

HAWKESWOOD ECOLOGY

Specialists in Ecological Survey and Assessment

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PRELIMINARY ECOLOGICAL APPRAISAL AND PROTECTED SPECIES SURVEYS

HEOL CRWYS, CWMAFAN

ON BEHALF OF

TAI TARIAN LTD

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All habitat and protected species surveys present a ‘snapshot’ of conditions existing and species present, or considered having potential to be present, at the time of survey. Many species are mobile and distributions can vary across time. Results and findings presented in this report should be considered with these factors in mind.

Protected species surveys are recognised as having a ‘shelf life’ of two years maximum. Surveys older than this are unlikely to be accepted by a Local Planning Authority or Natural Resources Wales as viable documentation.

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SUMMARY

Hawkeswood Ecology was instructed to carry out a Preliminary Ecological Appraisal and Protected Species Surveys at Heol Crwys, Cwmafan. It is proposed to demolish existing bungalows and develop the existing development footprint with new build houses. The majority of the construction footprint is contained within the existing building footprint with a small new development at the bottom of the steep slope on Heol Jiwbili.

The Site lies within the Cwmafan built environment on a south east facing slope. The bungalows are sited on a building platform alongside Heol Crwys with a steep bank to Heol Jiwbili to the south east.

The Site currently contains a number of pre-fabricated bungalows, amenity areas and a steep bank with a vegetation dominated by dense bramble with a small open area.

The Preliminary Ecological Appraisal (PEA) found no species or habitats of distinct biological value in their own right with dense bramble and the bungalow footprint and associated amenity areas dominating. It was considered that the bungalows may support roosting bats and further survey was undertaken on these. The Site also offered suitable habitat for reptiles and a reptile presence – absence survey was undertaken to assess this.

The bungalows are of a non-standard construction and have been upgraded with External Wall Insulation at some point in the past. The roofs are flat and covered with felt. The initial Preliminary Roost Assessment (PRA) was limited to an external inspection and found very limited opportunities for bats to access the buildings. As no internal inspection could be undertaken, although the buildings were considered to be of negligible value, a single observation survey was undertaken of all properties during July and August 2022. These showed no bat activity associated with the bungalows and generally limited bat activity in the wider area. As a result the bungalows are not considered to support roosting bats and no further consideration is necessary in relation to their demolition.

The reptile survey found both Slow worm and common lizard present across the Site, but generally associated with the bramble scrub fringes. The highest and most regular numbers were found in the open areas within the bramble scrub at the south eastern boundaries.

Currently, it is considered that if the proposed recommendations are fully implemented, there are no specific ecological constraints that would prevent the proposed development going ahead.

1 INTRODUCTION

- 1.1 Hawkeswood Ecology was instructed by Tai Tarian to carry out a Preliminary Ecological Appraisal (PEA) on an area of land at Heol Crwys, Cwmafan. The Site is currently a mosaic of built and undeveloped land. It is proposed to redevelop the existing built area and a small part of the undeveloped Site for residential purposes. The approximate central Grid reference of the Site is SS 782 925.
- 1.2 In addition a Preliminary Roost Assessment (PRA) of the buildings was instructed and this was undertaken at the same time as the PEA. The PRA was limited to an external inspection only. Although this showed the buildings to be of probably negligible value to roosting bats, due to the lack of an internal inspection a single observation of the bungalows was carried out over July and August 2022.
- 1.3 The Site is dominated by non-standard construction bungalows and a steep bank of unmanaged bramble. There are also small areas of open ground within the bramble and a bare rock area that seems to consist of dumped iron making slag. The Site sits within the built conurbation of Cwmafan, partially on a plateau off Heol Crwys and a steep south east facing bank to Heol Jiwbili.
- 1.4 The objectives of the survey are:
 - To ascertain the habitats and species present within the Site;
 - To assess the ecological and nature conservation value of the Site;
 - To undertake a bat Roost Assessment of the buildings on Site and any follow up survey;
 - To assess the potential ecological impacts of any proposed development;
 - To provide recommendations to mitigate the proposed works.
- 1.5 The PEA and PRA was carried out on 10th August 2022.
- 1.6 Following completion of the PEA, a reptile presence – absence survey was recommended. This was undertaken in August and September 2022.

2 SURVEYOR EXPERIENCE

- 2.1 The surveyor and report author is Eric Hawkeswood. Eric has many years experience of broad habitat and detailed botanical and species surveying. He has extensive experience of protected species survey and holds Natural Resources Wales and Natural England scientific and conservation licenses for bats and dormice. He has been a professional in the nature conservation field for thirty three years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.
- 2.2 Assistant observers on the evening observation were Emma Adamson, Liam Kelly, Helen Smith and David Norton. Emma has worked with Hawkeswood Ecology for over 15 years with much experience of emergence/re-entry surveys. Liam has worked for Hawkeswood Ecology since 2012 and Helen since 2015. David has worked with Hawkeswood Ecology since 2019. All observers

have received a satisfactory level of training and gained suitable experience and are considered fully competent in their role.

3 METHODOLOGY AND CONSTRAINTS

Preliminary Ecological Appraisal

Desktop Study

- 3.1 The South East Wales Biodiversity Records Centre (SEWBRc) was asked to provide biological records from a radius of 2 kilometres of the Site. Hawkeswood Ecology records from the area were also reviewed. Records post 2000 were considered, those of earlier date were not considered unless of specific interest.

Preliminary Ecological Appraisal

- 3.2 The Preliminary Ecological Appraisal (PEA) was carried out in line with the guidance issued by The Chartered Institute for Ecology and Environmental Management (2013) and consisted of a walk-over survey of the proposed Site considering features within and adjacent to it. Habitats were categorised according to the Phase 1 Habitat Survey guidelines (JNCC, 2010) and annotated onto a map (Figure 1). Plant assemblages were described using the DAFOR scale of cover abundance (Appendix 1) and each habitat was recorded using Target notes (Appendix 2); a species list of plants identified during survey is given in Appendix 3 and photographs are given in Appendix 4.

- 3.3 In addition, the Site was assessed for its potential to support protected species.

Preliminary Roost Assessment

- 3.4 The study methodology followed accepted guidelines set out in the Bat Conservation Trust documents ‘*Bat Surveys for Professional Ecologists, Good Practice Guidelines*’ 2016.
- 3.5 The principal aim of the daytime inspection was to survey the main structures of the bungalows for the presence of, and potential to support roosting bats. An external examination was made of the design and structure of the building to assess the suitability for use by bats and for potential access points. An internal inspection was not possible in this instance. Indications such as droppings, staining and potential access points and bats themselves were searched for.
- 3.6 The daytime inspection was carried out with close focusing binoculars, an endoscope, ladders and a 1,000,000 candlepower spot lamp available.
- 3.7 The observation surveys involved four or five observers and covered relevant aspects of the buildings. Bat detectors used were Anabat Scout units. The observers carried two way radios. Cameras were not used in these observations as likely species to be roosting in such buildings are early emerging pipistrelle species. Locations of the observers are shown in Figure 2. All of the buildings were covered over the course of three observations.
- 3.8 Recordings were made continuously on the machines. The recordings were analysed using Anabat Insight and Batsound software, by use of which it is possible to separate most species present from the sonograms produced.

Reptiles

- 3.9 The reptile presence/absence survey was carried out in accordance with guidelines given in The Herpetofauna Worker's Manual (JNCC, 2003) and Froglife Advice Sheet no. 10, '*Reptile Survey, an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.*' (1999).
- 3.10 The Site area is approximately 1.5 hectares of which approximately 0.7Ha is built or formally managed (amenity grassland or garden), a sum of approximately 0.11Ha is relatively open grassland with bramble less dense bramble scrub at the bottom of the slope adjacent to Waun Wen and Heol Jiwbili and an area of approximately 0.01Ha of largely bare rock and slag. The remaining area, approximately 0.68 hectares is inaccessible dense bramble.
- 3.11 The Froglife guidelines suggest placing 5-10 refugia per hectare for adequate survey. Access was limited due to bramble to a much smaller area than the actual Site size, but 34 refugia were used covering open areas and boundaries between the dense bramble and amenity areas. Even using the whole area of 1.5 hectares, this still gives roughly double the number of refugia recommended by Frog Life and offered increased opportunity to catch animals.
- 3.12 Felt mats were used as refugia and placed into position on 12th August 2022. The refugia were visited on seven occasions in suitable weather conditions, with air temperatures between 9 and 20°C generally with bright conditions, as described in the referenced published guidance. Appendix 5, courtesy of Chris Gleed-Owen, demonstrates suitable weather conditions and timing for survey throughout the reptilian activity period of March to October.
- 3.13 Locations of the refugia are shown in Figure 3. All were placed in the grassland or adjacent to the encroaching scrub. The refugia were placed, whenever possible, in locations that would warm up in the sun and provide a favourable place for reptiles to warm up under or bask upon at some point during the day. The survey visits took place between 22nd August and 20th September 2022.

Constraints

- 3.14 No specific constraints to the survey PEA were noted. There was limited access in the dense bramble areas but due to the steep bank it could be well overlooked from below which assisted where access was not possible.
- 3.15 The PRA was limited to an external search as Tai Tarian did not consider it appropriate to allow an internal examination due to the presence of asbestos. The provision of detailed structural plans of the buildings and undertaking an emergence observation is considered to have compensated this in this instance.

4 DESKTOP STUDY FINDINGS

- 4.1 SEWBrEC reported a total of 907 records from the 2 kilometre search area. There are no records from the Site itself, however there are recent records of slow worm and common lizard from a garden on the opposite side of Heol Crwys. Approximately 160 and 420 metres to the north are

records of grass snake and adder respectively, however the appearance of particularly adder in gardens makes the location data questionable.

- 4.2 A number of common birds are reported and those that could occur on Site include song thrush, bullfinch, house sparrow, dunnock and linnet. Species likely to overfly the Site are herring gull and black headed gull. Invertebrates reported are two records of small heath butterfly and one each of august thorn and small phoenix moths within 1 kilometre of the Site.
- 4.3 Mammals reported include hedgehog, nearest record approximately 190 metres from Site and a number of bats species. These were (approximate distance from Site in brackets):
- Pipistrelle species bats (400 metres);
 - Daubenton's (420);
 - Noctule (520);
 - Common pipistrelle (580);
 - Whiskered (870);
 - Soprano pipistrelle (870).
- 4.4 A number of unspecified *Myotis* bats were also reported. No other bat species were noted within the 2 kilometres search area.
- 4.5 Bluebell was reported from a closest distance of approximately 170 metres from Site with four other records of it within 1 kilometre of Site.
- 4.6 Of 224 records of Other Species of Conservation Concern reported, all were birds with the exception of a small number of flowering plants and invertebrates. Species relevant to the Site were goldcrest, swift (foraging), greenfinch, willow warbler and green woodpecker. Charlock was reported within 1 kilometre of the Site. There were no invertebrate records within 1 kilometre of the Site.
- 4.7 One hundred and one records of Species of Local Interest were reported in the search area with only few relevant to the Site location and conditions. Fragrant agrimony is reported from a small number of locations within 1 kilometre of the Site and grass vetchling is reported from approximately 450 metres to the east.
- 4.8 A number of invasive species are reported locally including Spanish bluebell, Rhododendron, cotoneaster species, *Crocsmia* species, Japanese knotweed and heath stem moss.

Designated Sites

- 4.9 There are a number of Sites of Importance for Nature Conservation (SINC) locally. The nearest is Cwmafan Green Corridor SINC which is cited for a mosaic of scrub and species rich grassland. This is approximately 80 metres to the west at its closest approach. Rolling Mill Cwmafan SINC lies on the side of the River Afan and is cited for purple moor-grass and rush pasture and lowland dry acid grassland. This is a small SINC but floristically rich, lying approximately 400 metres east of the Site. The other SINCS lie over 1 kilometre in distance or are on the eastern side of the River Afan with the exception of NPT watercourses, the whole of the Site is within the NPT watercourses SINC.

Habitats

- 4.10 The site itself is not identified, nearby identified habitats are amenity grassland.
- 4.11 SEWBreC data is confidential and cannot be released into the public domain without prior permission in writing from SEWBreC. Hawkeswood Ecology holds the data on the client's behalf for one year (in accordance with conditions) in case of further query. The LERC reference for this data search is 0223-349.

5 FIELD SURVEY FINDINGS

Preliminary Ecological Appraisal

- 5.1 The survey area is dominated by the built environment, amenity grassland and dense stands of bramble. In addition there is an area of open grassland with bramble encroachment and a steep bank which appears to be made from blast furnace slag. Target Notes can be found in Appendix 2. See Figure 1, Phase 1 survey map and Appendix 4 for photographs.

Grassland

- 5.2 Amenity grassland (TN1) is present around the existing bungalows. It is formally managed by mowing and is generally species poor with perennial rye grass and Yorkshire fog dominant. There are some areas where the sward is more diverse, including bird's-foot trefoil and common knapweed, but these are very small and often associated with unmanaged gardens. There are flowering cherry trees planted in the bungalow curtilage at two locations.
- 5.3 At TN3 is poor semi-improved grassland at the bottom of the slope to Waun Wen best described as a mosaic of poor semi-improved grassland and bramble scrub with some hawthorn and gorse growth. Bramble is frequent but not dominant as yet. Grass species include abundant false oat-grass and locally abundant common bent; other species include rarely occurring common heather and jointed rush, occasional fragrant agrimony, bird's-foot trefoil and bush vetch. Cotoneaster was also noted rarely here.

Dense bramble scrub

- 5.4 The steep south east facing slope is dominated by dense bramble to approximately 2 metres height in places. Bracken is also locally abundant and frequent throughout. Access was limited to the area, but gorse could be seen throughout along with sycamore saplings, goat willow and rowan. Non-native species included snowberry, buddleia, cotoneaster and Montbretia. Other species noted included fragrant agrimony, false-oat grass and silverweed.

Rock embankment

- 5.5 An apparently man-made environment with blast furnace slag apparent. Bare ground is dominant, species present include ash and silver birch scrub, English stonecrop, maidenhair spleenwort, common heather, vervain and mouse-eared hawkweed. Cotoneaster species are locally abundant and montbretia is also present.

Bat Survey

- 5.6 As part of the survey effort a Preliminary Roost Assessment (PRA) was requested on the bungalows as these are to be demolished. The PRA was limited to an external inspection which was undertaken on 10th August 2022. The bungalows are all of non-standard construction and date from the late 1960's.
- 5.7 The bungalows are a style named Rofton of which around 560 bungalows and houses were constructed by Local Authorities in the late 60's. They are steel framed with sealed external panels consisting of a steel frame, a spandrel beam (which seals the panel and bear the roof load) and clad, originally, with an asbestos based board.

- 5.8 They have a flat roof which is covered with felt and/or fibre glass covering, this is in poor condition on some properties.
- 5.9 Works were undertaken around ten years ago to upgrade the flats and External Wall Insulation (EWI) was put into place. It is unclear if the original asbestos panels were removed at this stage. Soffits were also likely replaced at this stage and all are UPVC and tight to the rendered EWI. At the gables there are verges blocking access to the wall tops.

Evidence or potential to support roosting bats

- 5.10 Small gaps were noted at the gable end junctions with the front and rear elevations. Although small and apparently shallow, as no internal inspection was possible and the buildings are to be demolished it was considered a single observation survey was appropriate. Generally the buildings were considered to be of negligible to low potential for supporting roosting bats. No direct evidence of bats was found, nor was there any evidence of birds using the bungalows for nesting.

Emergence Surveys

- 5.11 The Site was covered over three emergence observations undertaken in July and August 2022. The conditions at the time of the surveys are given in Table 1 below, locations of surveyors are shown in Figure 2.

Table 1: Weather conditions at time of survey.

Date	Survey type	Times	Weather conditions
26 th July 2022	Evening emergence	21.00 – 22.15 (sunset 21.15)	18-15°C, clear, cooling, dry, good visibility, F1 SW breeze.
28 th July 2022	Evening emergence	21.00 – 22.20 (sunset 21.10)	18-16°C, Mainly clear, dry, good visibility, Still – F1 SW breeze.
2 nd August 2022	Evening emergence	20.45 – 22.10 (sunset 21.00)	18-15°C, Cloud, variable but more than 90%, occasional light drizzle, good visibility, no breeze.

- 5.12 All surveys showed limited activity with bats foraging around the gardens on both sides of Heol Crwys and in the amenity grassland. Only two species were recorded, common pipistrelle and noctule, the latter recorded infrequently, overflying the Site on visits 1 and 2.
- 5.13 The highest number of passes recorded by any observer was eight and the majority of activity was associated with Heol Crwys and the associated gardens rather than the land to the rear of the bungalows where with the exception of bats recorded along the pathway between Heol Crwys and Heol Jiwbili during the first observation, activity was extremely limited.
- 5.14 The third visit showed much less activity than the previous two with only common pipistrelle noted and a total of only seven passes recorded.

5.15 There was no evidence of bats using the bungalows for roosting purposes.

Reptile Presence – Absence Survey

5.16 Table 2 below gives the conditions at the time of survey; the mats were laid out on 12th August 2022:

Table 2: Date and weather conditions during survey.

Date	Time and Weather conditions
22/08/22	09.30; Dry, cloud clearing after dull start, sunny intervals, 16°C, F1/2 SW breeze.
28/08/22	08.45: Breaking cloud, becoming bright with sunny intervals, 17°C F1/2 E breeze.
01/09/22	09.00; Breaking cloud, 17°C, F2 W breeze, dry.
03/09/22	09.15; Cloud breaking, sunny spells; 18°C, F2 SW breeze, dry.
05/09/22	09.00; Breaking cloud and sunny intervals after overnight rain, 17°C, F2 SW breeze, dry.
12/09/22	09.30; Breaking cloud with bright sunny intervals, 17°C, F1 S breeze, dry.
20/09/22	10.00; Cloud breaking becoming bright, 15°C, F1 W breeze, dry.

5.17 The survey produced positive results on each visit with slow worms in good numbers in parts of the Site and common lizards in low numbers in one area. It was noted that a tranche of mats had been removed from one set of bungalows, four in total removed and not found. As this was most likely done by a tenant, it was decided against replacing mats in this area (see figure 3) on the basis of animal welfare and that there were sufficient numbers of mats across the Site to comply with guidance.

5.18 A breakdown of results is given in Table 3 below and the locations of positive results is shown in Figure 4. Note the animals were not tagged so the same individuals may have been caught on more than one occasion. For example, an unusually dark coloured juvenile was trapped on three occasions at the same mat over the course of the survey.

Table 3: Reptile survey results

Date	Slow worm	Common lizard	Totals	Comments
22/08/22	5		5	All adult female.
28/08/22	4	1	5	4 adult female and 1 juvenile slow worm; 1 common lizard.
01/09/22	7		7	5 adult female, 1 adult male and 1 juvenile slow worm.
03/09/22	14	1	15	6 adult female and 8 juvenile slow worm; 1 common lizard.
05/09/22	12	2	13	8 adult female and 4 juvenile slow worm; 2 common lizard.
12/09/22	23		23	7 adult female, 1 adult male and 15 juvenile slow worms.
20/09/22	29	1	30	9 adult female, 1 adult male and 18 juvenile slow worms; 1 common lizard.

- 5.19 The highest density of animals and all common lizards recorded were found in the poor semi-improved grassland/scrub at TN3. Other than this, small numbers, normally single animals, were recorded around the bramble/grassland interface at the top of the slope.

Summary

- 5.20 The Site consists of an area of built environment and amenity grassland with a dense bramble scrub adjacent to it. At the bottom of a steep slope is a small area of poor semi-improved grassland forming a mosaic with bramble and woody scrub. This are produced good numbers of slow worm although smaller numbers were recorded elsewhere across the Site.
- 5.21 No habitats or species of particular importance were recorded otherwise, however, fragrant agrimony, a species of local conservation concern, and a number of invasive species were recorded.
- 5.22 There was no evidence of roosting bats found during the bat surveys undertaken on Site.

Fauna

- 5.23 Faunal species observed during the survey, other than bats and reptiles noted above, were limited to a number of commonly occurring bird species either on or overflying the Site. Species noted were house sparrow, starling, wren, robin, magpie, lesser black backed gull and crow. Meadow brown butterfly was also recorded in survey.
- 5.24 The Site does not support suitable habitat for great crested newt, dormouse or otters.
- 5.25 The nature of the habitats on Site is likely to mean any invertebrate or fungi interest is limited. Hedgehog is noted locally and is likely to occur across the Site.

Invasive Species

- 5.26 The Site supports a number of invasive species with cotoneaster species, montbretia (*Crocasmia*) and buddleia noted.

6 DISCUSSION AND IMPACT ASSESSMENT

- 6.1 The Site is dominated by amenity grassland and buildings, dense bramble scrub and poor semi-improved grassland/scrub mosaic. No habitats on Site are of importance in their own right but the dense bramble area and poor semi-improved grassland/scrub areas support protected species with slow worms and common lizard present and breeding birds likely to utilise the dense scrub for breeding. The bungalows do not support roosting bats or breeding birds.
- 6.2 The prime importance of the Site lies in the good population of slow worms, particularly in parts of it. The majority of this area is retained in the new development, and although it is likely that animals will occur at times in the amenity grassland, the formal cutting regime is likely to prevent any prolonged expansion of slow worms in this area.
- 6.3 Slow worms are less dependent upon obvious basking areas than other reptiles and can persist happily under relatively dense bramble scrub. It was not possible to survey within the dense bramble areas but it can be assumed as slow worms were found around the periphery of this habitat, they occur through it also.
- 6.4 The proposed works are largely limited to the existing building footprint with a new property developed on the Heol Jiwbili frontage. As such, there are not expected to be any impacts upon the nearby Cwmafan Green Corridor SINC. Neither are any impacts expected on the NPT watercourses SINC, the other SINCS within the search area are considered to far away or separated by geomorphological features to be affected in any way.
- 6.5 Bat surveys showed not only that the bungalows are not used by bats for roosting purposes but that general bat activity in the area is surprisingly limited. Surveyors at the rear of the properties adjacent to the bramble covered slope did not notice particular activity in that area and this was reflected in the recordings made on Site. Only the south western boundary of the Site showed particular activity where bats were seen along Heol Jiwbili and entering the Site via the footpath to Heol Crwys in that location.
- 6.6 Under the Environment (Wales) Act 2016 and Well Being of Future Generations Act 2015 require Local Planning Authorities (LPA's) and other public bodies must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. Assessment of the Ecosystem Resilience is therefore an integral part of the LPA's duty and they will need to consider the impacts of the proposed development upon the resilience of the adjacent wooded areas in this context. LPAs are directed to consider the resilience of ecosystems early in the planning process to aid assessment of the impacts of any proposed development upon biodiversity. In addition, a letter from the Chief Planning Officer clarified planning requirements in relation to biodiversity impacts (see Section 8, Relevant Legislation and Policies paragraphs 8.17-8.19) points out the responsibility of the LPA to maintain and enhance biodiversity and to provide '*a net benefit for biodiversity*'.

Ecosystem resilience

- 6.7 The premise for Ecosystem Resilience is laid out in Section 4 of The State of Natural Resources Report, a 2018 document produced by Natural Resources Wales (NRW) on behalf of the Welsh

Government. It lays out a framework for assessing ecosystem resilience. However, despite the duty placed on LPA's, there is no currently agreed format for this assessment.

6.8 Section 4 names five attributes that NRW consider 'building blocks' of ecosystem resilience, these are:

- Diversity
- Extent
- Condition
- Connectivity
- Adaptability

6.9 These factors are considered below, although none of them are considered 'stand alone' and all interrelate to some extent. It is also important to note that it is the responsibility of the LPA to assess Ecosystem Resilience and that any Site based report is not able to make judgements on a wider scale. As pointed out above, it is important to note that there is as yet no agreed format to undertake such an assessment.

Diversity

6.10 The habitats on Site can be placed into two broadly distinct areas, built environment and amenity areas (TN1) and dense bramble scrub (TN2) with small areas of poor semi-improved grassland/scrub mosaic (TN3) and bare ground (TN5). The Site itself contributes a green wedge in a built up area offering habitats for breeding birds, reptiles and foraging bats, but has relatively limited connections to other nearby habitats.

Extent

6.11 The whole Site is approximately four hectares of which the two major habitats, built/amenity and dense bramble scrub equate to nearly half of the area each. The non-built or managed area of approximately 0.7 hectares provides a valuable resource for nature bringing birds and bats into the developed area in which the Site is located.

Condition

6.12 The developed area of the Site is formally managed as gardens and amenity grassland leading to a generally species poor sward. The main value of the Site lies in the unmanaged areas to the south east on the steep bank where bramble has become dominant. This is currently unmanaged and encroachment of bramble into the poor semi-improved grassland areas may impact upon the numbers of slow worm present over time. Whilst the lack of management has probably benefited this species in the longer term the lack of any mosaic will probably lead to a decline in population numbers in the longer term.

Connectivity

6.13 The Site itself has limited connectivity and is surrounded by roads and buildings. There is a cross road link to the Cwmafan Green Corridor SINC which lies across Heol Crwys to the north.

Adaptability

6.14 NRW comments that:

‘Adaptability differs from the other attributes because it is part of the definition of resilience rather than an attribute that supports it. However, its inclusion in the Environment (Wales) Act is important because it emphasizes one of the most important features of resilience: dynamism and the ability to adapt to change.’

6.15 NRW also comments that *‘Adaptability cannot yet be quantified in an equivalent way to the other attributes and so we have not used it in the assessment of resilience in this State of Natural Resources Review’*. As such this cannot be considered in this report.

6.16 At its most simple, this would mean that the LPA must protect any biodiversity value of the of the Site and any impacts likely to affect adjacent areas. In this instance, it is considered that there are not likely to be any significant impacts if proper mitigation is put in place prior to, and in the course of, construction. Without mitigation, these impacts could be considered to be significant. Recommendations are made in Section 8 to ensure that any impacts are properly negated.

Predicted Development Impacts

6.17 The areas of the Site affected by the proposals are largely already built on, the new development effectively replacing the current unsuitable properties. One new area of development is proposed on the frontage of Heol Jiwbili, this area is dominated by dense bramble. Of most importance on the Site is the population of reptiles, in particular slow worm which has a potentially ‘excellent population’. In terms of habitats present it is considered that the Site is of **minor significance** in a local (Heol Crwys locality) context but of **no significance** in a wider context.

6.18 When considering the presence of reptiles and slow worms in particular the limited extent of the proposed development is not expected to have any long term impacts, indeed, the inclusion of much of the currently formally managed amenity areas into private gardens may have benefits for them offering an increase in available foraging area. If the recommendations made in Section 8 are fully implemented it is considered that the proposed development will result in **no adverse impact** upon reptile populations.

7 RELEVANT LEGISLATION AND POLICIES

Birds

- 7.1 Part I of the Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions and in the absence of a licence) intentionally to kill, injure or take any wild bird, or intentionally to damage, take or destroy its nest whilst being built or in use, or to take or destroy its eggs. Consequently, even common birds such as blackbirds or robins, and their nests and eggs are protected in this way. Any works involving removal or other management of trees or shrubs must be undertaken outside the breeding bird season (March- August).
- 7.2 Further, section 1(5) of Part 1 of the W&C Act states any person intentionally disturbing any wild bird included in Schedule 1 whilst it is building a nest or is in or near a nest containing eggs or young or disturbs the young of such a bird is committing an offence and liable to a special penalty.
- 7.3 The Conservation of Habitats and Species Regulations 2017 (as amended) has strengthened the protection of wild birds and their habitats. The Regulations now serve “To help preserve, maintain and re-establish habitats for wild birds.”
- 7.4 Under the amended Regulations, Local Planning Authorities (as well as national statutory conservation bodies such as Natural Resources Wales) are required to protect and create bird habitat.

Bats

- 7.5 All UK bat species are protected under the Wildlife and Countryside Act 1981. Schedule 5 of this act makes it illegal to intentionally kill, injure or take these animals. It is also an offence to intentionally damage or destroy their place of rest. In 2007 the offences of killing, injuring or taking species under Section 9(1), 9(2) and 9(4)a of European Protected Species listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) were removed to avoid duplication with their protection under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended. The regulations remove the defence of inadvertent or accidental damage to roosts and make the offence ‘absolute’.
- 7.6 They are also protected under the Conservation of Habitats and Species Regulations (2017) as amended which requires the United Kingdom government to provide European Protected Species with strict protection. This legislation consolidates amendments made to the earlier 2010 act. This legislation states in Part 3, Protection of Species, paragraph 43(1) that a person who:
- (a) deliberately captures, injures or kills any wild animal of a European Protected Species,
 - (b) deliberately disturbs wild animals of any such species,
 - (c) deliberately takes or destroys the eggs of such an animal, or
 - (d) damages or destroys a breeding site or resting place of such an animal,
- is committing an offence.
- 7.7 Further, with regard to disturbance of EPS, Paragraph 43(2) that disturbance is an act which is likely to:
- (a) to impair their ability—
 - (i) to survive, to breed or reproduce, or to rear or nurture their young, or

- (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) to affect significantly the local distribution or abundance of the species to which they belong.

- 7.8 In the case of a development involving the loss or modification of a habitat which may affect an EPS the above legislation must be considered and it may be necessary to apply to Natural Resources Wales for a European Protected Species Derogation Licence EPSL.
- 7.9 The introduction of the Conservation of Habitats and Species Regulations 2017, has removed the defence of killing or injuring a protected species during a lawful operation, thus even in an instance where planning permission is granted, the presence of EPS must be considered and mitigated for prior to commencement of works. Under the above regulations, a derogation licence can only be given if three tests are satisfied:
- The action proposed is in the interest of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance to the environment;
 - That there is not a satisfactory alternative;
 - That the action proposed will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 7.10 Failure to satisfy the regulations and obtain an EPSL where required is likely to result in prosecution and can lead to severe fines of up to £5000 per animal and possible imprisonment.
- 7.11 Eight species of bat are listed under section 7 of the Environment Wales Act (2106). Section 7 of the Act provides a list of living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. This is a list of species considered at threat within Wales and in need of conservation management to maintain and enhance population numbers.
- 7.12 A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.

Reptiles

- 7.13 All common reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) schedule 5, from deliberate injury or killing (Section 9(1)) and sale (Section 9(5)).
- 7.14 A Welsh Assembly Government licence is not required to handle or disturb slow worms but there must be proper consideration of the presence of these animals on Site and mitigating measures implemented to minimise any impacts on them.

Hedgehogs

- 7.15 Hedgehogs are protected under the Wildlife and countryside Act 1981 (as amended) as a Schedule 6 species and Wild Mammals Protection Act (1996) from capture, deliberate killing and cruel treatment.

Invasive species

- 7.16 Cotoneaster species and montbretia have been identified on the Site. These species are listed in Schedule 9 Pt 2 of the Wildlife and Countryside Act 1981 (as amended); as such it is an offence to allow or cause them spread in the wild.

8 RECOMMENDATIONS

- 8.1 Any works on trees and shrubs and vegetation clearance should be undertaken outside the accepted bird breeding season of March to August. There is no licence for the destruction of active bird nests and nest translocations invariably fail; in addition nest searches are often unsuccessful and miss nesting birds. Development timing is a key consideration, for birds and other protected species, should such works prove necessary. Checks should also be made prior to works undertaken outside the breeding season if the weather is fine as climate warming is leading to an extended breeding season.

Reptiles

- 8.2 An Ecological Clerk of Works (ECW) will be appointed for the duration of the ground clearance.
- 8.3 The development line will be clearly marked on the ground either by barrier tape or rope. Any vegetation on the construction side of the barrier will be carefully cleared using handheld equipment. The vegetation will not be cut lower than 30 centimetres in the first instance. This clearance can be undertaken at any time of year but preferably during the winter months outside the bird breeding season.
- 8.4 The area impacted by the new development on Heol Jiwbili should also be clearly identified and the vegetation cleared as above.
- 8.5 One way reptile proof fencing will be erected to isolate the development areas to prevent animals moving onto the Site during the demolition and construction works. As well as reptile fencing the use of Herras fencing to prevent intrusion by vehicles or contractors is recommended. Specifications for suitable reptile proof fencing are shown in Appendix 6.
- 8.6 Following this, in the activity season (April to October, this is weather dependent and the ECW should be consulted), the vegetation should be cut again to ground level. Following this any earth moving can take place under supervision of the ECW.

General

- 8.7 Integral bat and bird boxes will be used in the new construction. The proposed locations of bat and birds boxes, in particular swift and house sparrow boxes, are shown Figure 5, typical boxes in Figure 6.
- 8.8 If landscaping is proposed, plants of value to local biodiversity, i.e. supporting invertebrates should be used. Native species of local provenance should be used wherever possible.

- 8.9 The use of close board fencing can isolate areas of garden, particularly impacting on hedgehogs. If the use of such fencing is proposed between gardens as well as at the Site boundary, boards will be cut out to give a minimum 15x15cm gap at the bottom, or more preferably be fitted to leave a minimum 15cm gap at ground level for the length of the fence.
- 8.10 Measures will be identified and outlined in the Construction Environmental Management Plan (CEMP) to ensure that there will be no spread of material contaminated by cotoneaster or montbretia.
- 8.11 An area will be identified during the construction phase where chemicals and building materials can be safely stored and bonded to prevent contamination of the adjacent habitats. Measures to prevent and deal with any pollution incidents will be clearly outlined in a Construction Environmental Management Plan (CEMP).

9 CONCLUSIONS

- 9.1 The Site is of limited biodiversity value in terms of habitats present, fragrant agrimony is present which is a species of Local Conservation Concern. Survey has shown that the buildings to be demolished do not support roosting bats or breeding birds.
- 9.2 It has been shown that the Site may support a strong population of slow worms and recommendations are made in relation to this to ensure no unnecessary injuring or killing of the animals occurs.
- 9.3 Recommendations are made to enhance the Site for bird nesting and bat roost potential.

10 BIBLIOGRAPHY

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**FIGURE 1:
PHASE 1 HABITAT MAP**

Figure 1: Phase 1 Habitat Survey map

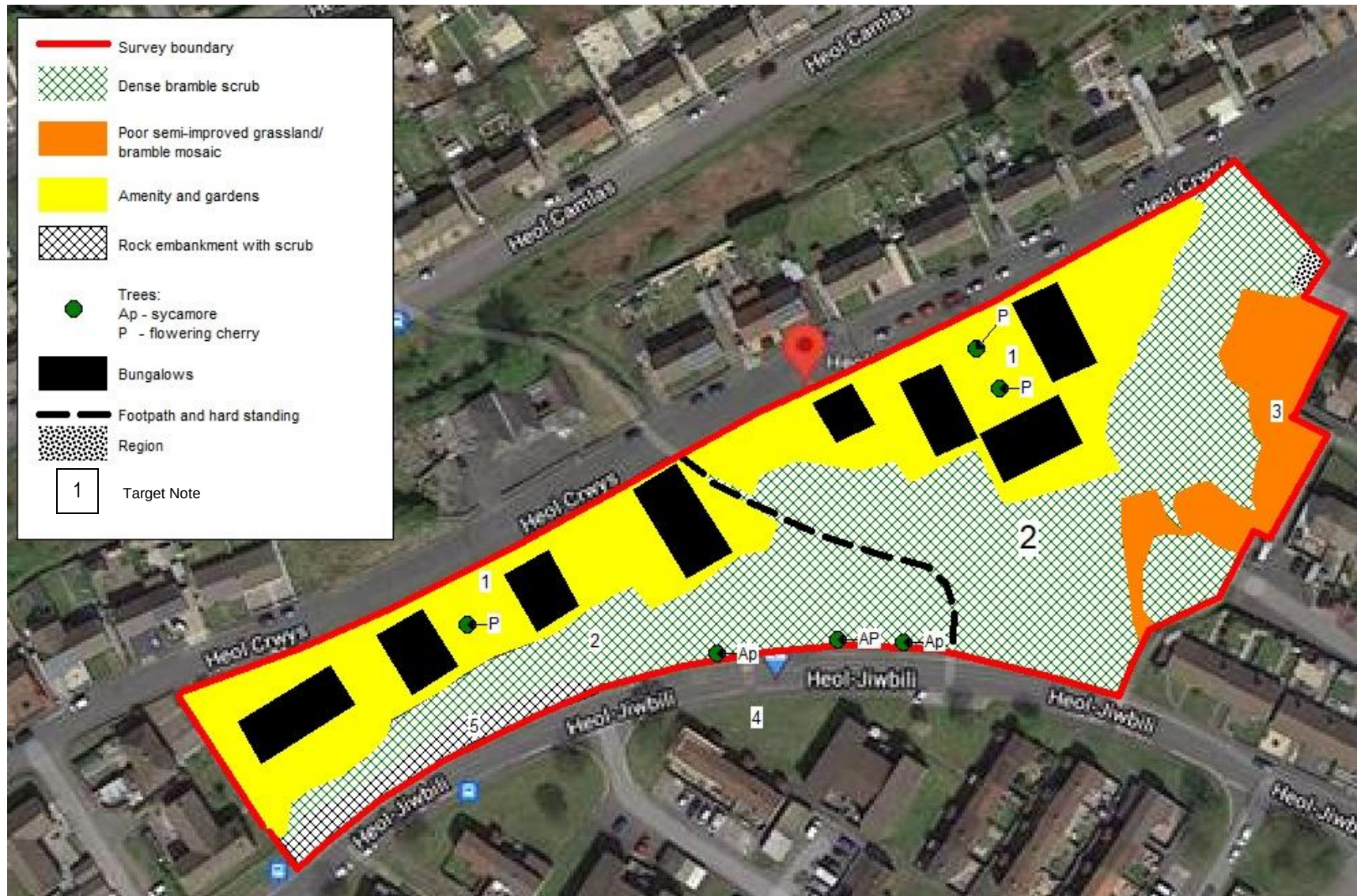


FIGURE 2
LOCATION OF OBSERVERS FOR BAT OBSERVATIONS

Preliminary Ecological Appraisal and Protected Species Survey, Heol Crwys, Cwmafan.
Hawkeswood Ecology – October 2022



FIGURE 3
REPTILE REFUGIA LOCATIONS

Preliminary Ecological Appraisal and Protected Species Survey, Heol Crwys, Cwmafan.
Hawkeswood Ecology – October 2022

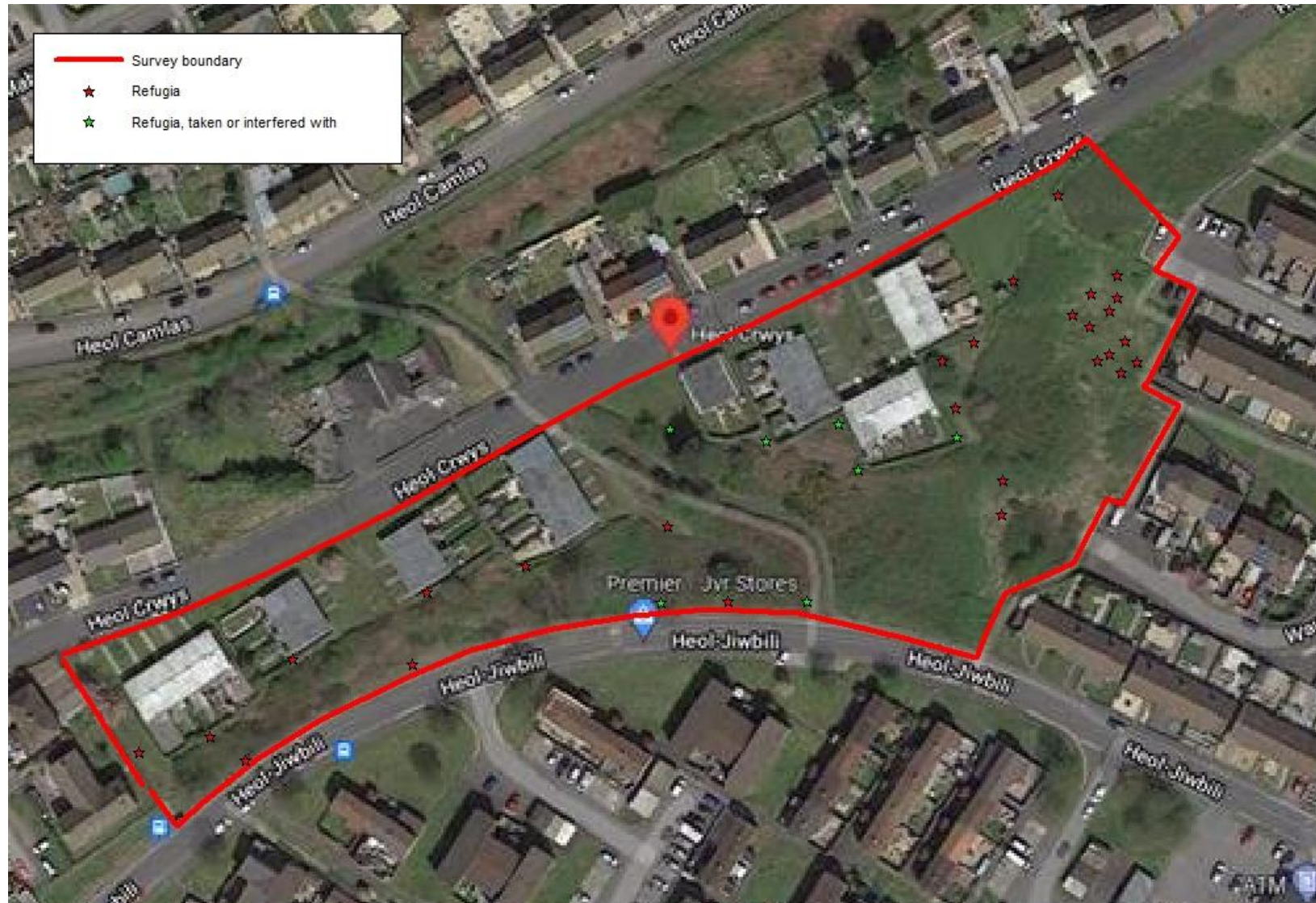


FIGURE 4
REPTILE SURVEY RESULTS

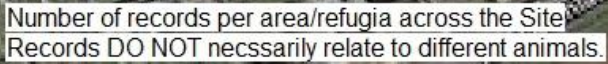


FIGURE 5
PROPOSED LOCATIONS OF BIRD AND BAT BOXES



FIGURE 6
TYPICAL BAT AND BIRD BOXES



Free Access Bat Box A

- Available in all brick types
- Discrete single bat brick
- Easy to install
- Allows bats to create a natural home habitat within the cavity of the building



Enclosed Bat Box B

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work



Enclosed Bat Box C with engraved motif

- Designed specifically for the pipistrelle bat
- Available in smooth blue, smooth gold & smooth red
- Attractive "bat" motif
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work



Typical House Sparrow box to be fitted under eaves



Manthorpe swift box

APPENDIX 1
DAFOR SCALE OF COVER ABUNDANCE

The DAFOR scale is used as a simple measure of cover abundance for individual plant species within a habitat. The scale is as follows:

- D Dominant
- A Abundant
- F Frequent
- O Occasional
- R Rare
- (L Locally – sometimes used as a prefix to the above)

APPENDIX 2

PHASE 1 HABITAT SURVEY TARGET NOTES

1. Amenity and built area. The amenity grassland is formally managed by cutting, some gardens are less frequently managed. Most areas of the Site are species poor with abundant perennial rye-grass and Yorkshire fog. Some areas appear to hold a richer sward with species such as bird's-foot trefoil, common knapweed and common cat's-ear, but these are small and usually reflect a lack of garden management.
2. Dense stand of bramble with frequently and locally abundant bracken present. On a steep south east facing slope to rear of bungalows. Gorse is frequent within the bramble stands with semi-mature sycamores along the road frontage on Heol Jiwbili and goat willow is scattered throughout, buddleia occurs rarely and Montbretia is present. Fragrant agrimony occurs locally near the open areas at TN3. Species recorded were:

<i>Species</i>	<i>Frequency</i>
Bracken	F/LA
Bramble	A
Buddleia	R
Flowering cherry	O
Common cleavers	LF
Common gorse	F
Cotoneaster sp	R
False oat-grass	F
Fragrant agrimony	O
Goat willow	O
Montbretia	LF
Ragwort	O
Rowan	O
Snowberry	R
Sycamore	O

3. Unmanaged semi-improved grassland/bramble scrub mosaic at bottom of slope, bramble scrub is frequent through them but not currently dominant although the boundary between the two habitats is a mosaic of each. Grassland is considered poor semi-improved. Species recorded were:

<i>Species</i>	<i>Frequency</i>
Bilberry	R
Bird's-foot trefoil	O
Bush vetch	LF
Cock's-foot	LA
Common bent	F/LA

Common heather	R
Cotoneaster sp	R
False oat-grass	A
Fragrant agrimony	O
Goat willow	O
Jointed rush	R
Rose species	O
Silverweed	LF
Sweet vernal grass	O
Tufted vetch	O

4. Multi stemmed sycamores on Heol Jiwbili frontage. All stem growth would be put at semi-mature, maybe 20 years old, and in good condition with no obvious evidence of potential roost features. Species present were:
5. Very steep embankment which appears to be at least partially the result of man's activity with blast furnace slag apparent. Species recorded were:

<i>Species</i>	<i>Frequency</i>
Ash	F
Bare	A
Bracken	LF
Bramble	F
Common heather	O
Cotoneaster sp	LA
English stonecrop	LF
Evening primrose	LF
Ivy-leaved speedwell	O
Maidenhair spleenwort	LA
Montbretia	O
Mouse-eared hawkweed	LF
Silver birch	O
Smooth hawksbeard	O
Vervain	LF

APPENDIX 3

LIST OF PLANT SPECIES RECORDED IN THE SURVEY

<i>Species</i>	<i>Scientific Name</i>
Ash	<i>Fraxinus excelsior</i>
Bilberry	<i>Vaccinium myrtillus</i>
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Bracken	<i>Pteridium aquilinum</i>
Bramble	<i>Rubus fruticosus</i> agg
Buddleia	<i>Buddleja davidii</i>
Bush vetch	<i>Vicia sepium</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common bent	<i>Agrostis capillaris</i>
Common cat's-ear	<i>Hypochaeris radicata</i>
Common cleavers	<i>Gallium aparine</i>
Common gorse	<i>Ulex europaeus</i>
Common heather	<i>Calluna vulgaris</i>
Common knapweed	<i>Centaurea nigra</i>
Cotoneaster sp	<i>Cotoneaster</i> sp
English stonecrop	<i>Sedum anglicum</i>
Evening primrose	<i>Oenothera biennis</i>
False oat-grass	<i>Arrhenatherum elatius</i>
Flowering cherry	<i>Prunus</i> sp
Fragrant agrimony	<i>Agrimonia procera</i>
Goat willow	<i>Salix caprea</i>
Ivy-leaved speedwell	<i>Veronica hederifolia</i>
Jointed rush	<i>Juncus articulatus</i>
Maidenhair spleenwort	<i>Asplenium trichomanes</i>
Montbretia	<i>Crocsmia</i> sp
Mouse-eared hawkweed	<i>Hieracium pilosella</i>
Perennial rye-grass	<i>Lolium perenne</i>
Ragwort	<i>Scenecio jacobaea</i>
Rose species	<i>Rosa</i> sp
Rowan	<i>Sorbus aucuparia</i>
Silver birch	<i>Betula pendula</i>
Silverweed	<i>Potentilla anserina</i>
Smooth hawksbeard	<i>Crepis capillaris</i>
Snowberry	<i>Symphoricarpos albus</i>
Sweet vernal grass	<i>Anthoxanthum odoratum</i>
Sycamore	<i>Acer psuedoplatanus</i>
Tufted vetch	<i>Vicia cracca</i>
Vervain	<i>Verbena officinalis</i>
Yorkshire fog	<i>Holcus lanatus</i>

APPENDIX 4
PHOTOGRAPHS



Typical views of the amenity areas and bungalows



Views from Heol Jiwbili of the dense bramble area TN2 and Sycamore trees (TN4).
(the new build is proposed to the left of the railings and bollards)



SI grassland/scrub mosaic TN3



TN5, the rocky bank (slag) with low growing perennials

An unusually dark coloured juvenile,
Caught on three occasions under the
same mat.



The grass/scrub mosaic provided by
far the most records, these female slow
worms were all under one mat.

All common lizards were seen in
this area.



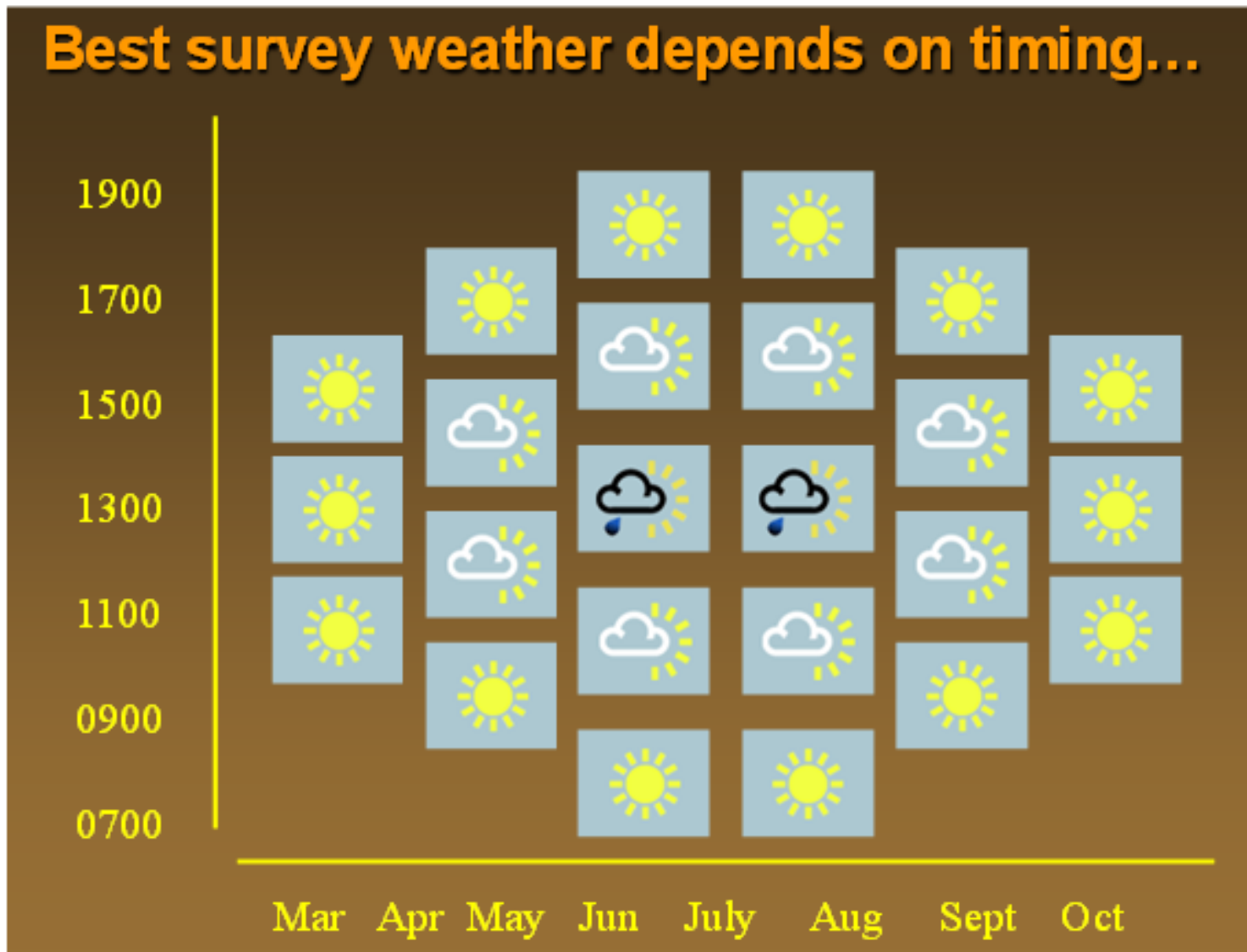


Views of the Rofton nonstandard construction bungalows

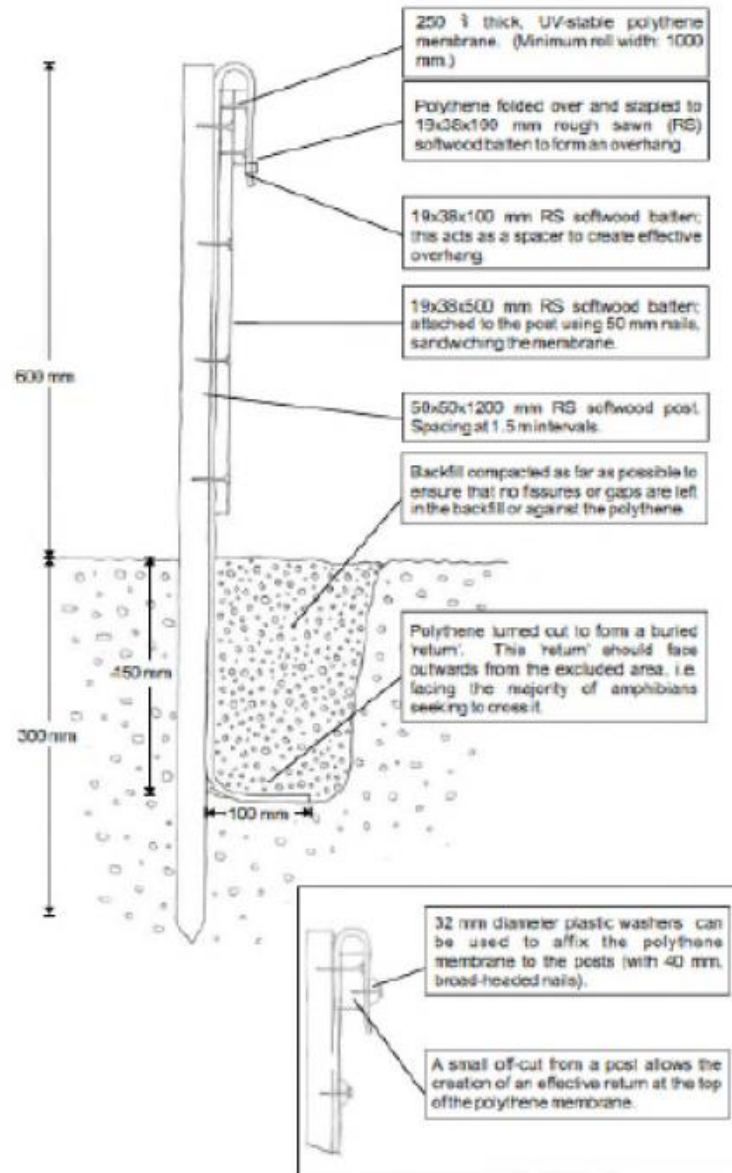


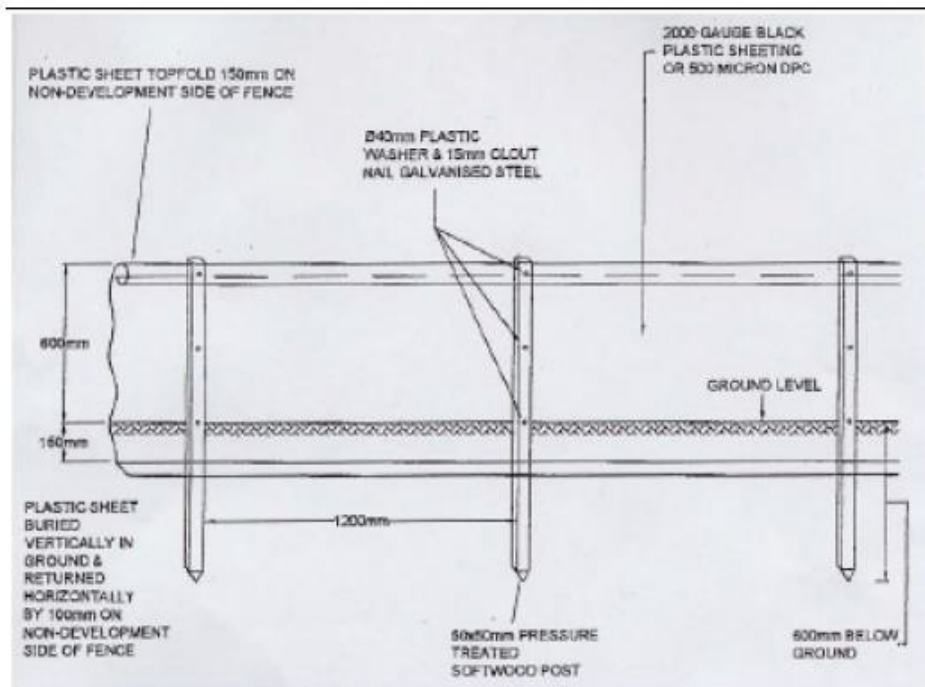
Very limited potential, mainly here the extended flat roof was extended over the new gable and soffits post EWI fitting

APPENDIX 5
APPROPRIATE REPTILE SURVEY CONDITIONS
(Courtesy Chris Gleed-Owen)



APPENDIX 6
REPTILE FENCING SPECIFICATIONS





HAWKESWOOD ECOLOGY

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