

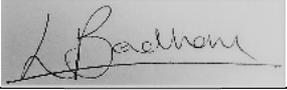
DAVID CLEMENTS ECOLOGY LTD

**BRO TATHAN BUSINESS PARK, GLAMORGAN
BEGGARS POUND**

**ECOLOGICAL ASSESSMENT
(INCLUDING BATS)**

February 2020

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SUMMARY

- Bats (all species protected) known to be roosting in building 417 (the gate house), and the brick-built extension of building 406.
- Nesting birds may use the buildings, and may also occur in trees, hedge and scrub habitats.
- Badger, polecat, brown hare and hedgehog may possibly range over the site while foraging and commuting.
- Common reptiles such as slow-worm may occasionally occur on the edges of the site and may shelter/ hibernate within crevices in the concrete hardstanding and in rubble piles found within the proposed development site.
- Great crested newt (GCN) is known to be present in ponds within the woodland and may potentially shelter/ hibernate within crevices in the concrete hardstanding and /or rubble piles within the site.
- There is permanent herptile fencing between the proposed development site and the woodland. Although one section of the fence is damaged, it is likely to still act as a significant barrier, preventing GCN and reptiles from entering the site.

Implications (Demolition Phase and site clearance)

- It is understood that the woodland area in the south of the wider site, containing great crested newt (GCN) mitigation ponds, is to be retained as an 'ecological mitigation area', and therefore will not be impacted by the future development to the north of the site.
- Building 417, the gate house is due to be demolished under an NRW bat licence in March 2020.
- Demolitions and/or site clearance must not impact nesting birds (nesting season approximately March to August inclusive).
- A non-licenced method statement will be required ahead of any site clearance works that may impact habitats used by GCN. This work must take place outside of the hibernation period (ie not possible between November to February, approximately).
- The GCN method statement will also provide appropriate mitigation measures to protect common reptiles.

1.0 INTRODUCTION

1.1 This report has been prepared by David Clements Ecology Ltd (DCE) on the instructions of the Welsh Government (WG). It refers to a series of buildings and habitats within the Beggars Pound area of the Bro Tathan development. The site location and context is shown at Plan 1.

1.2 The wider site presently comprises the former gate house, two large aircraft hangers, several smaller corrugated metal buildings, surrounding hard standings, managed areas of semi-improved neutral grassland and an area of woodland and scrub containing GCN mitigation ponds.

1.3 It is understood that an application for outline planning permission is being prepared, for a portion of the site (See Drawing: A093950-2drg519 for red-line boundary). This will include the demolition of existing buildings and erection of Class B1 office floorspace, revised access onto Cowbridge Road, associated internal access routes, parking areas, fencing, landscaping, building and engineering operations with all matters reserved. The site is part of the wider Bro Tathan business park. Demolition consent for building 417 (the Gatehouse) is already in place; this building is due to be demolished in February/ March 2020 under the NRW bat licence (S087463/1).

1.4 The present report sets out the results of ecological survey work of the wider site, comprising a 'Preliminary Ecological Assessment' (PEA) and bat surveys.

1.5 Designated Sites of Biodiversity Interest

1.5.1 The site does not contain or lie adjacent to any designated sites of biodiversity value, either statutory or non-statutory. The nearest such sites are indicated on Plan 1.

1.6 Existing Records

1.6.1 Existing records for the site which are in the public domain have been obtained from the South-East Wales Biological Records Centre (SEWBRc) and are incorporated where relevant.

1.6.2 The site formed part of an area which was subject to previous proposals for redevelopment as part of a Defence Technical College and Aerospace Business Park, for which numerous ecological surveys were carried out. DCE carried out surveys as part of the licence requirements following the previous translocation of GCN to the mitigation ponds within the Beggars Pound woodland (DCE 2019a). A Nature Conservation Strategy is currently being produced for the wider Bro Tathan site; the strategy includes relevant records from over 50 ecological reports.

1.7 **Methods & Approach**

- 1.7.1 The site was subject to an Extended Phase 1 survey based on that recommended by the Chartered Institute of Ecology and Environmental Management (CIEEM 2013). The site was surveyed on 13th August 2019 in warm, dry weather conditions.
- 1.7.2 All buildings within the site were subject to detailed external building inspections for signs of bat occupation. The surveys were carried out in accordance with the guidance provided by BCT (2016). An initial site inspection was carried out in dry weather conditions during daylight hours on 13th August 2019, by a licensed and suitably experienced bat ecologist. A high-powered lantern (Clulite FAN1) was used to inspect features with potential to support roosting bats. Other equipment was available as required, including a digital endoscope (A68KF) for the examination of any crevices in the fill of stone walls etc, and ladders to inspect high areas. Searches were made especially for evidence such as bat droppings and feeding remains, as well as for sightings of actual bats (in cracks and crevices etc) and secondary signs such as fur-oil and urine stains, scratch marks etc.
- 1.7.3 The layout and construction of the buildings was recorded, briefly described and characterised, with an estimate being made of the potential attractiveness and suitability for bats with reference to a range of factors including human disturbance, light levels, air movement, exposure, thermal stability and cobwebbing of access points etc. It was not possible to gain access to the interior of the buildings, due to health and safety concerns.
- 1.7.4 In addition, two flight surveys (one dawn re-entry survey and one dusk emergence) were carried out on the buildings assessed as having roosting potential, during the bats active flight period. On each occasion observers were stationed around the buildings in order to cover each elevation assessed as having roosting potential. Each surveyor was equipped with Anabat SD1/ SD 2 frequency-division bat detectors or Peersonic RPA3 full spectrum detectors, supplemented by a mixture of Petterson D200 and BatBox duet heterodyne detectors. Bat calls were logged and recorded to SD cards for subsequent analysis using the AnaloookW software (Corben 2006).

2.0 **SURVEY RESULTS**

2.1 **Habitats & Vegetation**

- 2.1.1 The results of the habitats and vegetation survey are shown on Plan 2 and lists of the species recorded are given at Appendix 1.

Notable Plant Species

- 2.1.2 No nationally rare or scarce plant species are recorded from the site. The desk study returned a number of records for Shepherds needle (*Scandix pecten-veneris*) in the vicinity of the site.

Notable Habitats

- 2.1.3 The site supports semi-improved neutral grassland, which is listed under Section 7 of the Environment (Wales) Act 2016 as a ‘habitat of principal importance for conservation in Wales (formerly ‘Priority Habitats’)¹. The grassland of the site is unlikely to meet the Section 7 definition, however, being relatively species poor.

Invasive Non-native Plant Species

- 2.1.4 An area of garden cotoneaster (*Cotoneaster* sp.; Target Note 1) is situated growing amongst a fenced boundary in the south-east of the site. This was not identified to species but may comprise one of those listed on Schedule 9 of the Wildlife & Countryside Act 1981. Species listed under this schedule are non-native and highly invasive, the spread of which is prohibited under regulations contained under this schedule.

Semi-improved Neutral Grassland

- 2.1.5 Areas of mown semi-improved neutral grassland are found throughout the site, intersected by hard standing areas such as roads and car parks. Sward heights on the day of survey ranged between 10-20cm.
- 2.1.6 An area of grassland, with a sward length of 10-20cm at the time of survey, is situated south-west of building 417, the gate house, in the south-eastern corner of the site. Species within the grassland mainly comprise perennial rye grass (*Lolium perenne*) with false oat-grass (*Arrhenatherum elatius*) and cock’s-foot (*Dactylis glomerata*), also occurring. Broad-leaved species include daisy (*Bellis perennis*), creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum officinalis* agg.), yarrow (*Achillea millefolium*), field bindweed (*Convolvulus arvensis*), creeping cinquefoil (*Potentilla reptans*) and greater plantain (*Plantago major*).
- 2.1.7 Two large areas of semi-improved neutral grassland are situated within the north of the site. Species of grass comprising the foundation of the grassland include perennial rye grass, cock’s foot, bent grass (*Agrostis* sp.), fescue grass (*Festuca* sp.). Other broad-leaved species within the community include greater plantain, dandelion, a species of clover (*Trifolium* sp.), common mouse ear (*Cerastium fontanum*), creeping cinquefoil, common bird’s foot trefoil (*Lotus corniculatus*), yarrow, meadow vetchling (*Lathyrus pratensis*), cat’s ear (*Hypochaeris* sp.), fat hen (*Chenopodium album*) and redshank (*Persicaria maculosa*).
- 2.1.8 An area of relatively unmanaged semi-improved neutral grassland, with a sward height of 30-40cm at the time of survey, is situated within the centre of the site. Grassland species comprising the foundation of the grassland include yorkshire fog, perennial rye grass, sweet vernal grass (*Anthoxanthum odoratum*), cock’s foot and timothy grass (*Phleum pratense*). Broad-leaved species include agrimony (*Agrimonia eupatoria*),

¹ In Wales the s.7 list of the EWA 2016 supersedes the s.42 list of the Natural Environment & Rural Communities Act 2006, which in turn replaced the ‘Priority Species’ lists of the UK Biodiversity Action Plan and its Welsh equivalent.

creeping buttercup, meadow buttercup (*Ranunculus acris*), willowherb (*Epilobium* sp.), yarrow and spear thistle (*Cirsium vulgare*).

Woodland

- 2.1.9 An area of mixed woodland lies in the south of the site. Species in the canopy layer include a species of cypress (*Cupressus* sp.) and sycamore (*Acer pseudoplatanus*), while species within the shrub layer include hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*) and elder (*Sambucus nigra*).

Dense Scrub

- 2.1.10 A prominent belt of scrub vegetation occurs along a fenced boundary in the south of the site. Species within this stand include bramble (*Rubus fruticosus* agg.), rowan (*Sorbus aucuparia*) and hawthorn. Clambering species, such as ivy (*Hedera helix*), traveller's joy (*Clematis vitalba*) and dog rose (*Rosa canina* agg.) are found throughout. Species among the ground flora include nettle and teasel (*Dipsacus fullonum*). A smaller area is situated within the centre of the site, immediately adjacent to building 411; species within this stand of vegetation include elder, bramble and traveller's joy.

Hedges and Tree Line

- 2.1.11 A managed ornamental hedge of cherry laurel (*Prunus laurocerasus*) approximately 1.3m high runs along the north-eastern site boundary. There is also a line of cypress trees on the site boundary adjacent to Cowbridge road.

Bramble Scrub

- 2.1.12 Small areas of bramble scrub are situated across the site, particularly in the north-east and south of the site.

Tall Ruderal

- 2.1.13 A continuous belt of tall ruderal vegetation is situated along the fenced boundary in the south of the site. Species within this stand include creeping thistle and dock (*Rumex* sp.). A dense stand of nettles is also situated in this area.

GCN Mitigation Ponds

- 2.1.14 Four concrete lined mitigation ponds are situated within a fenced compound in the south of the site, adjacent to an area of woodland. Additional ponds are situated within adjacent pastureland to the south-west of the site boundary. These ponds are known (DCE, 2019a) to support breeding populations of GCN. An existing line of herptile fencing segregates the fenced compound from the developed area of the site. A gap (Target Note 2) is situated along the fenced boundary in the south-west of the wider site, however, this is outside the proposed development boundary.

Hardstanding & Rubble Piles

- 2.1.15 Areas of concrete and tarmacked hardstanding are found throughout the site. Areas include roads, car parking areas and concrete foundations. Rubble piles occur (Target Note 3) within the north-east of the site, and along the north-western edge of an aircraft hangar (building 406). There are gaps under the tarmacked hardstanding near building 417, the gate house.

Buildings

- 2.1.16 Ten buildings occur within the site boundary and are described in Table 1 below.

2.2 Fauna

Bats

- 2.2.1 All species of bat and their roosting sites are protected under the EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC; the 'Habitats Directive'), implemented in the UK via the Conservation of Habitats & Species Regulations 2017 (the 'Habitats Regulations')². The roosting places used by bats are also protected against unauthorised disturbance or obstruction under the amended Wildlife & Countryside Act 1981. Several bats are listed as priorities for conservation under Section 7 of the Environment (Wales) Act 2016. More detailed background information on bats and the relevant legislation is provided in Appendix 2.
- 2.2.2 The desk study returned numerous records for bats and bat roosts in the surrounding area and in other parts of the wider site, but no records for the site itself. Most recently, bat surveys have been undertaken of the wider site by David Clements Ecology which have identified a number of roosts of common species (See DCE 2019b for details).
- 2.2.3 Daytime, exterior only, inspections of the buildings were undertaken by a bat licenced ecologist in warm, dry weather conditions on the 13th August 2019. The buildings were inspected, and further surveys undertaken on buildings assessed as having bat potential to elucidate the use of the buildings by roosting bats. The grassland, woodland, and tree line habitats of the site, identified through the Phase 1 survey, were noted to offer foraging and commuting resources for bats.

Building Descriptions

- 2.2.4 The interiors of the buildings were not entered, mainly due to health and safety concerns. This is not considered to be a major constraint, due to the lack of external features

² The European legislation cited herewith is that which was applicable at the time of survey, but it should be noted that new arrangements have become applicable after 31 Jan 2020 as a result of 'Brexit'. At the time of writing these comprise a continuance of the current legal and protection arrangements by means of Statutory Instrument No. 579 (*The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations, 2019*) but the longer term arrangements which will apply after the end of the Brexit 'Transition Period' are still to be confirmed and may differ in detail from those which previously applied.

present on most of the buildings. Table 1 below, shows the descriptions of all buildings within the site.

Bat roost potential

- 2.2.5 Several buildings within the site were assessed as having negligible potential for roosting bats. These include buildings 602, 418, 600, 410, 411, and 601 (See Plan 2 for locations).
- 2.2.6 Three buildings within the site were assessed as having low potential for roosting bats and comprise buildings 406, 456 and 415 (See Plan 2 for locations). Building 417, the gatehouse, was assessed as having moderate potential
- 2.2.7 Buildings 406, 456, 415 and 417 were all subject to further flight surveys.

Dawn re-entry surveys

- 2.2.8 Dawn re-entry surveys were completed on the 21st August 2019. The weather conditions were warm, dry and calm with 50% cloud cover. Temperatures were approximately 15°C at the start of the survey and sunrise was at 06:07. See Plans 3a and 3b for details.
- 2.2.9 One common pipistrelle was observed entering under the apex on the east elevation gable end of building 417 at 05:39. The entry point appeared to be a vent within a brick approximately one metre below the apex. A second common pipistrelle was observed entering the building under the apex on the west elevation gable end, using a gap in the concrete under the ridge tile. A low level of commuting by soprano and common pipistrelle was recorded during the course of the survey, particularly along the line of conifers just outside the south-east side boundary, at the back of the building.

Dusk Emergence Surveys

- 2.2.10 Dusk emergence surveys were completed on the 10th September 2019. The weather conditions were mild, dry, overcast and breezy. Temperatures were approximately 15°C at the start of the survey and sunset was at 19:41. See Plans 3a and 3b for details.
- 2.2.11 One common pipistrelle was observed emerging from under the apex on the west elevation gable end of building 417, at 20:20 using a gap in the concrete under the ridge tile. A second common pipistrelle is likely to have emerged from a point under the apex on the east elevation gable end at 19:46. A low level of commuting by soprano pipistrelle, common pipistrelle and noctule was recorded during the course of the survey. There were also several common pipistrelle social calls recorded.
- 2.2.12 A soprano pipistrelle was observed emerging from a space within a corrugated metal roof upon a brick-built section of building 406 at 19:56.

Table 1: Exterior descriptions of the buildings within the site (See Plan 2 for locations of buildings).

Building	Description	Evidence of Bats	Bat Roosting Potential
602			
	<i>Exterior:</i> The building is a single storey structure, with a corrugated metal and double pitched roof, with large roller door.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	No features visible on the exterior of the building Negligible potential for roosting bats.
	<i>Interior:</i> Access not gained into the interior of the building	-	-
418			
	<i>Exterior:</i> Single storey structure with metal-sheet wall panels, and a corrugated flat metal roof.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	No features visible on the exterior of the building Negligible potential for roosting bats.
	<i>Interior:</i> Access not gained into the interior of the building	-	-
406			
	<i>Exterior:</i> Large convex corrugated iron sheet building, serving as an aircraft hangar.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	Partially removed piece of metal panelling on western elevation allowing for potential access into possible crevices. Low potential for roosting bats
	<i>Interior:</i> Access not gained into the interior of the building	-	-
600			

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	<i>Exterior:</i> Portacabins with metal panelling and flat bitumen lined rooves	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	No features visible on the exterior of the building Negligible potential for roosting bats.
	<i>Interior:</i> Access not gained into the interior of the building	-	-
456			
	<i>Exterior:</i> Hipped cement-tiled roof. Red brick walled.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	Possible crevices along ridge lines of the roof. Low potential for roosting bats.
	<i>Interior:</i> Access not gained into the interior of the building	-	-
410			
	<i>Exterior:</i> Single-storey brick-built building with flat bitumen-lined roof.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	No features visible on the exterior of the building Negligible potential for roosting bats.
	<i>Interior:</i> Access not gained into the interior of the building.	-	-
411			
	<i>Exterior:</i> Small corrugated metal walled building with corrugated metal roof.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	No features visible on the exterior of the building Negligible potential for roosting bats.
	<i>Interior:</i> Access not gained into the interior of the building	-	-

601			
	Exterior: Small corrugated metal walled building with corrugated metal roof	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	No features visible on the exterior of the building Negligible potential for roosting bats.
	Interior: Access not gained into the interior of the building	-	-
415			
	Exterior: Large convex corrugated iron sheet building, serving as an aircraft hangar.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	Missing metal panel which may have crevices beneath Low potential for roosting bats
	Interior: Access not gained into the interior of the building	-	-
417			
'The gate house'	Exterior: Single-storey brick-built derelict building with a dual-pitched roof covered with what appears to be composite roof and ridge tiles, and a brick chimney. There is an open porch on the north elevation supported by two concrete pillars and a timber beam, with a wooden fascia board underneath. There is a single storey flat-roofed garage adjoined to the south elevation and extending either side of the building, with two metal garage doors at each side on the north elevation. There is a substantial growth of ivy (<i>Hedera helix</i>) on the eastern wall. All the windows and doorways appear intact. There are no barge boards on the gables.	No visible signs of roosting by bats observed on the exterior structure on the day of the survey.	Gaps under ridge tiles, missing concrete under tiles on the gables and a gap in the lead flashing around the top of the chimney. Moderate potential for roosting bats.
	Interior: Access not gained into the interior of the building, due to health & safety concerns.	-	-

Otter

- 2.2.13 Otter is a ‘European protected species’, afforded legal protection which is similar to that of bats (see above). It is also a ‘Section 7’ listed species.
- 2.2.14 Otter is known to occur in the vicinity of the site, with recent records in the wider area (SEWBReC data).
- 2.2.15 The site does not support any aquatic habitats which are suitable for use by otter and therefore it is considered unlikely that otter would occur within the site.

Dormouse

- 2.2.16 Dormouse is a ‘European protected species’, afforded legal protection which is similar to that of bats (see above). It is also a ‘Section 7’ listed species.
- 2.2.17 Dormouse is known to occur in the vicinity of the site, with recent records from within the woodland close to the site boundary (SEWBReC data).
- 2.2.18 The site does not contain any habitat suitable for dormouse. Therefore, although the species is found close to the site boundary, it is highly unlikely that dormouse use the site.

Badger

- 2.2.19 Badger is fully protected in the UK under the terms of the Protection of Badgers Act 1992, which includes its nesting sites. Current interpretation of the Act also infers a degree of protection to areas which are of key significance to foraging badgers.
- 2.2.20 There are many records of badger from within the vicinity of the site. There is an earthwork in the woodland, to the south of the site, which was seemingly occupied by badger about 15 years ago, but no recent evidence indicating occupation by badger has subsequently been found at this feature. Badger footprints and foraging signs have, however, been seen in the woodland area at various times over the intervening period, most recently around 2019 (DCE survey records).
- 2.2.21 The site does not contain any habitats which are suitable for nesting use by badger. The grasslands could potentially be used for foraging by this species, although no evidence of this was seen during the present survey.

Other Mammal Species

- 2.2.22 A record for polecat was returned in the data search approximately 1km from the site. The site does not contain habitats suitable for nesting polecat however polecat may pass through the site adventitiously.
- 2.2.23 A range of common and ubiquitous mammals is likely to occur on the site, including species such as rabbit, mice, voles and shrews etc. Records for brown hare, hedgehog

and fox are known from the wider area. There is also likely to be a mixture of resident species such as brown rat, bank vole or house mouse etc, as well as casual visitors such as fox present.

Birds

- 2.2.24 Nearly all species of bird are protected against killing or injury as individuals under UK legislation, and this protection extends to their nests, eggs and young. A number of especially rare species are subject to enhanced protection under UK law by virtue of their listing on Schedule 1 of the Wildlife & Countryside Act 1981, and may not be disturbed whilst nesting. Many bird species are listed as being of ‘red list’ (ie high) or ‘amber list’ (ie medium) conservation status either in Wales and/or in the wider UK (RSPB 2015; 2017), with several of these also being listed as ‘Section 7’ species in Wales.
- 2.2.25 No birds or evidence of nesting birds were observed on the day of the survey. However, the buildings have some potential for nesting birds and numerous bird records were returned in the surrounding vicinity of the site.
- 2.2.26 Barn owl, a ‘Schedule 1’ species, was heard calling near the woodland area, within the south of the site, during a nocturnal survey for great crested newt (GCN) in 2019. This species is well known from the St Athan area, with existing records from the airfield and from a local road near Batslays Farm (SEWBReC data). It is not currently thought to be nesting on the site but very probably forages over it periodically.
- 2.2.27 Great spotted woodpecker, grey heron and blackcap were recorded respectively in the woodland and West Orchard areas, during recent GCN surveys. Tawny owl was heard during the dusk survey on 10th September. Other existing bird records from the wider vicinity in recent years include species of conservation concern such as song thrush, house sparrow, dunnock and starling (SEWBReC data), some of which may nest on the site on occasion.

Reptiles

- 2.2.28 Four native reptile species occur in South Wales, comprising common lizard, slow-worm, adder and grass snake. These four species are all afforded so-called ‘partial protection’ under the amended Wildlife & Countryside Act 1981, which prohibits the deliberate killing or injury of individuals. However, there is no direct protection extended to the habitats which support these species. All four common reptiles are listed as ‘Section 7’ species in Wales.
- 2.2.29 Common reptiles are difficult to detect in the field without recourse to targeted Phase 2 survey methods and reliance was therefore placed on the subjective assessment of the habitats of the site with respect to their potential as dispersal, foraging and hibernating grounds for common reptiles, based on previous experience and on published information.

- 2.2.30 No records for any reptile species was returned for the site specifically, however numerous records for reptiles were returned across the wider site and its surrounding vicinity. There is an old record of grass snake to the south of the airfield and a record of breeding slow-worm in a garden in St Athan village in 2014 (SEWBReC data). Slow-worm was also found near to the East Camp boundary during the reptile surveys in 2008 (Capita Symonds 2009).
- 2.2.31 No reptiles were seen on the site during the present survey. The highly managed nature of the habitats indicate it is unlikely that reptiles are normally found on the site. However, it is possible that small numbers of reptiles occasionally use the grassland and scrub, moving on to the site from adjacent more suitable habitats. There are two crevices within the concrete hardstanding that could be used by reptiles for shelter or hibernation. Rubble piles (Target Note 3) are prevalent along the northern edge of building 406 and south of building 415. These structures may be used by reptiles for shelter and/or hibernation.

Amphibians

- 2.2.32 Five native amphibian species occur in South Wales, comprising common frog, common toad, smooth newt, palmate newt and great crested newt. The latter species is a nationally rare and declining species afforded full protection under both UK and European legislation (see under Bats, above), which also extends to the habitats which support it. The other four species are not afforded any direct statutory protection, other than with respect to trade, but common toad is listed as ‘Section 7’ species in Wales.
- 2.2.33 Great crested newt (GCN) is known to occur widely in the St Athan area, with breeding in ponds within the wider airfield site, and GCN also occurs frequently more widely throughout the Vale of Glamorgan (SEWBReC data). This species occurred in large numbers in an Emergency Water Supply (EWS) pond very near to the Phase A site (Bro Tathan East), but this was demolished in 2008 and the newts translocated to replacement ponds in the south of the site, West Orchard and Batslays Farm areas where they still occur. Surveys carried out by DCE in 2019 found GCN still present in the ponds in the Beggars Pound woodland, within 50 metres of the boundary of the proposed development site.
- 2.2.34 There is permanent herptile fencing between the woodland area, where five of the ponds are situated, and the proposed development site. Although one section of the fence is damaged, it is likely to still act as a significant barrier, preventing GCN from entering the site.
- 2.2.35 No amphibians were seen on the site during the present survey. The highly managed nature of the habitats on the site make it unlikely that amphibians are normally found; however, it is possible that small numbers of amphibians occasionally use the grassland and scrub, moving on to the site from adjacent more suitable habitats. There are two crevices within the concrete hardstanding that could be used by amphibians for shelter or hibernation. Amphibians may also utilise the rubble piles (Target Note 3) for shelter and/or hibernation.

Invertebrates

- 2.2.36 Upwards of 30,000 species of terrestrial and freshwater invertebrates are recorded in Britain, including some 27,000 insect species, occurring in every available habitat. About 40 invertebrate species are afforded full statutory protection in the UK under either European or British legislation, and many other species are accorded varying levels of conservation importance.
- 2.2.37 No invertebrates were recorded during the survey and there are no previous records for the site. However multiple records for invertebrates were returned for the wider site, including golden-ringed dragonfly (*Cordulegaster boltonii*), banded demoiselle and beautiful demoiselle damselflies (*Calopteryx splendens* & *C. virgo*) and short-winged conehead cricket (*Conocephalus dorsalis*).
- 2.2.38 Overall, the site is assessed as being likely to support a wide range of mainly common and ubiquitous invertebrates associated with the grassland. Given the small size of the site and the managed nature of the grassland the value to invertebrates is considered limited.

3.0 ECOLOGICAL EVALUATION

3.1 There is currently no nationally accepted system for the categorising of sites or features of biodiversity significance below the level of national value, criteria for which are set out by the former Nature Conservancy Council (1989, as amended). However, guidance for the identification of non-statutory sites of county significance (ie SINC's) is available in this instance (WBP 2008; SWWSP 2004).

3.2 For the purposes of this study the habitats and features of the site have therefore been provisionally evaluated and graded in accordance with the categories set out at Appendix 3.

International, National, County and District Value

3.3 None of the habitats on the site are currently considered to fall into any of these categories.

High Local Value

3.4 Building 417, the gate house, and the brick-built extension to building 406 are confirmed bat roosts and therefore are considered to be of High Local value. The GCN mitigation ponds within the woodland, adjacent to the boundary of the proposed development site, which are known to support breeding GCN, are considered to be of High Local value.

Local Value

3.5 The semi-improved neutral grassland, tall ruderal vegetation, bramble scrub, dense scrub, laurel hedge, line of cypress trees and grassland are assessed as having Local value for wildlife.

Negligible Value

3.6 The areas of hardstanding are currently considered to be of Negligible value for wildlife.

4.0 RECOMMENDATIONS

4.1 Statutory Obligations

4.1.1 The following are mandatory requirements under current legislation:

Bats

4.1.2 Bats are known to roost in buildings 406 and 417. Therefore, no demolitions or other works which are likely to cause harm or disturbance to bats may be undertaken until a licence has been obtained from NRW and an appropriate scheme of mitigation agreed. This is already in place for building 417 (see Section 1.3 above).

4.1.3 Any works which might potentially affect bat roosts, whether directly or indirectly, must take place under a derogation licence obtained in advance from Natural Resources Wales (NRW). This is a statutory requirement. Derogation licences can only be obtained when the relevant permissions from the Local Planning Authority are in place and will require the submission of a detailed Method Statement for mitigation which takes into account the actual requirements and proposals of the demolition plan.

4.1.4 Any works to building 417, the gatehouse, and/or the brick-built extension on building 406, including demolition, affecting either the attic voids, roofs or any exterior roof structures such as fascia, soffits, gutter-plates, ridge-tiles, hips or flashings etc, plus any other features noted by the supervising ecologist as having potential for use by roosting bats, must be carried out with a NRW licence in place and strictly in accordance with the licence-approved Method Statement. The latter is likely to include the ‘soft-stripping’ by hand of all features with bat potential, under the supervision of a suitably qualified bat ecologist.

4.1.5 Current evidence suggests that occupation of the buildings, seen to support bat roosts, namely buildings 406 & 417, by bats is most likely to occur primarily during the summer months, although it is also possible that the buildings are used as a roost in spring and autumn. Use of the buildings by bats during the winter months cannot be ruled out completely, although the buildings do not appear to provide suitable conditions for hibernating bats. It is therefore recommended that demolition works which might affect bat roosts will commence in the autumn months (ie from September onwards) when there is considered to be less probability that any roosting bats will be present, and there should be least risk of causing disturbance or harm to any torpid (ie relatively inactive and immobile) bats.

4.1.6 The contractors undertaking the demolition works will be provided with a ‘toolbox talk’ setting out the issues and constraints in respect of bats, explaining the conditions and terms of the licence. The contractors will be provided with appropriate emergency contact numbers, including those of the supervising ecologist, NRW and the Local Planning Authority (LPA) Ecologist.

- 4.1.7 In the event that bats are found to be present at any time during works, all works in the immediate vicinity must cease immediately and the supervising ecologist summoned as a matter of urgency. The ‘immediate vicinity’ should comprise any bat-occupied structure or void in its entirety, plus an area of at least 5m radius around the find site. This is a statutory requirement. The supervising ecologist will either take the bats into care or remove them to suitable on-site mitigation provisions, as appropriate.
- 4.1.8 Mitigation to be approved by NRW will be required prior to any works commencing on building 406. The agreed mitigation under the bat licence (S087463/1) for demolition of building 417, consists of at least two bat boxes on retained trees in the adjacent woodland to the south of the development site. Two bat houses have already been built to compensate for the loss of bat roosts in the East Camp area of the airbase.
- 4.1.9 In any subsequent redevelopment phase on the site, it is recommended that any new buildings should have bat-boxes integrated into their walls in suitable locations, such as at gable apices. Additional features such as bat-accessible lofts, gaps under fascias and soffits, and ridge-tile bat access slots should also be provided where possible.
- 4.1.10 The scheme of integrated bat-boxes and other bat-friendly features should be agreed with the LPA ecologist when a full planning application is being prepared.
- 4.1.11 No modern/breathable roofing membranes (M/BRMs) are to be installed anywhere in any new buildings on the redeveloped site. In all situations the roof lining should be Type 1F Bitumen felt with hessian matrix to BS8747 (2007) only, which is an acceptable alternative under current Buildings Regulations (Parts L1B, L2B and C). Research has shown that roosting bats can become entangled with the fibres of BRMs resulting both in the death of bats and damage to the BRM which is sufficient to seriously impair its waterproofing function. None of the BRMs which are currently available are approved for use in bat roosts³ and the use of these in developments on sites which harbour bat-roosts will only be permitted by NRW in exceptional circumstances where the total exclusion of bats can be guaranteed in the future.
- 4.1.12 The lighting design for any new redevelopment, including any security lighting, should be carefully reviewed in liaison with the supervising ecologist so as to minimise the illumination of bat-roosts or bat-roost entrances and to maintain, as far as possible, ‘dark corridors’ around the site periphery for bat movement. Security lighting should ideally be passive infra-red (PIR) activated with the minimum necessary activation time. Any lights which are permanently illuminated at night should be vectored and baffled so as to minimise light-spill into areas which may be used by bats. Any lighting scheme for the site should take into account the current advice and guidance provided by the Bat Conservation Trust⁴.

Nesting Birds

- 4.1.13 Demolitions and other clearance works must not cause harm or disturbance to any birds which may be nesting on the site at the time. Any demolition works affecting buildings or

³ http://www.bats.org.uk/news.php/254/bats_and_breathable_roofing_membranes_update_of_findings_%20

⁴ <https://www.bats.org.uk/news/2018/09/new-guidance-on-bats-and-lighting>

clearance work affecting trees, should therefore avoid the main bird-nesting season which runs approximately from March to August inclusive. Alternatively, any works which must necessarily be carried out during this period must be preceded by a survey to ensure that no nesting birds are present. This restriction also applies to any other habitats which are found to support nesting birds, including ground-nesting species. In the event that any nesting birds are discovered immediately prior to or during any works, all work in the immediate area must cease immediately and appropriate expert advice obtained.

Great Crested Newt and Common Reptiles

- 4.1.14 It is understood that the demolition of building 417, the gate house, will not involve any ground disturbance and the hard standings on site will be left intact. The demolition of the buildings will take place during the winter hibernation period. The works are considered unlikely to affect great crested newt or common reptiles, as long as general precautionary measures are followed, such as fencing off any sensitive areas, including the two crevices within the concrete hardstanding (see Section 4.2 below).
- 4.1.15 Prior to the site clearance a non-licensed GCN method statement, which will also provide appropriate mitigation measures to protect common reptiles, will be agreed with the LPA ecologist. Site clearance will be carried outside the reptile / amphibian hibernation period, which runs approximately from mid-late October until early to mid-March.

4.2 Other Recommendations

- 4.2.1 Any habitats which are to be retained within the site boundary (eg, grasslands and any crevices within the concrete hardstanding) will be securely fenced off with appropriate fencing (eg 'Heras' fences) at the start of the clearance works to prevent access and incidental damage by site vehicles, equipment, materials and personnel. Storage compounds and mixing areas etc will be located away from such areas.
- 4.2.2 Construction compounds, mixing and storage areas will be securely bunded or otherwise drained so as to avoid the release of polluting substances into the retained habitats or into any off-site watercourse.
- 4.2.3 Large trees will be retained on the site wherever possible. Any large trees, shrubs and areas of scrub which are retained within the site should be treated in accordance with BS5837 (2012) *Guidance on the Treatment of Trees in Relation to Design, Demolition & Construction*.
- 4.2.4 Contractors will be provided with a 'toolbox talk' at the outset of demolition, site clearance and construction works setting out the known and possible habitat and species constraints, and the mitigation measures which are required. The toolbox talk will also set out procedures to be followed in the event that there are unexpected encounters with protected species etc. All contractors carrying out dense bramble or tree clearance works (if appropriate), should be warned of the *possible* presence of nesting birds, roosting bats and common reptiles and of their protected status. It should be clearly

understood that in the event of any being found during works, all works must cease in the affected area until appropriate expert advice has been sought.

- 4.2.5 Consideration should be given to the incorporation of areas of semi-natural grassland which are dominated by native grassland species within the landscaping of any new development which may be considered for the redeveloped site. This could be, for example, either by the skimming-off, retention and re-spreading of soils from the existing grassland areas, or by the sowing of new grasslands using appropriate seed mixtures. Only native species which are indigenous to the region should be used in the latter, however, using locally (or at least UK) sourced seed material.
- 4.2.6 Consideration should also be given to incorporating beds of plants which are valuable to pollinator invertebrates within the landscaping of any new development.
- 4.2.7 A variety of suitable bird nesting boxes should be incorporated on the new site, both on retained trees and in any new buildings, particularly house sparrow terraces. These should be installed at least 4-5m above ground level in locations where they are not accessible either to unauthorised persons or to household pets such as cats, and should ideally be of long-lasting woodcrete or ABS construction, rather than timber. A scheme of bird boxes should be agreed with the local planning authority ecologist as part of the redevelopment proposals.
- 4.2.8 A Wildlife Protection Plan (WPP) should be drawn up for the site clearance and construction stages, setting out detailed measures to ensure that the identified interests, potential interests and statutory obligations etc are appropriately treated. The WPP should include, for example, the agreed vegetation and herptile clearance strategies, and identify the individuals who will be responsible for ensuring that the ecological mitigation requirements are met.
- 4.2.9 Responsibility for implementation of the WPP should be assigned to an appropriately qualified and/or experienced member of the development team who would act as an 'Ecological Clerk of Works'.
- 4.2.10 As part of the Nature Conservation Strategy for the Bro Tathan site as a whole, a long-term Habitat Management Plan will be produced and implemented for the wider Beggars Pound site, including the woodland area. This will include additional measures to enhance biodiversity and a sympathetic management regime.
- 4.2.11 The services of an appropriately qualified and licensed ecologist will be available on an 'on-call' basis throughout the development in order to deal promptly with any protected species or other ecological matters which may arise during the clearance and construction works.

5.0 REFERENCES

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SITE PHOTOS 2020



Tall ruderal vegetation in the south west of the site.



Semi-improved neutral grassland in the west of the site



Unmanaged semi-improved neutral grassland in centre of the site.



Single London plane tree within the centre of the site.



Dense scrub within the centre of the site, adjacent to building 411.



Damage to permanent newt fencing in the south-west of the site



GCN mitigation pond in the south of the site, adjacent to an area of woodland.



Building 602 – south-east elevation



Building 418 – northern elevation



Brick-built extension adjoining to building 406 – northern elevation



Building 406 – western elevation



Building 600 – southern elevation



Building 456 – northern elevation



Buildings 410 and 411 – north-eastern elevations



Building 601 – northern elevation



Building 415 – western elevation



Building 417 'Gate house' – eastern elevation



Building 417 'Gate house' – north/ west elevations



Building 417 'Gate house' – western elevation



Building 417 'Gate house' - close up of gable end - eastern elevation

APPENDIX 1: SPECIES RECORDED

All species recorded by DCE 2019, unless otherwise indicated:

Scientific Name	Common Name	South Wales Criteria					
		W	NG	CG	AG	MG	PIL
Trees & Scrub							
<i>Acer pseudoplatanus</i>	sycamore						
<i>Clematis vitalba</i>	wild clematis						
<i>Corylus avellana</i>	hazel						
<i>Cotoneaster</i> sp	garden cotoneaster						
<i>Crataegus monogyna</i>	hawthorn						
<i>Platanus x hispanica</i>	London plane						
<i>Prunus laurocerasus</i>	cherry laurel						
<i>Rosa canina</i>	dog rose						
<i>Rubus fruticosus</i> agg	bramble						
<i>Sambucus nigra</i>	elder						
<i>Sorbus aucuparia</i>	rowan						
<i>Cupressus</i> sp.	cypress species						
Herbaceous Plants							
<i>Achillea millefolium</i>	yarrow						
<i>Agrimonia eupatoria</i>	agrimony		NG				
<i>Agrostis capillaris</i>	common bent						
<i>Anthoxanthum odoratum</i>	sweet vernal-grass						
<i>Arrhenatherum elatius</i>	false oat-grass						
<i>Bellis perennis</i>	daisy						
<i>Calystegia sepium</i>	hedge bindweed						
<i>Centaurea nigra</i>	common knapweed		NG	CG			
<i>Cerastium fontanum</i>	common mouse-ear						
<i>Chenopodium album</i>	fat hen						PIL
<i>Cirsium arvense</i>	creeping thistle						
<i>Cirsium vulgare</i>	spear thistle						
<i>Dactylis glomerata</i>	cock's-foot						
<i>Dipsacus fullonum</i>	teasel						PIL
<i>Epilobium</i> sp	willowherb species						
<i>Euphorbia helioscopia</i>	sun spurge						
<i>Festuca rubra</i>	red fescue						
<i>Galium aparine</i>	cleavers						
<i>Glechoma hederacea</i>	ground ivy						
<i>Hedera helix</i>	ivy						
<i>Heracleum sphondylium</i>	hogweed						
<i>Holcus lanatus</i>	yorkshire fog						
<i>Hypochaeris radicata</i>	common cat's-ear						
<i>Lathyrus pratensis</i>	meadow vetchling		NG				
<i>Lolium perenne</i>	perennial rye-grass						
<i>Lotus corniculatus</i>	common bird's-foot trefoil		NG	CG			PIL
<i>Matricaria</i> sp.	mayweed species						
<i>Persicaria maculosa</i>	redshank						
<i>Phleum pratense</i>	timothy grass						
<i>Plantago lanceolata</i>	ribwort plantain						
<i>Plantago major</i>	greater plantain						

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<i>Polygonum aviculare</i>	knotgrass						
<i>Potentilla reptans</i>	creeping cinquefoil						
<i>Prunella vulgaris</i>	self heal						
<i>Ranunculus repens</i>	creeping buttercup						
<i>Rumex acetosa</i>	common sorrel						PIL
<i>Scorzonerooides autumnalis</i>	autumn hawkbit						
<i>Taraxacum officinalis</i> agg	dandelion						
<i>Trifolium repens</i>	white clover						
<i>Urtica dioica</i>	common nettle						
Total		0	4	2	0	0	4

W = woodland, NG = neutral grassland, AG = acid grassland, CG = calcareous grassland,
 MG = marshy grassland, PIL = post-industrial land

APPENDIX 2: BATS: STATUTORY PROTECTION & BACKGROUND INFORMATION

Bats are flying insectivorous mammals. There are about 17 species resident in Britain which vary from comparatively common and widespread species (eg the pipistrelles⁵, brown long-eared bat) to internationally rare and endangered species (eg the horseshoe bats). Bats do not make nests but have ‘roosts’, which may be solitary or gregarious. Individual bats require a range of different roosting sites for differing purposes: in the summer, for example, daytime roosts in buildings and trees may be used, whilst for winter hibernation roosts in locations such as humid caves, basements or deep within the fabric of stonebuilt structures are preferred. Other roosts may be used at various times for the rearing of young, mating and as temporary feeding perches etc.

All bats and their roosts require strict protection under the EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC; the ‘Habitats Directive’), which is implemented in the UK via the Conservation of Habitats & Species Regulations 2017 (the ‘Habitats Regulations’). Some additional protection against disturbance is also conferred under the amended Wildlife & Countryside Act 1981. Bats are listed under the Bern Convention on the Conservation of European Wildlife and Natural Habitats and also under the Agreement on the Conservation of European Bats 1992 (the ‘Eurobats Agreement’), signed within the framework of the Bonn Convention on the Conservation of Migratory Species of Wild Animals 1979.

All bats are listed in Annex IV of the EC Habitats Directive, and the British species are listed on Schedule 2 of the Habitats Regulations 2017 and are therefore designated ‘European Protected Species’ by the latter. Such species are subject to enhanced protection and more stringent licensing provisions than those which are protected under the Wildlife & Countryside Act alone.

The European legislation cited herewith is that which was applicable at the time of survey, but it should be noted that new arrangements have become applicable after 31 Jan 2020 as a result of ‘Brexit’. At the time of writing these comprise a continuance of the current legal and protection arrangements by means of Statutory Instrument No. 579 (The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations, 2019) but the longer term arrangements which will apply after the end of the Brexit ‘Transition Period’ are still to be confirmed and may differ in detail from those which previously applied.

Both the animals themselves and any structures or places used for breeding or shelter are fully protected against both intentional or unintended but ‘reckless’ disturbance or harm, the latter irrespective of whether or not bats are present in them at the time. Where works are allowed to affect such places there is a legal requirement to obtain a licence (or ‘derogation’) in advance and to ensure that the works do not result in any avoidable harm to bats. The bats should also enjoy continued ‘favourable conservation status’ once the works are completed, through the incorporation of suitable mitigation and enhancement measures.

The issuing of licences which allow the disturbance of European Protected Species by development, or for any other reason, is the responsibility of Natural Resources Wales (NRW). The licensing restrictions are considerably more onerous than those of the Wildlife & Countryside Act and could potentially have significant impact on the viability of a given development proposal,

⁵ ‘Pipistrelle bats’ are now known to comprise an aggregate of two distinct species which can be distinguished in the field by their echolocation calls. These species are identified as ‘common pipistrelle’ and ‘soprano pipistrelle’ respectively. Both species are comparatively common and widespread in the UK.

irrespective of whether or not a valid planning consent has been obtained. Further details on the procedures are set out in TAN 5 (WAG 2009).

All species of bat in Britain are believed to be declining in range and numbers, with about half of the resident species classed as 'rare' and three classed as 'endangered' (Morris 1993; Richardson 2000). Several species of bat are listed as priorities for conservation under Section 7 of the Environment (Wales) Act 2016⁶.

Some of the rarest bat species in Europe, including the horseshoe bats, barbastelle, Bechstein's bat and greater mouse-eared bat, are additionally listed on Annex II of the Habitats Directive. This requires the EU nation states to designate key areas of habitat used by these species as Special Areas of Conservation (SACs), and to implement policies to conserve and enhance their populations through appropriate management etc. These species are accorded enhanced conservation significance in the UK, although they are not subject to any additional protection measures.

Derogations

Amongst other things, the Habitats Regulations make it an offence to:

- capture or kill;
- disturb;
- take or destroy eggs or young, or;
- damage or destroy a breeding site or resting place of;

a European Protected Species, except under certain narrowly defined circumstances. New developments which would contravene the protection afforded to such species require derogation, in the form of a licence, from the Habitats Directive which must be issued by NRW.

Before such a licence can be issued, NRW must be satisfied that:

- the derogation would not be detrimental to the 'favourable conservation status' of populations of the species concerned within its natural range.
- the derogation is in the interests of public health and public safety, or for other imperative reasons of over-riding public interest, including those of a social or economic nature, or will have beneficial consequences of primary importance to the environment.
- there is no satisfactory alternative to the derogation which would allow the development to proceed but which would avoid, or reduce, the need for adverse impact to the species.

Failure to obtain derogation would render any actions which cause harm or disturbance to bats illegal, including any activities which might be undertaken under a valid planning consent. The possession of planning consent in no way alleviates or over-rides the requirements of the Habitats Regulations, and neither does it automatically ensure that a derogation may be obtained.

Current planning guidance in Wales requires that local planning authorities are in possession of all of the survey information which is necessary in order to determine the probability of impact to European Protected Species, and the likely viability and success of any required mitigation

⁶ In Wales the s.7 list of the EWA 2016 supersedes the s.42 list of the Natural Environment & Rural Communities Act 2006, which in turn replaced the 'Priority Species' lists of the UK Biodiversity Action Plan.

measures, before determining any given planning application. As of 1 October 2008, planning authorities cannot register a new planning application until all of the necessary survey information has been made available. NRW will not consider any application for licences in relation to a proposed development until after it has received notice of the planning consent.

APPENDIX 3: DEFINITIONS OF SITE VALUE

International Value

Site carrying an internationally recognised designation such as Ramsar Site, World Heritage Site, Special Protection Area, Special Area of Conservation, Biosphere Reserve or Biogenetic Reserve, or:

Habitats: site supporting nationally significant areas of habitats of defined international community interest.

Species: site supporting nationally significant populations of species of defined international community interest.

National Value

Site meeting published Site of Special Scientific Interest (SSSI) designation criteria (NCC 1989), whether so designated or not.

Habitats: site supporting nationally significant areas of habitats of defined national rarity or interest.

Species: site supporting nationally significant populations or communities of UK Red Data Book, Nationally Notable or protected species (other than badger).

County Value

Site identified as a County Wildlife Site (CWS), Site of Importance to Nature Conservation (SINC) or similar at the county level (ie greater than district, borough or city level); meeting published CWS designation criteria (where these exist), but falling short of SSSI designation criteria, whether designated as a CWS or not.

Habitats: site supporting good examples of nationally threatened habitats, or extensive areas of habitats which are rare or unique in the county.

Species: site supporting large or strong populations or communities of nationally rare or protected species (other than badger), or of species which are rare in the county and uncommon nationally.

District Value

Sites failing to meet County Value criteria, but nevertheless supporting habitats, species or communities which appreciably enrich the ecological resource of the county, especially by virtue of their size or extent.

Habitats: sites supporting habitats uncommon in the county, small but unmodified fragments of nationally threatened habitats, or comprising extensive areas or systems of semi-natural habitats.

Species: sites supporting nationally rare species, or strong populations or communities of regionally uncommon species, which would not otherwise be present (ie they are critically dependant on the site characteristics).

Local Value

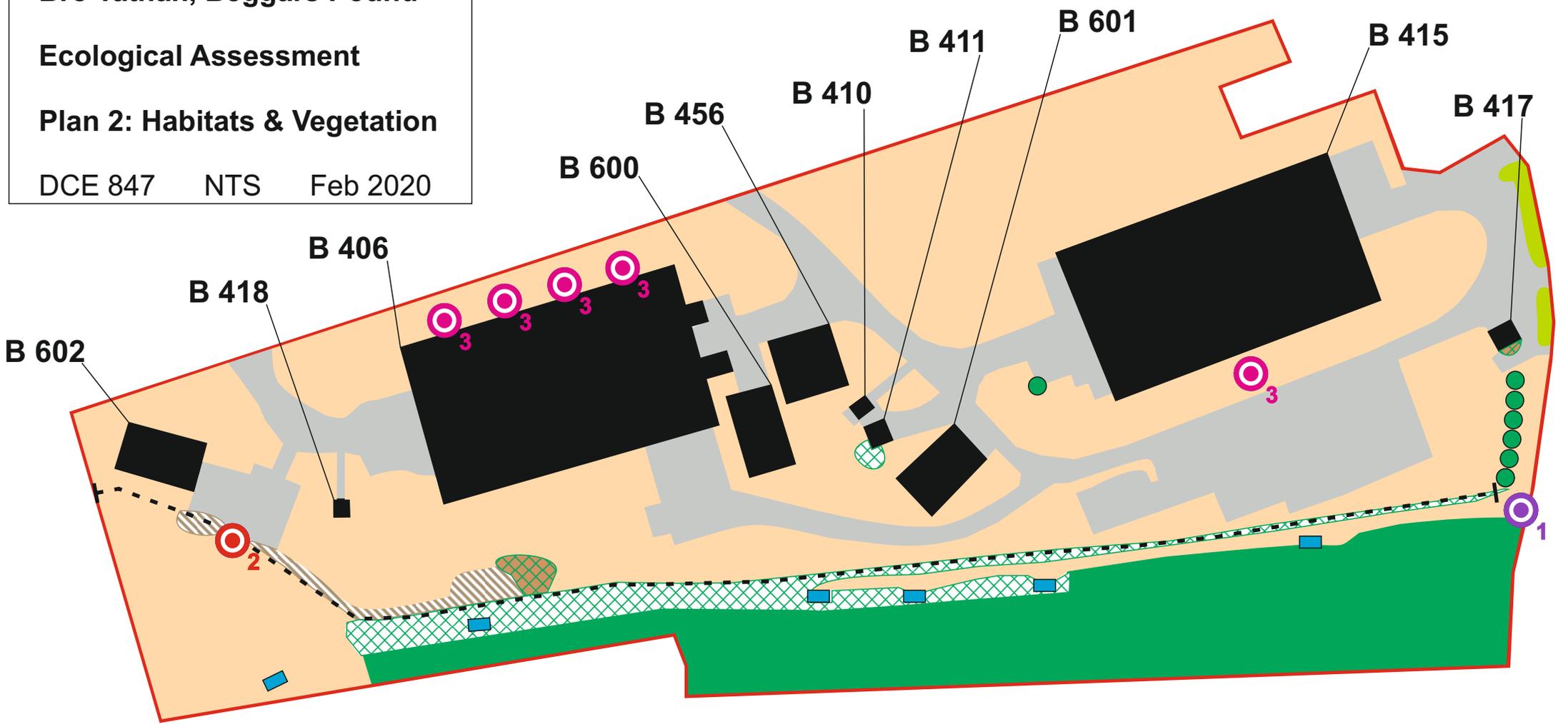
Habitats which fail to meet District Value criteria, but which appreciably enrich the ecological resource of the locality. This category can be further divided into:

- **High Local Value**: just failing to meet District Value Criteria; supporting species which are notable or uncommon in the county; or species which are uncommon, local or habitat-restricted nationally, and which might not otherwise be present in the area.
- **Local Value**: sites which are of ecological value only in the context of their immediate surroundings. Rare or uncommon species may occur but are not restricted to the site or critically dependant upon it for their survival in the area.

Sites failing to meet any of the above can be considered as being of '**Negligible**' ecological value.

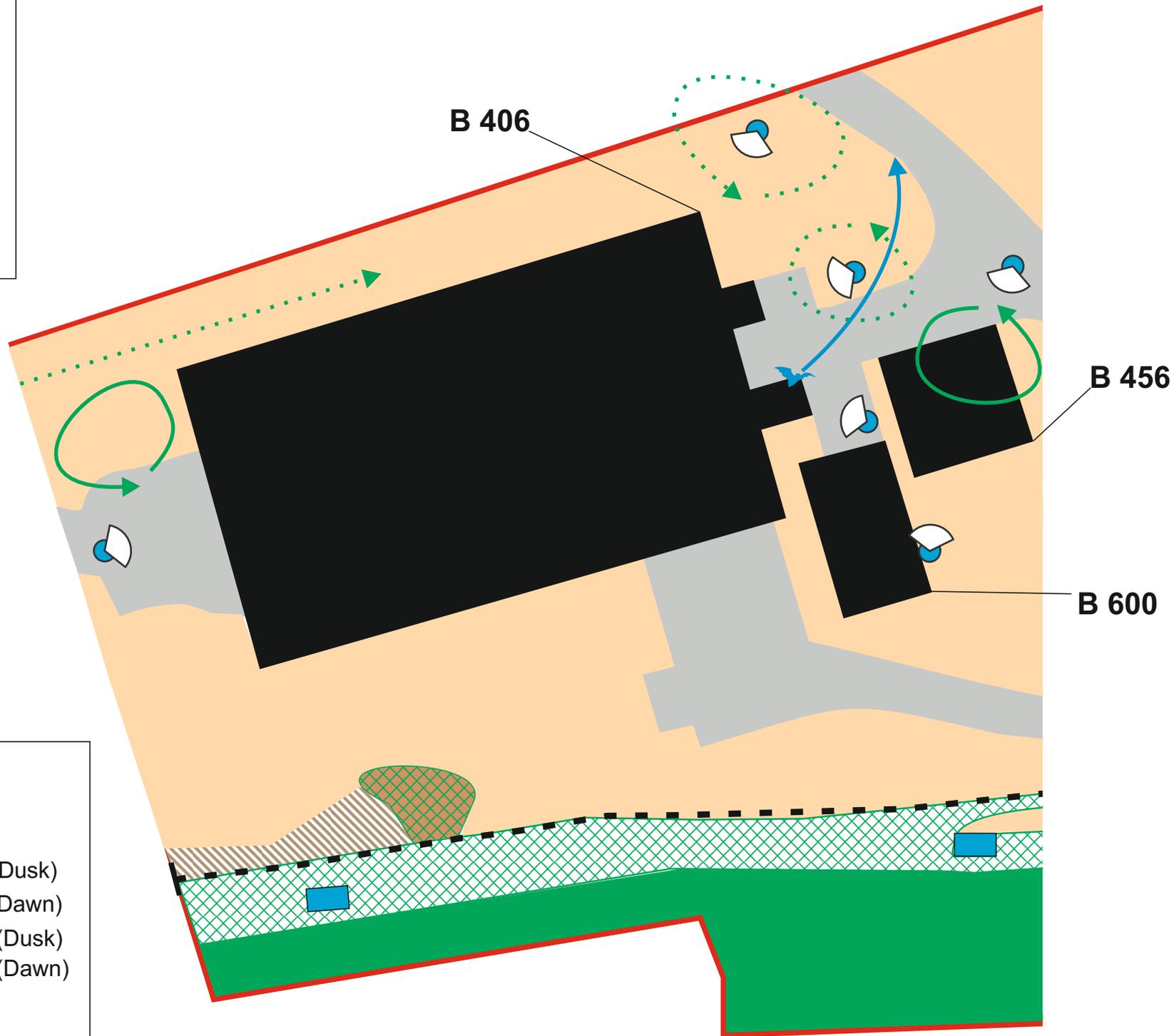
Bro Tathan, Beggars Pound
Ecological Assessment
Plan 2: Habitats & Vegetation

DCE 847 NTS Feb 2020



Key					
	Semi-improved Neutral Grassland		Woodland		Target Note
	Scrub - dense continuous		Laurel Hedge		Cotoneaster
	Bramble Scrub		Hardstanding		Gap in Newt Fencing
	Tall Ruderal		Building		Rubble Pile
	GCN Mitigation Pond		Newt Fencing	B	Building ID Number
	Scattered Trees		Site Boundary		

Bro Tathan, Beggars Pound
Ecological Assessment
Plan 3a: Flight Survey Results
Buildings 406, 456 & 600
DCE 847 NTS Feb 2020



Key

- Re-entry / Exit Point
- Soprano Pipistrelle Flight Line (Dusk)
- Soprano Pipistrelle Flight Line (Dawn)
- Common Pipistrelle Flight Line (Dusk)
- Common Pipistrelle Flight Line (Dawn)
- Surveyor Position
- B** Building ID Number

Bro Tathan, Beggars Pound

Ecological Assessment

Plan 3b: Flight Survey Results

Building 417 - The 'Gate House'

DCE 847 NTS Feb 2020

Key

-  Surveyor Position
-  Re-entry / Exit Point
-  Soprano Pipistrelle Flight Line (Dusk)
-  Soprano Pipistrelle Flight Line (Dawn)
-  Common Pipistrelle Flight Line (Dusk)
-  Common Pipistrelle Flight Line (Dawn)
-  Noctule Flight Line (Dusk)
-  Myotis sp. Flight Line (Dusk)
- B** Building ID Number

