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PRELIMINARY ECOLOGICAL APPRAISAL AND TREE BAT ROOST POTENTIAL ASSESSMENT CRYMLYN PARC, PHASE 5, SKEWEN

ON BEHALF OF

HALE GROUP LTD

February 2025

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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 without just cause for exception.

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SUMMARY
Hawkeswood Ecology was instructed to carry out a Preliminary Ecological Appraisal on land identified for Crymlyn Parc Phase 5 development, a residential development proposal in the Skewen area of Neath Port Talbot. The Site was by previously surveyed by Hawkeswood Ecology in March 2021. The current survey takes into account boundary changes made since that survey.

The Site consists of agriculturally modified species poor grassland that is grazed by sheep, cattle and donkeys, separated by unmanaged derelict hedgerows. The Site sits to the east of Skewen town centre in an area of mixed rural and residential developments. It is bounded to the north by an area of bramble and tall herb developed on a disused railway line and the M4. Housing around the Site has been largely developed over the last twenty years.

The development Site supports no significant botanical interest. The fields are heavily grazed, but the cattle and donkey grazed fields are less poached than in the previous study. Mature trees on the field boundaries offer opportunities for breeding birds and potentially roosting bats. However an updated Ground Level Tree Assessment and climbing survey did not find trees of high value potential for roosting bats.

The proposed development will impact mainly upon the agriculturally modified grassland which is of low species diversity and to a lesser extent the derelict hedgerows. It is recommended that the hedgerows are to be retained, and if so it is considered that the development is likely to have little impact upon species currently using the Site.

The Site is approximately 700 metres from Crymlyn Bog Special Area for Conservation (SAC) at its nearest approach. Air quality testing shows no predicted significant impacts on the Site and measures are outlined in the report to prevent issues from pollutants or excess water flows entering the Crymlyn Brook and thus into the SAC.

It is considered that there are no apparent overriding ecological reasons that would prevent the proposal proceeding, recommendations to enhance biodiversity are made within the report.

1 INTRODUCTION

1.1 Hawkeswood Ecology was instructed by Hale Construction Ltd to carry out a Preliminary Ecological Appraisal (PEA) on land at Crymlyn Parc, Skewen (approximate central Grid Reference SS 70885 96994). It is proposed to develop the Site for residential purposes.

1.2 The Site is dominated by three agriculturally improved fields which are currently sheep, cattle and donkey grazed. These are bounded by unmanaged and derelict hedgerows. The Site was previously surveyed in 2021, '*Preliminary Ecological Appraisal, Crymlyn Parc Phase 5, Skewen (Issue 2) - Hawkeswood Ecology March 2021'* and the current survey and report updates the findings and the survey area of that report.

1.3 In addition, a Preliminary Tree Bat Roost Assessment (PRA) carried out in 2021 was also updated. The original report '*Protected Species Surveys, Crymlyn Parc, Phase 5, Skewen (Issue 3) – Hawkeswood Ecology February 2022*' was reviewed and the re-survey is reported in this document.

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 assess the bat roost potential of mature trees on Site;
- To assess the potential ecological impacts of the proposed works;
- To provide recommendations to mitigate the proposed works.

1.5 The PEA was carried out on 15th July 2024, the Tree Bat Roost Assessment on 6th July 2024.

2 SURVEYOR EXPERIENCE

2.1 The habitat 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 five 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 The Bat Tree Close Inspection survey was undertaken by Aaron Davies and Matt Dowling. Aaron and Matt are experienced and licensed tree climbing bat ecologists with a wealth of experience in all types of bat work. Aaron is heavily involved in voluntary bat work with the Glamorgan Bat Group. Aaron's Natural Resources Wales licence number is S085246-1, Matt's is S087707-1. Aaron and Matt work together as Eryr Gwyn Ecology.

3 METHODOLOGY AND CONSTRAINTS

Desktop Study

3.1 The South East Wales Biodiversity Records Centre (SEWBReC) was asked to provide records of protected or important species from a 1 kilometre radius of the Site. Information on internationally, nationally and locally designated sites was also sought from a radius of 1 kilometre.

3.2 The Hawkeswood Ecology survey undertaken in 2021 was also reviewed as part of the study. Although carried out on a slightly different red line area, the whole of the current survey area was surveyed in 2021 allowing for any significant changes in habitat to be identified.

Preliminary Ecological Appraisal

3.4 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.

3.5 In addition to the bat tree assessment, the Site was assessed for its potential to support other protected species.

Bat Tree Close Inspection

3.6 The Ground Level Tree Assessments (GLTA) and aerial Inspections were undertaken in accordance with BCT '*Bat Surveys for Professional Ecologists, Good Practice Guidance (4th Edition, 2023)*'.

3.7 The suitability of Potential Roost Features (PRFs) is categorised according to their ability to support individual bats or multiple bats and therefore possibly maternity colonies. The categories are detailed in Table 6.2 of the guidelines as:

- PRF-1: only suitable for single or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M: suitable for multiple bats and may therefore be used by a maternity colony.

Constraints

3.8 No specific constraints to the survey were identified.

4 DESKTOP STUDY FINDINGS

4.1 SEWBReC reported a total of 269 Priority and Protected Species from the 1 kilometre search area No records were made from the Site itself. The closest bat record was from approximately 300 metres north of the Site where a common pipistrelle roost is noted in a house. Other bat records include a number of unspecified records, brown long eared, noctule, soprano pipistrelle and unspecified *Myotis* species, the nearest being approximately 600 metres from the Site. Between a

distance of approximately 1200 to 1900 metres south of the Site are three records of lesser horseshoe bat, all from known roosts.

4.2 A large number of records relate to birds and many species could occur on, near or over the Site. Typically, these relate to species commonly associated with urban areas. A number of species are likely to use the fields for foraging, including thrushes in the winter, although the intensive management is likely to have reduced the invertebrate biomass available. Spotted flycatcher has been recorded in the 1 kilometre square and the trees on Site offer some potential to support this declining species. Other species records of note reported near the Site include reptiles, with common lizard and slow worm noted 270 metres to the east of the Site. These and other species that are relevant to the habitat types present on Site are given in Table 1.

4.4 Amphibians reported include great crested newt and palmate newt with records dating from 2021. These relate to a Site approximately 650 metres south of the Site and are separated from it by Crymlyn Road and the Crymlyn development.

4.3 A small number of invertebrates are reported with marsh fritillary and small pearl bordered fritillary noted approximately 1350 metres from the Site. Whilst the scrub woodland north of the Site may support many moth and other invertebrate species those that may occur on Site are very limited.

4.4 Mammal records are of badger, with two mortality records from the M4 approximately 230 metres from the Site and footprints identified approximately 300 metres south of the Site. Hedgehog is recorded from a number of locations in the search area and is likely to occur on or near the Site. There is a single mortality record of polecat approximately 550 metres west on the M4.

4.5 With regard to flowering plants, only bluebell is reported with a single record from over 900 metres from Site.

4.6 Table 1 below shows the status of Protected and Priority Species considered relevant to the Site with records dated from 2000.

Table 1: Status of Relevant Priority and Protected Species

Common Name	Scientific Name	Status
Bats	*Chiroptera*	EPS, WCA5, S7, LBAP (ANG, DEN, FLI, RCT, SNP, TRA, TRF)
Bluebell	*Hyacinthoides non-scripta*	WCA8, LBAP (ANG, CLY, CON, FLI, SNP, TRA, TRF)
Brown Long-eared	*Plecotus auritus*	EPS, HDir, WCA5, S7, UKBAP, Bonn, Bern, RD2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
Bullfinch	*Pyrrhula pyrrhula*	S7, UKBAP, WBR(RSPB), LBAP (BBNP, CER, CLY, CON, DEN, FLI, GWY, PEM, TRF, VOG), UKBR(RSPB)
Common lizard	*Zootoca vivipara*	WCA5, S7, Bern, LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
Common Pipistrelle	*Pipistrellus pipistrellus*	EPS, HDir, WCA5, S7, Bonn, Bern, LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
Dunnock	*Prunella modularis*	S7, UKBAP, Bern, LBAP (CON, POW, VOG), UKBAm(RSPB)
Fieldfare	*Turdus pilaris*	BDir22, WCA1.1, LBAP (CON, POW), WBAm(RSPB), UKBR(RSPB), UKBAm(RSPB)
House Sparrow	*Passer domesticus*	S7, UKBAP, Bern, LBAP (CLY, CON, FLI, GWY, VOG), WBAm(RSPB), UKBR(RSPB)
Lesser redpoll	*Acanthis cabaret*	S7, UKBAP, WBR(RSPB), LBAP (CON), LBAP (DEN, POW, VOG), UKBAm(RSPB)
Linnet	*Linaria cannabina*	S7, Bern, WBR(RSPB), LBAP (ANG, BBNP, CER, CLY, DEN, FLI, PEM, VOG), LBAP (CON, GWY), UKBR(RSPB)

Common Name	Scientific Name	Status
Noctule Bat	*Nyctalus noctula*	EPS, HDir, WCA5, S7, UKBAP, Bonn, Bern, RD2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
Pipistrelle Bat species	*Pipistrellus*	EPS, WCA5, LBAP (ANG, DEN, FLI, SNP, TRA, TRF)
Redwing	*Turdus iliacus*	BDir22, WCA1.1, LBAP (CON, POW), WBAm(RSPB), UKBR(RSPB), UKBAm(RSPB)
Slow-worm	*Anguis fragilis*	WCA5, S7, UKBAP, Bern, LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, VOG)
Song Thrush	*Turdus philomelos*	BDir22, S7, UKBAP, Bern, LBAP (ANG, BBNP, CER, CLY, CON, DEN, FLI, GWY, PEM, POW, SNP, TRF, VOG, WRE), WBAm(RSPB), UKBR(RSPB)
Soprano Pipistrelle	*Pipistrellus pygmaeus*	EPS, HDir, WCA5, S7, UKBAP, Bonn, Bern, RD2 (UK), LBAP (ANG, BBNP, CLY, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
Spotted flycatcher	*Muscicapa striata*	S7, Bern, WBR(RSPB), LBAP (BBNP, CER, CLY, CON, DEN, FLI, GWY, PEM, POW, VOG), UKBR(RSPB)
Starling	*Sturnus vulgaris*	BDir22, S7, UKBAP, Bern, WBR(RSPB), LBAP (BBNP, CON, FLI, GWY, VOG), UKBR(RSPB)
West European Hedgehog	*Erinaceus europaeus*	S7, UKBAP, Bern, LBAP (ANG, BGW, BRG, CON, FLI, GWY, NEW, POW, RCT, VOG)

4.7 One hundred and thirty records of Other Species of Conservation Concern are reported of which the majority relate to birds. No records are located on the Site with the nearest being long tailed tit approximately 120 metres distant. Many of the bird records relate to open water and other habitats not on Site.

4.8 Species that could occur on, adjacent to or over the Site include meadow pipit, willow warbler, coal tit, common whitethroat, green woodpecker, swallow, house martin, goldcrest and lesser black backed gull.

4.9 Fifty two Species of Local Conservation Concern are reported of which most relate to birds and flowering plants. Few of the records are relevant to the Site. Species which could occur include mainly birds with greenfinch and mistle thrush both likely to occur on or near the Site. Plant species identified are mainly related to wetland or marshy habitats with few likely to occur on or near the Site; field maple, hard rush and red bartsia could be expected.

4.10 Invasive species reported include Japanese knotweed, Himalayan balsam, *Crocosmia* Species, rhododendron, Spanish bluebell and cotoneaster species.

4.11 Crymlyn Bog Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) lies approximately 750 metres to the south west of the Site. The SAC is cited for the presence of Transition Mires and Quaking Bogs, Calcareous Fens and Alluvial alder/ash forest. It is considered to be one of the best examples of transition mires and quaking bogs in the UK. The SSSI Citation reads '*Crymlyn Bog is of special interest for its fen (topogenous mire) communities, wet woodland, associated invertebrate assemblages, a substantial population of the nationally rare slender cotton grass Eriophorum gracile and a population of the nationally scarce hornet robberfly Asilus crabroniformis. It is the most extensive area of lowland fen in South Wales and is situated 3.5 km east of central Swansea within a landscape heavily influenced by past and present industrial activities*'.

4.12 MAGIC shows the nearest Special Area of Conservation (SAC) is Crymlyn Bog some 600 metres to the south. This SAC is separated from the Site by a railway, roads and development but it does

have a potential direct connection to the SAC via the Crymlyn Brook into which the Site will drain. Crymlyn is also a SSSI and National Nature Reserve and RAMSAR Site (a wetland site of international significance).

4.13 Following consultation with Natural Resources Wales (NRW) at pre-application consultation (PAC) it was commented that there may be potential impact pathways to the SAC via hydrological and air quality pathways. These matters are discussed in Section 7, Discussion and Impact Assessment and recommendations made in Section 8, Recommendations.

4.14 The following Sites of Importance for Nature Conservation (SINC's) are reported from the Site itself or locally (distance in brackets):

- Ancient Semi-Natural Woodland (203m)
- Main Swansea - Fishguard Railway Line (172m)
- M4 corridor (228m)
- Crymlyn Quarry Woodland (489m)
- Junction 44 Heathlands (493m)
- Coed Gelli-Deg - Drummau (851m)
- NPT Watercourses (on Site)

4.15 The Main Swansea - Fishguard Railway Line SINC corridor lies just to the north of the Site with the M4 corridor SINC beyond that. Crymlyn Quarry woodlands include semi-natural ancient woodland and grasslands and lie to the west of the Site. The NPT Watercourses appears to be a generic SINC which covers much, if not all of NPT.

4.16 No habitats of importance are identified from the Site. Dense scrub is reported to the north with an area of wet heath/acid grassland mosaic recorded at Crymlyn Brook, approximately 150 metres north west of the Site.

4.17 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. SEWBReC have given this data search a unique reference number, 0245-496, which should be quoted in any communications with them.

5 FIELD SURVEY FINDINGS

Preliminary Ecological Appraisal

5.1 The Site is dominated by agriculturally modified grassland which is heavily grazed. The three fields which dominate the Site are bounded by former hedgerows that are derelict and gappy with few shrubs and occasional mature trees on heavily grazed and eroded banks having little associated ditch or hedgerow flora. See Figure 1, Phase 1 map and Appendix 4 for photographs.

Agriculturally Modified Grassland

5.2 The fields described at Target Note 2 are species poor agriculturally modified grassland which when surveyed in 2001 appeared to be short term leys showing no substantive sward development and with very few species present. The grass dominated sward has developed now but remains

notably species poor with species present including abundant perennial rye-grass and white clover with locally frequent creeping buttercup, daisy and common dock. Common nettle and creeping thistle occurred occasionally.

Field boundaries

5.3 To the south and west the Site is bounded by and the fields separated by former and now derelict hedgerows. All of the boundaries are relict with few trees or shrubs remaining, all are on banks with no associated ditches and all are unmanaged apart from that at Target Note 1. This hedgerow, where remaining has had some crown reduction carried out to keep growth clear of a power line. The northern field boundary is self-set semi-mature trees which have developed along the old railway boundary fence line, again unmanaged but not on a bank.

5.4 The southern boundary line (Target Note 1) has rarely occurring crown-reduced sycamore and common oak with occasional holly and hawthorn. There is no specifically associated ground flora, the bank being subject to grazing and largely eroded. Occasional species include locally frequent sheep's sorrel, common bent and Yorkshire fog and rarely occurring foxglove, meadow vetchling, male fern, common knapweed and ivy with frequent bare ground.

5.5 The two field boundaries separating the fields (Target Notes 3 and 4) are both derelict former hedgerows now largely consisting of occasional mature trees with occasionally occurring over-mature shrubs. Both are on banks and these are largely open to grazing and heavily eroded. The Hedgerow at Target Note 3 is now a gappy line of trees with occasional sycamore, common oak and rowan with occasionally silver birch. The remaining shrubs are occasional hawthorn and holly with rarely occurring elder. A section at the northern end of the hedgerow is dominated by common gorse with dense bramble. Sheep's sorrel and common bent were locally frequent where protected from grazing, and species previously identified were still present; the remainder of the ground flora is poorly developed, over-grazed and eroded with much bare ground present.

5.6 The boundary at Target Note 4 is similar to that at TN 3 in terms of structure with over-mature hazel being the most frequent, yet still only locally occurring shrub. Canopy species include occasional common oak and silver birch. The ground flora is completely grazed out and representative of the improved grassland adjacent.

5.7 The derelict hedge line to the west of the Site at Target Note 5 supports no mature trees but occasionally occurring over mature holly and hawthorn, again on an overgrazed and eroded bank with no associated understorey and no standard trees.

5.8 The northern boundary of the fields is marked by the old railway boundary fence along which a number of trees have developed (Target Note 6). Goat willow and sycamore are occasional with rarely occurring common gorse and buddleia. The ground flora represents the adjacent improved grassland with bramble also locally frequent.

Summary

5.9 The Site is dominated by agriculturally improved grassland with derelict and gappy former hedge lines now largely consisting of a small number of trees and over-mature shrubs. No significant changes to the habitats present was noted since the survey undertaken in 2021. The area to the

north of the Site identified as poor semi-improved grassland in 2021 is now largely dominated by tall herbs and unmanaged. To the south is a strip of land that is partially managed as a formal amenity grassland with a play area with unmanaged areas designated as 'bee-friendly' areas which are largely species poor.

Fauna

5.10 In 2021 a reptile survey was undertaken and proved negative with no evidence of reptiles on Site. The current survey area was considered at that time as to heavily grazed and disturbed to support any significant populations of reptiles and this remains the case.

5.11 The mature trees and scrub on and adjacent to the Site are likely to support breeding birds. Given the density of the adjacent housing and disturbance from farming operations, breeding birds are likely to be limited to more common species associated with human habitation, no evidence of ground nesting birds was found.

5.12 There was no evidence of badgers using the Site at the time of the survey, however, they are known from the Site from earlier surveys and motorway casualties have been reported nearby dating from around 2011-13.

5.13 The Site does not support suitable habitat for otter, great crested newt, dormouse or water vole.

Bat Tree Close Inspection

5.14 The Bat Tree Close Inspection Survey described 7 trees on Site, the results are presented in Table 2. No trees are considered to require further survey but pre-start checks are required if any works are proposed that affect trees T2, T3, T4, T5 and T6.

5.15 The results of the current survey and comparison to that undertaken in 2021 are shown in Table 2 below and the approximate location of trees assessed shown in Figure 2.

Table 2: Bat Tree Close Inspection Report

Tree	Original Grade	Species	Location	PRF Description	2021 Visit	2021 Visit Notes	2024 Visit	Grade (BCT 4th)	2024 Visit Notes	Recommendations
T1	Low	Oak	On fence line	Knothole on main stem	27/08/2021	Extends in horizontally 5cm	06/07/2024	None	Knot hole has healed removing any void suitable for bats	None
T2	Low	Birch	On fenceline	Knothole at 1.5m on stem	27/08/2021	Extends down 30cm to birds nest, open and damp	06/07/2024	PRF-I	A further two knotholes above the original PRF at 3m and 3.5m. Both extend down 15cm, upward facing, damp	Pre-works check
T3	Low	Birch	On fenceline	Butt rot on main stem	27/08/2021	Multichambered, extends up 10cm, 7x3cm, large, exposed	06/07/2024	PRF-I	Void where roots have been undermined, suitable for oportunitic use	Pre-works check
T4	Low	Oak	Twin stemmed oak by gate	Wound, upward facing wound on stem	27/08/2021	extends down 10cm to flat base, several other knotholes and wounds superficial and do not lead in	06/07/2024	PRF-I	No change in PRF	Pre-works check
T5	Low	Oak	On middle boundary fenceline	Damaged limb with several small pockets behind heartwood	27/08/2021	Extends up behind several pockets, dry, suitable for opportunistic use	06/07/2024	PRF-I	No change in PRF	Pre-works check
T6	Low	Sycamore	On middle fence boundary	PRF1 -Knothole 4m on main stem PRF2 - Knothole 5.5m main stem PRF3 - knothole with remnant heartwood,	27/08/2021	PRF 1 - , 5cm diameter entrance, extends 7cm horizontally (low) PRF2 - 15x15cm entrance, extends horizontally 15cm, very open (negligible) PRF3 - desiccation fissure in heartwood, 7x5cm open and exposed (low)	06/07/2024	PRF-I	No change in PRF	Pre-works check
T7	Negligible	Sycamore	On middle fence boundary	Several knotholes on main stem	27/08/2021	Features superficial and do not provide sufficient cover for bats	06/07/2024	None	No change	None

6 RELEVANT LEGISLATION AND POLICIES

Birds

6.1 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).

6.2 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.

6.3 The Conservation of Habitats and Species Regulations 2017 has strengthened the protection of wild birds and their habitats. The amendment is "To help preserve, maintain and re-establish habitats for wild birds."

6.4 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

6.5 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 bats. 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 2981 (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'.

6.6 Further all bat species are 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 bats with strict protection. The Habitats Directive is transcribed into England and Wales Law by The Conservation of Habitats and Species Regulations 2017 and consolidated into UK post Brexit legislation by The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019; this legislation consolidates amendments made to the earlier 2010 act with the 2019 amendment altering wording to satisfy its status as UK legislation post Brexit. 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.

6.7 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.

6.8 In the case of a development involving the loss or modification of a building which may affect bats the above legislation must be considered and it may be necessary to apply to Natural Resources Wales for a European Protected Species Licence (EPSL).

6.9 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 bats must be considered and mitigated for prior to commencement of works. Under the above regulations, a WAG 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.

6.10 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 bat and possible imprisonment.

6.11 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.

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

Badger

6.13 The Protection of Badgers Act (1992) makes it an offence to kill, injure, disturb or take a badger, or to damage or interfere with a sett without previously obtaining a licence from Natural Resources Wales (NRW).

6.14 The legislation states in Section 3:
A person is guilty of an offence if, except as permitted by or under this Act, he interferes with a badger sett by doing any of the following things—
(a) damaging a badger sett or any part of it;
(b) destroying a badger sett;
(c) obstructing access to, or any entrance of, a badger sett;
(d) causing a dog to enter a badger sett; or

(e) disturbing a badger when it is occupying a badger sett,
intending to do any of those things or being reckless as to whether his actions would have any of those consequences.

6.15 Within this legislation, if a sett is present on or near a development Site, a licence is needed to hand dig within 10 metres of the sett, to use light machinery within 20 metres of the sett or to use heavy plant machine digging within 30 metres of the sett.

Invasive species

6.16 Species that are listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) must not be impacted from any development in such a manner that the spread of them is encouraged. Crocosmia has been identified from the Site and measures should be in place to prevent its spread during any development.

Securing Biodiversity Enhancements

6.17 The Chief Planning Officer sent a letter to LPAs (dated 23rd October 2019) following discrepancies over the implementation of LPA duty under the environment (Wales) Act 2016. This letter provides clarification on the Welsh Governments approach to Paragraph 6.4.5 of PPW 11. The purpose of the 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 maintenance and enhancement and Ecosystem Resilience will need therefore to be considered in any future planning application.

6.18 Planning Policy Wales (PPW) 12 has recently been released and has strengthened the green infrastructure segments. In respect of the Chief Planning Officers letter (6.32 above) and a consultation process Paragraph 6.4.5 in PPW 12 now requires a net benefit for biodiversity in any development and reads:
Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species (not including non-native invasive species), locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems. ***A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before****, through securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site.*

7 DISCUSSION AND IMPACT ASSESSMENT

Preliminary Ecological Appraisal

7.1 The Site consists of agriculturally improved grazed fields separated by derelict hedgerows now consisting of a few mature trees with a small number of over-mature shrubs on open poached and eroded banks. The main development zone is the improved fields with the hedgerows retained in the scheme design. A small SUDS attenuation basin is proposed to be located in the north west of the Site.

7.2 The data search also shows the whole Site identified as part of a generic NPT 'Watercourses' SINC, however, no watercourses exist on the Site and no obvious connections to watercourses were noted. Effectively therefore, there is no potential impact to the wider watercourse SINC from the proposed development of the Site. There are a number of SINC sites locally but only the Swansea Fishguard railway SINC has any connectivity directly to the Site but even so is separated by a working farm slurry store and farm works, the others separated by built features.

7.3 Crymlyn Bog Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) lies approximately 700 metres to the south west of the Site. Following consultation response, NRW commented that there is a potential hydrological pathway as the local storm drainage connects to the Crymlyn Brook which flows directly into the SAC approximately 1 kilometre downstream. The development Site lies on the northern side of a shallow ridge with drainage to the Crymlyn Brook to the north.

7.4 NRW's comments relate to the storm/surface water drainage running directly to the SAC via the Crymlyn Brook and comment that the SAC is in poor condition due to over wetting. Their main concern is that there will be additional hydrological inputs to the SAC. Furthermore they express concern relating to the potential for sewage overflow in storm conditions and pollution during construction.

7.5 Over wetting of the SAC is a wider problem that needs to be addressed, however the Site will see run off via rain gardens and an attenuation pond where surface waters will be managed to ensure no rapid run off of water during storms. The full details of the management of the attenuation pond and measure taken to control run off rate and prevention of pollutants entering the water course will be detailed in the Construction Environmental Management Plan (CEMP) which will be produced and agreed before construction commences.

7.6 CB3 Consult has produced a drainage Technical Note which comments that there will be no need to connect to either the surface or foul drainage systems and that run off from the Site will look to replicate the existing drainage of the Site (Drainage Strategy Report, Crymlyn Parc Phase 5, October 2024 accompanying the application for full details). They also comment that predicted run off following the construction works will show '*significant betterment can be seen with regards to discharge rates to the existing watercourse for all return periods of greater than one year by comparison to that of existing conditions*' through the attenuation provided, which will assist in reducing the hydrological overburden suffered by the SAC at times of storm stress.

7.7 Welsh Water comment within their PAC response that no problems are envisaged. They confirm that there is capacity for the connection of foul flows to the existing network.

7.8 To address comments from NRW relating to impacts from Air Quality issues, further modelling was undertaken by Kalaco Group Ltd. (Air Quality at Designated Ecological Sites: Crymlyn Parc, Skewen, January 2025). The modelling undertaken looked at air quality impacts from the proposed development in relation to Critical Levels, Critical Loads in terms of nitrogen dioxide, ammonia, nutrient nitrogen deposition and acidity deposition and were found to 'not significant' in accordance with approved dispersion modelling strategies. The detailed Air Quality report forms part of the planning application.

7.9 A number of the mature trees on the field boundaries showed features that may have been suitable for bats but following a close inspection nothing of high or medium potential was found. A number of trees will require further assessment immediately prior to any works taking place that may affect them.

7.10 None of the habitats on Site qualify as SINC when compared to the Wales Biodiversity Partnership guidelines (2008) supporting no habitats or species of value. The field boundary features are all former hedgerows now best described as gappy rows of trees with occasional over-mature trees. They suffer heavy grazing apart from a small area where bramble and gorse are dominant and grazing is therefore restricted; even here the hedge bank is heavily eroded and only a few species such as sheep's sorrel and foxglove, were considered to be representative of the former hedgerow flora.

7.11 Badger footprints were recorded from the Site and locally in 2013 but there was no evidence of badgers found during the current survey; it is likely that the development of the site immediately to the west in 2013-15 has disrupted badger routes in this area.

7.12 The Site may have some value for foraging birds. The main attraction for birds will be the trees and scrub woodland areas although the open fields are likely to attract thrushes during passage and winter. The presence of typically woodland and urban bird species are likely to breed in the trees and shrubs, however the Site is not considered to be important for birds with many similar habitats in the locality. The open fields are too heavily disturbed and grazed to support ground nesting species and disturbance from the amenity land immediately adjacent to the south of the Site is likely to limit the suitability of the Site for many breeding species.

7.13 The Site may have potential for hedgehog and measures should be taken in any future Site design to ensure that passage of hedgehog across the Site is possible; recommendations are made in Section 8. In general, the Site is not important for habitats or species outlined in Section 7 of the Environment (Wales) Act 2016.

7.14 Under the Environment (Wales) Act 2016 and Planning Policy Wales 12, 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 need to consider the impacts of a proposed development upon the resilience of both on Site and adjacent habitats in this context, i.e. looking at impacts on a Landscape scale. 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. Planning Policy Wales 12 (2023)

has confirmed the Chief Planning Officer's position and states that any new development must provide '*a net benefit for biodiversity*'.

7.15 At its most simple, this would mean that the LPA must protect any biodiversity value current to the Site and require enhancements that will result in a biodiversity gain. In this instance, following survey, it is considered that there is little potential for any significant negative impacts for biodiversity from the proposed development if retention of the existing trees and hedge banks is achievable. It is possible that any development will result in the removal of some of the existing hedge banks and may affect some of the existing trees therefore this would need mitigation and compensation on the Site.

7.16 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. Recommendations are made in Section 8 to ensure that any impacts are properly negated and a Net Benefit for Biodiversity achieved.

7.17 The premise for Ecosystem Resilience is laid out in The Wellbeing of Future Generations (Wales) Act 2015 and Section 4 of The State of Natural Resources Report, a 2018 document produced by Natural Resources Wales (NRW) on behalf of the Welsh Government. These documents lay out a framework for assessing ecosystem resilience. However, despite the duty placed on LPA's, there is no currently agreed format for this assessment. In addition, Planning Policy 12 (2023) chapter 6 identifies the 'stepwise approach' to development in which biodiversity is a key factor.

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

- Diversity
- Extent
- Condition
- Connectivity
- Adaptability

7.19 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. It should also be acknowledged that there is as yet no agreed format to undertake such an assessment.

Diversity

7.20 The habitats on Site can be placed into two distinct types, the agriculturally improved field and the former hedgerows on banks now dominated by a few remaining mature trees and very few shrubs. The Site itself contributes little to ecosystem diversity and survey has shown very limited potential roosting bats in trees. Reptile survey in 2021 showed that areas immediately to the north of the Site that held some potential to support reptiles did not do so. The key areas surveyed for reptiles in 2021 are now outside the current red line.

7.21 It is considered overall that habitat diversity on Site is low with the proposed construction zone itself of very low value. Retention or restoration of the hedgerows and retention of mature trees

plus appropriate landscaping within the development have the potential to increase wildlife diversity on Site in relation to common species. Impacts from the development will need to be properly mitigated to allow any potential benefits to be gained.

7.22 The Site falls within a zone of Sites of Importance for Nature Conservation (SINC) Sites designated by Neath Port talbot and appears to be part of the generic "waterways' SINC. There are no watercourses on the Site however.

Extent

7.23 The whole Site is approximately 5.50Ha, of which approximately 5Ha is accounted for by the agriculturally improved grassland pasture. Its relatively small size is mitigated to some extent by this connectivity afforded by the nearby rail and motorway verges linear features, but the poor habitat currently on-Site does not benefit from this connection.

Condition

7.24 The Site is in poor condition with low biodiversity value. The grassland is species poor and heavily grazed; it appears to be put down to short term leys and is heavily disturbed. The mature trees offer potential for breeding birds and roosting bats, but generally, the intensive management of the Site has severely limited its value for biodiversity.

Connectivity

7.25 The Site itself has generally poor connectivity and sits in a pocket of undeveloped land adjacent to recently developed housing areas. The scrub and scrub woodland on the northern boundaries of the Site link to the nearby rail and motorway networks and offers commuting routes for wildlife. For species such as bats and birds in particular, the scrub offers foraging and commuting routes to and from local open areas.

Adaptability

7.26 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 emphasises one of the most important features of resilience: dynamism and the ability to adapt to change*.'

7.27 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.

Assessment of Potential Impacts

7.28 The proposed development will result mainly in the loss of agriculturally modified grasslands which are species poor and at least in part, appear to be short term overgrazed leys. The Site does not support protected species although it is probable that bats forage over the Site. The presence of mature trees showing limited roost potential will mean that if any identified trees are affected by works a pre-commencement inspection for bats will be necessary. The removal of any trees or shrubs in the hedgerows will also cause disturbance to any other wildlife using the hedgerows as wildlife corridors or for foraging.

7.29 Taking this into account and if the recommendations given in Section are implemented it is considered that the proposals are of **no ecological significance** in a local or county context. If the recommendations are fully implemented it is considered that there will be potential for a Net Benefit for Biodiversity on the Site. No negative impact upon the favourable conservation status of bats within the local or wider area is foreseen.

8 RECOMMENDATIONS

8.1 Prior to commencement of works the following survey and inspection is required:

- Trees identified as having a Potential Roost feature (low potential – see Table 2) will be inspected for bat use prior to any works taking place that affect them (i.e. stem or branch management or felling;
- A pre-commencement survey of the Site and suitable adjacent areas for the presence of badger setts.

8.2 A detailed Construction Environmental Management Plan (CEMP) will be produced prior to commencement detailing how ecological and environmental procedures will be implemented and any incidents (i.e. chemical spills) will be managed. The CEMP will also detail the details of the attenuation pond and rain gardens proposed to reduce the rate of surface water drainage run off.

8.3 Japanese knotweed is present on land immediately adjacent to the north. Restrictions on access into that off-Site area will be enacted to prevent accidental spread of this invasive and proscribed species.

8.4 The current field boundaries will be retained and improved by planting up gaps wherever possible. Increasing the biodiversity value of the retained sections is discussed below.

8.5 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. Any active nest found will be protected by a buffer zone until such time as it is no longer in use.

8.6 Nocturnal animals, including bats, can be affected by artificial light spill. Consideration will therefore be given to the level of external lighting around the Site and a detailed lighting scheme should be produced and agreed with the Local Planning Authority.

8.7 Artificial lighting will take into consideration the details provided in the Bat Conservation Trust guidance note 08/23 of 2023. The use of ‘bat friendly’ lighting (wavelengths above 550 nano metres) should be used for any street lighting employed. The guidance note is produced by the Bat Conservation Trust and the Institution of Lighting Professionals.

8.8 Lighting will avoid adjacent areas, in particular the undeveloped areas to the north. 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 any resultant light scatter is limited in duration; it should only be used in areas where safety is a consideration. High luminescence security lighting should be discouraged.

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 without a gravel board to leave a minimum 15cm gap at ground level for the length of the fence.

8.10 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 the CEMP.

8.11 Hedgerow and Tree roost protection zones (RPZ) will be outlined in the CEMP; no vehicles or mechanical works will be allowed in the RPZ areas. All tree protection works will comply with BS 5837:2012 - Trees in relation to design, demolition and construction.

Net Benefit for Biodiversity

8.12 Integral bat and bird boxes will be used in the new construction. Bat tubes will be located on buildings near the Site boundaries, particularly adjacent to northern boundary, and bird boxes, in particular swift and house sparrow boxes on a number of houses throughout the development. Typical examples are shown in Figure 3. The locations of bat and bird mitigation will be such that they are not vulnerable to attack from cats and are free from human interference.

8.13 Initial layout plans (2285 – 00(03) 100K – Spring Consultancy) show retention of a wide corridor around one of the retained hedge banks and retention of the majority of existing trees and shrubs. An attenuation pond is also proposed surrounded by a LAP (a Local Area for Play).

8.14 Opportunities to increase the biodiversity value of the Site include:

- Beating up the existing field boundaries and hedge lines using native trees and shrubs of local provenance and reflecting the species already present;
- Introducing a wild meadow mix along the retained hedgerow running north-south across the Site, mixes for consideration include Emorsgate EM1, a basic general purpose mix and EM4, a meadow mixture for clay soils. Both mixes are complete mixes with grass and wild flower species. They include species that are favourable to pollinators, increasing populations of invertebrates and higher animals offering an ecosystem of both prey and predator species.
- Development of SUDs basin for biodiversity including possible use of wet meadow seed mixtures (EM8) and plug planting.
- Any formal landscaping plan will be based on 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. Swedish whitebeam, hawthorn, pyracantha and hazel.
- Retained habitat improvements will introduce a complex structure offering differences in height throughout, this is important to increase biodiversity at all levels as different animals are supported by differing niches based on both height and spread of plant species;
- Ensuring all retained habitats on-Site are connected to off-Site areas, i.e. linking the retained open space to the northern boundary which in turn links to the motorway and rail network.

9 CONCLUSIONS

9.1 The Site is presently dominated by agriculturally improved grazed pasture and mature trees. There are no habitats of particular biodiversity value within the proposed construction zone but there is limited potential for the trees on Site to support roosting bats and breeding birds.

9.2 Pre-commencement inspection of some trees is required if affected by the works and a pre-commencement survey for the presence of badger setts is also necessary.

9.3 A number of recommendations are made in Section 8 which if implemented will lead to an overall Net Benefit for Biodiversity at a local Site level and with connections to the wider landscape retained and improved may have benefits outside the immediate Site environment.

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FIGURE 1:
PHASE 1 HABITAT MAP

Figure 1: Phase 1 Habitat Survey map

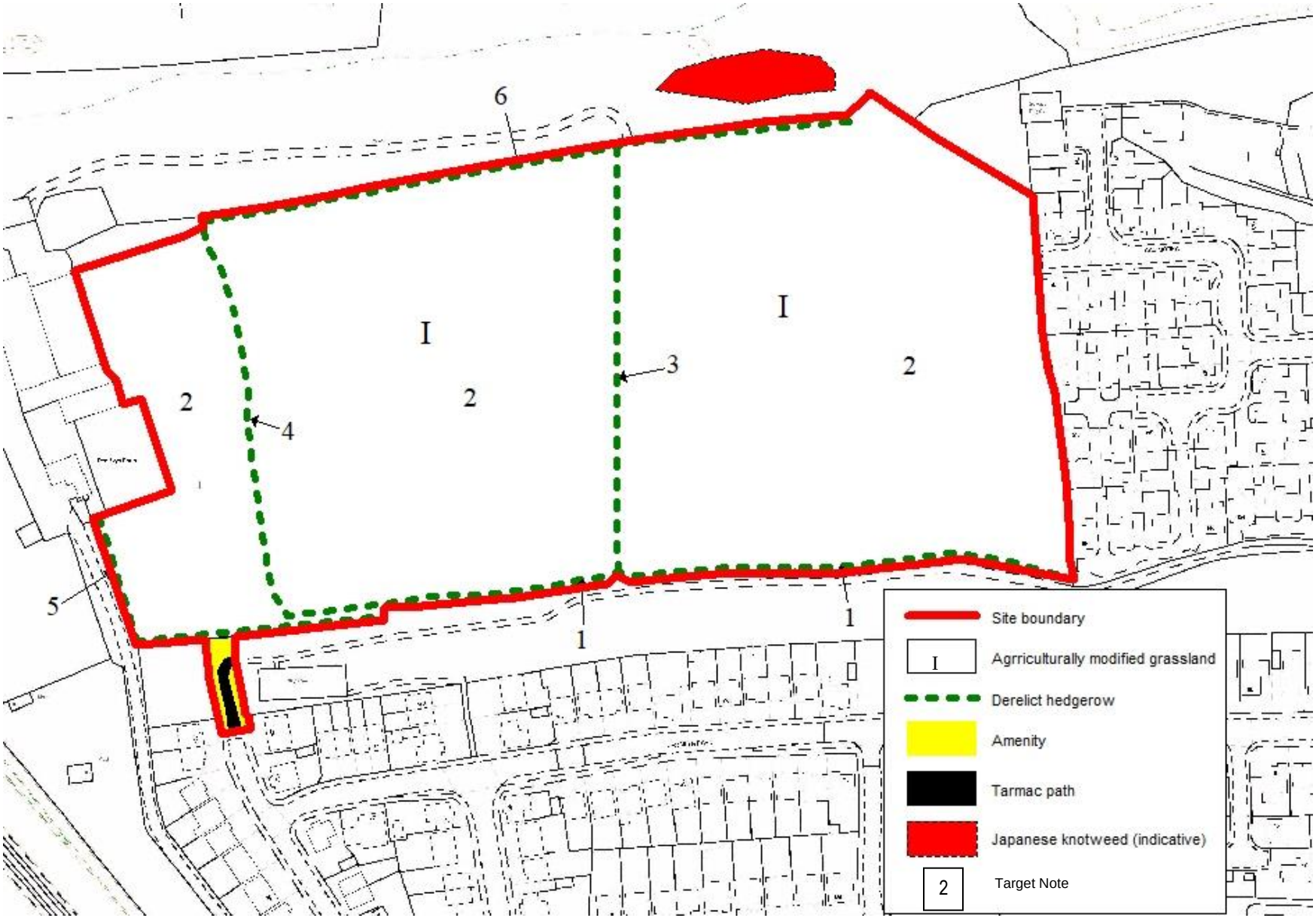

FIGURE 2
BAT TREE CLOSE INSPECTION RESULTS

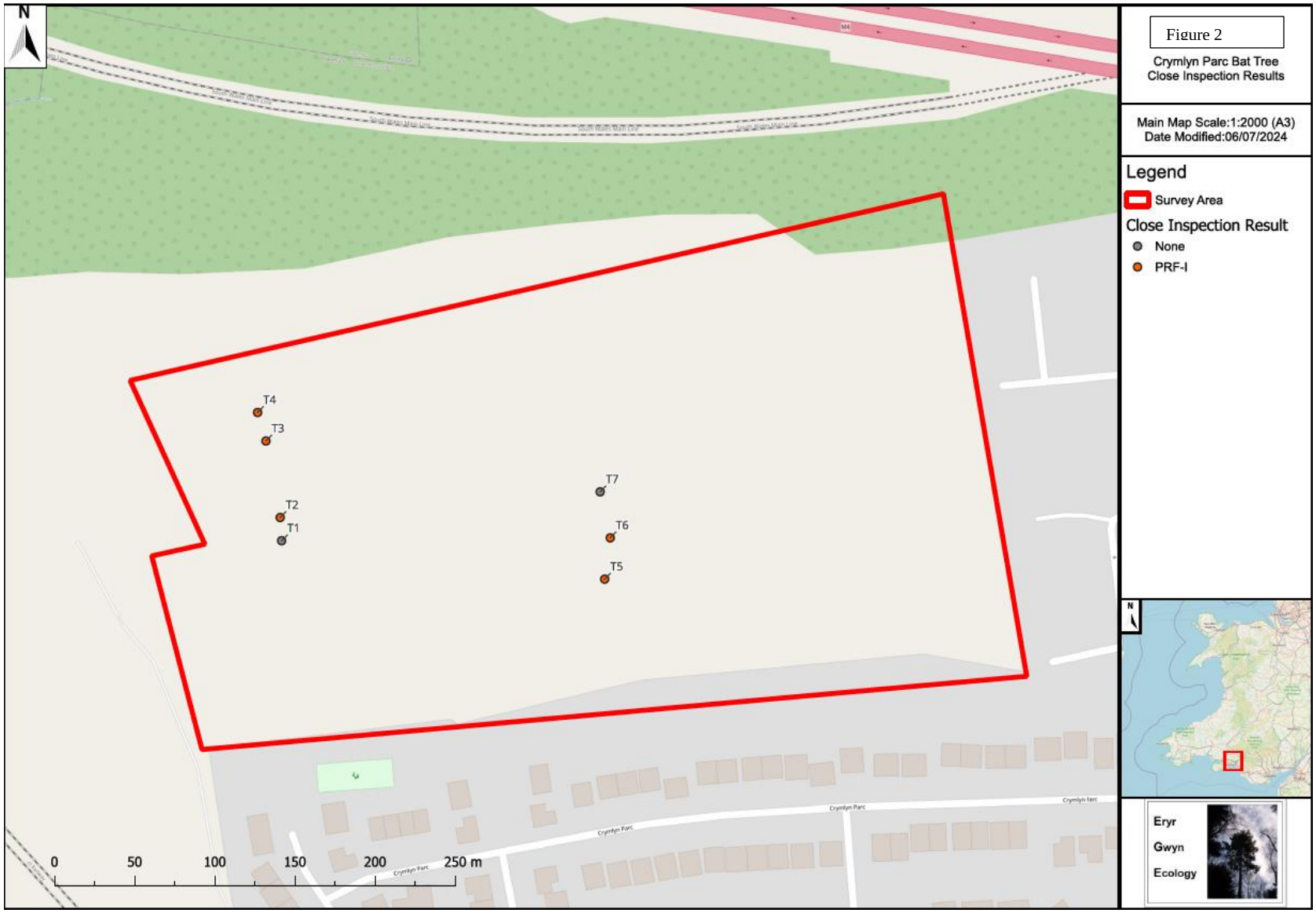
N
Figure 2
Crymlyn Parc Bat Tree
Close Inspection Results
Main Map Scale:1:2000 (A3)
Date Modified:06/07/2024
Legend
Survey Area
Close Inspection Result
None
PRF-I
T4
T3
T2
T1
T7
T6
T5
0
50
100
150
200
250 m
Eryr
Gwyn
Ecology

FIGURE 3
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. Derelict hedgerow on southern boundary of Site running across all three fields. Gappy and unmanaged with few shrubs and large areas of bare ground; on a bank with no ditch. The bank is heavily eroded with a poorly developed associated hedgerow ground flora; heavily grazed and reflecting the improved grassland of the fields. Many of the trees remaining within the hedgerow have been crown reduced under a power line along the hedgerow. Species noted were:

Species	*Frequency*
Bare	F
Bracken	O
Bramble	LA
Cocksfoot	O
Common gorse	R
Common knapweed	O
Common nettle	O-LF
Common oak	O
Creeping thistle	O
Dog rose	R
False oat-grass	O
Foxglove	O
Hawthorn	O
Holly	O
Ivy	O
Meadow vetchling	R
Ragwort	O
Rowan	R
Sycamore	R

2. Agriculturally improved grassland across all three grazed fields. The grassland is species poor it is considered the fields are possibly short term leys, all fields are overgrazed. Species present were abundant perennial rye-grass and white clover, frequently occurring daisy, common dock, locally frequent common nettle, creeping buttercup and occasional spear thistle and Yorkshire fog.

3. Derelict hedgerow on a bank with no ditch, the bank heavily eroded with stone base showing. The northern section dominated by dense bramble and common gorse. Mainly mature trees with occasional shrubs and long sections with no cover. Ground flora grazed out. Species recorded were:

Species	*Frequency*
Bare	F
Bluebell	LF

Bramble	LA
Common bent	F
Common gorse	R
Common nettle	LF
Common oak	O
Elder	R
Foxglove	O
Hawthorn	O
Holly	O
Ivy	O
Rowan	R
Sheep's sorrel	LF
Silver birch	R
Spear thistle	R
Sycamore	R

4. Former hedgerow on bank, the shrubs and trees now virtually gone, the bank is heavily eroded. Trees are occasionally occurring mature common oak and silver birch with over-mature hazel occasional. The trees show potential for use by bats. The ground flora is largely grazed out and similar to the adjacent fields.

5. Derelict hedgerow on bank, unmanaged to approximately 5 metres and very gappy, no standards or associated ground flora. Shrubs are occasional hawthorn and holly.

6. Field boundary along northern boundary of grazed fields, old railway boundary. Largely self-set with semi-mature trees and many gaps. Species present were frequent goat willow with occasional sycamore, buddleia, and silver birch. Gorse was occasional. The ground flora was heavily grazed with frequently occurring bramble and common nettle.

APPENDIX 3
LIST OF PLANT SPECIES RECORDED IN THE SURVEY

Species	*Scientific Name*
Ash	*Fraxinus excelsior*
Beech	*Fagus sylvatica*
Bluebell	*Hyacinthoides non-scripta*
Bracken	*Pteridium aqualinum*
Bramble	*Rubus fruticosus* agg
Cocksfoot	*Dactylis glomerata*
Common bent	*Agrostis capillaris*
Common field speedwell	*Veronica persica*
Common nettle	*Urtica dioica*
Common oak	*Quercus robur*
Creeping buttercup	*Ranunculus repens*
Crested dog's-tail	*Cynosurus cristatus*
Daisy	*Bellis perennis*
Dog rose	*Rosa canina*
False oat-grass	*Arrhenatherum elaitus*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Herb robert	*Geranium robertianum*
Holly	*Ilex aquifolium*
Ivy	*Hedera helix*
Meadow buttercup	*Ranunculus acris*
Perennial rye-grass	*Lolium perenne*
Ragwort	*Scenecio jacobaea*
Red fescue	*Festuca rubra* agg
Ribwort plantain	*Plantago lanceolata*
Sheep's sorrel	*Rumex acetosella*
Spear thistle	*Cirsium vulgare*
Sycamore	*Acer pseudoplatanus*
White clover	*Trifolium repens*
Yorkshire fog	*Holcus lanatus*

APPENDIX 4
PHOTOGRAPHS

Looking across the cattle grazed fields (TN2) towards the east, the boundary at TN 3 in picture

As above to the north west, the boundary at TN 4 in the picture

The southern Site boundary, TN 1 and adjacent amenity area

Looking to TN 1 from the fields

The eastern boundary where badger snuffle holes were found in adjacent land prior to development

Field boundary at TN3, looking north

The northern boundary (TN6)

The western boundary, TN5

APPENDIX 5
BAT TEEE CLOSE INSPECTION PHOTOGRAPHS

T1

T2

T3

T4

T5

T6

T7

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