

HAWKESWOOD ECOLOGY

Specialists in Ecological Survey and Assessment

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BAT ROOST PRELIMINARY ASSESSMENT AND PRELIMINARY ECOLOGICAL APPRAISAL LAND AT LLYS WERN (STAGE 3), NEATH

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 carried out a Preliminary Roost Assessment on a number of trees/shrubs and a Preliminary Ecological Appraisal on land at Llys Wern, Neath, where a small residential development is proposed. The Site consists largely of formally managed amenity grassland with a spreading redundant hedgerow on the northern boundary of the Site.

An assessment of the shrubs and trees that are to be removed for enabling the development was undertaken in relation to bats and none were considered to be of anything above low potential for supporting roosting bats. Most showed no obvious opportunities for bats to access them and with the absence of ivy would have been considered negligible. Two stems showed shallow cavities, details are given in the report text. Apart from the redundant hedgerow, the Site is dominated by species-poor amenity grassland that is currently under a formal mowing regime.

The reports offers recommendations to ensure any works are undertaken in a safe manner and to provide mitigation and compensation to achieve potential biodiversity gains as required by the Environment Act (Wales) 2016.

It is concluded that with the implementation of appropriate mitigation there are no apparent ecological reasons that would prevent the proposed development going ahead.

1 INTRODUCTION

- 1.1 Hawkeswood Ecology was instructed to carry out a Preliminary Ecological Appraisal (PEA) and Provisional Roost Assessment (PRA) on land at Llys Wern, Neath (approximate central Grid Reference SS 74596 98777). It is proposed to develop the Site for residential purposes.
- 1.2 The Site lies in a well developed area of Neath just south of Bryncoch and is surrounded by existing housing. The northern boundary is formed by a redundant hedgerow which forms a wildlife corridor and connects to hedgerows to the east and west. The major part of the Site itself is dominated by species poor amenity grassland.
- 1.3 The objectives of the survey are:
 - To assess the trees on Site for bat roost potential;
 - To ascertain the habitats and species present within the Site;
 - To assess the ecological and nature conservation value of the Site;
 - To assess the potential ecological impacts of the proposed works;
 - To provide recommendations to mitigate the proposed works.
- 1.4 The PEA and PRA were carried out on 25th February 2020.

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. Eric has been an active member of the Brecknock Bat Group since 1999 and been involved in a number of long running surveys within the county. He extensive experience of protected species survey and is a Natural Resources licensed bat ecologist (S085546-1) and licensed to undertake dormouse survey. He has been a professional in the nature conservation field for thirty one 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.

3 METHODOLOGY AND CONSTRAINTS

Desktop Study

- 3.1 No specific biological data search was undertaken. Records from recent surveys in this area undertaken by Hawkeswood Ecology were assessed.

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 taking into account 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.

Provisional Roost Assessment

- 3.3 A visual inspection was carried out from the ground using binoculars. The use of ladders was limited but assisted along with the use of an endoscope where safe and feasible. The inspection looked for features on the trees that could be used by bats for roosting and shelter. Where safe, trees were climbed.
- 3.4 The surveyor noted species, presence of ivy, whether there were cavities, holes or other suitable crevices for bats to roost within, or whether there was any dead wood which may indicate some level of roosting opportunity and attributed an appropriate risk category. Only trees which showed potential for bats are recorded below as the majority of the area was covered with relatively young or coppiced growth. The bat potential categories are presented in Table 1 below and approximate location of trees assessed shown in Figure 1.

Table 1: Risk Assessment features for bat-roost potential during tree inspection (After *Bat Surveys for Professional Ecologists- Good Practice Guidelines*’ –Bat Conservation Trust 2016):

Suitability	Roosting	Commuting/Foraging Habitats
Negligible potential	No features likely to be used by roosting bats.	Negligible habitat Features likely to be used by commuting or foraging bats.
Low	Trees with no obvious PRF's to support bats although the size and age may result in limited features that may support bats or only limited features noted in inspection	Suitable habitat but isolated, may be used by small numbers of bats; i.e. isolated tree, small patch of scrub.
Medium	A Tree with one or more PRF's that could be used by bats due to their size, shelter, protection conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Habitat connected to the wider landscape such as trees, water, grassland or scrub.
High	A tree with one or more PRF's that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to size, shelter, protection, conditions and surrounding habitat.	Continuous high-quality habitat connected to the wider landscape likely to be used regularly by commuting and foraging bats. A site near to known roosts.

Notes: PRF's - Potential Roost Features

- 3.5 Evidence such as bat droppings (faeces) was looked for in holes where possible and at the base of the trees, and any holes also examined for urine or fur staining typically found at the access points.
- 3.6 The daytime inspection was carried out with the aid of close focusing binoculars, endoscope, night vision scopes, ladders and a 1,000,000 candlepower spot lamp.

Constraints

- 3.7 No constraints were noted in relation to the PRA. With regard to the PEA, the appraisal was undertaken early in the season, however given the nature of the habitats on site it is not considered that this constituted a major constraint.

4 DESKTOP STUDY FINDINGS

- 4.1 Hawkeswood Ecology undertook bat activity surveys of adjacent areas in land in 2016 and 2018. Both sites assessed were similar to the current Site and the northern hedgerow boundary was shared across all three survey areas. Given the urban nature of the Site, this was considered to be an appropriate level of search.
- 4.2 The bat activity surveys carried out in 2016 were undertaken on land immediately to the west of the current proposed development Site. Species identified were common and soprano pipistrelle, noctule and whiskered bats. The 2018 survey was carried out on a parcel of land approximately 180 metres to the west but still enjoying connectivity to the current Site by means of the northern boundary hedgerow. Species identified were the same as in 2016 with the addition of a possible brown long-eared bat pass.
- 4.3 The legal status of the bats recorded is given in Table 2 below:

Table 2: Legal Status of bat species reported

Common Name	Scientific Name	Status
Noctule Bat	<i>Nyctalus noctula</i>	EPS, HDir, WCA5, S7, UKBAP, Bonn, Bern, RD2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	EPS, HDir, WCA5, S7, Bonn, Bern, LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	EPS, HDir, WCA5, S7, UKBAP, Bonn, Bern, RD2 (UK), LBAP (ANG, BBNP, CLY, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
Brown Long-eared Bat	<i>Plecotus auritus</i>	EPS, HDir, WCA5, S7, UKBAP, Bonn, Bern, RD2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
Whiskered Bat	<i>Myotis mystacinus</i>	EPS, HDir, WCA5, Bonn, Bern, RD2 (UK), LBAP (ANG, DEN, FLI, GWY, POW, SNP, TRA, TRF)

5 FIELD SURVEY FINDINGS

Preliminary Ecological Appraisal

- 5.1 The Site is dominated by formally managed amenity grassland. It is species poor with few broad-leaved herbs visible in the sward. The northern boundary is formed by a redundant former agricultural hedgerow which now consists of mature and semi-mature trees and shrubs. The hedgerow has been affected by planting of many garden species, such as berberis and garden privet. There is a small area of bamboo scrub in one corner of the Site with a small group of semi-mature cypress trees (Target Note 1). Photographs are given in Appendix 4.
- 5.2 The amenity grassland is dominated by perennial rye-grass with Yorkshire fog and red fescue apparent. Broad leaved herbs are sparse with creeping buttercup, ribwort plantain and common sorrel all occasional; ragwort occurs rarely. An area at Target Note 2 consists of cleared bamboo scrub which appears to have totally dominated this area. A group of semi-mature cypress trees (Group 3 in the Arboricultural survey) bounds existing gardens here. There is also a disturbed area at the entrance to the Site from Heol Llwyn Celyn where tree clearing operations have been undertaken at an earlier stage.
- 5.3 The northern boundary is formed by a relict and redundant former agricultural hedgerow which is now unmanaged (Target Note 1). It consists largely of semi-mature and mature shrubs and trees with many species colonising from adjacent gardens or being planted by adjacent tenants. It has spread to a width of around 5 metres in the absence of management and forms a green corridor across the area. It sits on a bank and there is a now largely filled ditch associated with it to the north that was not holding water at the time of survey and given the topography of the Site is unlikely to do so.
- 5.4 Canopy forming species are mainly common oak with rarely occurring sycamore and crab apple. The shrub layer is now sparse and much affected by garden species. Hawthorn and holly are occasionally occurring with dog rose and blackthorn being rare. Garden species include occasional garden privet, Himalayan honeysuckle, berberis, laurel, hydrangea and bamboo.
- 5.5 The ground layer is largely shaded. It is dominated by abundant ivy and bramble with locally abundant common cleavers and bracken. Lesser celandine is locally frequent and hart's tongue fern, broad buckler fern, wood avens occur occasionally. Male fern and pampas grass occur rarely. Spanish bluebell appears to be in the hedgerow along with Montbretia.

Bats

- 5.6 The Provisional Roost Assessment (PRA) was undertaken in good weather conditions following a heavy shower. The trees were not in leaf at the time of the survey (excepting the cypress) offering good access and views of those assessed. The detailed assessment was limited to those species identified as being removed to enable the development.

- 5.7 One semi-mature oak plus a number of cypress and hawthorn trees were inspected. The results are given in Table 3 below and the approximate location of the trees is plotted in Figure 1.
- 5.8 Summarising the results the oak (T4) is considered to be of negligible potential to support roosting bats with no Potential Roost Features (PRFs) visible. The cypress (T7), although a dead tree, shows no obvious opportunities for bats, the rationale for being a LOW category is the presence of dense ivy rather than the presence of PRFs in the trees themselves.
- 5.9 The groups of hawthorn/ash and cypress offer only two Potential Roost Features between them with one tree in each group showing a scar feature. One hawthorn has developed a shallow cavity near ground level, but this does not extend into the tree. One cypress has a scar where bark has been removed at some point. The bark around the edge of this feature is raised and may support a roosting bat if it lifts. Recommendations are made in respect of both of these trees. Further survey is not considered necessary and is unlikely to provide any useful new information.

Preliminary Roost Assessment and Preliminary Ecological Appraisal, Llys Wern, Neath
Hawkeswood Ecology – February 2020

Table 3: Assessment of Bat Roost Potential in Trees on Site:							
Tree no	Species	Ivy*	Cavities	Dead Wood	Approx height (m)	Bat presence / Recommendations	Roost potential
T4	Common oak	L	None	None	10	Semi-mature tree in good condition, pronounced lean to the south. Shows no opportunities for bats. Category rated on this basis. Recommendations, if felled before in leaf, no restrictions, if in breeding season it will need to be assessed for breeding birds prior to felling.	Negligible
T7	Cypress sp	D	No	Dead tree	10	Dead mature tree, single stem and grown straight, no apparent cavities and no obvious PRFs. Coated in dense ivy which can offer opportunistic roosting opportunities for bats. Category rated on this basis. Recommendations, As the tree is dead, a climbing and section fell is unsafe; The tree should be felled and left in situ for at least 24 hours before further cutting up.	Low
G1	Hawthorn, ash	N	One cavity in one of the hawthorns	No	6	Shrubs remaining after some felling has taken place. The ash is a young tree and is straight with no opportunities. The hawthorns (approximately 5 shrubs) remain following the earlier felling and are generally poorly grown. There are no obvious opportunities for bats however. One tree shows a shallow cavity approximately 10cm above ground facing SE; this cavity does not extend beyond the opening. Apart from the one hawthorn the shrubs are considered to be negligible, the tree with the cavity should be inspected before felling takes place but is considered to be of low potential only due to the location and small size of the cavity.	Low
G3	Cypress	N/L	One tree shows a scar	None	~9-10	Group of unmanaged cypress sp trees, semi-mature. All are in decent condition with no obvious PRF's,	Low

Preliminary Roost Assessment and Preliminary Ecological Appraisal, Llys Wern, Neath
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						however one has a scar approximately 0.5m above ground, eastern facing. This has no cavities but the bark is raised around the edges and may offer an opportunistic roost site. Category based on this. The damaged tree should be inspected prior to felling, there are no other restrictions on this group.	
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PRF = Potential Roost Feature

*Ivy: N = none
L = light cover
M = medium cover
D = dense cover

Fauna

- 5.10 A small number of bird species were noted during the survey and these were associated with the northern boundary hedgerow or adjacent gardens. Species heard or seen were house sparrow, song thrush, blackbird, wren and dunnock.
- 5.11 The Site does not offer suitable habitat for protected species other than birds and potentially foraging and roosting bats (in the retained areas of the hedgerow). It is possible that hedgehog crosses the Site and this should be considered in any fencing design.
- 5.12 The Sites isolation from nearby suitable habitat is also likely to limit its suitability for reptiles. Its lack of management has led to dense undergrowth with few basking places. It is possible that a small number of animals are present on Site and this should be considered in Site clearance and construction design.

Invasive Species

- 5.13 Both Montbretia and Spanish bluebell were noted on Site.

Summary

- 5.14 The Site is fairly typical of many urban formally managed grasslands and its main value lies in the hedged boundary at Target Note 2.

6 ECOSYSTEM RESILIENCE

- 6.1 Under the Environment (Wales) Act 2016 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. LPA's 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.
- 6.2 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.
- 6.3 Section 4 names five attributes that NRW consider 'building blocks' of ecosystem resilience, these are:
- Diversity
 - Extent
 - Condition
 - Connectivity
 - Adaptability
- 6.4 These factors are considered below, however, 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. It should also be acknowledged that there is as yet no agreed format to undertake such an assessment.

Diversity

- 6.5 The diversity on the Site is largely limited to the northern hedgerow boundary which supports a variety of mature trees and shrubs including some escapes from gardens. The ground flora is largely shaded out with few species apparent and invasive species such as Montbretia and Spanish bluebell are present. The structural diversity of the hedgerow also increases its value to animals and it is likely to support breeding birds. Bats may also roost in the mature trees at the eastern end of the hedgerow, but as previous survey in adjacent areas are shown, they are likely to forage along this hedgerow line.
- 6.6 The hedgerow fulfils the criteria as the UK Biodiversity Action Plan Priority Habitat 'Hedgerows' but cannot be considered to be species rich. The remainder of the Site is not biologically diverse.

Extent

- 6.7 The Site is approximately 0.31 hectares, a small site that is relatively isolated in the built environment and dominated by amenity grassland. The hedgerow boundary is approximately 140 metres in length but connects loosely at either end to other hedgerows.
- 6.8 Following development, approximately 0.13 hectares of the existing Site will remain, it would be expected that the grassland areas will be damaged during the construction phase. Approximately 105 metres of the hedgerow will be retained and will be protected during the construction phase.

Condition

- 6.9 The Site is largely formally managed as amenity grassland and can be considered in poor condition for biodiversity. The hedgerow is unmanaged and although cannot be considered to be in good condition is of value for its potential to support breeding and foraging wildlife. Its importance is enhanced due to its urban location.
- 6.10 The presence of invasive species must be considered during the proposed development works.

Connectivity

- 6.11 The Site is largely isolated from any nearby suitable biodiversity rich areas. There is however a network of retained agricultural hedgerows and mature gardens that allow suitable foraging and commuting routes for many species. Connectivity to large blocks of open land (other than a nearby sports field) are limited by roads, the nearest open countryside is over 350 metres distant.
- 6.12 For birds this network can provide good foraging and breeding habitat and they are likely to make use of the open amenity areas for foraging also. For bats, they provide a commuting link and good foraging habitat away from well lit areas. Previous survey has shown bats using the hedgerow early in the evening before venturing into more open areas of gardens and grassland as it grew dark. The hedgerow is also likely to be used by small mammals and invertebrates. The development will widen an existing gap near the entrance to the Site from Heol Llwyn Celyn and planting will be necessary to mitigate this.

Adaptability

- 6.13 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.’
- 6.14 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.

7 DISCUSSION AND IMPACT ASSESSMENT

- 7.1 The Site is a small area of undeveloped land to the rear of housing on Heol Llwyn Celyn and Heol Y Nant. It is dominated by formally managed amenity grassland with a relict agricultural hedgerow bounding the north of the Site. This hedgerow has spread to around 5 metres depth and is the focus of any biodiversity on the Site. At the time of survey, some trees had already been removed at the western end.
- 7.2 Hawkeswood Ecology has previously surveyed two adjacent sites of a similar nature for bat activity in 2016 and 2018. Those surveys have shown the hedgerow to be used between Heol Llwyn Celyn and the main road to the west, Dwr Y Felin Road, by foraging bats and it would be expected that this section of hedge would be used by the same species noted then and in the same manner. Four species were recorded with the possible addition of brown long-eared. Of these all but noctule showed activity associated with the hedgerow and adjacent gardens and open areas.
- 7.3 An assessment of further trees to be removed for bat roost features showed them to be of Low potential for supporting roosting bats. There were limited Potential Roost Features (PRF's) with only two notable features found, but ivy was present on some of them offering opportunistic opportunities for bats to roost. As potential was so limited it was considered that further survey is unnecessary and would not provide any useful new information.
- 7.4 Due to the intensive management of the grassland area and the lack of management of the hedgerow, the Site is not considered to be particularly suitable for reptiles. However there is potential for small numbers to occur in any habitat near gardens. Their potential presence, most likely of common lizard and slow worm is considered in the recommendations.
- 7.5 The hedgerow does not qualify as a SINC when compared to the Wales Biodiversity Partnership guidelines (2008) as it does not support an appropriate number of native woody shrubs as listed in the hedgerow Regulations 1997. It is of interest as performs an important role for commuting and foraging animals plus being suitable habitat for breeding birds and possibly roosting bats. It is in line with criteria as the UK BAP Priority Habitat ‘Hedgerows’.

- 7.6 The Site may have potential for hedgehog and is likely to retain its value for them post development, measures should be taken in the Site design to ensure that passage of hedgehog across the Site is possible, recommendations are made in Section 9.

Characterisation of Impact

- 7.7 The proposed development will remove the existing amenity grassland habitat but will retain much of the hedgerow habitat which supports the majority of the biological interest on Site. The Site may be of some local value to foraging birds and bats, and the hedgerow will support commuting mammals but it is of limited size and has a poor habitat mosaic. The trees earmarked to be removed for the development have shown low potential to support roosting bats. The Site is therefore considered to be of **no significance** in a local or wider context.

Predicted Development Impacts

- 7.8 The development will affect the westernmost part of the hedgerow and much of the amenity grassland. Other impacts may include the spread of invasive species, loss of breeding bird habitat and disturbance and fragmentation of bat foraging and commuting routes. Without mitigation, the impacts can be considered to be of **moderate significance** in a local context. With appropriate mitigation, the loss of a section of the hedgerow will be of **moderate significance** in the short term but of no significance following establishment of new growth. With appropriate mitigation measures, the impacts of the proposed development will be of **no significance** in the medium to long term.

8 RELEVANT LEGISLATION AND POLICIES

Birds

- 8.1 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).
- 8.2 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.
- 8.3 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.”
- 8.4 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

- 8.5 All UK bats are protected under the Wildlife and Countryside Act 1981. Schedule 5 of this act makes it illegal to intentionally kill, injure or take these species. It is also an offence to intentionally damage or destroy their place of rest.
- 8.6 They are also protected 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 which requires the United Kingdom government to provide European Protected Species with strict protection.
- 8.7 The Habitats Directive is transcribed into England and Wales Law by The Conservation of Habitats and Species Regulations 2017, 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.
- 8.8 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.
- 8.9 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.
- 8.10 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.
- 8.11 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.

- 8.12 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.
- 8.13 A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.

Hedgehogs

- 8.14 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.

Reptiles

- 8.15 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)).
- 8.16 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.

Invasive Species

- 8.17 Montbretia and Spanish bluebell are listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended); as such it is an offence to allow them to spread in the wild. Measures must be in place to prevent their spread as a consequence of any development operation.

TAN 5

- 8.18 Planning Policy Wales Technical Advice Note (TAN) 5, Nature Conservation and Planning, provides advice on how the planning system should contribute to biodiversity protection and enhancement. TAN 5 recognises the importance of biodiversity and the enjoyment of it. TAN 5 requires Local Planning Authorities (LPAs) to protect and enhance biodiversity during the planning process and to encourage sustainable developments. It also requires LPA's to ensure that protected Sites are properly accounted for within the planning system.

Securing Biodiversity Enhancements

- 8.19 The Chief Planning Officer sent a letter to LPAs (dated 23rd October 2019) following the refusal of the planning application. This letter has provided clarification on the Welsh Governments approach to Paragraph 6.4.5 of Planning Policy Wales 10 which sets out that "*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*".
- 8.20 The purpose of this letter was to clarify that in light of the legislation and Welsh Government policy outlined above, where biodiversity enhancement is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations

indicate otherwise it will be necessary to refuse permission. Biodiversity enhancement therefore will need to be included in any future planning application.

9 RECOMMENDATIONS

- 9.1 An Ecological Clerk of Works (ECW) will be appointed for the duration of the scheme.

Birds

- 9.2 Any works on trees and shrubs and vegetation clearance should be undertaken outside the accepted bird breeding season of March to August. If this is not possible, the affected areas will be searched by a suitably experienced ecologist prior to commencement of works. There is no licence for the destruction of active bird nests and nest translocations invariably fail. Any active nest found will be protected by a buffer zone until such time as it is no longer in use.

Bats

- 9.3 Trees and shrubs will be felled in accordance with the recommendations made in Table 3: Assessment of Bat Roost Potential in Trees on Site. There are no restrictions on the majority of trees to be felled but an inspection prior to felling is required on two trees, a hawthorn in Group 1 and a Cypress in Group 3. In addition, the oak, T4, will be section felled by a climbing tree worker. The dead cypress tree, T7, will be felled and left for a minimum of 24 hours before logging.
- 9.4 Bats, particularly *Myotis* and brown long-eared species which have both been recorded in adjacent sections of the hedgerow, are affected by artificial light and this can have an impact upon their foraging success. Consideration will therefore be given to the level of external lighting around the Site. Lighting will be located with consideration for bats and other nocturnal species and will avoid the retained hedgerow.
- 9.5 Any domestic lighting will be placed at a level lower than three metres, be cast to the ground with no up-lighting and will ideally be on a time switch to ensure light scatter is limited in duration. It should only be used in areas where safety is a consideration. Road lighting should be a direct light, such as LED preferably in line with guidance from the Bat Conservation Trust using LED lighting between 2700°K and 3000°K (warm white).

Hedgerow

- 9.6 The creation of the road access to the Site will necessitate the removal of part of the existing hedgerow at the eastern end of the Site. Along with an existing gap for a footpath and a section to the west of that path with few shrubs or trees, an extensive gap in the hedgerow will be formed of around 40 metres. Therefore hedgerow planting will be undertaken along the new access road and to the west of the existing footpath to compensate this loss. Species used will reflect those in the existing hedgerow such as hazel, hawthorn, blackthorn and dog rose. The use of standard trees in this area is unlikely to be possible due to the proximity to the new access road.
- 9.7 Should any further pruning works be necessary to the retained hedgerow trees, a licensed bat ecologist will be instructed to assess the areas affected in detail prior to commencement of works.

Hedgehog

- 9.8 The use of close board fencing can isolate areas of garden, particularly impacting on hedgehogs. If the use of such fencing is proposed, boards cut 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.

Reptiles

- 9.9 The presence of reptiles on the Site cannot be discounted but due to the formal management of the grassland area and its relative isolation only small populations would be expected should any be present. As a matter of best practice a ground clearance strategy will be employed as outlined below:

- Initial vegetation clearance works will consist of cutting above ground vegetation and can be undertaken at any time of year. The initial vegetation removal will cutting the grassland vegetation to ground level by machine; no clearance works will be undertaken within the tree and hedgerow protection zone. If the operator has concerns about any features uncovered during this stage of clearance the ECW will be called to Site to offer advice.
- Should the works commence in the hibernation season (roughly end October to March depending upon weather conditions) when the animals would normally be underground any significant hibernacula identified (such as piles of rubble, wood or other structure offering protection), they will be isolated and no further clearance undertaken of them until the activity season is underway.
- If works commence in the activity season, they will only be undertaken in warm conditions. Temperatures should be above 10°C in preferably sunny conditions, works will not commence until 10.00am at the earliest. This will allow any animals present to warm up and become active following cooler night time temperatures.
- The vegetation should be cleared in the direction that pushes any reptiles present towards the hedgerow. This allows any animals that may be present to leave under cover of the remaining vegetation. Any animals found by the operator should be moved to a safe area on Site which will be designated by the ECW.
- If at any time significant numbers of animals are found during clearance, the ECW will be called to advise on how best to safely proceed. This may require reptile proof fencing and the removal of animals to a receptor Site.
- Only following this stage will earthmoving machinery be allowed to work the Site surface. A 360 or similar machine should drag the surface clear of vegetation and remove any potential hibernation areas. Should significant numbers of reptiles be found on Site at any time during

the habitat manipulation works, they will cease immediately and the ECW contacted for advice on how best to proceed.

Biodiversity enhancements

- 9.10 In addition to the new hedgerow planting integral bat and bird boxes will be used in the new construction. Bat tubes will be located on the gable ends of the new buildings and bird boxes on the rear elevations of the properties. Typical examples are shown in Figure 2. The locations of bat and bird mitigation will be such that they are not vulnerable to attack from cats. The boxes should be in positions where cats cannot gain access and there should be no suitable perching sites local to the boxes where cats can attack emerging bats.
- 9.11 Restoration of the retained areas of grassland will include an area of seeding with a suitable 'lowland meadows' mix such as Emorsgate EM 2, a general meadow seed mix. It will be managed in accordance with the suppliers instruction; this should mean cutting at the start of the season and after flowering.
- 9.12 Over and above the previous recommendations, any landscaping plan should introduce native species reflecting those present in the local area (all native species should be of local provenance) or species with known value to British wildlife. Plantings should include species known to be valuable to foraging birds and bats such as those producing berries and attractive to insects, i.e. heather, hawthorn, pyracantha and hazel.

General Recommendations

- 9.13 An area will be identified where chemicals and building materials can be safely stored to prevent pollution incidents occurring. Control measures will be clearly outlined in the Construction Environmental Management Plan (CEMP).
- 9.14 Hedgerow and Tree roost protection zones (RPZ) specified in the Arboricultural report will be outlined in the CEMP; no vehicles or mechanical works will be allowed in the RPZ areas. The canal embankment will be protected through the development. Only personnel carrying out any necessary invasive species control will be allowed to enter this area.

Invasive species

- 9.15 Montbretia and Spanish bluebell have been identified on Site. These plants should be destroyed on Site if they are to be disturbed by the development operations or taken in secure transport for destruction off-site.

10 CONCLUSIONS

- 10.1 The Site is presently dominated by amenity grassland with a relict over-mature hedgerow on the northern boundary. The hedgerow is the primary area of biodiversity interest on Site and is a UK BAP Priority Habitat.

- 10.2 Part of the hedgerow will be removed to enable the development, recommendations are made to mitigate for this.
- 10.3 Tree works will be taken in accordance with the guidance in this report and inspections prior to works by a licensed bat ecologist are required in some instances.
- 10.4 The proposed development is unlikely to adversely impact upon habitats or protected species if the recommendations made in Section 9 are implemented.

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**FIGURE 1:
PHASE 1 HABITAT MAP**

Figure 1: Phase 1 Habitat Survey map



FIGURE 2
TYPICAL INTEGRAL BIRD AND BAT BOXES



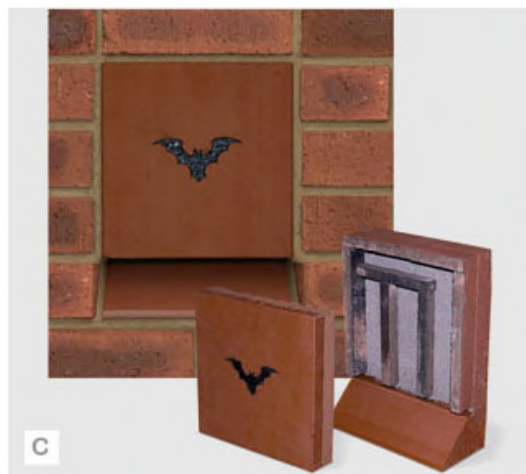
Free Access Bat Box A

- 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



Triple Swift Cavity nest 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. Area of cleared bamboo scrub
2. Redundant agricultural hedgerow, gappy and unmanaged. The shrub layer has matured and the hedgerow is effectively a narrow woodland strip along the northern boundary of the Site. The hedgerow runs for a significant distance, from the east of the Site and continues for approximately 220 metres to the west; it joins a hedgerow running northwards at its eastern extreme. There is a significant gap of around 7 metres at the western end caused by a previous development and an existing pathway. The hedgerow contains a number of alien species, both woody and herbaceous including the invasive species Montbretia and Spanish bluebell. Species recorded were:

<i>Species</i>	<i>Frequency</i>
Berberris sp	LF
Bracken	LA
Bramble	A
Broad buckler fern	O
Cherry laurel	R
Common cleavers	LA
Common oak	F
Crab apple	O
Garden privet	O
Hart's-tongue	O
Hawthorn	O
Himalayan honeysuckle	R
Holly	O
Hydrangea	O
Ivy	A
Lesser celandine	LF
Male fern	R
Montbretia	O
Pampas grass	R
Rosa sp	R
Spanish bluebell	O
Sycamore	O
Wood avens	O

APPENDIX 3
LIST OF PLANT SPECIES RECORDED IN THE SURVEY

<i>Species</i>	<i>Scientific Name</i>
Bamboo	<i>Bamboo agg</i>
Berberis sp	<i>Berberis sp</i>
Bracken	<i>Pteridium aquilinum</i>
Bramble	<i>Rubus fruticosus</i>
Broad buckler fern	<i>Dryopteris dilatata</i>
Cherry laurel	<i>Prunus laurocerasus</i>
Common cleavers	<i>Gallium aparine</i>
Common oak	<i>Quercus robur</i>
Common ragwort	<i>Senecio Jacobea</i>
Common sorrel	<i>Rumex acetosa</i>
Crab apple	<i>Mallus sp</i>
Creeping buttercup	<i>Ranunculus repens</i>
Garden privet	<i>Ligustrum ovalifolium</i>
Hart's-tongue	<i>Asplenium scolopendrium</i>
Hawthorn	<i>Crataegus monogyna</i>
Himalayan honeysuckle	<i>Leycesteria formosa</i>
Holly	<i>Ilex aquifolium</i>
Hydrangea	<i>Hydrangea sp</i>
Ivy	<i>Hedera helix</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Male fern	<i>Dryopteris filix-mas</i>
Montbretia	<i>Crocsmia sp</i>
Pampas grass	<i>Cortaderia sp</i>
Perennial rye-grass	<i>Lolium perenne</i>
Red fescue	<i>Festuca rubra agg</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rose sp	<i>Rosa sp</i>
Spanish bluebell	<i>Hyacinthoides hispanica</i>
Sycamore	<i>Acer psuedoplatanus</i>
Wood avens	<i>Geum urbanum</i>
Yorkshire fog	<i>Holcus lanatus</i>

APPENDIX 4
PHOTOGRAPHS



Disturbed ground at the Site entrance from Heol Llwyn Celyn



Views across the Site looking east



Looking to the cleared area at TN1



Looking west across the Site



Looking along the hedgerow (TN2) at the eastern end of the Site



The hedgerow looking west



T4, common oak above,
T7 dead cypress right.





G1 looking west, hawthorn and ash
(large tree is T4) above,
G3, cypress right



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