

HAWKESWOOD ECOLOGY

Specialists in Ecological Survey and Assessment

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PRELIMINARY ECOLOGICAL ASSESSMENT AND PROTECTED SPECIES SURVEYS, BRYN PRIMARY SCHOOL, BRYN, NEATH PORT TALBOT.

ON BEHALF OF

STAR BUILDERS

October 2018

Ref: HE/90/2017

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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.

CONTENTS

1. Introduction
2. Survey Team Experience
3. Methodology and Constraints
4. Desktop Study Findings
5. Field Survey Findings
6. Discussion and Impact Assessment
7. Relevant Legislation and Policies
8. Recommendations
9. Conclusions
10. Bibliography

FIGURES

- | | |
|----------|---|
| Figure 1 | Application area |
| Figure 2 | Phase 1 Map |
| Figure 3 | Location of Observers and bat access points |
| Figure 4 | Location of reptile refugia |
| Figure 5 | Reptile hot spots |
| Figure 6 | Examples of integral bat boxes |

APPENDICES

- | | |
|------------|---|
| Appendix 1 | DAFOR scale of cover abundance |
| Appendix 2 | Target Notes |
| Appendix 3 | Species list |
| Appendix 4 | Photographs |
| Appendix 5 | Guide to Suitable Reptile Survey Weather Conditions |
| Appendix 6 | NRW Remote sensing Phase 1 Map (SEWBReC) |
| Appendix 7 | Designated Sites |

SUMMARY

Hawkeswood Ecology carried out a Preliminary Ecological Assessment and Protected Species surveys in relation to bats and reptiles at the former Bryn County Primary School. It is initially proposed to develop only part of the Site for residential purposes. The Site comprises of the former school buildings, hard-standing, amenity and nature areas; the Site is currently unmanaged.

The school building dates from around the 1960's or 1970's and is of a concrete panel construction over a metal frame with UPVC cladding over an earlier wooden cladding on the wall tops. There was considered to be medium potential for roosting bats as gaps allowed access between the UPVC cladding and the earlier woodland cladding although there was no access to the flat roof. Observations showed the building was used by common and possibly soprano pipistrelle and whiskered bats as a daytime roost. There was no evidence of maternity activity.

The school grounds are largely neglected grassland and woodland. The school originally had nature and garden areas. The former supports a number of native species and is best described as poor semi-improved neutral grassland although a large area is a virtual monoculture of common knapweed; some areas are simply species poor rank grassland, particularly around the building platform and on the roadside frontage. The woodland is mixed species and of little intrinsic value although it is used by foraging bats and birds.

A reptile presence absence survey indicated a good population of slow worm with common lizard present.

The Site is of some biodiversity value, supporting semi-improved neutral grassland and protected species.

Works to the school building will need to be carried out under a derogation licence as roosting bats are present and all British bats are fully protected under British and European Law. It is probable that to develop the whole Site, a reptile translocation exercise will be necessary to prevent killing or injuring slow worms and common lizards, both species protected under the Wildlife and Countryside Act 1981 (as amended).

The conclusions of this report are considered valid for two years from the latest survey dates noted in Section 1 of the report.

1 INTRODUCTION

- 1.1 Hawkeswood Ecology was instructed by Star Builders to carry out a Preliminary Ecological Assessment at the former Bryn County Primary School, Bryn Neath Port Talbot, approximate central Grid Reference SS 81459 92466. Following the PEA and discussions with the Neath Port Talbot County Borough Council (NPT) Biodiversity Unit recommendations were made and accepted to survey for roosting bats and reptiles. It is proposed to demolish the school building and redevelop the Site for residential purposes. This initial application is based on Plot 13 (Figure 1) although the survey considered the Site as a whole.
- 1.2 The Site is split approximately 40:60 between the school building, hard standing and amenity/wildlife areas. Part of the amenity area is laid out as gardens with raised beds and a pond. Much of the non developed area consists of poor semi-improved neutral grassland and semi-mature woodland developed as the school's nature area. The former school building is concrete panels over a steel frame dating from around the 1970's; it is possibly a modular built unit. It is neglected, subject to a large amount of water ingress and generally in poor condition.
- 1.3 The Site was in use until the end of the 2015/16 school year and has been sealed and abandoned since then.
- 1.4 The objectives of the surveys were to:
 - 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 value of buildings on Site for the presence of roosting bats;
 - To undertake a reptile presence/absence survey;
 - To assess the potential ecological impacts of the proposed works;
 - To provide recommendations to mitigate the proposed works.
- 1.5 The Preliminary Ecological Assessment and Daytime Bat Scoping Survey were carried out on 15th May 2018. Dusk and dawn bat observation surveys were undertaken on 13th June and 20th July respectively. Reptile presence absence surveys were undertaken over a period from 13th July to 30th August 2018, the mats having been set out on 13th June 2018.

2 SURVEY TEAM EXPERIENCE

- 2.1 The lead 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 is a Natural Resources Wales (NRW) licensed bat worker (no. 74244a:OTH:CSAB:2016) and has extensive experience of roost inspections and emergence work. He has also undertaken a significant amount of reptile work in recent years from initial survey to animal translocations. He has been a professional in the nature conservation field for twenty nine years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.

- 2.2 Assistant surveyors on the evening and morning observations were Nicola Hawkeswood, Emma Adamson, Helen Smith and Will Walsh. Nicola is a partner of Hawkeswood Ecology and along with Emma has undertaken bat observation surveys for over 12 years. Helen and Will began working with Hawkeswood Ecology in 2016 and 2017 respectively and are now confident and accurate observers with a rapidly growing amount of experience.
- 2.3 The reptile surveys were undertaken by Eric and Will Walsh. Will has a specific interest in reptiles and has proved to be an extremely effective reptile surveyor over the last two years.

3 METHODOLOGY AND CONSTRAINTS

Desktop Study

- 3.1 Consultations were undertaken with the South East Wales Biodiversity Records Centre (SEWBRc); records of bats within a 2 kilometre radius and other protected species within 500 metres of the Site. Internationally designated habitats within 2 kilometres of the Site were sought; national and local designations within 500 metres of the Site were asked for.

Preliminary Ecological Assessment

- 3.2 The Preliminary Ecological Assessment (PEA) 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 2). 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.

Bats - Buildings

- 3.3 The study methodology followed accepted guidelines set out in the Bat Conservation Trust document ‘*Bat Surveys for Professional Ecologists, Good Practice Guidelines*’ 2016.
- 3.4 The principal aim of the daytime inspection was to survey the main structures of the building for the presence of and potential to support roosting bats. Firstly, an external examination was made of the design and structure of the building to assess the suitability for use by bats and for potential access points. Evidence such as bat droppings (faeces) or urine staining on doors, walls or other surfaces was looked for.
- 3.5 The building was then inspected internally looking for potential roost sites, staining, droppings, feeding remains and bats.

Bats – Trees

- 3.6 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.
- 3.7 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. The trees are referred to

in this document by the numbers associated with them in the previously undertaken arboricultural Survey where possible. The bat potential categories are presented in Table 1 below.

- 3.8 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.
- 3.9 The daytime inspection was carried out with the aid of close focusing binoculars, an endoscope, ladders and a 1,000,000 candlepower spot lamp.

Bats - Observations

- 3.10 Observations were carried out on the building. The observations involved four observers and covered all relevant aspects of the building. Machines used were Echo Meter 3 Real Time Expansion units. All observers carried two way radios. Locations of the observers are shown in Figure 3.
- 3.11 Recordings were made continuously on the EM3 machines. The recordings were analysed using AnalookW software, by use of which it is possible to separate most species present from the sonograms produced.

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

Reptiles

- 3.12 The reptile presence/absence survey was carried out in accordance with guidelines given in The Herpetofauna Worker's Manual (JNCC, 2003) and Froglife Advice Sheet no. 10, '*Reptile Survey, an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.*' (1999).
- 3.13 Felt mats and zinc sheets were used as refugia and placed into position on 13th June 2018. The refugia were visited on seven occasions in suitable weather conditions, with air temperatures between 9 and 20°C generally with sunny conditions, as described in the referenced published guidance, between 13th July and 30th August 2018. Appendix 5, courtesy of Chris Gleed-Owen, demonstrates suitable weather conditions and timing for survey throughout the reptilian activity period of March to October.
- 3.14 A total of 36 refugia were used across suitable areas of the Site. Locations of the refugia are shown in Figure 4. All were placed in the grassland or garden areas and on the edge of the woodland. The refugia were placed whenever possible in locations that would warm up in the sun and provide a favourable place for reptiles to warm up under or bask upon at some point during the day.
- 3.15 Approximately 0.6 hectares of the red line plan area were considered suitable habitat for supporting reptiles, the remainder being built, hard-standing or overshadowed by trees. The Froglife guidelines suggest placing 5-10 refugia per hectare for adequate survey. The density of 36 refugia used over an area of approximately 0.6 hectares at this Site gives a density of approximately 55 refugia per hectare markedly increasing the chances of finding any animals present.

Constraints

- 3.16 No constraints to the survey were noted.

4 DESK TOP STUDY FINDINGS

- 4.1 SEWBRc reported only 14 records of bats from the 2 kilometres search area. The nearest record is pipistrelle species bat from approximately 400 metres to the south east of the Site found in a house in Bryn. Four further records approximately 500 metres south west of the Site of Daubenton's, Natterer's, noctule and common pipistrelle bat are the only other records within the search buffer.
- 4.2 Nine records are reported from outside the 2 kilometre search buffer and relate to the Maesteg and Cwmavon conurbations. They are of common pipistrelle, unspecified pipistrelle species and noctule bat.
- 4.3 A further 95 records of Protected and Priority Species were reported from the search area of 500 metres. A large number of these are reported with only 1 kilometre definition in the square SS8192 which falls upon the Site. However, it is probable that these records relate to the Bryn Tip Local Nature Reserve. It is likely that many of the species recorded could utilise or cross the Site though.

4.4 Relevant species that could occur in the habitats on Site and their closest distance are:

Species	Approx. closest distance from Site (m)
Badger	53
Common lizard	53
Dunnock	53
Fieldfare	53
House sparrow	53
Lesser spotted woodpecker	53
Linnet	53
Redwing	53
Skylark	53
Slow worm	53
Small pearl-bordered fritillary	53
Starling	53
Hedgehog	358
Bullfinch	967
Common frog	967
Adder	1465

4.5 Forty three Other Species of Conservation Concern are reported, all of which are birds and most of which could occur on the Site for foraging purposes although there is little suitable breeding habitat. Species reported are:

Species	Approx. closest distance from Site (m)
Common whitethroat	53
Garden warbler	53
Goldcrest	53
House martin	53
Meadow pipit	53
Swift	53
Willow warbler	53
Woodcock	53
Coal tit	200
Long tailed tit	362
Swallow	430
Lesser black backed gull	957
Green woodpecker.	967

- 4.6 No Species of Local Conservation Concern reported are related to Neath Port Talbot.
- 4.7 The remote sensed Natural Resources Wales (NRW) habitat map (Appendix 6) shows the Site to be dominated by amenity grassland, improved grassland and semi-natural woodland. The surrounding areas are dominated by agriculturally improved grassland, scrub and continuous bracken. No statutorily designated National or International Sites were identified within the 2 kilometre search buffer.
- 4.8 Bryn Tip Local Nature Reserve and Site of Importance for Nature Conservation (SINC) lies approximately 350 metres to the south at its nearest approach. Three other SINC's are identified from the search area, two generic SINC's, ancient woodland and NPT watercourses, and Meadow Row, Bryn, the latter, as with Bryn Tip, a former coal spoil tip (Appendix 7).
- 4.9 SEWBRcC data is confidential and cannot be released in to the public domain without prior permission in writing from SEWBRcC. Hawkeswood Ecology holds the data on the client's behalf for one year (in accordance with conditions) in case of further query. SEWBRcC have given this data search a unique reference number, 0189-111, which should be quoted in any communications with them.

5 FIELD SURVEY FINDINGS

Preliminary Ecological Assessment

- 5.1 The Site sits to the immediate north east of the Bryn Conurbation with open countryside to the north, east and south. The Site supports the former Bryn Primary School and associated hard standing and play areas with an amenity garden to the north of the buildings. The Site lies on a slope with a general north east aspect apart from the levelled area of the building platform and play areas. The buildings, play and amenity areas take up approximately 50 % of the Site on the western side, the other 50% sloping away from the school is neglected but supports a mix of wild flowers and is best described as poor-semi-improved neutral grassland; there is also an area of semi-mature mixed broadleaved plantation. See Figure 2 for the Phase 1 Habitat Map and Appendix 4 for photographs.

Grassland

- 5.2 Grassland is the dominant vegetative habitat on Site, with rank amenity grassland in the disturbed areas of the school building platform and the abandoned garden and poor semi-improved neutral grassland dominating much of the rest of the Site. The grasslands are described in Target Notes 1 and 6 and although the boundary is clear between them in places it is indistinct in others with a certain amount of overlap. The rank amenity areas Target Noted 1 are far more dominated by grasses with a lesser abundance of broad-leaved herbs. Species present here include abundant rough meadow-grass, smooth meadow-grass and common bent, locally abundant red fescue, locally frequent sweet vernal grass, meadow foxtail, soft rush and field woodrush. Broad leaved species include locally frequent ribwort plantain, silverweed, lady's mantle, bird's-foot trefoil; common knapweed, occasional lady's smock, common field speedwell and bramble, southern marsh orchid occurs rarely. Himalayan balsam is also present in this area; it is particularly evident around the main entrance to the school.

- 5.3 The grassland at Target Note 6 is best described as poor semi-improved neutral grassland on damp soils. It supports a higher amount of broad-leaved species cover but shows clear signs of ‘interference’ including an area that is a virtual monoculture of common knapweed that has clearly been planted/seeded. Grass dominated but with a different mix to TN1; common bent, red fescue and rough-meadow grass are abundant; Yorkshire fog is locally abundant and cocksfoot is frequently occurring; sweet vernal-grass, creeping bent, timothy, common sedge, soft rush and hairy sedge and all frequent or locally frequent. Broad leaved forbs include locally abundant creeping cinquefoil and silverweed, southern marsh orchid, common marsh bedstraw, bird’s-foot trefoil and creeping buttercup all occur frequently or are locally frequent. Other forbs include occasional common knapweed, meadow buttercup, and lady’s smock. Himalayan balsam and bracken are present at the site boundary.

Amenity

- 5.4 An unmanaged garden (TN3) is near the main entrance and this supports sensory gardens and raised beds, there is also a dry pond (TN4). The vegetation is now very similar to TN1 with a greater amount of broad leaved forbs such as creeping buttercup which are colonising the unmanaged gardens.
- 5.5 A pond at TN 4 supports yellow flag, lesser celandine and marsh marigold. It was not holding water at the time of survey and is being colonised by grasses.

Woodland

- 5.6 There is an area of planted mainly coniferous woodland on the eastern section of the Site (TN5) which has western red cedar, cypress, Scots pine and larch with common oak and beech planted on the edges and silver birch to the rear. There is a row of cypress trees along the front roadside boundary (TN2). The cypress is unmanaged to a height of approximately 4-5 metres with no understorey. The woodland at TN5 is a mixed plantation woodland with beech, common oak and spruce. It supports no shrub layer apart from hawthorn on the Site boundary. The ground layer is poor and still largely dominated by grasses with rough meadow-grass abundant. Other species present include frequent bramble, occasional lesser celandine, herb Robert and rosebay willowherb and rarely occurring bluebell.

Other Habitats

- 5.7 Occasional trees are planted around in the school grounds with examples of alder, oak, various conifers and poplar species. The eastern and northern boundaries in particular have groups of mainly conifers planted including spruce and Scots pine. All examples are mainly young specimens. Hard-standing surrounds the school building and play areas. The school building is discussed further below. A number of semi-mature trees are sited on the school boundary to the east and north. These include Scots pine, larch, poplar, alder, sycamore and ash with hawthorn present in places.

Fauna

- 5.8 Species recorded on Site were mainly restricted to birds with wren, blackcap, common whitethroat, robin, goldfinch, redstart, and chaffinch heard on or near the Site. Adventitious records heard during other surveys included nightjar and grasshopper warbler although neither was recorded on Site. Orange tip, speckled wood, ringlet and small skipper butterflies were also recorded.

- 5.9 Bat surveys were undertaken and are reported on below. There were no signs of badger using the Site. There were no records of and no suitable habitat for water vole, great crested newt and otter.
- 5.10 Following consultation with the LPA Ecologist, it was considered that reptiles may be present and surveys for these were undertaken (see below). There are no records of dormice from this area and the habitat present does not support any connectivity to the wider countryside; dormice will not be present on this Site.

Surrounding Area

- 5.11 The surrounding area is largely pasture, agriculturally improved grassland and coal spoil tips. Bryn village is to the immediate south west.

Preliminary Roost Assessment (PRA)

Building

- 5.12 The building consists of a concrete panel over steel frame modular type structure dating for around the 1970's. A large amount of the walls are given over to glass which reaches to the wall top with no access to the roof; the windows are also steel shuttered against vandal attacks.
- 5.13 The main building can be sub-divided into two parts, the main school classroom and offices around a higher section hosting the school hall. The school hall rises approximately 1.5 metres above the rest of the school and the walls here are of board rather than concrete (see photos). The wall tops and the whole of the hall walls are covered with UPVC shiplap.
- 5.14 In the case of the classroom and offices, this overlays an existing wooden or fibreboard fascia. The UPVC is sealed with a lower strip which is missing from parts of the building. The UPVC shiplap is approximately 0.25 metres deep on most of the building with no obstruction to access where the sealing strip has been removed. Generally, the building remains in fair condition with no major cavities or holes in the structure apparent apart from a board ripped out of the hall roof where it would appear access has tried to be forced.
- 5.15 Internally, the ceilings are formed from suspended tiles with glass fibre insulation above. The roof space is approximately 0.3 metres roof to floor; there is clear indication of water ingress in a number of places. The roof structure is open web steel joists supporting wooden joists and a wooden roof which is felt/fibre-glass covered.

Direct Evidence or Potential of Roosting Bats.

- 5.16 There was no direct evidence of bats found during the PRA. Generally the building was well sealed against access for bats, however, the gaps created where the lower sealing strip had gone from the UPVC shiplap boarding created a crevice between the UPVC and original wooden fascia that offers a suitable roosting habitat for crevice dwelling bats. As such, observation surveys were undertaken.

Trees

- 5.17 The tree PRA considered 15 trees or groups of trees looking for features that could support roosting bats or for direct evidence of bats doing so. All trees and groups of trees were considered

either to be of negligible or low potential for supporting roosting bats. Table 2 below gives the results of the tree PRA.

Preliminary Ecological Assessment and Protected Species Surveys, Bryn Primary School.
Hawkeswood Ecology – October 2018

Table 2: Assessment of Bat Roost Potential in Trees to be Removed:

Tree no *	Species	Ivy**	Cavities	Dead Wood	Approx height (m)	Bat presence / Recommendations	Roost potential
26	Lombardy poplar x2	N	Nothing obvious	No	20	Semi-mature trees, tall but in apparent good condition, suckering at base.	Negligible
36	Beech	N	Non apparent	No	10/12	Semi-mature tree, multi-stemmed from approximately 0.05m, open with no niches.	Negligible
37	Common oak	N	No	Some small branches in lower canopy	10/12	Semi-mature tree; has had some lower branches removed or damaged, no cavities apparent.	Negligible
44	Beech	No	Shallow cavity on south facing aspect ~0.5m height, also similar on SW aspect.	Small branches	12	Semi-mature single stem tree, some lower branches removed or damaged; no evidence of bats and cavities accessible to search. Fell with care, leave for 24 hours before logging.	Low.
Group (Relates to 42, 43, 45 49.)	Redwood, Scots pine, spruce, larch.	No	No cavities seen but bark is flaking n some trees.	Dead lower branches	To 20m	Semi-mature conifers, dead wood appears whole, flaking bark may offer opportunistic roost spaces but no evidence to suggest significant roost opportunities. Fell with care, leave for 24 hours before logging.	Low
50	Leyland Cypress	No	No (flaking bark)	No	20	Multi stemmed tree, in good condition, possible opportunities between stems. Fell with care, leave for 24 hours before logging.	Low
51	Ash	No	No	No	15/20	Single stem to 10 m then double leaders, in good condition, no opportunities.	Negligible
52/53	Sycamore	No	No	No	15/20	Semi-mature oak, multi stemmed from around	Negligible

Preliminary Ecological Assessment and Protected Species Surveys, Bryn Primary School.
Hawkeswood Ecology – October 2018

	x2					3m, no opportunities.	
60/61	Common oak x2	No	No	Very small branch ends	12	Semi-mature trees, 60 double leader from ~0.5m, 60 single stem. No opportunities.	Negligible
1	Cypress hedge	No	None obvious	None obvious	15/20	All multi stemmed shrubs, nothing obvious but potential for opportunistic roosting in dense stem network. Fell with care, leave for 24 hours before logging.	Low
63	Silver birch	No	No	No	18	Force grown in the cypress hedge, tall and thin with branches only on east aspect, no opportunities.	Negligible
52	Sycamore	No	Some rot in bole	No	18	Sycamore, double leader from ~0.5m, some rot apparent in lower bole but no obvious cavity. Fell with care, leave for 24 hours before logging.	Low
3	Mountain ash	No	No	No	8	Young tree, no opportunities.	Negligible
5	Lombardy Poplar	No	No	Small branches.	20+	Semi-mature tree, tall but in apparent good condition, suckering at base.	Negligible
17	Scots pine	No	No but flaking bark	Small lower branches	15/18	Young tree, branching from around 2m, branches forming tight group. Limited opportunities in dense branch network and under flaking bark. Fell with care, leave for 24 hours before logging.	Low

*Tree numbers relate to the tree report (G.M . Ayres, 2018)

Observations

- 5.18 Observation surveys of the school building were undertaken on 13th June and 20th July 2018. The conditions at the time of the observation are detailed below in Table 3:

Table 3: Weather conditions for dawn and dusk observations:

Date	Survey type	Times	Weather conditions
13 th June 2018	Evening emergence	21.15 – 22.40 (sunset 21.33)	16-17°C, 100% high cloud, variable. Mainly dry but occasional spots of rain, good visibility, F3/4 W breeze.
20 th July 2018	Dawn re-entry	03.40 – 05.25 (sunrise 05.20)	11-12°C, clear, dry, good visibility. Still – F1 W breeze.

13th June 2018

- 5.19 **The first bat noted was a non-echolocating pipistrelle species bat emerging from the UPVC cladding at 21.45.** This was followed by occasional foraging activity of both common and soprano pipistrelle bats, most of which were noted entering the Site from the Bryn Village area. **At 21.50 a common pipistrelle emerged from the same location as the earlier bat.**
- 5.20 Following further common and soprano passes, from approximately 21.50 whiskered bat started to be recorded frequently at the rear of the school building and **at 22.10 a Myotis bat, later analysed as most likely whiskered bat emerged from the UPVC cladding in approximately the same location as the earlier pipistrelle bats.**
- 5.21 Foraging activity continued to the end of the observation with no further emergence, however, **at 22.30 a common pipistrelle swarmed at the entrance and re-entered the roost at the same location as the emergence of 21.45 and 21.50.**
- 5.22 Species recorded during the observation were common and soprano pipistrelle, whiskered bat and noctule; the latter recorded overflying the Site.

20th July 2018

- 5.23 The observation started with little activity, the first bat noted flying past the southern end of the building. The next sighting was another non-echolocating bat at 04.16 followed a minute later by a Myotis bat passing the same area.
- 5.24 A Myotis was then noted near the previously identified roost area at 04.24. **At 04.31 a non-echolocating bat entered under the UPVC cladding at different roost point (see photos).** At 04.39 a whiskered bat that had spent 10 minutes swarming re-entered the known roost under the cladding and at 04.40 a non echolocating bat entered under the cladding on the southern elevation of the building.
- 5.25 **At 04.46 a common pipistrelle entered the building at the same location as the 04.40 non-echolocating animal.**

- 5.26 Species recorded included common and soprano pipistrelle, whiskered and brown long-eared bats, the latter recorded passing at 04.20.

Reptiles

- 5.27 Table 4 below gives the conditions at the time of survey, Table 5, the survey results:

Table 4: Date and weather conditions during survey.

Date	Time and Weather conditions
13/07/2018	09.30; 100% overcast, 18°C, F1/2 SW breeze, dry
27/07/2018	08.55: 90% high cloud, sun breaking through, 18°C, F1 S breeze, dry
31/07/2018	09.20; Broken cloud, sunny spells, 17°C, F1/2 W breeze, dry
05/08/2018	10.00; clear and sunny, 20°C, F1 SW breeze, dry
06/08/2018	10.00; Virtually 100% cloud cover with occasional sunny intervals, 19°C, F1 W breeze, dry.
08/08/2018	11.00; Cloudy with sunny intervals, 20°C, F3/4 W breeze, dry.
30/08/2018	10.00; Hazy sunshine, 15°C, light F1 S breeze, dry.

- 5.28 The survey recorded slow worms and common lizard. The locations the animals were recorded from are shown in Figure 5. They were largely caught from the areas around the building platform. Table 5 below gives the survey results:

Table 5: Survey Results

Date	Refugia location number	Results		Comments
		Slow worm	Common lizard	
13/07/2018	C1	1		1 adult female
(Visit 1)	D1		1	Adult on top of mat
	E1	6		Adults, female
	E5	1		Juvenile
	F1	5		Adult (moved before sexing possible), some female
	F5	1		Juvenile
	Tin 3	1		Adult female
	Tin 4	3		Adult female
	G1	2		Adult female
	G2	1		Adult female
27/07/2018	A4	1		Adult female
(Visit 2)	E1	2		Adult female
	F1	2		Adult female, one gravid
	Tin 4	1		Adult female
	H1	3		Adult female

Preliminary Ecological Assessment and Protected Species Surveys, Bryn Primary School.
Hawkeswood Ecology – October 2018

31/07/2018	E1	5		2 Male, 3 female, all adult
(Visit 3)	F2	1		Juvenile
	G1	2		One adult male, one juvenile
	H3	1		Juvenile
	I1		1	On mat
05/08/2018	D1	1		Adult female
(Visit 4)	D5	1		Adult female
	E1	2		One male, one female, adults
	E5	1		Adult female
	F1	2		One male, one female, adults
	F5	2		One male, one female, adults
	G1	2		One male, one female, adults
	G2	1		Adult male
06/08/2018	E1	2		Adult females
(Visit 5)	E5	1		Juvenile female
	F1	1		Adult female
	F5	1		Juvenile
	Tin 4	2		Adult females
	G1	2		Adult females
	H1	3		1 adult female, 2 juveniles
	H3	1		Juvenile
08/08/2018	C2	2		Juvenile
(Visit 6)	E5	1		Adult female
	F1	2		One adult female, one juvenile
	F5	4		Three adult female, one juvenile
	G2	1		Juvenile female
30/08/2018	A4	2	1	Adult female SW, adult C lizard
	A5	2		Adult females
	B1	3		Two female, one male, adults
	C1	1		Young female
	C2	1		Adult female
	E1	2		One female, one male, adults
	F2	1		Adult female
	F5	1		Juvenile
	Tin 4	2		Adult females (one very large, old)
	G1	2		One female, one male, adults
	G2	1		Adult female
	H1	1		Adult male

5.29 The survey results show the bulk of the slow worms found to be female with four visits not recording male animals. No new born young were found and only one definite gravid female recorded. The number of young animals found is indicative of a viable population.

Summary

- 5.30 The Site supports poor semi-improved neutral grassland which has no doubt been developed by the school as part of the nature Site; there are also abandoned gardens. The grassland is generally species poor but does have a limited diversity of flowering plants. The school building surrounds are largely dominated by rank and unmanaged former amenity lawn and hard standing. A young woodland plantation dominated by conifers is present in the north eastern corner of the Site.
- 5.31 Bats were found to use the school building for roosting purposes with common pipistrelle, a non specified pipistrelle species and whiskered bats all emerging or re-entering during the observations, no evidence of maternity activity was noted.
- 5.32 The Site supports a population of slow worm and a small number common lizard was also recorded; higher numbers of reptiles are particularly associated with the area around the school building and playground platform.
- 5.33 Six indicators of neutral grassland, as identified in the *Guidelines for the Selection of Wildlife Sites in South Wales* (2004) were present in the poor semi-improved grassland are, the most diverse of the habitats on Site. The guidelines comment that 8 of the noted indicator species should be identified for the Site to be considered as a Site of Importance for Nature Conservation, and as such the Site does not qualify. Given that the Site has been managed in part as a nature reserve, the presence of some indicator species is not unexpected.

6. DISCUSSION AND IMPACT ASSESSMENT

Habitats

- 6.1 The Site comprises the school building and associated hard standing, areas of now abandoned amenity and ‘nature areas’ consisting of poor semi-improved grassland and tree plantings; the latter habitats covering around 40 – 50% of the site area. There are linear areas of scrub along the Site boundaries and the front road side boundary supports a mature cypress hedge.
- 6.2 The semi-improved neutral grassland does not support an appropriate number of indicator species to be considered a Site of Importance for Nature Conservation (SINC) and shows a level of interference in its development typified by a large area that is a virtual monoculture of common knapweed. Both common knapweed and southern marsh orchid, two species represented across the grassland are good colonisers of abandoned grassland in the right conditions. The grassland does not fit the UK Biodiversity Action Plan habitat ‘Lowland Hay Meadows’.
- 6.3 The damp nature of parts of the Site suggest that southern marsh orchid and common knapweed may have naturally colonised the Site although if this is the case, common knapweed has certainly been favoured by later management. The presence of bird’s-foot trefoil possibly suggests that the Site has not been intensively managed or subject to herbicide application. It is possible that the non-developed parts of the grounds relates back to the pre-school development, however, even if this is the case it would be expected

that the area would have been largely disturbed and certainly more formally managed in the early years of occupation.

- 6.4 The rank amenity grassland does support some of the species noted in the semi-improved grassland but they are far fewer in number and rank grasses largely dominate with far fewer forbs in general.
- 6.5 The area of tree planting is certainly young and contains a number of non-native trees. The silver birch at the rear of it could be natural, but this species is also a school favourite from the 1980's and 90's as being fast growing; the school would have a fairly substantive wood in a relatively short time period. It supports no shrub layer and the field layer is largely shaded out or consisting of field grasses.
- 6.6 The cypress hedge and bramble and woody scrub around the Site boundaries is of little interest in itself but offers opportunities for breeding birds.
- 6.7 The north eastern corner of the Site has been previously developed as a series of gardens with raised beds, living willow sculptures and a pond. Now abandoned it has largely been taken over by grasses and creeping buttercup.
- 6.8 In general, none of the habitats on Site are of importance in themselves and would be unlikely to prevent the proposed development going ahead. The habitats present are considered to be of **minor significance** in a local context but of **no significance** in a wider county or regional context and many similar areas are present throughout the locality. The loss of habitats on Site, with species protection measures observed, will be of **no significant impact**.

Protected Species

- 6.9 There is potential for birds to use the trees and bramble scrub for breeding purposes, the buildings were considered to be of little value for birds due to their style of construction. There is no significant habitat on Site for water vole, great crested newt, dormouse or otter, and there was no evidence of badgers crossing the Site or foraging upon it. No badger setts could be seen in the immediate area. It is possible that hedgehogs could be present on the Site but away from the scrub there was little suitable habitat for them to hibernate in.
- 6.10 The Site was considered to have limited potential for bats following the Provisional Roost Assessment and also for reptiles following the PEA. As a result, the further surveys carried out identified two definite and possibly three species of bat using the building and slow worm and common lizard present in the grounds. Bats and reptiles are discussed below.

Bats

- 6.11 The development will lead to the loss of the existing building and trees on Site. Whilst there was no evidence of bats using the trees on the Site for roosting purposes and they were considered to be of low or negligible potential for them to do so, the building supported a number of single or small animal daytime roosts. None of the roosts were considered to be maternity, rather male or non-breeding female roosts and from the differences in roost locations during the observations, most would appear opportunistic.

Only the whiskered bat showed a level of roost faithfulness, although clearly any survey can provide only a snapshot of activity and use.

- 6.12 Activity was noted on the Site throughout the observation and bats were noted entering the Site from the direction of Bryn. It assumed many of the bats foraging came from that conurbation. Activity around the school was concentrated around the cypress hedge to the frontage and around the rear of the school when dark. The whiskered bat(s) were certainly largely recorded only at the rear of the school apart from one pass where a bat was associated with cypress hedge before travelling to the school rear.
- 6.13 The non-echolocating bats were considered to be pipistrelle bats and showed the ‘jizz’ and activity associated with them. As both common and soprano were recorded on Site, albeit rarely for the latter, it cannot be certain that soprano pipistrelle is not amongst the roosting species. In terms of potential for hibernation, the presence of pipistrelle bats in the winter cannot be ruled out even though the Site is considered to be of very low potential.
- 6.14 In relation to impacts of the development on bats, the habitats and trees on Site are considered to be of **minor significance** in a local context but of **no significance** in a wider context. Foraging around the Site was not considered intensive and it would seem that the school grounds form just part of a wider foraging habitat. The development would be unlikely to impact upon this as the presence of gardens can successfully mitigate that loss.
- 6.15 The loss of the buildings would result in the destruction of a number of roost sites. The fact that the roosts can be considered of low status does not mean that the impact is accordingly unimportant. It is known that a single male common pipistrelle may be responsible for 30% of the young born in a locality thus the loss of male roosts can impact upon the population in a wider context. It is considered that without appropriate mitigation and compensation, the loss of the building will be of **moderate significance** to bats in a local context and of **minor significance** in a wider context.
- 6.16 The measures outlined in Section 8, Recommendations, are designed to ensure safety of bats during the proposed works and to allow continued roosting habitats to be available on Site in the longer term. The recommendations will form the basis of an application to Natural Resources Wales (NRW) for a derogation licence allowing the destruction of the roosts with appropriate compensation provided.

Reptiles

- 6.17 Reptiles were found across many areas of the Site with the largest numbers found over the survey period to be associated with the building and play area platform. No animals were found in the abandoned garden area which probably suggests they are yet to meaningfully colonise this area; the absence during survey cannot completely rule out the potential for them to be there but does probably mean that this part of the Site does not support any significant numbers. Small numbers were found across the more natural areas of the Site.
- 6.18 Figure 5 shows the numbers of reptiles found at each refugia location. The scores indicated are cumulative, so may represent the same animal being seen on consecutive visits. This figure does give an idea of the concentration of animals across the Site however, and show the higher numbers associated with the building and pay area platforms. This may simply

be due to the disturbance in this area offering more opportunities for cover or the steeper slopes associated with it offering good basking opportunities on the generally eastern aspect of them.

- 6.19 The former garden area, which comprises the majority of Plot 13, the subject of this application, showed no evidence of reptiles although as mentioned above, their presence cannot be completely ruled out. The continued disturbance and management of the Site until recently has probably made this area of the Site less favourable for their presence and as yet no colonisation of the abandoned gardens appears to have taken place.
- 6.20 The majority of animals recorded were slow worm with only three records of common lizard through the survey period. This is likely to be an under representation though as common lizard can be extremely mobile even when ground temperatures are low. It is noted that in both instances, the animal was sat on the mat and not underneath it as was normal for slow worm, suggesting a degree of mobility early on. This probably reflects the very warm conditions and elevated night-time temperatures over the summer in 2018.
- 6.21 Although a presence/absence type of survey cannot make quantitative assumptions regarding the size of reptile populations on Site, some assessment can be made with care using the Site Assessment Criteria developed by Froglife. When measured against those criteria (Froglife, 1999), the surveyed areas of the Site are considered to support a good population of slow worm and low population of common lizard, the former particularly in readily identifiable areas (see Figure 5). The criteria are outlined in paragraph 6.19 and in Table 6.
- 6.22 The criteria for this designation have been formulated to identify Sites that are potentially of importance for reptiles. To qualify for the Key Reptile Site Register at least one of the following criteria must be met:
1. supports three or more reptile species
 2. supports two snake species
 3. supports an exceptional population of one species (see table 5)
 4. supports an assemblage of species scoring least 4 (see table 5)
 5. does not satisfy 1 – 4 but which is of particular regional importance due to local rarity.

Table 6: Key Reptile Site Survey Assessment

Species	Low population Score 1	Good population Score 2	Exceptional population Score 3
Adder	<5	5 - 10	>10
Grass snake	<5	5 - 10	>10
Common lizard	<5	5 - 20	>20
Slow worm	<5	5 - 20	>20

- 6.23 Figures in Table 5 refer to the maximum number of adults seen by observation and/or under refugia (placed at a density of up to 10 per hectare) by one person in one day.

- 6.24 In this case, the maximum number of animals found in any one survey visit was 21 slow worms and 1 common lizard on the first visit with the second highest number being 18 slow worms and one common lizard on the final visit. Ostensibly using the Froglife guidelines, the first visit would suggest an excellent population of slow worms; however, when taking into account that around three times the maximum recommended number of refugia was used, this is likely to be over stating the population levels. We consider the site to support probably good numbers in relatively identifiable areas where surveyed.
- 6.25 Parts of the school Site are of value to reptiles and overall the Site supports probably good numbers of slow worm and a low population of common lizard. The LPA ecologist informed Hawkeswood Ecology that the area represents a ‘hot spot’ for reptiles with the nearby Bryn Local Nature Reserve (LNR) supporting good populations. The Site is likely to be of **moderate significance** for reptiles taking this into account. The loss of the area in the planning application for plot 13 is likely to result in **no significant** impact however if appropriate mitigation is undertaken.
- 6.26 An application for the wider Site would require significant input and probable translocation of reptiles to a suitable receptor site. Without mitigation, development of the wider Site would result in an impact of **moderate significance**.

7 RELEVANT LEGISLATION AND POLICIES

Bats

- 7.1 British bats are protected under the Wildlife and Countryside Act 1981 (as amended). Schedule 5 of this act made it illegal to intentionally kill, injure or take any British bat. It is also an offence to intentionally damage or destroy their place of rest (the roost).
- 7.2 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.
- 7.3 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 41(1) that a person who:
- (a) deliberately captures, injures or kills any wild animal of a European protected species,
 - (b) deliberately disturbs wild animals of any such species,
 - (c) deliberately takes or destroys the eggs of such an animal, or
 - (d) damages or destroys a breeding site or resting place of such an animal,
- is committing an offence.
- 7.4 Further, with regard to disturbance of EPS, Paragraph 41(2) that disturbance is an act which is likely to:
- (a) to impair their ability—
 - (i) to survive, to breed or reproduce, or to rear or nurture their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

(b) to affect significantly the local distribution or abundance of the species to which they belong.

- 7.5 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).
- 7.6 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.
- 7.7 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.
- 7.8 Eight species of bat are listed under section 7 of the Environment Wales Act (2106). Section 7 of the Act provides a list of living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. This is a list of species considered at threat within Wales and in need of conservation management to maintain and enhance population numbers.
- 7.9 A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.

Reptiles

- 7.10 All common reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) schedule 5, from deliberate injury or killing (Section 9(1)) and sale (Section 9(5)).
- 7.11 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.
- 7.12 Slow worm and grass snake are also listed in Section 7 of the Environment Wales Act (2016).

Breeding birds

- 7.13 Part I of the Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions and in the absence of a licence) intentionally to kill, injure or take any wild bird, or intentionally to damage, take or destroy its nest whilst being built or

in use, or to take or destroy its eggs. Consequently, even common birds such as blackbirds or robins, and their nests and eggs are protected in this way. Any works involving removal or other management of trees or shrubs must be undertaken outside the breeding bird season (March- August).

- 7.14 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. The barn owl is a Schedule 1 species.
- 7.15 Amendments to The Conservation of Habitats and Species Regulations 2010 (as amended) made in 2012 have effectively strengthened the protection of wild birds and their habitats. The amendment is “To help preserve, maintain and re-establish habitats for wild birds.”
- 7.16 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.

TAN 5

- 7.17 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 (LPA's) 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.

Invasive species

- 7.18 It is an offence under Section 14 (2) of the Wildlife and Countryside Act 1981 to ‘plant or otherwise cause to grow in the wild’ any plant which is listed in Schedule 9 Part II of the Act. Himalayan balsam is listed in Schedule 9 Part II.
- 7.19 Proper precautions must be taken to prevent the spread of these plants; failure to do so may result in prosecution.

8 RECOMMENDATIONS

- 8.1 An Ecological Clerk of Works will be appointed to oversee ecological issues through the development period. The ECW will be available to oversee planned works affecting protected species and also be available on standby to assist in the case of unforeseen ecological issues arising.
- 8.2 The biological data search identified a NPT watercourses SINC running from the eastern boundary of the Site and as such strict controls and safe working practices should be employed as part of the rationale to ensure that neighbouring habitats are protected from pollution from surface water run-off either during construction or post development. Dust contamination of surrounding habitats should be minimised through sensitive working practices.
- 8.3 All materials will be stored carefully and sensitive working practices will be implemented to minimise the risks of contamination of surrounding habitats.
- 8.4 Removal of trees and bramble scrub will 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 translocations invariably fail. Any nest will be protected by a buffer zone until as such time as it is no longer in use.
- 8.5 Any landscaping plan should introduce native species reflecting those present in the local area; all native planted species should be of local provenance, the use of horticultural varieties of plant and shrub is reasonable but if used, they should be valuable to foraging birds and bats such as those producing berries and attractive to insects, i.e. heather, hawthorn, hazel and pyracantha.
- 8.6 A methodology for the removal of Himalayan balsam without causing its spread must be produced to ensure its containment during the works.

Bats - Buildings

- 8.7 The roosts will be destroyed by the proposed development of the Site as the building is to be demolished. The proposed mitigation measures during the demolition process are appropriate to the Site.
- 8.8 The building has been identified as supporting male or non breeding roosts for a small number of bats at various locations under UPVC cladding. The roosts are of common and possibly soprano pipistrelle and whiskered bats. A European Protected Species Derogation Licence (EPSL) will be required before the works can proceed.
- 8.9 The applicant must show in the licence application that the works satisfy the 'three tests' of the Habitat Directive. These are detailed in Section 7, Relevant Legislation and Policies, paragraph 7.6.
- 8.10 The application for an EPSL must be accompanied by a detailed Method Statement showing the measures to be taken to protect bats during the works and to mitigate and

compensate against any unfavourable impacts in the longer term. The Method Statement will detail the necessary requirements of the demolition process to secure the safety of any bats present; it will identify timing requirements if necessary and how bats are to be excluded or otherwise removed from the building. An application for an EPSL can only be undertaken once planning permission has been granted. NRW aspire to turn-round a licence application within thirty working days if all the relevant and required detail is provided at the application stage.

- 8.11 Mitigation and compensation **must** be appropriate and as a minimum must maintain the favourable conservation status of the species affected. Compensation proposals will include both temporary (whilst the works are in progress) and permanent provision (in the new build) suitable for the species present.
- 8.12 Bats are mobile species and can use a number of roosts or change roosting places through the year; as such the works will take account of the potential for bats to be present at any time during the works.
- 8.13 Guidance on appropriate mitigation is shown in **bold type** in Table 7 below. It is considered in this instance that the roost is of low conservation importance. It is important to note that whatever the conservation importance of a roost, it remains fully protected under European and UK law even if the bats are not present.

Table 7: Guidelines for Proportionate Mitigation (English Nature Bat Mitigation Guidelines – bold font indicates status of the present roost and appropriate mitigation)

Conservation significance	Roost Status	Mitigation Requirement
	Low	High
	Feeding perches of common/rarer species	Flexibility over provision of batboxes, access to new buildings etc. No conditions about timing or monitoring
	Individual bats of common species	
	Small numbers of common species. Not a maternity site	Provision of new roost facilities where possible. Need not be exactly like-for-like, but should be suitable, based on species' requirements. Minimal timing constraints or monitoring requirements
	Feeding perches of Annex II species	
	Small numbers of rarer species. Not a maternity site	
	Hibernation sites for small numbers of common/rarer species	Timing constraints. More or less like-for-like replacement. Bats not to be left without a roost and must be given time to find the replacement. Monitoring for 2 years preferred.
	Maternity sites of common species	
	Maternity sites of rarer Species	Timing constraints. Like-for-like replacement as a minimum. No destruction of former roost until replacement completed and usage demonstrated. Monitoring for at least 2 years.
	Significant hibernation sites for rarer/rarest species or all species assemblages	
	Sites meeting SSSI Guidelines	Oppose interference with existing roosts or seek improved roost provision. Timing constraints. No destruction of former roost until replacement completed and significant usage demonstrated. Monitoring for as long as possible.
	Maternity sites of rarest species	

Toolbox Talk

- 8.14 Prior to the commencement of any works affecting the bat roosts, a toolbox talk will be undertaken with all relevant members of staff working on the project. The toolbox talk will provide details of basic bat ecology, the species involved and the applicable legislation. Before works commence, two temporary bat boxes will be placed at a location agreed with the ECW to support any bats found during the demolition. These will be simple timber bat boxes and will be fixed at an appropriate location on the Site on a retained tree. The bat boxes will be left in place for the duration of the works and flight access to them will not be obstructed.

Demolition works

- 8.15 As the building is generally very well sealed, only the UPVC cladding will be stripped by hand in the presence of the ECW. Any underlying felt will be stripped from the wall. At this point the wall tops will be open for inspection and if necessary, the cavity will be exposed and the building left to stand for 24 hours for the internal microclimate to destabilise before demolition can proceed in the normal manner.
- 8.16 Should bats be seen at any point works will cease and advice be sought from the ECW on how best to continue.
- 8.17 Pipistrelle species and whiskered bats are crevice dwelling animals (although whiskered will hang from the roof, this is clearly not the case here), normally residing in such places as behind bargeboards, soffits, between the roof slates and underfelt, on wall tops and in the wall rubble, in ridge tiles and in the cavity walls of buildings. Provision of integral mitigation within the new build must be aimed at ensuring the continued presence of the species affected and maintaining the Favourable Conservation Status of the species present in the long term.
- 8.18 Permanent bat compensation is proposed in the new build. This will be by providing purpose built bat boxes that are integral to the new build, examples of boxes are shown in Figure 6.

Artificial Lighting

- 8.19 All bat species are affected by artificial light to a greater or lesser extent and *Myotis* bats particularly so. Their emergence time may be delayed if exit points are lit or they may no longer enter the Site. This can have an impact upon their foraging success. Consideration will therefore be given to the level of external lighting around the Site. If lighting is considered necessary, installation of security or other external lighting will be:
- Located with consideration for bats and other nocturnal species, i.e. any lights will be pointed towards the ground and not to the surrounding areas and should be no higher than 3 metres from the ground;
 - Will be confined only to areas where there are access or particular security considerations and where health and safety issues need to be considered and not be allowed to spill into the adjacent gardens;
 - Lights will be on a timer with an on period of no longer than 30 minutes. They should be directional LED lamps, preferably 'warm white'.

Monitoring

- 8.20 Although the Site is identified as relatively low conservation Status in Table 7, the presence of probably three species of bat does mean that it is viewed as a significant roost by natural Resources Wales. As such, the roost compensation will be monitored in **years 1 and 3 post construction.**

Bats - Trees

- 8.21 Removal of trees and scrub should be undertaken in accordance with the instruction in Table 2. Trees identified as being of low potential will be felled and left in situ for a minimum of 24 hours. After this time logging and clearance can take place.

Reptiles

- 8.22 This mitigation relates to the current application plot; a further strategy involving Site removal and translocation of reptiles is necessary for any application involving the remainder of the Site.
- 8.23 The Application plot appears to hold at best a limited population of slow worms and common lizard. As only this part of the Site is currently proposed for development it is considered this area of the Site can be safely cleared by habitat manipulation. For further development a suitable receptor site will need to be identified and may possibly need to be surveyed beforehand.
- 8.24 Where the Site is cleared by habitat manipulation initial clearance work is best carried out in the activity season of March/April – October/November; if in the hibernation season (end October/November to March/April depending upon weather conditions), vegetation should be cut to around 20 centimetres above ground level. As reptiles largely hibernate underground or in deep litter, no further vegetation removal or earthmoving should be carried out until in the activity season when ground vegetation can be cleared. Any decision on undertaking work late in the season will be made by the ECW. **It is important to note that works are temperature dependent and in normal circumstances no ground clearance works can take place after mid-October.**
- 8.25 If clearing in the activity season it should be carried out between May to October in warm and sunny conditions when the animals are active (as a guide see table 6):
- The vegetation should be cleared working from the north of the application Site (plot 13) to the main Site. This allows any animals that may be present to leave under cover of the remaining vegetation.
 - Initial vegetation clearance of vegetation will take place by hand using brushcutters. This will reduce the growth to ground level. Only at this stage should earthmoving machinery be allowed to remove any material from Site.
 - The weather conditions must be warm and dry when clearance operations are taking place.

8.26 The table below gives guidance of timings for clearance operations

Table 8: Guide to timing for operations likely to affect reptiles.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gorse coppicing												
Other cutting												
Mowing/foraging												
Key	Reptiles above ground, may be sluggish in spring and autumn Most effective time to carry out works Clearance may be less effective and requires more care Beware of breeding birds											

After the Herpetofauna Workers Manual, JNCC (2003)

8.27 Following clearance, one way reptile proof fencing will be erected to prevent animals moving back into the development area. The ECW will oversee the ground clearance and lines along which the reptile proof fencing will be erected and oversee its erection.

9 CONCLUSIONS

- 9.1 The Site is presently dominated by the buildings, a play area, amenity areas and grassland and tree plantings. Poor semi-improved neutral grassland dominated most of the grassed area and the plantation is mixed hardwood and conifer.
- 9.2 The former school building supports a number of single or small numbers of animals in bat day roosts. Two, possibly three species have been identified, common pipistrelle, whiskered bat and possibly soprano pipistrelle. A European Protected Species Derogation Licence will need to be obtained before any works affecting the roost can be undertaken. A failure to do so may result in prosecution.
- 9.3 The Site supports slow worms and common lizard, both reptile species covered under British law from death or injury. The application Site (Plot 13) forms part of the wider surveyed Site and it is

considered that this area only can be cleared by habitat manipulation. The remainder of the Site will need to be cleared of reptiles under a translocation strategy before any further development can take place.

- 9.4 Other than this the Site does not support any habitats or species of particular note; however the scrub does offer some opportunities for breeding birds and recommendations are made with regard to this.

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**FIGURE 1:
APPLICATION SITE**

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Figure 1: Proposed Site Plan

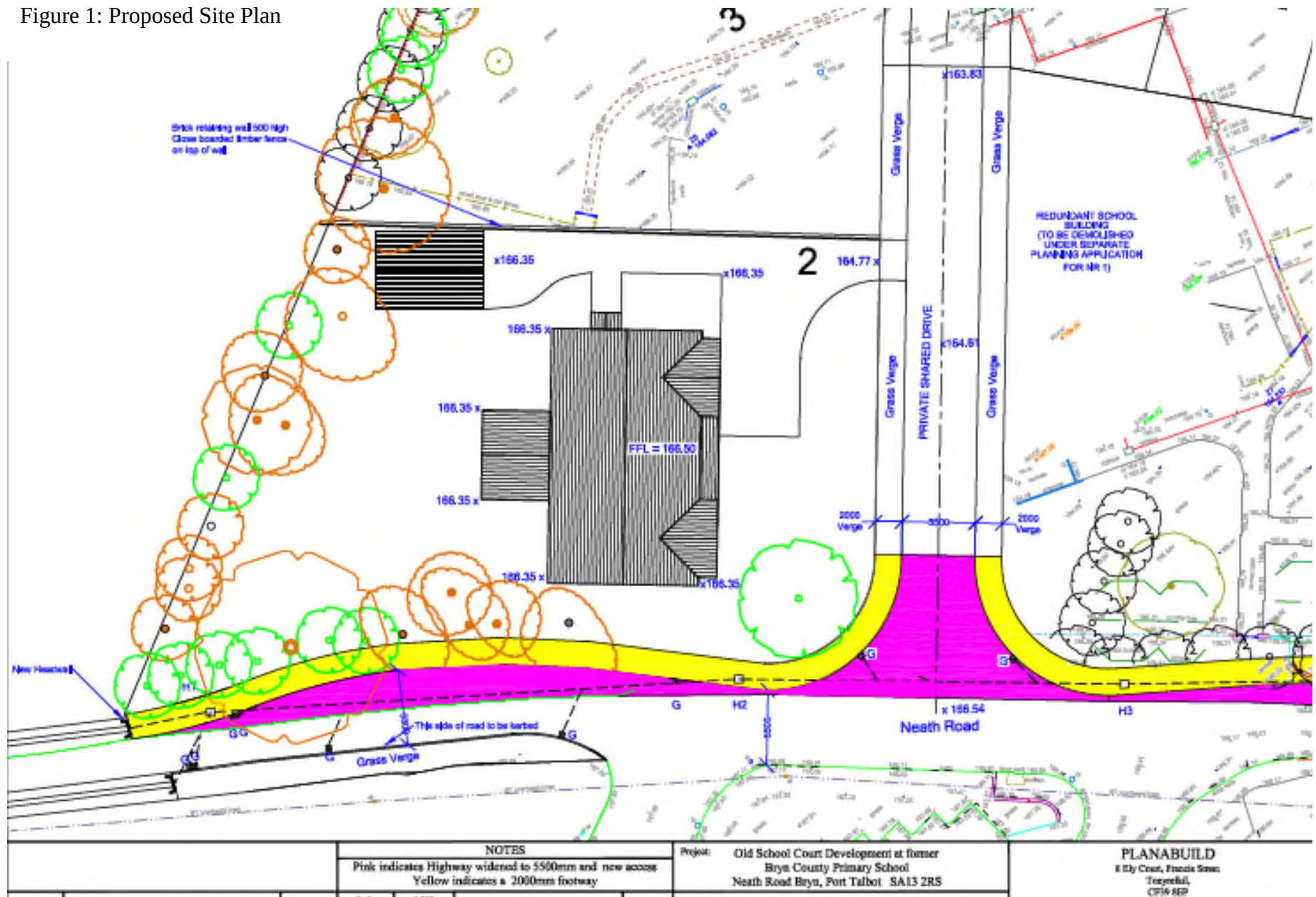


FIGURE 2
PHASE 1 HABITAT SURVEY MAP

Figure 1: Phase 1 Habitat Survey map

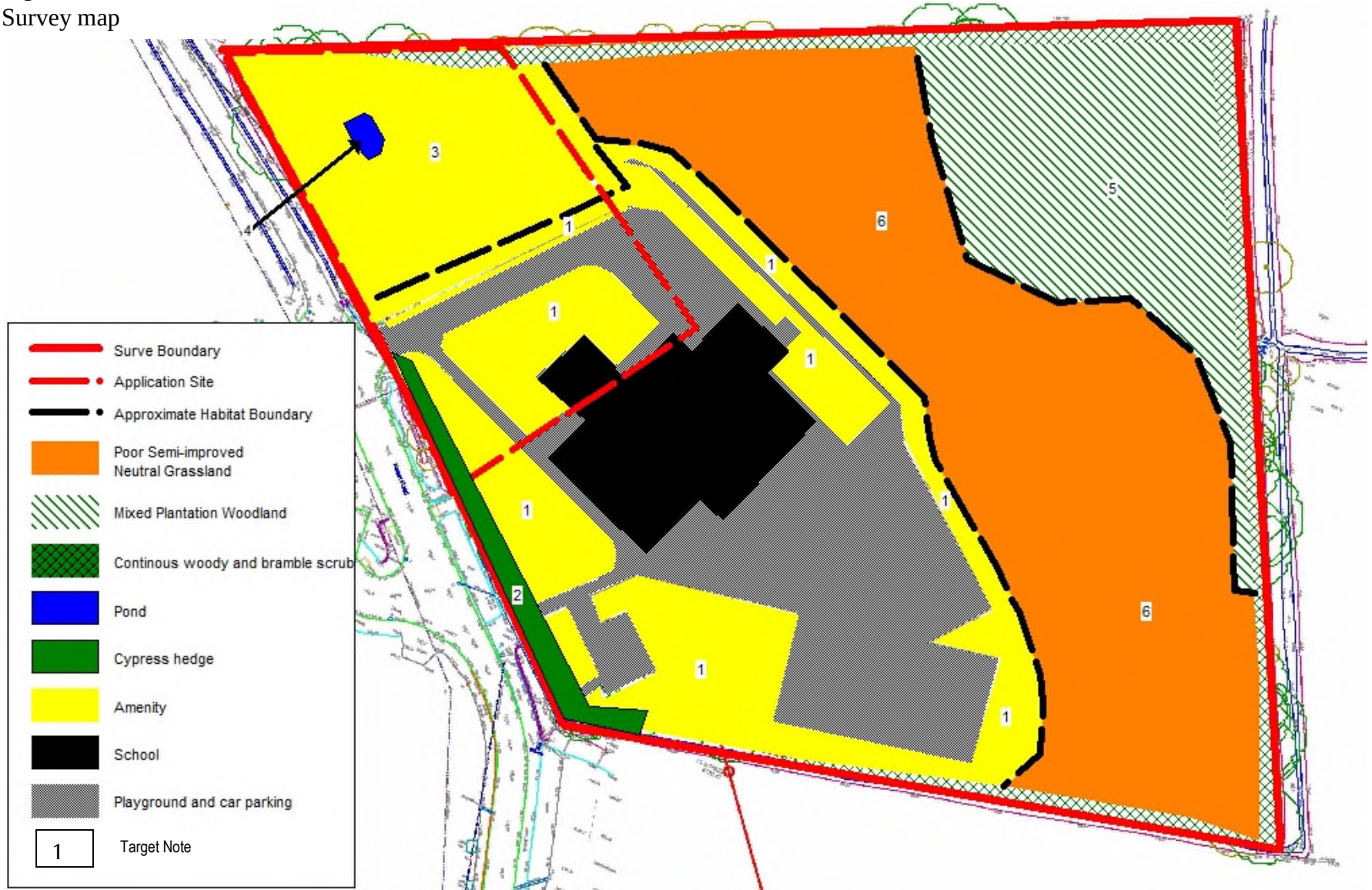


FIGURE 3
LOCATION OF OBSERVERS AND BAT ACCESS POINTS

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Figure 2: Location of observers

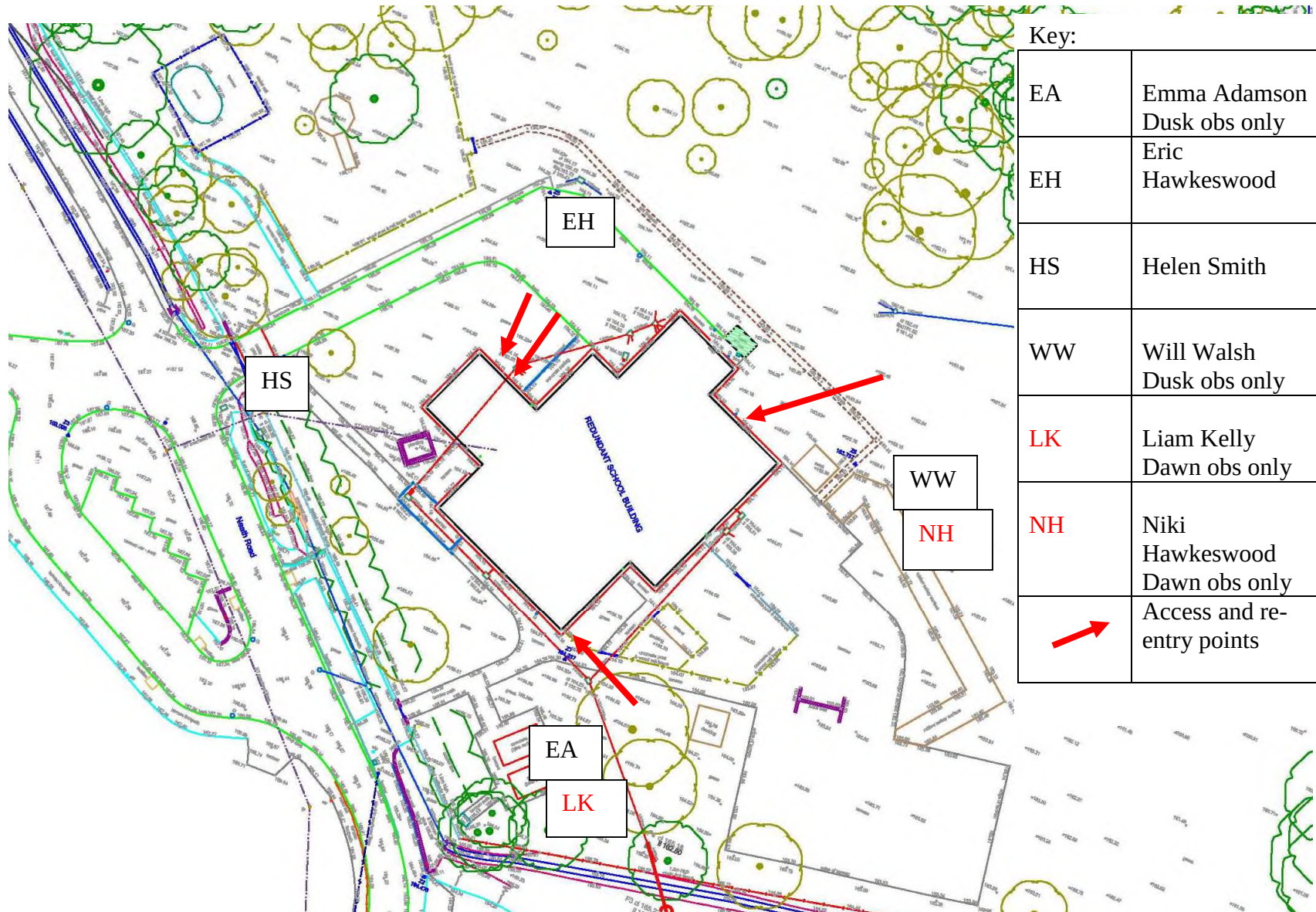


FIGURE 4
LOCATION OF REPTILE REFUGIA

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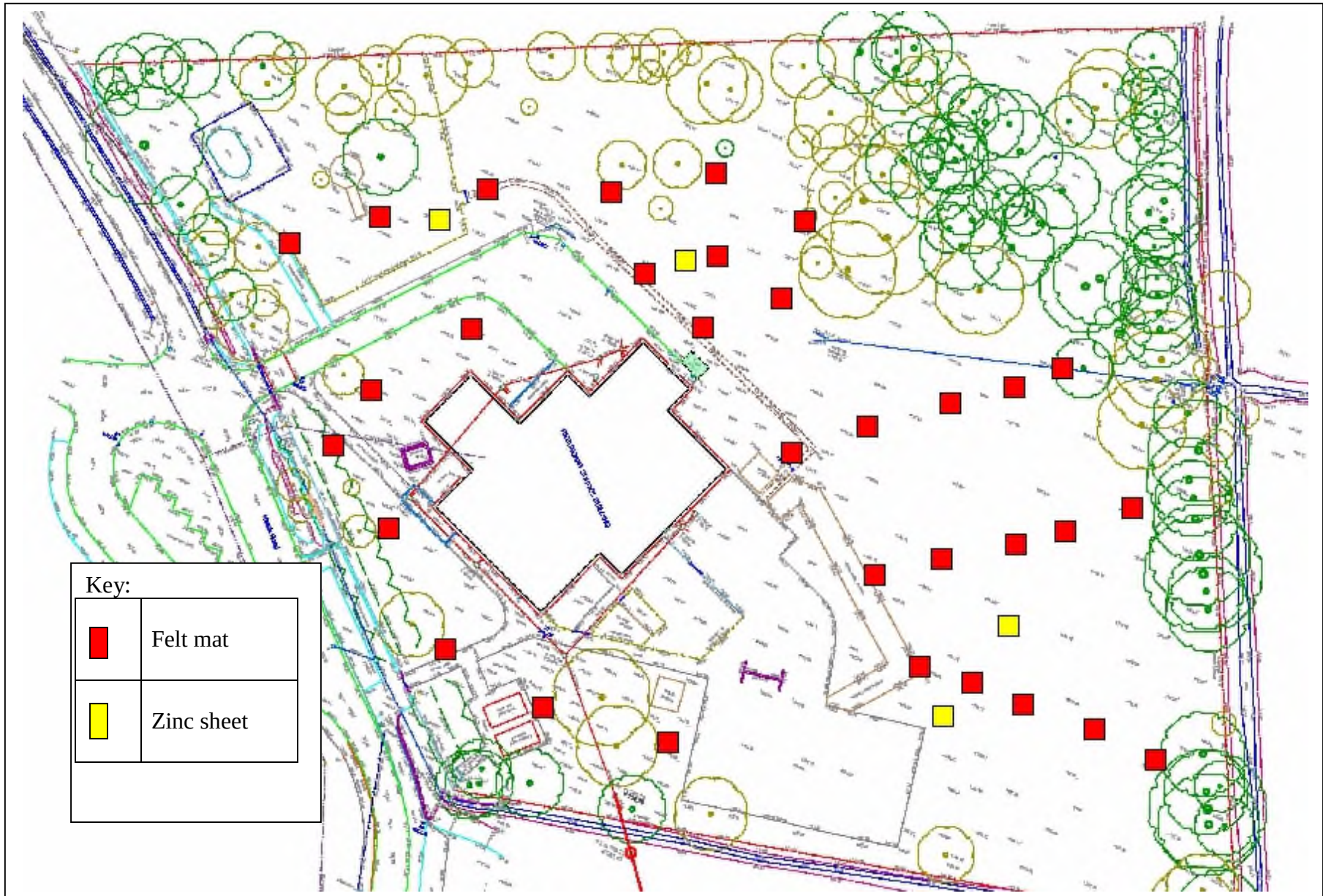


FIGURE 5
REPTILE SURVEY RESULTS

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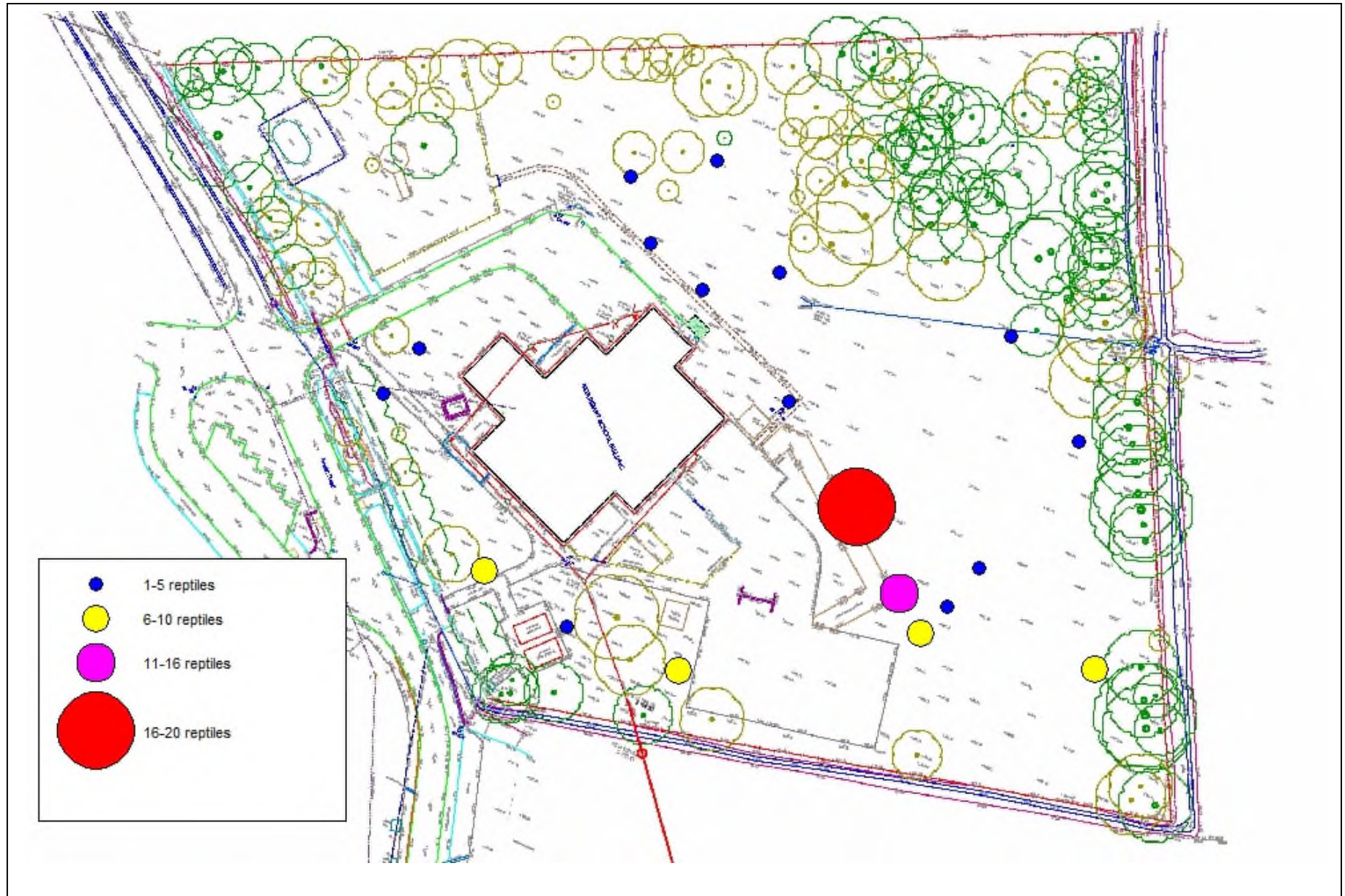


FIGURE 6
EXAMPLES OF INTEGRAL BAT BOXES



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

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

- Rank unmanaged amenity areas, largely grass dominated but also an area of gardens and raised beds at the north of the Site. Some plants more typical of poor semi-improved grassland are present, but they do not appear in quantity to properly reflect that habitat and grasses dominate. Himalayan balsam is present, in places, particularly near the entrance. Species present are:

Species	Frequency
Bird's-foot trefoil	LF
Bramble	O
Cocksfoot	O
Common bent	A
Common field speedwell	O
Common sedge	R/LF
Daisy	LF
Dandelion	O/LF
Field horsetail	LF
Field woodrush	O
Himalayan balsam	O
Lady's mantle	LF
Lady's smock	O
Meadow foxtail	LF
Ribwort plantain	LF
Rough meadow-grass	A
Silverweed	F
Smooth meadow-grass	A
Soft rush	LF
Sweet vernal-grass	LF
Yorkshire fog	LF

- Row of cypress along the frontage, unmanaged to around 4 metres.
- Wildlife garden 'habitat' area, a variety of habitats plus a sensory garden on raised beds. Features present include a pond, and living willow structures. Now unmanaged and being colonised by similar vegetation to TN1 but with abundant creeping buttercup on the paths and originally less vegetated areas and occasional common knapweed and rosebay willowherb. *Erica* species are present in the raised beds.
- Pond (see above), damp and not holding water, yellow flag is frequent, marsh marigold and lesser celandine occasional, becoming overrun by grasses.
- Mixed woodland plantation dominated by coniferous trees with a small number of deciduous hard woods. Beech and oak are present with silver birch to the rear but

the dominant canopy is formed by spruce, larch and redwood. There is no shrub layer; the ground flora is largely shaded out. Species present include:

Species	Frequency
Beech	O
Bluebell	R
Bramble	F
Common Oak	O
Dandelion	O
Hawthorn	O
Herb robert	O
Hogweed	O/LF
Ivy	F
Lesser celandine	O
Rosebay willowherb	O
Rough meadow-grass	O/LF
Silver birch	LF
Spruce	O
Wood avens	O
Yorkshire fog	O

6. Poor semi-improved neutral grassland on the slope away from the school. The grassland is clearly not of a natural origin and in one area is a virtual monoculture of common knapweed and nothing else. It has been planted into, or seeded at some point; it is unmanaged. Although there are species typical of marshy grassland, this area is better described as damp neutral grassland. Species present are:

Species	Frequency
Bird's-foot trefoil*	O/LF
Bracken	LF
Cocksfoot	F
Common bent	A
Common dock	LF
Common knapweed*	O/LA
Common marsh bedstraw	LF
Common sedge*	O/LA
Common sorrel	O
Creeping bent	LF
Creeping buttercup	LF
Creeping cinquefoil	LA
Field woodrush*	O
Hairy sedge	LF

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Hawkeswood Ecology – October 2018

Himalayan balsam	O/LF
Lady's smock*	O
Lesser stitchwort*	O
Meadow buttercup	O
Oval sedge	O
Red fescue	LA
Ribwort plantain	O/LA
Rough meadow-grass	A
Silverweed	LA
Soft rush	F
Southern march orchid	O/LF
Sweet vernal-grass	LF/A
Timothy	LF
Yorkshire fog	LA

8 = Indicator species for Neutral Grassland (Guidelines for the selection of Wildlife Sites in South Wales (2004)).

APPENDIX 3
LIST OF SPECIES RECORDED IN THE SURVEY

<i>Species</i>	<i>Scientific Name</i>
Alder	<i>Alnus glutinosa</i>
Beech	<i>Fagus sylvatica</i>
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Bramble	<i>Rubus fruticosus</i> agg
Cocksfoot	<i>Dactylis glomerata</i>
Common bent	<i>Agrostis capillaries</i>
Common dock	<i>Rumex obtusifolium</i>
Common field speedwell	<i>Veronica persica</i>
Common knapweed	<i>Centaurea nigra</i>
Common marsh bedstraw	<i>Gallium palustre</i>
Common oak	<i>Quercus robur</i>
Common sedge	<i>Carex nigra</i>
Common sorrel	<i>Rumex acetosa</i>
Creeping bent	<i>Agrostis reptans</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping cinquefoil	<i>Potentilla reptans</i>
Cypress	<i>Cypressus</i> sp
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum officinale</i> agg
Field horsetail	<i>Equisetum arvense</i>
Field woodrush	<i>Luzula campestris</i>
Hawthorn	<i>Crataegus monogyna</i>
Heather	<i>Erica</i> sp
Himalayan balsam	<i>Impatiens glandulifera</i>
Lady's mantle	<i>Alchemilla mollis</i> agg
Lady's smock	<i>Cardamine pratensis</i>
Larch	<i>Larix deciduas</i>
Lesser stitchwort	<i>Stellaria media</i>
Lombardy poplar	<i>Populus nigra Italica</i>
Maple	<i>Acer</i> sp
Marsh marigold	<i>Caltha palustris</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow foxtail	<i>Alepocurus pratensis</i>
Oval sedge	<i>Carex ovalis</i>
Red fescue	<i>Festuca rubra</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rosebay willowherb	<i>Chamerion angustifolium</i>
Rough meadow-grass	<i>Poa trivialis</i>
Rowan	<i>Sorbus aucuparia</i>
Scots pine	<i>Pinus sylvestris</i>
Silver birch	<i>Betula pendula</i>

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Silverweed	<i>Potentilla anserine</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Soft rush	<i>Juncus effuses</i>
Southern march orchid	<i>Dactylorhiza praetermissa</i>
Spruce	<i>Picea abies</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Sycamore	<i>Acer psuedoplatanus</i>
Yellow flag	<i>Iris pseudacorus</i>
Yorkshire fog	<i>Hoclus lanata</i>

APPENDIX 4
PHOTOGRAPHS

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Looking at the school building form the south



The school front elevation

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School front and main entrance (sealed)



North eastern elevation, bat emergence and re-entry



South eastern elevation bat re-entry



Southern elevation, bat re-entry



The Amenity Garden



The pond (TN4)



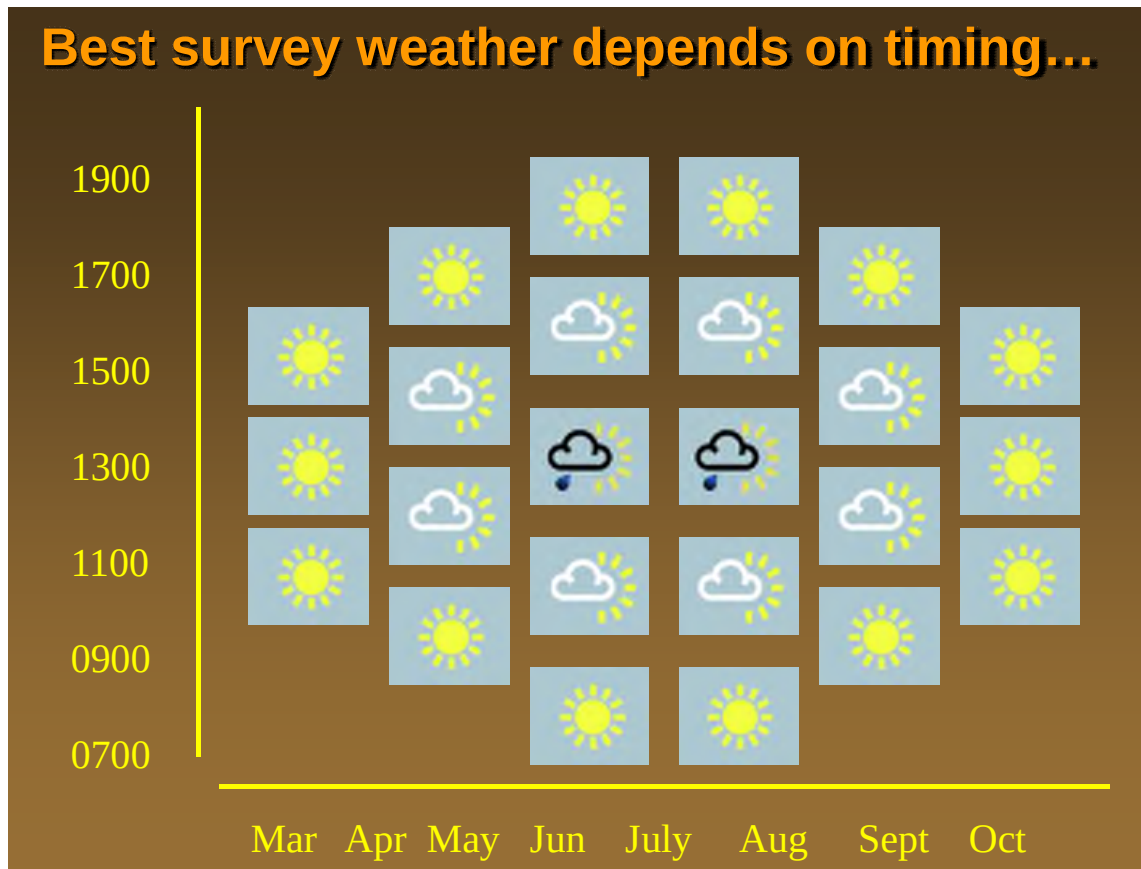
Looking north across the poor semi-improved neutral grassland (TN6) to the school and plantation



The plantation showing lack of understorey and ground cover

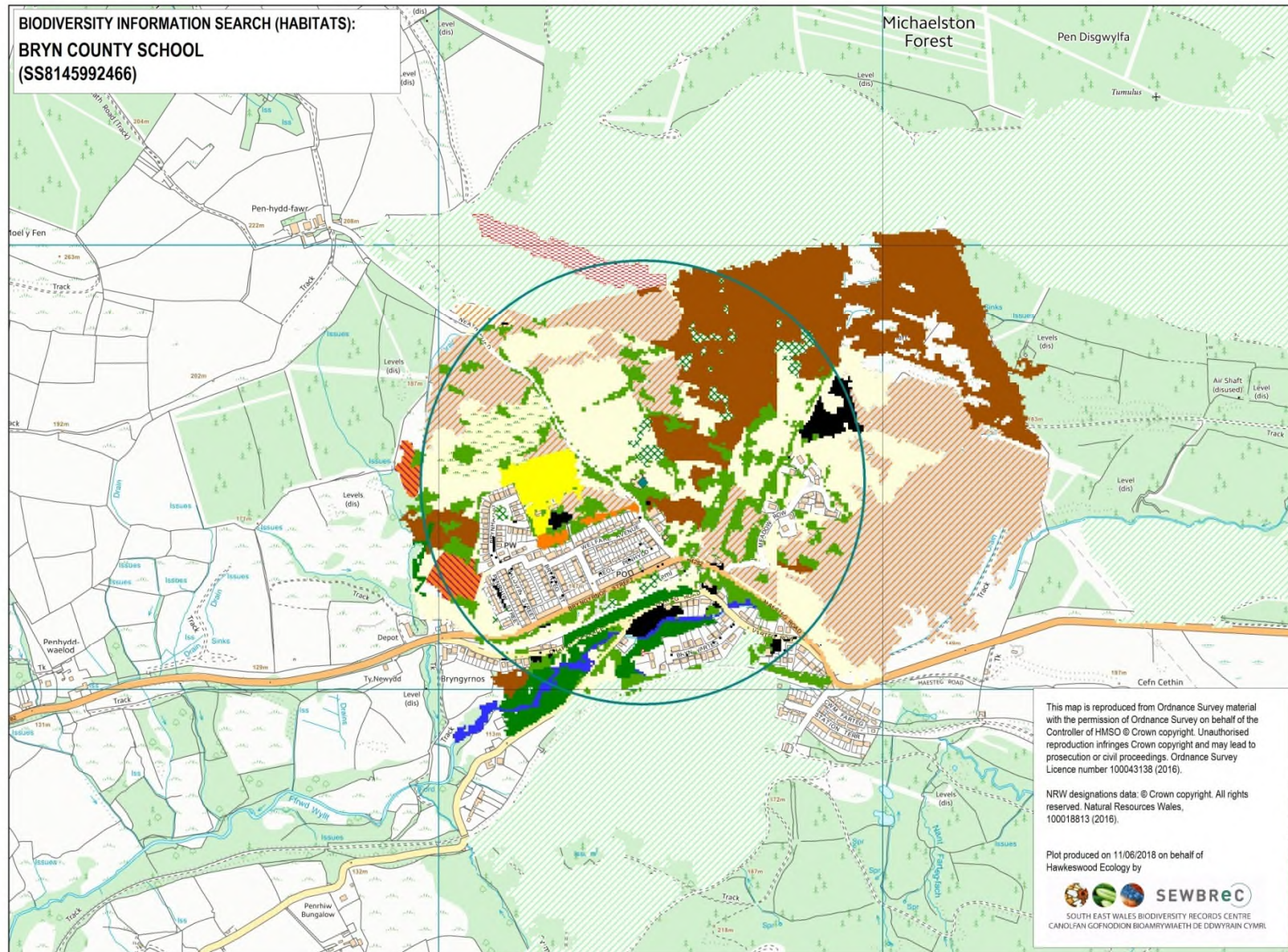
APPENDIX 5
GUIDE TO SUITABLE REPTILE SURVEY WEATHER CONDITIONS

Guide to Suitable Reptile Survey Conditions (after Chris Glead-Owen)



APPENDIX 5
NRW REMOTE SENSING PHASE 1 MAP (SEWBRcC)

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APPENDIX 7
DESIGNATED SITES

HAWKESWOOD ECOLOGY

Specialists in Ecological Survey and Assessment

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