much of the grassland on the site will be lost, links along the edges of the Site will remain. In addition, appropriate site-edge/buffer planting will ensure that connectivity is maintained, if not improved. Planting recommendations are discussed further in Section 6 of this report.
- 5.6.6 Due to the presence of light-avoiding species in the area, appropriate recommendations in relation to lighting are given in Section 6 of this report.
- 5.6.7 Due to the potential for roosting bats to colonise the willow tree (likely to be removed as part of the development), appropriate pre-commencement checks will be completed prior to felling. If the presence of roosting bats is discovered, appropriate licensing will be put into place. This is discussed further in Section 6 of this report.
- 5.6.8 Assuming all recommendations given are followed correctly, impacts on foraging, commuting and roosting bats are considered likely to be minimal. In addition, there may also be an opportunity for some enhancement measures for opportunities for roosting bats, which is also discussed in Section 6. Assuming these measures are followed, some positive impacts for bats are predicted.

Amphibians

- 5.6.9 Amphibians, including newts, frogs and toads are protected by various legislation, including the Wildlife and Countryside Act 1981 (as amended) and for great crested newt the Conservation of Habitats and Species Regulations 2017 (as amended).
- 5.6.10 In addition, great crested newt and common toad are listed as a Species of Principal Importance under the provisions of the NERC Act 2006/Environment (Wales) Act 2016.
- 5.6.11 Records of great crested and palmate newts, frogs and toads were highlighted by the desk study and limited suitable terrestrial habitat for these species is present on the Site.

- 5.6.12 Although the presence of GCN within the vicinity of the Site has been highlighted via the desk study (via specific records of the species within nearby ponds and via reference to the species within SSSI and SINC citations), this data is rather limited. Within 250m of the Site, four records exist, including two which relate to GCN eggs in ponds 155m and 224m away, dated 1994, and two which are located 166m and 222m away and have no further information about what kind of record they are, both dated 2001. The SSSI citation states '*great crested newts Triturus cristatus have been recorded in ponds on the site*' and the Winchfawr West SINC citation states '*numerous ponds are present supporting a small population of great crested newts*'. The Cwm Glo SINC citation states that the site supports great crested newts but gives no further information.
- 5.6.13 It is acknowledged that a population of great crested newts is likely to exist within ponds that are 150m+ from the Site, and there is suitable connecting habitat between these ponds and the Site. However, in order to assess the likely impacts of the development proposals on great crested newts, the following points should be taken into account:
1. No GCN breeding sites (ponds) will be disturbed, damaged or destroyed as a result of the proposals.
 2. No hibernacula or refugia suitable for great crested newts to use for shelter or protection or as a resting place were noted anywhere on the Site. No disturbance, obstruction to access, damage or destruction to such places will therefore occur as a result of the proposals.
 3. The majority of the Site is semi-improved grassland which is regularly grazed by horses and therefore provides little in the way of good quality foraging habitat for great crested newts.
 4. The area of dense scrub on the Site is limited in size and a strip along the southern boundary will be retained and enhanced with additional planting as part of the development proposals, as well as protected during construction (see Section 6 for details). The area of scrub that will be removed in order to facilitate the development amounts to less than 0.02ha, i.e. is very small and will not reduce connectivity within the landscape.
 5. The Site will be cleared under a non-licensed method statement (see Section 6), which includes precautions put into place to minimise the chances of killing and

injury of great crested newts. These include things like supervised hand cutting of vegetation and appropriate seasonal timing of this work (when GCN are most likely to be absent from the site), which would also minimise potential for disturbance.

- 5.6.14 Taking all the above points into account, it is considered that the proposals will not breach the Habitats Regulations and therefore a derogation licence from Natural Resources Wales is not required at this stage of the project. In addition the Favourable Conservation Status (FSC) of any nearby great crested newt population is unlikely to be compromised.
- 5.6.15 Assuming all recommendations made within Section 6 of this report and the accompanying non-licensed method statement are followed as stated, impacts on great crested newts and other amphibians are considered likely to be negligible.

Breeding Birds

- 5.6.16 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to intentionally or recklessly disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.
- 5.6.17 Records of a number of bird species were highlighted by the desk study, and areas of scrub and trees present on the Site may provide suitable nesting habitat for a range of common breeding birds, as well as good foraging opportunities. Appropriate precautions are therefore recommended in relation to removal of areas of scrub and the grey willow tree. There is also an opportunity to strengthen existing vegetation and provide appropriate planting that is of benefit to foraging and nesting birds, as well as for providing new nesting opportunities.
- 5.6.18 Both precautions and opportunities are set out further in Section 6 of this report. Assuming these recommendations are followed, impacts on nesting birds are likely to be negligible and may result in some improvement for this species group.

Reptiles

- 5.6.19 All native British reptiles are protected under the Wildlife and Countryside Act 1981 (as amended). Grass snake, slow worm, common lizard and adder are protected against

intentional killing or injury and against sale. In addition, all British reptiles are listed as Species of Principal Importance under the provisions of the NERC Act 2006/ Environment (Wales) Act 2016.

5.6.20 Records of grass snake were highlighted by the desk study, and there is some limited habitat present on the Site with suitability for this species, alongside other common species including common lizard and slow-worm. This largely includes habitats present on the edge of the Site that are less affected by grazing.

5.6.21 Retention of some existing habitat, together with appropriate recommendations in relation to site clearance works are given in Section 6 of this report, in order to minimise impacts on any reptiles that may be present. Assuming these recommendations are followed, impacts on reptiles are likely to be negligible.

Hedgehogs

5.6.22 Hedgehogs are listed as a Species of Principal Importance under the NERC Act 2006/ Environment (Wales) Act 2016.

5.6.23 Records of this species were highlighted by the desk study, and there is suitable habitat present on the Site for foraging hedgehogs. Appropriate precautions will be taken during site clearance works and are discussed further in Section 6 of this report. Assuming these precautions are followed, impacts on this species are considered likely to be negligible.

Badgers

5.6.24 Badgers are protected under the Badgers Act 1992. This makes it an offence to willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. Removal of significant areas of badger foraging habitat may also contravene the Act, as it could be regarded as cruelty.

5.6.25 Records of badger were highlighted by the desk study.

5.6.26 No evidence of any setts was noted during the survey, however the Site does have suitability for foraging and commuting badgers.

- 5.6.27 Appropriate precautions will be put into place just prior to site clearance and during construction in order to reduce potential impacts on badgers that may use the Site. These are discussed further in Section 6 of this report, and if followed correctly will ensure impacts on badgers are negligible.

Invertebrates

- 5.6.28 A number of invertebrate species records were highlighted by the desk study, including moths, butterflies and beetles. A reasonable range of invertebrates is likely to be present on the development Site.
- 5.6.29 Recommendations are given in Section 6 of this report in relation to appropriate planting that would support a range of invertebrate species.

5.7 Enhancements

- 5.7.1 Planning Policy Wales 11 states *'planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity'*.
- 5.7.2 A number of opportunities for enhancement have already been suggested in the paragraphs above and are detailed more fully in Section 6 of this report.

5.8 Summary Assessment

- 5.8.1 This Preliminary Ecological Appraisal has provided baseline ecological information describing the main characteristics of the proposed development site. An assessment of likely impacts has therefore been made for the majority of habitats, species and species groups, subject to a number of recommendations outlined in the following section.

6 Recommendations

6.1 Plan of proposed planting scheme

- 6.1.1 Details of all proposed new boundary planting and new buffer planting have been drawn up on a plan of the Site and have been submitted to the planning authority for approval as part of the scheme. Following consent, the planting/buffer plan will be carried out as stated.
- 6.1.2 The planting scheme includes a good range of native species likely to naturally be found within the vicinity of the Site, and aims to strengthen existing boundaries. Species have been chosen that provide foraging for birds and invertebrates at different times of the year.
- 6.1.3 The planting plan also shows the proposed location of temporary fencing during construction to protect retained habitat, as well as provision of replacement trees on a 3:1 basis, to address the loss of the mature willow tree.
- 6.1.4 The planting plan is supplied at Appendix 2.

6.2 Plan of proposed bat and bird box locations

- 6.2.1 In order to provide new opportunities for nesting birds and roosting bats, details of the location of proposed bat and bird boxes have been drawn up on the plan of the Site. The plan has been submitted to the planning authority for approval as part of the scheme, and following consent will be carried out as stated.
- 6.2.2 Bird and bat boxes will be built into the fabric of the new dwelling and are suitable for species that are likely to be found within the locality of the Site, and therefore would be most likely to use them. Two Ibstock Enclosed Bat Box (or similar), suitable for crevice-dwelling bats like pipistrelles, will therefore be installed as part of the scheme. In addition, two integral swift boxes will be installed in suitable locations. Swift boxes may be used by multiple species including swifts, house sparrows, tits and starlings, all of which are known to be in the vicinity of the Site (Newell, 2021).
- 6.2.3 The plan supplied at Appendix 2 shows the proposed location of bat and bird boxes. The elevation plans at Appendix 3 also show these locations.

6.3 Lighting

- 6.3.1 No external lighting is proposed as part of this scheme.

6.4 Provision of a non-licensed method statement

- 6.4.1 A non-licensed method statement in relation to site clearance works has been supplied at Appendix 1 and contains a number of measures with respect to a) pre-works checks in relation to bats and badgers, b) clearance of scrub and trees (in relation to nesting birds), c) site strip (in relation to amphibians, reptiles and small mammals), d) night-working (in relation to bats) and e) excavations (in relation to badgers and other animals).
- 6.4.2 Following consent, the works will be carried out in accordance with this method statement.

6.5 Ongoing grazing of the Site

- 6.5.1 It is important that the current regime of grazing be continued up until commencement of the works, in order to maintain the habitat as unsuitable as possible for amphibians, reptiles and hedgehogs. If that is not possible, any gaps in grazing will be addressed by managing the grassland at a low level by strimming or mowing to a height not less than 10cm.

6.6 Repeat Surveys

- 6.6.1 If the Site remains undeveloped for more than two years from the date of this survey, repeat survey work may be necessary, even if planning permission has already been granted. This is to ensure that no significant changes have taken place to the Site in the meantime, that impacts on protected species/habitats have remained the same, and that mitigation measures are still appropriate for the scheme. Any significant changes that may occur should be addressed appropriately if this happens.

7 References

Joint Nature Conservation Committee (2010) Handbook for Phase I Habitat Survey: A Technique for Environmental Audit. JNCC, Peterborough.

HMSO (1981) Wildlife and Countryside Act 1981 (as amended). London: HMSO.

HMSO (2017) The Conservation of Habitats and Species Regulations 2017. London: HMSO.

HMSO (2006) Natural Environment and Rural Communities Act 2006 (as amended). London: HMSO.

HMSO (2016) Environment (Wales) Act 2016. London: HMSO.

IEA (ed.) (1995) Guidelines for Baseline Ecological Assessment' (IEA, 1995). Institute of Environmental Assessment, UK.

Merthyr Tydfil County Borough Council (2020) Replacement Local Development Plan 2016-2031. MTCBC, Merthyr Tydfil.

Newell, D. (2021) Swift Bricks: The 'Universal' Nest Brick. Blog post on the CIEEM website, accessed 26th October 2021.

SEWBReC 2021 Records produced for Koru Ecology

Stace, C. (2019) New Flora of the British Isles (4th edition). Cambridge University Press, Cambridge.

Welsh Government (2021) Planning Policy Wales. Welsh Government, Cardiff.

Welsh Assembly Government (2009) Technical Advice Note 5: Nature Conservation and Planning. WAG, Cardiff.

Appendix 1

Non-licensed Method Statement

All clearance works on this site (including tree/scrub removal, soil strip etc) will be completed under this non-licensed method statement, and under the direct supervision of a suitably competent Ecological Clerk of Works (ECoW).

Any deviation from this method statement will only take place following consultation with the ECoW on site.

Task	Details
Pre-commencement check for badgers	Badgers are a mobile species and it is possible that setts may be created on the Site at any time between the date of this survey and commencement of the works. A pre-commencement check for badgers by an appropriately competent ecologist will therefore be completed. Should any signs of badgers be discovered, appropriate precautions as advised by the ecologist will be carried out. This may include a requirement to protect setts from the works by way of fencing and /or an exclusion zone, and /or sett closure under licence from NRW /Welsh Government.
Pre-commencement check for bats	Bats are also mobile species and may colonise the identified potential roost features within the willow tree in the future. All features will therefore be re-checked for signs of use by bats, immediately prior to commencement of the works. Should any roost be identified, felling will only proceed under a mitigation licence from NRW.
Avoidance of night working	All works will take place outside the hours of darkness, in order to keep impacts on foraging /commuting bats to a minimum.
Tree/scrub removal (above ground vegetation)	All necessary <u>above-ground</u> tree and scrub removal will be timed to avoid the bird nesting season, generally considered to be March – August inclusive, therefore as far as possible scrub removal will be completed between September and February. If that is not possible, the areas concerned will be checked by a suitably competent ecologist immediately prior to removal, and only cleared if no evidence of nesting birds is observed. Should any nesting birds be

	present, clearance will not proceed until the young have fledged the nest or if the nest becomes unviable. Timing tree/scrub removal for the winter months would also ensure this is carried out when great crested newts are unlikely to be active on the Site. Spring and early summer would also be suitable, i.e. when newts are breeding in ponds and use terrestrial habitat less, assuming precautions in relation to nesting birds described above are also taken.
Tree/scrub removal (stump & root removal)	Once the above-ground vegetation clearance has been completed, all stump and root removal works will be carried out outside the hibernation period for great crested newts, in order to reduce the risk to any potentially hibernating individuals in the ground. This means that this work will take place during mid-March to mid-October inclusive.
Fencing of retained habitat	All areas of retained trees and scrub will be fenced using Heras fencing (or similar), in order to prevent encroachment of construction vehicles during the works. Details of what habitat to be retained are supplied on the planting plan (see Section 6.1 above), which will be checked in conjunction with this method statement. Fencing will be retained intact and in situ for the duration of construction.
ECoW during soil strip and root removal	During soil stripping and root removal works, the ECoW will provide a watching brief and ensure careful stripping of the turf by the contractor. If any reptiles, amphibians and/or small mammals are found during the strip, these will be carefully removed and placed in areas of retained habitat on the far side of the fencing.
Unexpected discovery of GCN during site clearance	Should any great crested newts be discovered during site clearance, all works will stop immediately and the advice of the ECoW sought. No works will continue until either the ECoW is satisfied that breach of legislation is unlikely, or a mitigation licence from NRW is in place.
Precautions during construction	Any trenches/excavations created during the works, for example for service connections or foundations, will be covered over at night to prevent animals such as badgers, hedgehogs and other species from falling in and becoming trapped. If that is not possible, an adequate means of escape will be provided, for example, a gently graded side wall or provision of gently sloped wooden plank or equivalent. All

excavations will be checked for trapped wildlife each morning by site staff prior to commencing activities.

**Discovery of reptiles or
amphibians during construction**

If any amphibians, reptiles or small mammals such as hedgehogs be discovered during the construction phase of the project, works will stop immediately and the advice of a competent ecologist sought.

Appendix 2

Proposed Site Plan with Ecology Annotations

Please see separate submitted plan.

Appendix 3

Proposed Elevation drawings with Ecology Annotations

Please see separate submitted plans.