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PRELIMINARY ECOLOGICAL ASSESSMENT AUGUST 2020 wardell-armstrong.com

ENERGY AND CLIMATE CHANGE ENVIRONMENT AND SUSTAINABILITY INFRASTRUCTURE AND UTILITIES LAND AND PROPERTY MINING AND MINERAL PROCESSING MINERAL ESTATES WASTE RESOURCE MANAGEMENT



**BRYMBO DEVELOPMENTS LTD** 

LAND AT THE FORMER BRYMBO STEELWORKS, BRYMBO, WREXHAM

PRELIMINARY ECOLOGICAL APPRAISAL

**AUGUST 2020** 





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PRELIMINARY ECOLOGICAL APPRAISAL

**AUGUST 2020** 

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## DRAWINGS TITLE

ST16882-059 Extended Phase 1 Habitat Survey

SCALE

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## EXECUTIVE SUMMARY

Wardell Armstrong LLP was commissioned by Brymbo Developments Ltd to undertake an update Preliminary Ecological Appraisal at land at the former Brymbo Steelworks, Brymbo, Wrexham; central Ordnance Survey grid reference SJ296534.

The Site forms part of the wider land holding, associated with the former Brymbo Steelworks. The Site for development covers an area of approximately 13.41 hectares of former industrial land, which has been remediated and regraded into a plateau that sits lower than the western parcel and is separated by a steeply sloping bank and Phoenix Drive.

The Site consists of bare ground and ephemeral/transitional vegetation. The site sits centrally within the town of Brymbo and is surrounded by residential properties to the north, east and south of the Site. Land managed by the Brymbo Heritage Trust is present to the west of the Site.

There is one statutory designated site and 14 non-statutory designated sites within 2km of the Site, the closest being Coedwig Ffosil Brymbo Fossil Forest SSSI located adjacent to the site, designated for geological value rather than nature conservation. Development proposals are located entirely outside of the SSSI. The other non-statutory designated sites are considered too distant and/or lacking ecological connectivity for proposals on the Site to impact upon them.

Protected/notable species which could potentially be affected by development proposals are bats, badger, great crested newt, reptiles, breeding birds and invasive species (Japanese knotweed), therefore additional surveys were recommended and have been carried out for the following:

- Breeding Bird Surveys;
- Bat activity surveys; and
- Badger Survey.

Mitigation measures are outlined in the final section of the report in order to reduce the severity and magnitude of proposed works to an acceptable level for identified habitats and species. Measures include undertaking any vegetation clearance/excavation works under Reasonable Avoidance Measures, to reduce risk of encountering or impacting GCN and reptiles and timing vegetation clearance to avoid impacts upon nesting birds (or a precommencement check for nest by an ecologist). In addition, a small amount of Japanese knotweed, noted in the northern part of the Site, will require remediation prior to the commencement of works.



In conclusion, it is considered that there are no significant ecological constraints to the development. With appropriate mitigation measures the ecological receptors identified in this report would not be adversely affected by the development.



## 1 INTRODUCTION

## **1.1** Terms of Reference

- 1.1.1 Wardell Armstrong LLP was commissioned by Brymbo Developments Ltd to undertake an update Preliminary Ecological Appraisal at land at the former Brymbo Steelworks, Brymbo, Wrexham; central Ordnance Survey grid reference SJ 2974 5338.
- 1.1.2 This report has been produced with reference to current guidelines for Phase 1 Habitat Survey (Joint Nature Conservation Committee, 2010), Guidelines for Preliminary Ecological Appraisal (Chartered Institute of Ecology and Environmental Management, 2017) and British Standards for Biodiversity – Code of Practice for Planning and Development (British Standards Institute, 2013).
- 1.1.3 The purpose of the PEA is to identify the likely ecological constraints associated with a project; any mitigation measures or additional surveys likely to be required and the opportunities offered by a project to deliver ecological enhancement.
- 1.1.4 The following ecological features have been considered:
  - Statutory and non-statutory designated conservation areas;
  - Areas of Ancient Woodland;
  - Legally Protected Species;
  - Priority Habitats and Species<sup>1</sup>; and
  - Invasive species.
- 1.1.5 This report also seeks to identify any requirement for further specialist survey where the initial assessment cannot be relied upon to adequately determine presence or reliably infer absence of protected species/taxa.
- 1.1.6 Provisional mitigation and enhancement opportunities are also discussed.

- In Wales, those under Section 7 of the Environment Act (Wales) 2016;
- Those listed as being a priority for conservation within the relevant Local Biodiversity Action Plan (BAP)
- Those Red Listed using International Union for the Conservation of Nature (IUCN) criteria
- Those in the Birds of Conservation Concern (BoCC) listed as Red or Amber
- Those listed at Nationally Rare or Nationally Scarce species

<sup>&</sup>lt;sup>1</sup> Priority habitats and species are as follows:



# 1.2 Site Context

- 1.2.1 The Site forms part of the wider land holding, totalling 32.59 hectares, associated with the former Brymbo Steelworks. The Site for development covers an area of approximately 13.41 hectares of former industrial land, which has been remediated and regraded into a plateau that sits lower than the western parcel and is separated by a steeply sloping bank and Phoenix Drive.
- 1.2.2 The site sits centrally within the town of Brymbo and is surrounded by residential properties to the north, east and south of the site. Land managed by the Brymbo Heritage Trust is present to the west of the Site.



## 2 METHODOLOGY

## 2.1 Desk Study

2.1.1 The desktop study was informed by review of existing available information provided by Cofnod (North Wales Environmental Information Service) and from available internet-based resources for a 2km search radius from the Site boundary. OS and satellite mapping (Google Earth) were also used to gain contextual habitat information. Data search results from the previous preliminary ecological appraisal, from June 2019 were compared to a recent data search completed in November 2019, with any changes referenced.

## 2.1.2 Specific information was sought for:

- Statutory designated sites;
- Locally designated sites;
- Ancient woodland<sup>2</sup>;
- Protected and priority species;
- s.7 habitats and species; and
- Local Biodiversity Action Plan (LBAP) priority habitats and species.

## 2.2 Extended Phase 1 Habitat Survey

- 2.2.1 WA carried out an Extended Phase 1 Habitat Survey of the Site on 7<sup>th</sup> August 2018. The survey was carried out by an experienced Ecologist from WA. A further update Extended Phase 1 Survey was completed by an experienced ecologist on 18<sup>th</sup> February 2020.
- 2.2.2 The survey broadly followed the 'Extended Phase 1' methodology (Institute of Environmental Assessment (IEA), 1995 and JNCC 2010). Each of the main habitats were classified according to the relevant criteria including vegetation composition expressed according to the DAFOR<sup>3</sup> system.

<sup>&</sup>lt;sup>2</sup> As defined by Natural Resources Wales on their Inventory of Ancient Woodlands

<sup>&</sup>lt;sup>3</sup> **Dominant (D)** is used to refer to a single plant species that covers almost the entirety of a habitat, so it is rarely used except for homogenous stands of vegetation.

**Abundant (A)** is used when a plant species is very common on a site and encountered throughout the habitat and with a high % cover i.e. >30%.

**Frequent (F)** is used when many plants are encountered throughout the habitat and approximately at 15-30% cover.



- 2.2.3 In addition to the mapping and description of habitats, incidental observations of protected and/or notable species and the potential for such species to occur on site (and in the surrounding landscape where relevant) were also recorded onto secure digital media for mapping and data collection.
- 2.2.4 Broad habitats are mapped on Drawing ST16882-059 *Extended Phase 1 Habitat Survey* with appropriate references identifying features of particular note.

# 2.3 Nomenclature

- 2.3.1 Vascular plant names follow 'New Flora of the British Isles' (Stace, 2010) with vernacular names as provided in the Botanical Society of the British Isles website (BSBI, 2013).
- 2.3.2 All fauna names follow those on the National Biodiversity Network (NBN) Gateway (NBN, 2013).
- 2.3.3 The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

# 2.4 Caveat

- 2.4.1 Ecological surveys are limited by factors that affect the presence of plants and animals such as time of year, weather, migration patterns and behaviour. The survey was undertaken in early August and therefore represents a valid sample of ecological evidence present on that date/season. The report is not designed, nor is it required to, present a complete inventory of flora and fauna.
- 2.4.2 The absence of desk study records is not relied upon to determine absence of a particular species. Often, the absence of records is a result of under-recording within the given search area and as such the experience of the ecologist concerned together with a range of additional factors, such as the presence or absence of potential supporting habitat, is used to infer likely presence or absence.
- 2.4.3 An indicative assessment of potential adverse effects is provided, although this is not a substitute for a full Ecological Impact Assessment.

**Occasional (O)** is used where several plants are found, scattered throughout the habitat and approximately at <15% cover.

Rare (R) is used when one or two individual plants are present.



## 2.5 Quality Assurance & Environmental Management

- 2.5.1 The surveys and assessments have been overseen by and the report checked and verified by a full member of CIEEM, who is bound by its code of professional conduct.
- 2.5.2 All surveys and assessments have been undertaken with reference to the recommendations given in British Standard BS 42020, and as stated within specialist guidance, as appropriate, and are referenced separately.



## 3 RESULTS AND EVALUATION

## 3.1 Statutory and Non-Statutory Designated Sites

- 3.1.1 There is a single SSSI that falls within 2km of the Site, Coedwig Ffosil Brymbo Fossil Forest. The SSSI is designated for geological value, rather than nature conservation, and is located adjacent to the site boundary. It is understood that the development proposals are entirely located outside of the SSSI and will not impact upon the geological features for which the SSSI is designated.
- 3.1.2 There are fourteen Local Wildlife Sites (LWS) within 2km of the Site.
- 3.1.3 The closest LWS is located approximately 150 m east of the Site; Brymbo Pony Fields Wildlife Site. It is situated on a steep west facing slope between houses and gardens in Brymbo. The small fields, bounded by hedges, consist of semi-improved grassland grazed by ponies. The southern fields are short with abundant black knapweed, crested dog's-tail and bird's-foot trefoil with frequent bulbous buttercup and yellow oat-grass. Quaking grass and mouse-eared hawkweed also occur. The northern fields are tall and coarser and in one field, there is invading ash, sycamore and hawthorn scrub. There are no shared ecological receptors on the LWS and the Site that are considered likely to be impacted by the proposals.
- 3.1.4 The other thirteen LWS are considered too distant and/or lacking ecological connectivity for proposals on the Site to impact upon them.

## 3.2 Habitats

- 3.2.1 All habitats within the Site are described in Table 1. The conservation value and sensitivity of habitats in relation to the proposed works is provided.
- 3.2.2 Habitats which could be subject to adverse effects and which are UK or local priority habitats are indicated with bold text and are discussed in Section 5 *Discussions and Recommendations*. Habitats for which potential adverse effects are not anticipated or which are not UK or local priority habitats are excluded from further assessment.
- 3.2.3 The location and extent of habitats is shown on Drawing ST16882-059 *Extended Phase 1 Habitat Survey*.
- 3.2.4 Japanese knotweed *Fallopia japonica* was recorded within and adjacent to the north of the Site, shown as TN01 on Drawing ST16882-059 *Extended Phase 1 Habitat Survey*.

#### Phase 1 Habitats

#### Ephemeral/Short perennial

This habitat has colonised the overburden present on the plateau, which was utilised during the reclamation of the wider site. Vegetation communities comprised of abundant coltsfoot *Tussilago farfara* with fine grasses and other less abundant herbs including. occasional birds-foot trefoil *Lotus corniculatus*, rosebay willowherb *Chamerion angustifolium*, curled dock *Rumex crispus*, ragwort *Jacobaea vulgaris*, black medick *Medicago lupulina*, oxeye daisy *Leucanthemum vulgare*, evening primrose *Oenothera biennis*, yarrow *Achillea millefolium*, white deadnettle *Lamium album*, gorse *Ulex europaeus* and broom *Cytisus scoparius*.



Implications None – whilst this habitat is similar to the 'Open Mosaic Habitats on Previously Developed Land' priority habitat, it lacks the floral diversity and characteristic species assemblages to qualify as a priority habitat. It does not pose a constraint to development.





Phase 1 Habitats	S.7	Implications		
Some areas of the eastern plateau comprised of frequent grasses including cocksfoot <i>Dactylis glomerata</i> , perennial ryegrass <i>Lolium</i> <i>perenne</i> , Yorkshire fog <i>Holcus lanatus</i> and annual meadow grass <i>Poa</i> <i>annua</i> . Herbs within the grassier areas included ragwort, dandelion, purple clover, broom, coltsfoot, bird's-foot trefoil and black knapweed <i>Centaurea nigra</i> , with scattered self-set sapling goat willow <i>Salix caprea</i> . Several depressions were noted within the eastern plateau containing species such as bulrush <i>Typha latifolia</i> and soft rush <i>Juncus effusus</i> , indicating that they are likely seasonally damp. These wetter areas were notably more prevalent in the more recent (2020) survey however the majority of these ephemeral puddles did not support a typical wetland plant assemblage. The 2020 survey was undertaken in an extended period of wet weather and as such these puddles were more widely distributed than previously recorded in the spring/summer and are anticipated to dry up shortly after the end of the wet weather.				



Phase 1 Habitats	S.7	Implications
Scattered scrub There are several areas of scattered scrub located throughout the western and central areas of the site, composed of scattered young goat willow, gorse and dogwood <i>Cornus sanguinea</i> over ephemeral/short perennial vegetation.	x.	None – this habitat is common and widespread and of low ecological value. It does not pose a constraint to development.



to

#### Phase 1 Habitats

#### Dense scrub

Two small areas of dense scrub is present within the site, one along the southern boundary of the site adjacent to residential development, dominated by bramble, with occasional sapling ash and willow spp. The second is in the north western extent of the site comprising early mature ash, oak, elder, hawthorn, field maple trees with a bramble, dog rose and elder understory.





Phase 1 Habitats	S.7	Implications
Dry ditch   Three ditches were recorded within the site, one appeared to hold water for longer periods of time that the other ditches as it contained green algae, suggesting it regularly holds eutrophic water for extended periods. It had been colonised by ephemeral/short perennial vegetation through the summer. The banks support young goat willow and silver birch trees.   The other two ditches were dry during the survey and had no evidence of regularly holding water being colonised by grass species.	X	None – this habitat is common and widespread, and of low ecological value and does not pose a constraint to development.



# 3.3 Species

- 3.3.1 Protected species and species of importance nationally and locally are evaluated in order to both identify further survey requirements and to identify potential constraints to inform development proposals.
- 3.3.2 Evaluations are based on, but are not limited to, the following criteria:
  - Desk study records;
  - Evidence found during the survey;
  - Presence, extent, quality and viability of supporting on-site habitat;
  - Ecological connectivity to viable off-site habitats; and
  - Perceived impacts of habitat loss/impact to individuals in relation to proposals.

Bats

- 3.3.3 The habitats on site are suitable to support foraging and commuting bats. The ecological records search returned records of common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Daubenton's *Myotis daubentonii*, lesser horseshoe *Rhinolophus hipposideros*, noctule *Nyctalus noctula*, unidentified pipistrelle *Pipistrellus spp.*, unidentified bat *Chiroptera spp.*, and whiskered bat *Myotis mystacinus*. These records include both flight records and roosting records. Notably, there are two confirmed lesser horseshoe roosts located 2.02km and 2.15km south west of the site.
- 3.3.4 During the site visit, no trees were recorded with potential to support roosting bats and no trees of a mature stature were recorded within the site.

Badger

- 3.3.5 42 records of the species were found within 2km of the site, however only two of which are less than 500m away from the site, one in 2017 at 425m, of a road casualty and one in 2008 at 475m from the site of a sett. The lack of closer records may not be indicative of presence or absence within the site, as absence of records is not conclusive evidence of the species not utilising the site.
- 3.3.6 Limited evidence of the species was found during the initial survey in August 2018 and no evidence was recorded during the recent Phase 1 Habitat survey on 18<sup>th</sup> February 2020.



Birds

- 3.3.7 The poor semi-improved grassland with areas of scattered young willow scrub and wet depressions are considered suitable habitat for a variety of protected bird species (such as the Schedule 1 little ringed plover *Charadrius dubius*). There are records of declining birds of conservation concern with potential to utilise the site including cuckoo *Cuculus canorus*, garden warbler *Sylvia borin*, grey partridge *Perdix perdix*, linnet *Linaria* cannabina, redstart *Phoenicurus phoenicurus*, skylark *Alauda arvensis*, spotted flycatcher *Muscicapa striata*, willow warbler *Phylloscopus trochilus* and yellowhammer *Emberiza citrinella* recorded within 2km of the site. The most recent record was in 2019 of a Snipe *Gallinago gallinago*, 1.8km from the site.
- 3.3.8 During the February site visit, a snipe was observed on the plateau and a pair of skylarks were also observed over the centre of the Site.

Great Crested Newt Triturus cristatus

- 3.3.9 There are records of great crested newt close to the Site. These are associated with a GCN receptor area located 115 metres west of the site, which was established in 2002 as part of a licenced GCN translocation scheme for the former steelworks.
- 3.3.10 The Site is separated from the receptor area by a one-way permanent GCN exclusion fence.
- 3.3.11 Reptiles
- 3.3.12 The habitats present on Site are considered suitable to support low numbers of reptiles (such as grass snake Natrix natrix and slowworm Anguis fragilis). Much of the Site has historically undergone much disturbance, and the habitats lack the structural diversity to support notable populations of reptiles. The ecological record search returned records of adder Vipera berus, common lizard Zootoca vivipara and grass snake in the locality, but not on Site.



## 4 DISCUSSION AND RECOMMENDATIONS

## 4.1 Ecological Receptors

- 4.1.1 The following ecological receptors have been evaluated as requiring further investigation and consideration within development proposals:
  - Protected and Notable Species:
    - o Bats;
    - Badger;
    - Breeding birds;
    - Great crested newt; and
    - Reptiles.
  - Nesting birds (general); and
  - Japanese knotweed.
- 4.1.2 The nature of potential effects, requirements for further surveys, and proposed mitigation/compensation are discussed below for each of the identified potential sensitive receptors.

## 4.2 Protected Species

Bats

4.2.1 Bat activity surveys have been undertaken in order to assess the status of bats within the Site. For the results of these surveys, conclusions and recommendations, see ST16882-025 Bat Activity Survey Report.

## Badger

4.2.2 A comprehensive badger survey was undertaken on the Site during the February 2020 survey and no evidence of badger was recorded. It is recommended that if works do not proceed within 1 year of this survey date (18<sup>th</sup> February 2021), an update badger survey is undertaken to ensure that no badger setts are created within or close to the Site that may be impacted by the development.

## Breeding birds

Breeding bird surveys have been undertaken within the site to investigate the species assemblage and presence of protected bird species on the Site. For the results of these



surveys, conclusions and recommendations, see ST16882-024 Breeding Bird Survey Report.

Reptiles

4.2.3 It is recommended that a Precautionary Working Method Statement should be devised and implemented in order to safeguard any reptiles that may be present within the site during construction.

# Great Crested Newt

- 4.2.4 GCN were previously recorded within a waterbody associated with the former steel working infrastructure which was removed, and the land remediated, in the early 2000's. A licenced GCN translocation scheme was implemented with GCN being moved to a fenced receptor area (complete with ponds) to the south of Blast Road, approximately 115m west of the Site.
- 4.2.5 There are no suitable waterbodies present in the Site to support breeding GCN and the Site provides low quality habitat for GCN compared to the receptor area.
- 4.2.6 It is therefore considered that GCN would be highly unlikely to be present within the Site, nevertheless, as an additional measure, it is considered that measures implemented during construction, as set out within the PWMS for reptiles, would also serve to safeguard any GCN should they be present within the Site.

## Nesting Birds

4.2.7 It is recommended that vegetation clearance and ground clearance works are undertaken outside of the usual bird breeding season (normally taken to be March – August inclusive). If such timescales cannot be accommodated, a check for the presence of active nests, and nesting birds should be undertaken by a suitably qualified ecologist prior to the commencement of works. Any active nests should be identified and protected subject to the relevant legal provisions until the nesting attempt is complete.

# 4.3 Invasive Species

# Japanese knotweed

4.3.1 Japanese knotweed was recorded within the northern area of the Site. This will require remediation prior to the commencement of development.



## 5 ECOLOGICAL ENHANCEMENTS

- 5.1.1 Planning Policy Wales and BSI 42020:2013 encourage opportunities to incorporate biodiversity improvements in and around developments.
- 5.1.2 The following measures are considered appropriate for the scale of the development and the magnitude of perceived impacts.
- 5.1.3 Undeveloped areas of the Site offer opportunities for habitat enhancement. Undeveloped areas should be planted with native trees and shrubs to promote habitat connectivity, and increase tree in this area.
- 5.1.4 Any drainage features should be sympathetically designed to incorporate semi-natural habitats where possible, including swamp and wet grassland, with transition to dryer species-rich grassland to be incorporated in undeveloped areas of open space.



# 6 **REFERENCES**

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DRAWINGS



Key Site boundary Scrub - dense/continuous Scrub - scattered Improved grassland Cultivated/disturbed land - ephemeral/ short perennial Other habitat - Dry ditch Target note									
	otes: erial imagery show	n for context p	urposes o	only					
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