



BRENIG
CONSTRUCTION

Pre-Application Consultation Pack

18 Dwellings
Blast Road
Brymbo
Wrexham

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1.0 Drawings



2.4 Ecology



PRELIMINARY ECOLOGICAL APPRAISAL

LAND AT BLAST ROAD, BRYMBO, LL11 5BB

GRID REF: SJ29225362



FOR

Brenig Construction

Arbor Vitae Environment Ltd
Lower Betton Farm
Cross Houses
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ARBOR VITAE
ECOLOGY • FORESTRY • LAND USE

Contents

| | | |
|----------|--|-----------|
| 1 | INTRODUCTION | 3 |
| 1.1 | BACKGROUND TO DEVELOPMENT | 3 |
| 1.2 | SCOPE OF SURVEY | 3 |
| 1.3 | KEY PRINCIPLES..... | 3 |
| 2 | SITE DESCRIPTION..... | 4 |
| 2.1 | LOCATION, LANDSCAPE, AND BACKGROUND | 4 |
| 3 | SURVEY METHODOLOGY..... | 4 |
| 3.1 | DESK STUDY | 4 |
| 3.2 | SITE SURVEY..... | 4 |
| 3.3 | PERSONNEL | 5 |
| 3.4 | CONSTRAINTS | 6 |
| 4 | SURVEY RESULTS..... | 6 |
| 4.1 | DESK STUDY | 6 |
| 4.2 | HABITATS ON SITE..... | 6 |
| 4.3 | ADJACENT HABITATS..... | 7 |
| 4.4 | PROTECTED SPECIES..... | 7 |
| 5 | EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT | 8 |
| 5.1 | HABITAT ASSESSMENT | 8 |
| 5.2 | POTENTIAL FOR BATS..... | 8 |
| 5.3 | POTENTIAL FOR BREEDING BIRDS | 9 |
| 5.4 | POTENTIAL FOR GREAT CRESTED NEWTS | 9 |
| 6 | MITIGATION AND ENHANCEMENT | 10 |
| 6.1 | HABITAT MITIGATION | 10 |
| 6.2 | PROTECTED SPECIES MITIGATION..... | 10 |
| 6.3 | ECOLOGICAL ENHANCEMENT | 11 |
| 7 | SUMMARY AND CONCLUSION | 11 |
| | REFERENCES..... | 12 |
| | FIGURE 1 LOCATION. 1:50,000 | 13 |
| | FIGURE 2 AERIAL PHOTOGRAPH..... | 14 |
| | FIGURE 3 PROPOSED DEVELOPMENT PLAN | 15 |
| | FIGURE 4 HABITAT MAP..... | 16 |
| | FIGURE 5 PONDS WITHIN 500M OF DEVELOPMENT..... | 17 |
| | TABLE 1 PROTECTED AND PRIORITY SPECIES WITHIN 1KM OF THE SITE..... | 18 |
| | APPENDIX 1 PHOTOGRAPHS | 19 |



1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

A planning application will be submitted for the development of an area of land at Blast Road, Brymbo. The development proposed consists of 18 residential dwellings of varying size and design.

Such operations have the potential to disturb protected species, if present, and therefore Arbor Vitae were commissioned by Brenig Construction to undertake a Preliminary Ecological Appraisal.

1.2 SCOPE OF SURVEY

The survey is primarily designed to evaluate the potential of the proposed development site to provide opportunities for protected species and to determine any likely impact which the development and landscape proposals may have on these.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2016):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.



2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

The site is located on a small triangular piece of unused land between existing houses and Blast Road (Figure 1). The site is within the conurbation of Brymbo and, more specifically, lies on the southern edge of a large housing development. The site is at approximately 250m AOD. (Figure 2). The site lies immediately to the north of land which once formed part of the Brymbo Steelworks.

Proposed plans for the site can be seen in Figure 3.

3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were Natural Resources Wales, MagicMap, and COFNOD data.

3.2 SITE SURVEY

A visit was made to survey the proposed development site on 28.01.2019. The survey was carried out in accordance with CIEEM guidelines (2017). The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected and priority species:

- Badgers
- Bats
- Breeding birds
- Great Crested Newts
- Hedgehogs
- Reptiles

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger

An area within 50 meters of the site was closely searched for the following signs of badger activity:

- Setts
- tracks and footprints
- latrines
- snuffle holes

Bats

The site was assessed in terms of nearby connecting habitat and other features which could be of value to bats.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newts

A desk study and a ground search were conducted to search for any areas of open water within 500 meters.

Hedgehogs

An assessment was made of the habitat suitability for hedgehogs.

Reptiles

The site was assessed based on its suitability to support reptile populations including connections to terrestrial land from water and suitable resting habitat nearby.

3.3 PERSONNEL

The survey was carried out by Will Prestwood BSc: an experienced ecologist and bat surveyor and Phillipa Stirling MSc: assistant ecologist.

3.4 CONSTRAINTS

There were no constraints on the survey being carried out according to accepted guidelines and standards. At the time of year of the survey, no birds would be nesting but evidence of nesting would be apparent.

4 SURVEY RESULTS

4.1 DESK STUDY

The Natural Resources Wales website confirms that there is one statutory site designation nearby:

- Coedwig fossil forest SSSI, 300 meters away.

The search included Ramsar, SSSI, SAC, SPA, and CSAC.¹

The following protected species have been recorded within one kilometre:

Badger, Great crested newt, Bluebell.

The following priority species have been recorded within one kilometre:

Grass snake, Common lizard, Smooth newt, Hedgehog, Song thrush, Kestrel, Green woodpecker, Willow warbler, Skylark, Bullfinch, Swallow, Linnet.

4.2 HABITATS ON SITE

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010) (Figure 4).

Semi-improved grassland

The land in question is predominantly grassland, presumably once a small paddock prior to construction of nearby houses. The grassland has evidently been unmanaged for many years and has seen the development of large areas of tall herb vegetation and some scrub.

The grassland is tussocky and dominated by tall grasses including cocksfoot, with false oat grass, Yorkshire fog and creeping bent. Herbaceous species are mainly tall perennials including hogweed, ragwort, creeping and meadow thistle, clustered dock and knapweed.

¹ *SSSI: Site of Special Scientific Interest, SAC: Special Area of Conservation, SPA: Special Protection Area, CSAC: Candidate Special Area of Conservation.



The grassland has little botanical interest but has some local value as a resource for invertebrates, small mammals and birds.

Scrub

Brambles have begun to colonise areas of the site and there are patches of blackthorn regeneration along the southern boundary.

Tall herb and fern

Areas of bracken exist to the east of the site with rosebay willowherb, dock species, creeping thistle and hogweed.

4.3 ADJACENT HABITATS

Broadleaved woodland

The southern margin of the site is a steep slope above the road. This wooded embankment appears to have naturally regenerated with a range of tree and shrub species. This includes abundant young ash with occasional oak, sycamore, crab-apple, hawthorn and willow.

Standing water

Two small ponds lie 100m away from the site on the opposite side of Blast Road. There is also a large fishing pool (Brymbo Pool) approximately 500m away to the north west.

4.4 PROTECTED SPECIES

Badgers

No evidence of badgers was found on site during the survey. However, there is abundant evidence of badger activity in the vicinity of Brymbo Pool 500 meters from the site.

Bats

No evidence of bats was found during the survey and the habitat on site was not suitable to support roosting bats. The site may, however, support foraging and commuting as the area of woodland to the south provides wider landscape links.



Breeding birds

No evidence of nesting birds was found during the survey. However, the scrub vegetation could provide suitable habitat for nesting birds.

Great Crested Newts

There are two small ponds approximately 100m away where GCN are known to be present. These ponds were created approximately 15 years ago to accommodate GCN rescued from the steel works site prior to its reclamation. The ponds are within the Brymbo Heritage Area. The ponds were monitored for several years by Arbor Vitae following the translocation exercise and GCN continued to be present. The habitat on the proposed housing site provides suitable refuge and foraging opportunities for nearby GCN (Figure 5). The large fishing pool is not thought to be suitable to support GCN.

Hedgehogs

No evidence of hedgehogs was recorded on the site. COFNOD data confirms presence of hedgehogs approximately 600 metres north of the site.

Reptiles

COFNOD records indicate that common lizard has been recorded within 20 metres of the site. Grass snake has been recorded at Mount Zion 550 metres to the west of the site.

5 EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

The main habitat associated with this site is semi-improved grassland. Although the vegetation at the site is of little ecological interest, the habitat has value in providing opportunities for invertebrates, breeding birds, reptiles, amphibians and small mammals. Hedgehogs may utilise this habitat for foraging although no evidence has been recorded.

5.2 POTENTIAL FOR BATS

Whilst the site does not provide roosting sites for bat species, it is possible that bats could use the broadleaved woodland for foraging and commuting. The development will have no impact but should consider enhancement suitable for bat species.



5.3 POTENTIAL FOR BREEDING BIRDS

The scrub vegetation offers opportunities for nesting birds. Removal of this habitat could lead to a loss in biodiversity. Compensation for this loss will be necessary along with mitigation involving avoidance of the nesting season.

5.4 POTENTIAL FOR GREAT CRESTED NEWTS

The site offers suitable habitat for GCN including rough grassland and refuge areas in the adjacent broadleaved woodland. The public road between the site and the ponds represents a barrier to dispersal of GCN but it cannot be ruled out that GCN use the site. Development could therefore injure/kill individual GCN and have a negative impact on any populations.

A GCN Habitat Suitability Index assessment was calculated for the two ponds in the former steel works (noted as Brymbo 1). Brymbo 2 refers to Brymbo Pool. The HSI scores (see below) indicate that the steel work ponds (Brymbo 1) provide ‘average’ suitability for GCN but that Brymbo Pool has ‘poor’ suitability. The Natural England Rapid Risk Assessment tool (see below) indicates that the proposed development is likely to “cause an offence” under The Conservation of Habitats and Species Regulations 2010, in that individual GCN may be put at risk.

| SI No | SI Description | BRYMBO 1 | BRYMBO 2 |
|------------------------------|---------------------|----------------|-------------|
| | | SI Value | SI Value |
| 1 | Geographic location | 1 | 1 |
| 2 | Pond area | 0.2 | 0.1 |
| 3 | Pond permanence | 0.9 | 0.9 |
| 4 | Water quality | 0.67 | 0.33 |
| 5 | Shade | 1 | 0.6 |
| 6 | Water fowl effect | 1 | 0.67 |
| 7 | Fish presence | 1 | 0.01 |
| 8 | Pond Density | 0.3 | 0.3 |
| 9 | Terrestrial habitat | 0.67 | 1 |
| 10 | Macrophyte cover | 0.5 | 0.3 |
| HSI Score | | 0.64 | 0.32 |
| Pond suitability (see below) | | <i>AVERAGE</i> | <i>POOR</i> |

| Component | Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of | Notional offence probability score |
|--|--|------------------------------------|
| Great crested newt breeding pond(s) | No effect | 0 |
| Land within 100m of any breeding pond(s) | No effect | 0 |
| Land 100-250m from any breeding pond(s) | 0.1 - 0.5 ha lost or damaged | 0.1 |
| Land >250m from any breeding pond(s) | No effect | 0 |
| Individual great crested newts | Minor disturbance of newts | 0.5 |
| | Maximum: | 0.5 |
| Rapid risk assessment result: | AMBER: OFFENCE LIKELY | |



6 MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

The loss of a relatively small area of semi-improved grassland and recently regenerated scrub is of minor or local significance in that it is of low intrinsic ecological value. Mitigation for loss of habitat is not possible due to the extent of the development footprint. However, the habitat represents feeding, resting and nesting habitat for breeding birds as well as potential foraging hibernation sites for GCN and reptiles. Mitigation for these species will be required.

6.2 PROTECTED SPECIES MITIGATION

Bats

The potential value of the woodland edge for foraging bats should be maintained by ensuring that external lighting does not illuminate this feature.

Breeding birds

Ground clearance works should be carried out outside the breeding season i.e. not between 1st March and 31st August. If this is not possible, a thorough survey should be carried out prior to any works being carried out to check for presence of breeding birds. If present, the nest should be protected until the young have fledged.

Great crested newts

Assuming that GCN are still present in the two nearby ponds, a mitigation licence will be required from NRW and a mitigation plan adopted. This may involve erection of amphibian fencing around the development site and trapping of GCN within the fenced area.

Reptiles

Given the local presence of grass snake and common lizard, and the suitability of the site to support these species, further survey work will be necessary to determine presence or absence of these species. Standard survey techniques will involve the placing of reptile 'refugia' or shelters and their monitoring over a period of eight weeks in early summer.



6.3 ECOLOGICAL ENHANCEMENT

The small scale of the site will not permit significant enhancements to be achieved although the following recommendations are made:

1. Erection of eight bird nest boxes in adjacent trees
2. Erection of four bat roost boxes in adjacent trees or on new houses
3. Planting of native hedgerows, trees or scrub on perimeter of development.
4. Installation of three hedgehog domes in adjacent woodland.

7 SUMMARY AND CONCLUSION

The proposal to construct nineteen new dwellings on land at Brymbo has implications for habitats and protected species. This survey set out to establish the ecological value of the site and the potential impact of the proposals.

The habitats most affected by the proposals are semi-improved grassland, tall herb vegetation and scrub. This is of low botanical interest but holds some value on a local scale for common species of invertebrates and birds and may provide foraging areas for hedgehogs, amphibians and reptiles.

Breeding birds probably use patches of scrub as nesting habitat.

Reptiles including grass snake and common lizard have been recorded nearby. Further survey work is required to confirm presence or absence of these species,

Bats are likely to use the margin of adjacent woodland along which to forage but are unlikely to be affected by the development if external lighting is restricted.

Great crested newts breed in nearby ponds and, given the proximity of the site, could use the site as part of their terrestrial habitat. A Mitigation Licence will be required from NRW which will enshrine measures to exclude GCN from the site and thereby avoid being killed.

Enhancement measures for protected species are recommended including:

- Planting of areas of native scrub as part of site landscaping
- Erection of four bat boxes in adjacent woodland
- Erection of eight bird boxes in adjacent woodland
- Installation of three hedgehog domes in adjacent woodland.



REFERENCES

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

JNCC (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.



FIGURE 1 LOCATION. 1:50,000

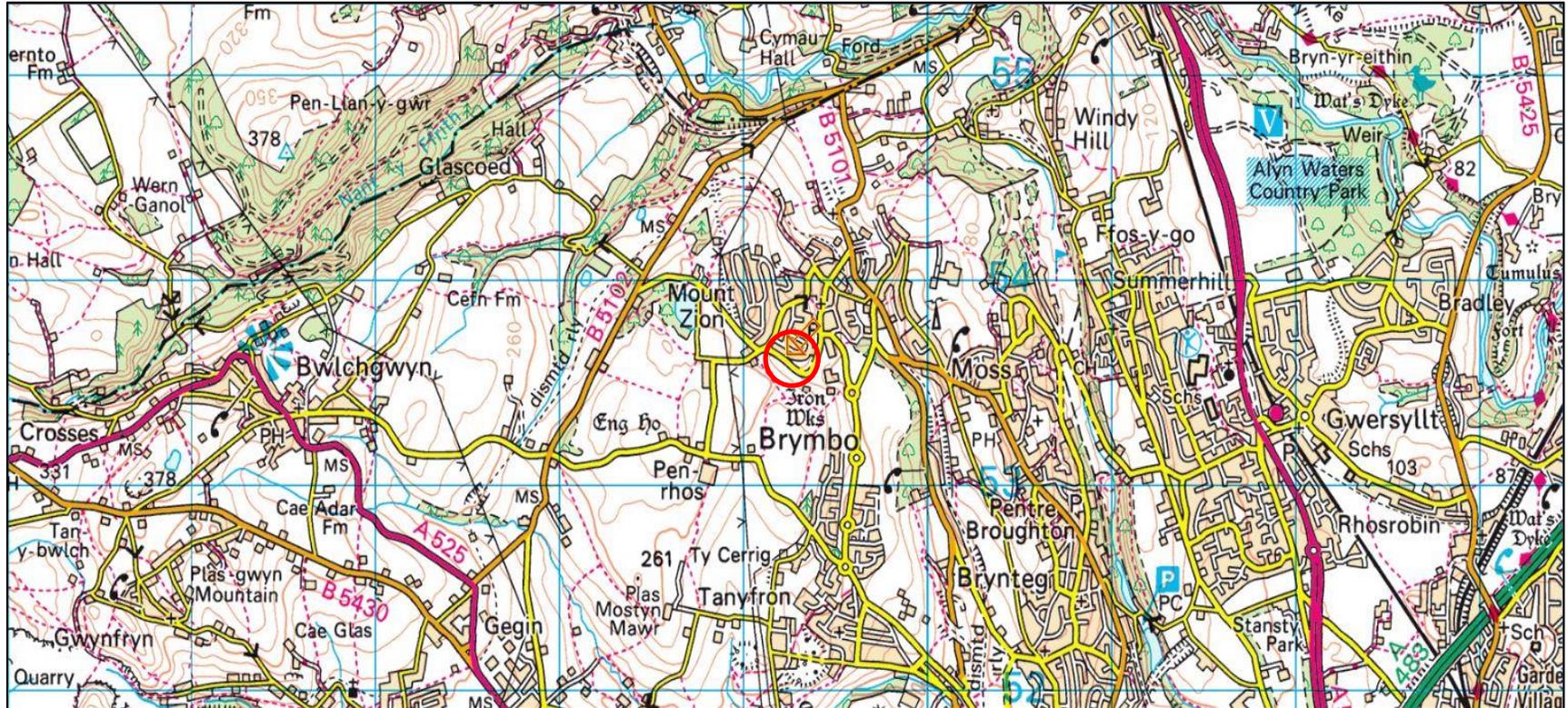


FIGURE 2 AERIAL PHOTOGRAPH



FIGURE 3 PROPOSED DEVELOPMENT PLAN



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Unit Schedule:

- Plot 01 - 2B/3P Semi Detached Bungalow
- Plot 02 - 2B/3P Semi Detached Bungalow
- Plot 03 - 2B/3P Semi Detached Dwelling
- Plot 04 - 2B/3P Semi Detached Dwelling
- Plot 05 - 2B/3P Semi Detached Dwelling
- Plot 06 - 2B/3P Semi Detached Dwelling
- Plot 07 - 2B/3P Semi Detached Dwelling
- Plot 08 - 2B/3P Semi Detached Dwelling
- Plot 09 - 2B/3P Terraced Dwelling
- Plot 10 - 2B/3P Terraced Dwelling
- Plot 11 - 2B/3P Terraced Dwelling
- Plot 12 - 1B/2P Apartment
- Plot 13 - 1B/2P Apartment
- Plot 14 - 1B/2P Apartment
- Plot 15 - 1B/2P Apartment
- Plot 16 - 1B/2P Apartment
- Plot 17 - 1B/2P Apartment
- Plot 18 - 3B/4P Detached Dwelling

18no. Total Units

Site Boundary = 0.048ha

Landscape Key:

- Hardstanding/Paving
- Private Garden
- Soft landscaping
- Access to Neighbouring MUGA
- Public Pavement
- Adopted Highway

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| Rev | No. | Date | Rev. | By | CHK. |
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FIGURE 4 HABITAT MAP

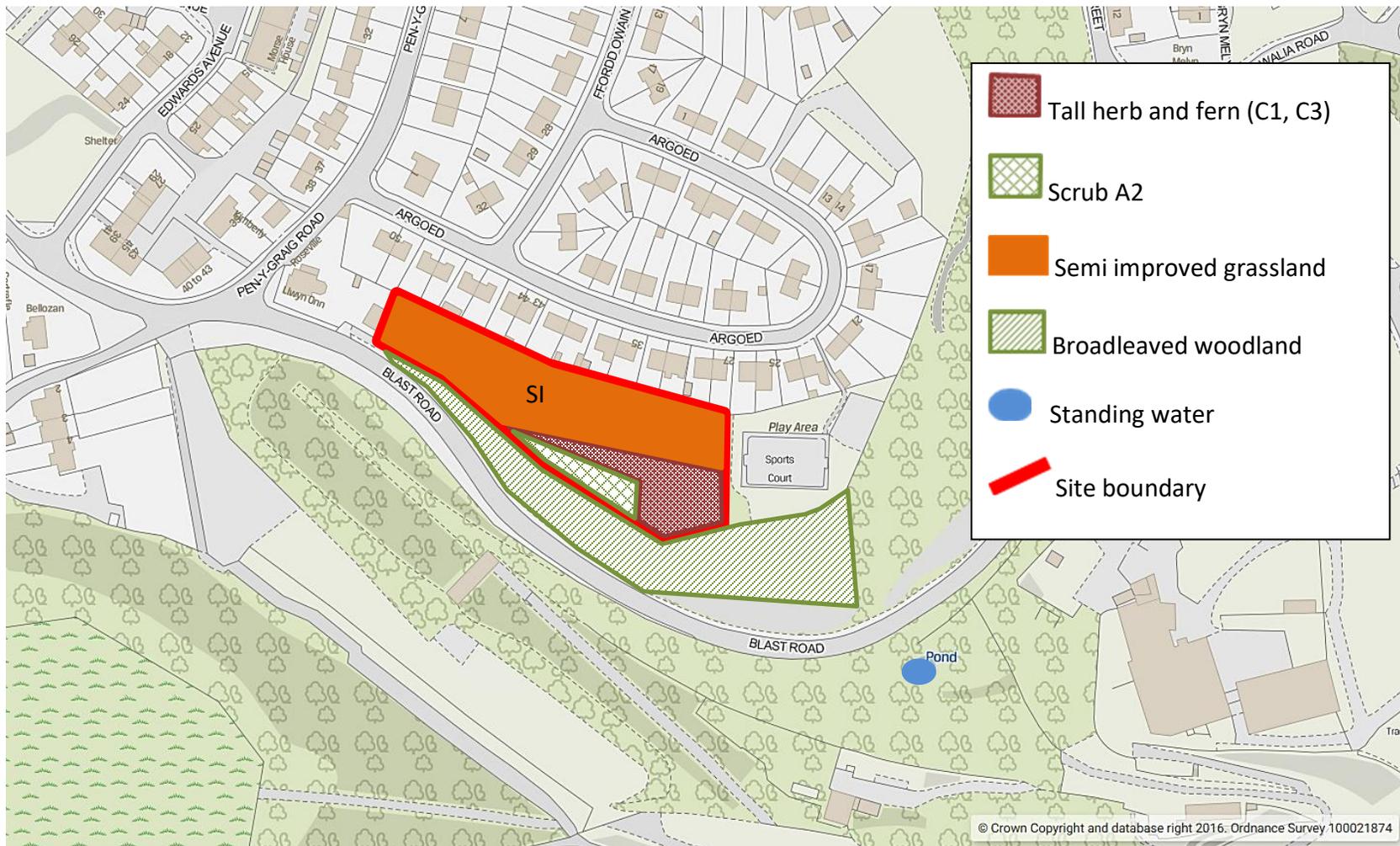
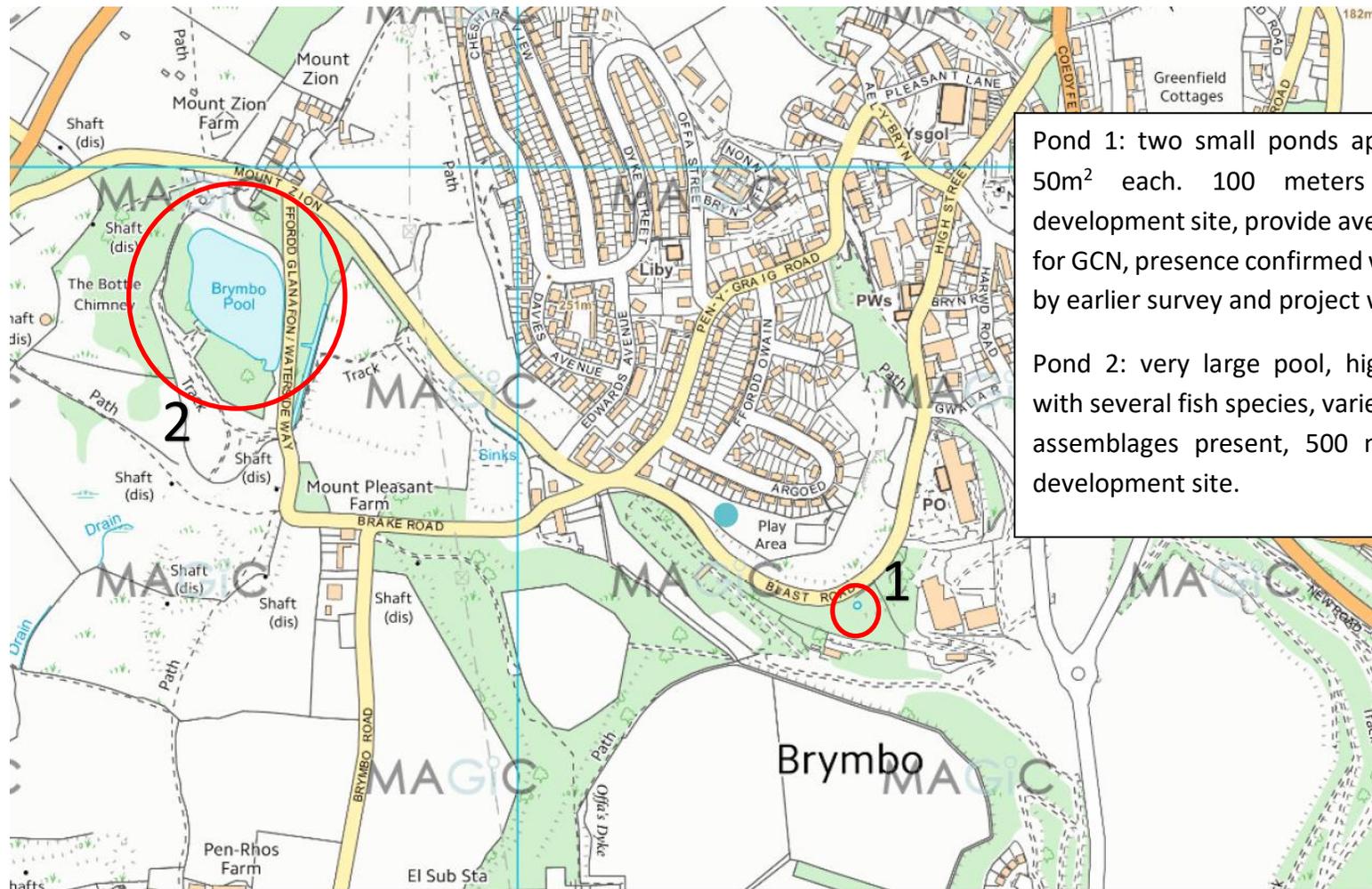


FIGURE 5 PONDS WITHIN 500M OF DEVELOPMENT



Pond 1: two small ponds approximately 50m² each. 100 meters from the development site, provide average habitat for GCN, presence confirmed within ponds by earlier survey and project work.

Pond 2: very large pool, highly stocked with several fish species, varied waterfowl assemblages present, 500 meters from development site.

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TABLE 1 PROTECTED AND PRIORITY SPECIES WITHIN 1KM OF THE SITE

| Distance(m) | Species | Date | UK Status ² |
|--------------------------------|--------------------|------|--------------------------------|
| Birds | | | |
| 212 | Cuckoo | 2013 | RSPB RED |
| 278 | Redwing | 2015 | WCA S1 |
| 278 | Skylark | 2016 | RSPB RED |
| 278 | Linnet | 2015 | RSPB RED |
| 278 | House sparrow | 2016 | RSPB RED |
| 278 | Song thrush | 2016 | RSPB RED |
| 410 | Grey partridge | 2017 | RSPB RED |
| 471 | Lesser redpoll | 2017 | RSPB RED |
| 480 | Kestrel | 2012 | RSPB RED |
| 740 | Herring gull | 2015 | RSPB RED |
| 740 | Starling | 2011 | RSPB RED |
| 740 | Willow warbler | 2016 | RSPB RED |
| 740 | Woodcock | 2015 | RSPB RED |
| 740 | Mistlethrush | 2009 | RSPB RED |
| Mammals | | | |
| 784 | Badger | 2017 | Protection of Badgers Act 1992 |
| 600 | Hedgehog | 2012 | |
| Amphibians and reptiles | | | |
| 26 | Great Crested Newt | 2007 | WCA S5 |
| 85 | Smooth newt | 2001 | WCA S5 |
| 553 | Grass snake | 2008 | WCA S5 |
| 647 | Common frog | 2017 | WCA S5 |
| 650 | Common lizard | 2007 | |

² **RSPB RED**: threatened or declining population as listed by RSPB, **WCA S1**: Wildlife and Countryside Act 1981 Schedule 1, **WCA S5**: Wildlife and Countryside Act 1981 Schedule 5

APPENDIX 1 PHOTOGRAPHS

| | |
|---|--|
|  | <p>VIEW TO THE WEST. AREAS OF BRACKEN IN THE FOREGROUND, BLACKTHORN THICKET IN THE BACKGROUND.</p> |
|  | <p>BLACKTHORN THICKET AND TALL RUDERAL SPECIES INCLUDING ROSEBAY WILLOW HERB.</p> |
|  | <p>NEUTRAL TUSSOCKY GRASSLAND DOMINATED BY COCKSFOOT.</p> |



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TALL RUDERAL SPECIES GIVE WAY TO AREAS OF BRACKEN ON THE EAST BOUNDARY OF THE SITE.



AS ABOVE. BLACKTHORN THICKET IN BACKGROUND LEADING TO BROADLEAVED WOODLAND ON STEEP BANK.



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POND WITHIN FORMER STEEL WORKS HERITAGE AREA USED AS RECEPTOR SITES FOR GCN RESCUED AS PART OF STEEL WORKS RESTORATION PROJECT.

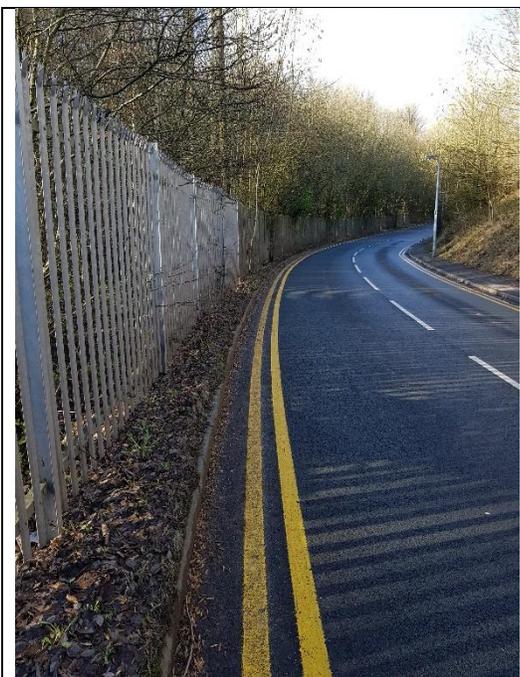


AS ABOVE. PONDS ARE WITHIN 5M OF EACH OTHER.



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BLAST ROAD SEPARATES PONDS FROM DEVELOPMENT SITE



BROADLEAVED WOODLAND GROWING ON STEEP BANK AT SOUTHERN BOUNDARY OF SITE.



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AS ABOVE.



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