



THE
ENVIRONMENT
PARTNERSHIP



HERITAGE WAY BRYMBO ECOLOGICAL ASSESSMENT

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Executive Summary

1. TEP Ltd was commissioned in December 2020 by Taylor Wimpey North West, to carry out an ecological assessment of land known as Heritage Way in Brymbo, North Wales. The assessment is required to inform a proposed residential development of 70 dwellings and associated infrastructure.
2. The site covers an area of 2.36ha and is located on an area of former lagoons that have since been reclaimed, re-contoured and restored.
3. The assessment has been informed by the Extended Phase 1 Habitat Survey Report produced by Arbor Vitae Environment Ltd in 2013 and the following surveys undertaken by TEP in December 2020:
 - desk study;
 - extended Phase 1 habitat survey; and
 - ground based assessment of trees for bat roost potential.
4. It is not anticipated that any designated wildlife sites would be impacted by the proposed development.
5. As noted during the Phase 1 habitat survey, the site consists of modified neutral grassland with areas of young semi-natural broad-leaved woodland, scattered scrub, bare ground, hard standing and amenity grassland.
6. Non-native invasive species (WCA9) Japanese knotweed *Reynoutria japonica*, cotoneaster species *Cotoneaster sp.* and montbretia *Crocsmia x crocosmiiflora* are present in the woodland at the site.
7. No protected plant species (WCA8) were identified at the site during the Phase 1 habitat survey.
8. There are no waterbodies suitable for breeding amphibians at the site. The terrestrial habitats at the site are suitable for foraging, commuting and hibernating amphibians.
9. The site and adjacent land contains suitable habitat for foraging and commuting badgers and limited suitability for sett excavation, although no setts were present during the Phase 1 habitat survey.
10. All trees at the site are of negligible potential for roosting bats. Mature trees are present immediately to the west of the site beyond the fence, which may have suitability for roosting bats. Overhanging branches from these trees that may have to be pruned are of negligible potential for roosting bats.
11. The young semi-natural broad-leaved woodland along the southern and western site boundaries and scattered scrub along the eastern site boundary offer moderate suitability for foraging and commuting bats, which provides connectivity between the site and habitats in the wider landscape to the north and east.
12. The habitats at the site are suitable for a range of woodland and scrub nesting bird species and the modified neutral grassland may have potential to support birds that nest on or near to the ground.

13. The site contains suitable habitat for foraging, commuting and hibernating reptiles and hedgehogs.
14. Recommendations in relation to the proposed the development are summarised below:
 - **Adjacent Habitats** - Construction Environmental Management Plan (CEMP);
 - **Invasive plant species** - An Invasive Species Management Report has been produced;
 - **Bats** - Sensitive lighting strategy during site clearance, construction and post construction to minimise impacts upon habitats of value to foraging and/or commuting bats the area of semi-natural broad-leaved woodland adjacent to the site;
 - **Birds** - Clearance of vegetation at the site should be carried out outside of the nesting bird season (March - August inclusive); and
 - **Amphibians, badgers, reptiles, hedgehogs** - Site clearance and construction works will progress under RAMMS.
15. Opportunities for biodiversity enhancement include the following:
 - a dedicated bird nest box plan is included in the development proposals, with nest boxes either installed on the new residential properties, or placed on suitable retained trees at an appropriate height and aspect;
 - landscaping proposals will take into account the likely presence of hedgehogs on the site;
 - during site clearance works, consideration should be given to chipping or composting vegetation for re-use on the new habitats on site, or creation of brash piles on the periphery of the site;
 - new planting will provide biodiversity benefits by creating new vegetated habitat. Native and berry producing species should be used where feasible;
 - a sensitive lighting design should be implemented to reduce light spill on to newly created habitats and landscaped areas that would enhance their suitability for nocturnal wildlife.

1.0 Introduction

- 1.1 TEP Ltd was commissioned in December 2020 by Taylor Wimpey North West, to carry out an ecological assessment of land known as Heritage Way in Brymbo, North Wales (hereafter referred to as 'the site'). This assessment is required to inform a proposed residential development of 70 dwellings and associated infrastructure including access and drainage, as detailed in the site layout drawing reference 20069.01.
- 1.2 This ecological assessment is an update to the Extended Phase 1 Habitat Report undertaken by Arbor Vitae Environment Ltd in 2013 and has the following objectives:
- describe the existing vegetation and give an overview of the habitats present on the site;
 - identify whether there are any features of conservation value such as legally protected species or habitats of biodiversity importance;
 - identify any non-native invasive species on site and give advice on removal or management;
 - advise of further surveys or mitigation requirements that may be needed prior to development of the site; and
 - outline opportunities to provide biodiversity enhancement within site proposals.

Site Context

- 1.3 The site is located on an area of former lagoons that has been reclaimed, re-contoured and restored to form a flat plateau that is roughly trapezoidal in shape.
- 1.4 The site covers an area 2.36ha and is located approximately 1km to the south of the village of Brymbo, North Wales.
- 1.5 The fenced site is adjacent to Heritage Way and is bound to south and west by residential development, with woodland to the north and Brymbo Sports and Social Complex and associated football pitches is located directly to the east of the site.
- 1.6 The wider landscape largely comprises undulating fields and woodland area interspersed with residential and commercial development.
- 1.7 The central grid reference of the site is SJ 29739 52528 and the location of the site is shown in Figure 1 below.



2.0 Methods

Ecology Desk Study

- 2.1 Information regarding historic species records and protected sites within a 2km radius of the site was requested/gathered from the sources listed in Table 1. This collated data gives a useful indication of the distribution and abundance of ecological receptors at a given locale. An absence of records does not indicate the absence of protected species from the search area. Our survey work has sought to identify the potential for any protected species to be present.

Table 1: Sources of Ecological Information

Source of Information	Nature of Information
Natural Resources Wales (NRW)	Statutory designated wildlife sites of international importance within 10km Statutory designated wildlife sites of national importance within 5km Statutory designated wildlife sites of local importance within 2km
LANDMAP	Notable habitats within and adjacent to the site
North Wales Environmental Information Service (COFNOD)	Protected species records within 2km Non-statutory designated wildlife sites of local importance within 2km
Wrexham County Borough Council	Land allocations and relevant policies
ArcMap10	Ordnance & Aerial survey mapping

Habitats and Flora

Phase 1 Habitat Survey

- 2.2 A Phase 1 habitat survey was carried out by TEP Principal Ecologist Alun Evans MCIEEM on 18th December 2020. The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC 2010¹) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017²). The method records the habitat types present within and immediately surrounding the site, based on the JNCC descriptions. Weather conditions during the survey included persistent rain.

¹ JNCC 2010. Handbook for Phase 1 Habitat Survey: A technique for environmental audit.

² CIEEM 2017. Guidelines for Preliminary Ecological Appraisal.

Limitations

- 2.3 The survey was undertaken outside of the optimum period for habitat surveys (April to early October). It is not anticipated that the habitats assigned would significantly change as a result but there will be constraints to the number and diversity of plant species recorded. It is also possible that some Schedule 8 protected species and Schedule 9 invasive species could have been missed.

Fauna

- 2.4 The site survey was extended to include an assessment of the habitats present for their potential to support species of conservation concern, particularly statutorily protected species or species listed under Section 7 (S7) of the Environment (Wales) Act 2016. Any signs indicating the presence of these species were recorded.

Badgers

- 2.5 Signs of use of the site and a 30m buffer around the site by badger were also searched for during the Phase 1 habitat survey, where access was possible. The standard methodology as recommended by Harris, Cresswell and Jefferies (1989)³ was followed to complete a thorough search for evidence that would indicate the presence of badgers both on the site and locally. Evidence of badger occupation and activity includes:

- Setts: including earth mounds, evidence of bedding and runways between setts;
- Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
- Prints and paths;
- Hairs caught on rough wood or fencing;
- Other evidence: including snuffle holes, feeding and playing areas and scratching posts.

Limitations

- 2.6 Badgers are active all year round, so a survey can be carried out at any time of year. However, depending upon the level of vegetation cover, this species is often best surveyed over the winter months when the vegetation has died back.
- 2.7 There was no access to land immediately to the west of the site during the Phase 1 habitat survey, however, this land was visible from the site. There were no constraints to the survey.

³ Harris S, Cresswell P and Jefferies D (1989). Surveying Badgers. Mammal Society.

Bats

- 2.8 A preliminary bat roost assessment was undertaken of the site by Alun Evans, concurrently with the Phase 1 habitat survey. The assessment was undertaken in accordance with the Bat Conservation Trust (BCT): Bat Surveys, Good Practice and Guidelines (Collins, 2016⁴).
- 2.9 A ground level inspection of all trees within the site, including those along the site boundaries, was also undertaken. In addition, the habitats within and surrounding the survey area were assessed for their potential to support foraging and commuting bats. Categorisation was based on the criteria listed within Table 2 below.
- 2.10 The ground level inspection of the trees involved the surveyor using close focussing binoculars to search from the ground for any features which may be used by bats. Tree roosts typically comprise one or a combination of the following:
- Old woodpecker holes;
 - Splits in trunk, bough or large branches;
 - Rot holes in trunk, bough or large branches;
 - Holes formed by two boughs or branches growing in contact;
 - Loose or lifting bark; and
 - Underneath a covering of dense latticed creeper, usually ivy *Hedera helix*.
- 2.11 Following the surveys, the trees and habitats on the site were categorised based on the criteria for roosts listed within Table 2 below.

Table 2: Evaluation criteria for the potential suitability of buildings, trees and habitats for bats (taken from table 4.1 of the BCT guidance).

Roost Suitability	Description of roosting habitat	Commuting and foraging habitats
Negligible	Negligible habitat features on site to be used by roosting bats.	Negligible habitat features on site to be used by commuting and foraging bats.
Low	A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats (e.g. a gappy hedgerow or an un-vegetated stream) or foraging bats (e.g. a lone tree or small patch of scrub) but which is isolated from the surrounding countryside by other habitat.

⁴ Collins, J. 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition. Bat Conservation Trust.

Roost Suitability	Description of roosting habitat	Commuting and foraging habitats
Moderate	A tree with one or more potential roost features that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but which is unlikely to support a roost of high conservation status (maternity or hibernation).	Continuous habitat connected to the wider landscape that could be used by bats for commuting (e.g. lines of trees or scrub or linked back gardens), or foraging bats (e.g. trees, scrub, water, grassland).
High Potential	A tree with one or more potential roost features that are suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time, due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high quality habitat that is strongly connected with the wider landscape that is likely to be used regularly by commuting bats (e.g. river valley, vegetated stream, woodland edge, hedgerows with trees) or foraging bats (e.g. broadleaved woodland, grazed parkland, tree-lined watercourses or ponds).

Limitations

- 2.12 The ground level assessment of trees was undertaken in December when leaf cover is reduced, therefore it was possible to view the canopies in their entirety and this is not considered a constraint to the survey.

3.0 Results

Ecology Desk Study

A summary of the results of the ecology desk study are set out below. Further details, including maps and full historical species records, are provided in Appendix A.

Relevant Planning Policies and Guidance

National Planning Policy

- 3.1 Planning Policy Wales (2018) delivers land use planning policy for Wales and provides a framework for the effective preparation of local planning authorities' development plans. This is supplemented by 21 topic based Technical Advice Notes (TANs). Technical Advice Note 5- Nature Conservation and Planning is a key TAN in relation to nature conservation and biodiversity.
- 3.2 TAN 5 states that the town and country planning system in Wales should:
- work to achieve nature conservation objectives through a partnership between local planning authorities, NRW, the Environment Agency Wales, voluntary organisations, developers, landowners and other key stakeholders;
 - integrate nature conservation into all planning decisions looking for development to deliver social, economic and environmental objectives together over time;
 - ensure that the UK's international and national obligations for site, species and habitat protection are fully met in all planning decisions;
 - look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally;
 - help to ensure that development does not damage, or restrict access to, or the study of, geological sites and features or impede the evolution of natural processes and systems especially on rivers and the coast;
 - forge and strengthen links between the town and country planning system and biodiversity action planning particularly through policies in local development plans and the preparation of supplementary planning guidance that adds value to Local Biodiversity Action Plans (LBAPs) by highlighting the ways in which the planning system can help to deliver the objectives of LBAPs in practical ways; and
 - plan to accommodate and reduce the effects of climate change by encouraging development that will reduce damaging emissions and energy consumption and that help habitats and species to respond to climate change.

Local Planning Policy

Natural Resources Wales Area Statements

- 3.3 Natural Resources Wales have developed seven Area Statements covering different areas of Wales. These statements are seen as a collaborative response to the Natural Resources Policy, published by the Welsh Government in 2017.
- 3.4 The site falls under the Area Statement for North East Wales.
- 3.5 The following sections of the Area Statement relate to biodiversity and nature conservation:
- Climate emergency
 - Develop and improve urban and rural green infrastructure
 - Increasing woodlands
 - Promoting the resilience of ecosystems in maintaining and enhancing biodiversity
 - Farming and sustainable land management

Wrexham Unitary Development Plan (UDP) 1996 to 2011

- 3.6 The Wrexham UDP 1996 to 2011 was adopted on 14th February 2005.
- 3.7 The site and adjacent land is allocated as Green Barrier (EC1) and Land Reclamation (EC16) in the Wrexham UDP.
- 3.8 The following policies relate to biodiversity and nature conservation and are relevant to the site:
- Policy EC1 Green Barriers
 - Policy EC4 Hedgerows, Trees and Woodland
 - Policy EC5 Special Landscape Areas
 - Policy EC6 Biodiversity Conservation

Local Biodiversity Action Plan (LBAPs)

- 3.9 The following habitats are identified within LBAPs by Wrexham County Borough Council:
- Derelict and Industrial Land
 - Garden
 - Linear aquatic habitats (rivers, streams, canals)
 - Ponds
 - Upland moorland
 - Woodland
 - Lowland raised bog
 - Lowland wood-pasture and parkland
 - Wet woodland
- 3.10 The following species are identified within LBAPs by Wrexham County Borough Council:
- Great crested newt
 - Barn owl
 - Song thrush
 - Badger

- Otter
- Lesser horseshoe bat
- Black poplar

Designated Sites

Statutory Designated Sites of International Importance

- 3.11 There are three internationally designated wildlife sites within 10km of the site. These are detailed in Table 3 below.

Table 3: Details of Internationally Designated Wildlife Sites within 10km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Berwyn a Mynyddoedd De Clwyd / Berwyn and South Clwyd Mountains	SAC	3.1 km to the south-west	European dry heaths Blanket bogs (* if active bog) Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) Transition mires and quaking bogs Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>) Calcareous rocky slopes with chasmophytic vegetation
Johnstown Newt Sites	SAC	5.2 km to the south	Great crested newt

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Midlands Meres and Mosses Phase 2 (Wales)	Ramsar	6.1 km to the east	The site comprises a diverse range of habitats from open water to raised bog. Supports a number of rare species of plants associated with wetlands, including the nationally scarce cowbane <i>Cicuta virosa</i> and elongated sedge <i>Carex elongata</i>. Also present are the nationally scarce bryophytes <i>Dicranum affine</i> and <i>Sphagnum pulchrum</i>. Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insect listed for this site.

Statutory Designated Sites of National Importance

- 3.12 There are four nationally designated wildlife sites within 5km of the site. These are detailed in Table 4 below.

Table 4: Details of Nationally Designated Wildlife Sites within 5km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Coedwig Ffossil Brymbo Fossil Forest	SSSI	0.8 km to the north	Internationally important plant fossil assemblage

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Gatewen Marsh	SSSI	1.9 km to the south-east	One of only three significant examples in the former county of Clwyd of the "southern mesotrophic mires" wetland type. The marsh is unusual in containing substantial stands of Great Reedmace <i>Typha latifolia</i> in shallow water with Brooklime <i>Veronica beccabunga</i> , Water Plantain <i>Alisma plantagoaquatica</i> and Bottle Sedge <i>Carex strata</i> .
Ruabon/Llantysilio Mountains and Minera	SSSI	3.2 km to the south-west	Designated for its heather moor, limestone and neutral grassland habitats and for its species interest comprising a range of upland breeding birds, rare and uncommon plants and the use of mines and caves by bats. The site is also notified for its geological interest.
Llay Bog	SSSI	3.4 km to the north-east	A small peat bog in an ice hollow in the glacial drift deposits, designated for its botanical interest.

Statutory Designated Sites of National Importance

- 3.13 There are no statutory locally designated wildlife sites within 2km of the site.

Non-statutory Designated Wildlife Sites of Local Importance

- 3.14 There are 11 non-statutory locally designated wildlife sites within 2km of the site. These are detailed in Table 5 below.

Table 5: Details of Non-statutory Locally Designated Wildlife Sites within 2km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Afon Gwenfro	LWS	0.3 km to the south	Not provided
Higher Berse Marsh	LWS	0.9 km to the south-east	Not provided
Brymbo Pony Fields	LWS	0.9 km to the north	Not provided
Moss Valley	LWS	1.1 km to the east	Not provided
New Broughton Meadow	LWS	1.1 km to the south-east	Not provided
Plas Mostyn Mawr	LWS	1.2 km to the west	Not provided
Cae Plasmostyn Bach	LWS	1.3 km to the west	Not provided
Mount Zion	LWS	1.3 km to the north-west	Not provided
Roseburn Fields	LWS	1.5 km to the west	Not provided
Glascoed Wood	LWS	1.8 km to the north-west	Not provided
The Smelt	LWS	1.9 km to the south-west	Not provided

Notable Habitats

3.15 There are no notable habitats within or immediately adjacent to the site.

Notable Flora and Fauna

3.16 A number of species spread over a 2 km search radius were identified through the data from COFNOD. Species include those listed under any of the following:

- European Protected Species (EPS);
- Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
- Protected plant species under Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
- Invasive non-native plant species under Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
- Protection of Badgers Act 1992 (PBA);
- Species of principal importance under Section 7 of the Environment (Wales) Act 2016 (S7);
- Red and Amber listed Birds of Conservation Concern (BRd/BAm); and
- Red and Amber listed Birds of Conservation Concern in Wales (BRd*/BAm*); and
- Local Biodiversity Action Plan Species (LBAP).

3.17 These records are detailed in the relevant species sections below.

Phase 1 Habitat Survey

3.18 Results of the Phase 1 habitat survey are provided below and are illustrated in Drawing G8576.007. Full Phase 1 habitat survey target notes are provided within Appendix B.

3.19 The habitats present within the site are listed below and brief descriptions of these habitats are also given:

- Modified neutral grassland⁵;
- Semi-natural broad-leaved woodland;
- Amenity grassland;
- Scattered scrub;
- Hardstanding; and
- Bare ground.

Modified Neutral Grassland

3.20 Modified neutral grassland is the dominant habitat at the site. The majority of the site comprises unmanaged modified neutral grassland with scattered scrub (TN1 and Figure 2). The presence of desire lines indicate informal public access. Moss species are abundant with frequent yarrow *Achillea millefolium*, common bent *Agrostis capillaris*, crested dog's tail *Cynosurus cristatus*, bird's foot trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and goat willow *Salix caprea*.

3.21 A smaller area of unmanaged modified neutral grassland is present between the existing palisade and public footway adjacent to Heritage Way (TN2). Cock's-foot *Dactylis glomerata* is abundant in this part of the site with frequent yarrow and ribwort plantain also present.

⁵ The neutral grassland categories detailed within the Phase 1 Habitat Survey Handbook are concentrated on grassland associated with rural situations (pastures and meadows), as such it was agreed with JNCC in 2005 (P. Gateley, pers. comm.) that neutral grassland habitats that don't easily fit within these categories, usually within urban or industrial areas, can be referred to as modified neutral grassland –

'Modified neutral grassland is not derived from agricultural grassland and the terms semi-improved and improved do not apply. Some modified neutral grassland may be species-rich but many swards are dense, coarse and species-poor. Modified neutral grassland naturally regenerates on disturbed ground and is unmanaged. It most commonly occurs in urban areas and on post-industrial land'.



Figure 2: Modified neutral grassland with scattered scrub

Semi-natural Broad-leaved Woodland

- 3.22 Young semi-natural broad-leaved woodland is developing along the western and southern boundaries of the site (TN3 and Figure 3). Species include abundant goat willow with frequent silver birch *Betula pendula* and ivy *Hedera helix*.
- 3.23 Non-native invasive species (WCA9) Japanese knotweed *Reynoutria japonica*, cotoneaster species *Cotoneaster sp.* and montbretia *Crocasmia x crocosmiiflora* are present in the woodland.



Figure 3: Semi-natural broad-leaved woodland

Amenity Grassland

- 3.24 Amenity grassland associated with Brymbo Sports and Social complex is present along the eastern site boundary. The grassland is separated from the site by stock proof fencing and is heavily managed.
- 3.25 A raised bank of rubble approximately 50cm in height is also present along the eastern site boundary (TN4 and Figure 4)



Figure 4: Raised bank of rubble along the eastern site boundary

Hardstanding and Bare Ground

- 3.26 Areas of hardstanding are present along the southern site boundary adjacent to Heritage Way (Figure 5). A small area of bare ground is present in the north of the site.



Figure 5: Hardstanding habitat along the southern site boundary

Invasive and Protected Plant Species

- 3.27 No protected (WCA8) plant species were identified during the extended Phase 1 habitat survey. The desk study returned records of English bluebell *Hyacinthoides non-scripta* 0.4km to east of the site. The semi-natural broad-leaved woodland at the site is young and unlikely to support this species.
- 3.28 Non-native invasive (WCA9) plant species cotoneaster species, montbretia and Japanese knotweed were identified in the south west the site during the Phase 1 habitat survey. The desk study returned ten records of WCA9 species within 2 km of the site, but all over 600 m away.

Connectivity with the Wider Landscape

- 3.29 The residential areas immediately adjacent to the western and southern site boundaries provides a barrier to wildlife dispersal. To the east and immediate north of the site, lies a mix of grassland and woodland habitats that provide habitat connectivity between the site and habitats in wider landscape.

Fauna

Amphibians

- 3.30 Sixty records of great-crested newt *Triturus cristatus* (EPS, WCA5, S7, LBAP) were identified in the desk study with the closest record 900m to the north of the site. It is understood that as part of the reclamation of wider Brymbo steel works great-crested newts were captured and relocated to a receptor area off Blast Road.
- 3.31 Twenty records of common toad *Bufo bufo* (S7) were identified in the desk study with the closest record 300m to the west of the site.
- 3.32 An Ordnance Survey map and satellite imagery search confirms no waterbodies suitable for breeding amphibians are present within 500m of the site.
- 3.33 The semi-natural broad-leaved woodland, undisturbed modified neutral grassland and the raised bank of rubble along the eastern site boundary provide suitable terrestrial habitat for amphibian foraging, commuting and hibernation.

Badger

- 3.34 Thirty one records of badger *Meles meles* (PBA, LBAP) were identified within 2km of the site in the desk study.
- 3.35 Probable badger pathways were noted passing though the site during the Phase 1 habitat survey. The pathways continue off site into young broad-leaved woodland to the north and amenity grassland to the north-east and south-east. A single snuffle hole was also present in the young broad-leaved woodland.
- 3.36 No badger setts or other field signs were present during the survey.
- 3.37 The grassland and woodland habitats within the site are suitable for foraging and commuting badger.
- 3.38 The woodland in the south west of the site and the land off site immediately to the west has limited potential for sett excavation.

Bats

- 3.39 Records of six bat species were identified in the desk study. The closest bat record to the site was common pipistrelle *Pipistrellus pipistrellus* (EPS, WCA5, S7) 0.8km to the north-east.
- 3.40 The semi-natural broad-leaved woodland along the southern and western site boundaries and scattered scrub along the eastern site boundary offer moderate suitability for foraging and commuting bats, which provides connectivity between the site and habitats in the wider landscape to the north and east.

Preliminary Daytime Bat Roost Assessments

- 3.41 All trees within the site are of negligible potential for roosting bats. However, there were trees immediately to the west beyond the fence that may have suitability for roosting bats. Whilst some of the branches from these did overhang the site no branches (that may need to be pruned back at some stage) with bat potential were noted.

Birds

- 3.42 Bird species records within 2km of the site are detailed in the Desk Study. Bird species identified within the desk study that are protected under Schedule 1 of the Wildlife and Countryside Act are listed below:
- Barn owl
 - Kingfisher
 - Fieldfare
 - Brambling
 - Hen harrier
 - Little ringed plover
 - Redwing
 - Peregrine
 - Slavonian grebe
 - Red kite
- 3.43 There is no suitable nesting habitat within or adjacent to the site to support the Schedule 1 bird species listed, although the grassland at the site may provide foraging habitat for barn owl and other raptor species such as kestrel.
- 3.44 The semi-natural broad-leaved woodland including woodland edge at the site are likely to support bird species including song thrush, dunnock, blue tit, great tit, blackbird, woodpigeon and robin.
- 3.45 The modified neutral grassland and scattered scrub may hold some potential for bird species that nest on or near to the ground including reed bunting, willow warbler and wren.

Otter and water vole

- 3.46 No records of water vole *Arvicola amphibius* (EPS, WCA5, S7) were identified in the desk study. One record of otter *Lutra lutra* (EPS, WCA5, S7, LBAP) was identified 1.9km to the south of the site. Otters and water vole require primarily riparian habitats for foraging and commuting with wetlands or woodland in close proximity for shelter. There are no suitable habitats on site or within 30m of the site suitable to support otter or water vole.

Invertebrates

- 3.47 One record of minutest diving beetle *Bidessus minutissimus* (S7) was identified 1.0km north of the site in the desk study. There are no suitable habitats at the site suitable to support this species.

Other mammals

- 3.48 Fifty six records of hedgehog *Erinaceus europaeus* (S7) were identified within 2km of the site in the desk study, with the closest record 100m to the south of the site. The grassland and woodland (including woodland edge) at the site are suitable to support foraging and commuting hedgehog, with the woodland also providing suitable habitat for hibernation.

- 3.49 Four records of polecat *Mustela putorius* (S7) were identified 1.4km to the north east of the site in the desk study. Polecat occur in lowland areas with a mixture of open ground and woodland, usually with dense cover; often near rivers and wetland. Due to the distance of the records from the site and limited habitat suitability at the site it is unlikely to support this species.

Reptiles

- 3.50 The desk study identified one record of grass snake *Natrix natrix* (WCA5, S7) 1.6km north of the site at Brymbo Pool. Due to the distance between the record and the site and presence of intervening residential development the site is unlikely to support this species. However, the grassland, woodland edge and raised bank of rubble along the eastern site boundary are suitable for other reptile species, such as slow worm *Anguis fragilis*.

4.0 Conclusions

- 4.1 This section concludes the potential impacts on the ecological receptors in and around the application site from the proposed development.

Planning Context

- 4.2 Policies that apply to this development are listed within Chapter 3 of this report and further details are provided within the desk study report (Appendix A). If the recommendations outlined within Chapter 5 of this document are implemented and biodiversity enhancements are incorporated into the scheme it is anticipated that the requirements of the biodiversity-related planning policies will be met.

Designated Sites

- 4.3 Due to the distance of the site from any internationally or nationally designated sites and that the site is not suitable to support habitats, species and features (e.g. fossils) associated with internationally and nationally designated sites no impacts are anticipated as a result of the proposals.
- 4.4 There are 11 locally designated wildlife sites within 2km of the site, three of which are within 1km of the site with the closest located 0.3km to the south of the site. Due to intervening residential development between the site and these locally designated sites no impacts are anticipated as a result of the proposals.

Habitats and Flora

- 4.5 There are no notable habitats within or immediately adjacent to the site. The young semi-natural broad-leaved woodland at the site is too immature to be considered as lowland mixed deciduous woodland priority habitat. Habitats at the site also do not meet the description of open mosaic habitat on previously developed land.

Invasive and protected plant species

- 4.6 No protected (WCA8) plant species were identified during the extended Phase 1 habitat survey.
- 4.7 Non-native invasive (WCA9) plant species cotoneaster species, montbretia and Japanese knotweed were identified in the south west of the site during the Phase 1 habitat survey. Therefore there are anticipated implications for the proposed development and non-native invasive plant species.

Fauna

Amphibians

- 4.8 No waterbodies suitable for amphibian breeding are present at or within 500m of the site.

- 4.9 The semi-natural broad-leaved woodland, undisturbed modified neutral grassland and the raised bank of rubble along the eastern site boundary provide suitable terrestrial habitat for amphibian foraging, commuting and hibernation. Due to this and records of common toad within 300m of the site there is the potential for site clearance and construction works to harm foraging, commuting and hibernating common species of amphibians. Therefore, there are implications for the proposed development and amphibians.

Badger

- 4.10 Probable badger pathways and a single snuffle hole were noted passing through the site during the Phase 1 habitat survey. No badger setts or field signs were present during the survey.
- 4.11 The grassland and woodland habitats within the site are suitable for foraging and commuting badger. There is potential to harm foraging and commuting badgers that may range into the site during construction. Therefore there are anticipated implications for the proposed development and badgers.
- 4.12 The woodland in the south west of the site and the land immediately off site to the west has limited potential for sett excavation. There are currently no implications of the development in relation to badger setts.

Bats

- 4.13 All bats and their roosts are internationally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in England and Wales.
- 4.14 All trees at the site are of negligible potential for roosting bats. More mature trees are present immediately to the west of the site beyond the fence, which may have suitability for roosting bats. However, these trees are to be retained in the current proposals and overhanging branches from these trees that may have to be pruned are of negligible potential for roosting bats.
- 4.15 The semi-natural broad-leaved woodland along the southern and western site boundaries and scattered scrub along the eastern site boundary offer moderate suitability for foraging and commuting bats, which provides connectivity between the site and habitats in the wider landscape to the north and east.
- 4.16 The mature linear woodland adjacent to the western site boundary is to be retained in the current proposals, where possible the trees will be crown lifted and cut back to the site boundary. The younger woodland within the site along the southern and western site boundaries and the scattered scrub along the eastern site boundary will be cleared, which will reduce commuting and foraging habitats for bats. Therefore there are anticipated implications for the proposed development and foraging and commuting bats.

Birds

- 4.17 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) whilst nesting. It is an offence to take, damage or destroy the nest of any wild bird whilst it is in use or being built. There may be implications with regards to nesting birds if vegetation clearance are proposed during the nesting period (typically taken to be March to August inclusive).
- 4.18 The removal of woodland and scrub along the site boundaries is likely to reduce nesting and foraging habitat for bird species including song thrush, dunnock, blue tit, great tit, blackbird, woodpigeon and robin. Clearance of the modified neutral grassland at the site may reduce nesting habitat for bird species that nest on or near to the ground including willow warbler, reed bunting and wren. Therefore there are anticipated implications for the proposed development and nesting birds.

Otter and Water Vole

- 4.19 No records of water vole were identified in the desk study. One record of otter was identified 1.9km to the south of the site. Otters and water vole require primarily riparian habitats for foraging and commuting with wetlands or woodland in close proximity for shelter. There are no suitable habitats on site or within 30m of the site suitable to support otter or water vole. Therefore there are no anticipated implications for the proposed development and water vole and otter.

Invertebrates

- 4.20 One record of minutest diving beetle was identified in the desk study. There are no suitable habitats at the site suitable to support this species.
- 4.21 The habitats at the site are not considered to be suitable for significant invertebrate populations. Therefore there are no anticipated implications for the proposed development on this and other invertebrate species.

Other mammals

- 4.22 A large number of hedgehog records were identified in the desk study, with the closest record 100m from the site. The grassland and woodland (including woodland edge) at the site are suitable to support foraging and commuting hedgehog, with the woodland also providing suitable habitat for hibernation. The development will reduce habitat availability and connectivity for this species and there is the potential for site clearance and construction works to harm hedgehogs at the site. Therefore, there are implications for the proposed development and hedgehog.
- 4.23 Records of polecat were identified over 1km from the site in the desk study. Due to the distance of the records from the site and limited habitat suitability at the site it is unlikely to support this species. Therefore there are no anticipated implications for the proposed development and polecat.

Reptiles

- 4.24 The grassland, woodland edge and raised bank of rubble along the eastern site boundary provide suitable foraging, commuting and hibernation habitat for reptile species, due to this there is the potential for site clearance and construction works to harm reptiles at the site. Therefore, there are implications for the proposed development and reptiles.

5.0 Recommendations

- 5.1 This section provides recommendations to avoid or, where this is not possible, mitigate for any adverse impact on wildlife in relation to the proposals. Opportunities for appropriate enhancement are also set out.

Habitats and Flora

- 5.2 All retained trees will be protected from incidental damage and disturbance during construction in accordance with current standards. Detailed arboricultural related construction measures are included in the Arboricultural Method Statement (reference 8576.001).
- 5.3 New tree and shrub planting at the site should include a range of native species to create a varied vegetation structure to suit a range of foraging and commuting bat species and nesting and foraging bird species. Fruiting tree and shrub species and/or species that are attractive to insects will provide additional foraging resources for bats and birds.
- 5.4 In newly created planting areas, native plant species will be used where possible to provide foraging opportunities for local wildlife. The wildflower seed mixes used will include wildflower species suitable to the soil type present on site. This will benefit a range of invertebrates such as bees and butterflies.
- 5.5 An Invasive Plant Species Management Report has been produced.
- 5.6 Good construction practice should be implemented in the form of a Construction Environmental Management Plan (CEMP). This should include pollution management, siting of compounds, dust and vehicle run off.

Fauna

Amphibians

- 5.7 Due to the low risk that amphibian species will be present within the site, site clearance and construction works will progress under a Reasonable Avoidance Measures Method Statement (RAMMS). An ecology RAMMS has been produced (reference 8576.004) that outlines methodology to ensure no harm to amphibians that may be present on site.

Badger

- 5.8 Due to the low risk that badgers will be present within the site, site clearance and construction works will progress under a Reasonable Avoidance Measures Method Statement (RAMMS) including a pre-construction badger survey. An ecology RAMMS has been produced (reference 8576.004) that outlines methodology to ensure no harm to badgers that may be present on site.
- 5.9 Access through the site should also be maintained for commuting.

Bats

- 5.10 The proposals should include the provision of a sensitive lighting strategy to ensure lighting proposals during site clearance, construction and post construction do not impact upon habitats of value to foraging and/or commuting bats using the broad-leaved woodland along the western site boundary.

Birds

- 5.11 Clearance of vegetation at the site should be carried out outside of the nesting bird season (March - August inclusive). If it is not possible to complete works outside of the nesting bird season, a nesting bird check must be carried out by a suitably qualified ecologist no more than 24 hours prior to the works commencing, to establish that no active bird nests will be disturbed or destroyed. If active nests are found all works should be delayed and/or a protective buffer should be retained around vegetation until the young have fledged. The length of time and size of buffer is species-specific.
- 5.12 An ecology RAMMS has been produced (reference 8576.004) that outlines clearance methodology to ensure no harm to nesting birds that may be present on site.

Hedgehog

- 5.13 The habitats within the site and the wider landscape provide suitable habitats for hedgehog commuting, foraging and hibernation.
- 5.14 Site clearance and construction works will progress under a Reasonable Avoidance Measures Method Statement (RAMMS). An ecology RAMMS has been produced (reference 8576.004) that outlines methodology to ensure no harm to hedgehogs that may be present on site.

Reptiles

- 5.15 Due to the low risk that reptile species will be present within the site, site clearance and construction works will progress under a Reasonable Avoidance Measures Method Statement (RAMMS). An ecology RAMMS has been produced (reference 8576.004) that outlines methodology to ensure no harm to reptiles that may be present on site.

Opportunities for Biodiversity Enhancement

- 5.16 A dedicated bird nest box plan is included in the development proposals, with nest boxes either installed on the new residential properties, or placed on suitable retained trees at an appropriate height and aspect. The installation of nest boxes will increase the availability of nesting habitat within the site. Nesting features should be targeted for those species known to occur in the surrounding area and should include boxes suitable for house martin, house sparrow, great tit, blue tit, robin, swift and starling.

- 5.17 The landscaping proposals should take into account the likely presence of hedgehogs on the site. Planting hedges as property boundaries as oppose to fences will create suitable habitat. If fences are used, non-toxic preservative should be used on fences (and any other wooden furniture) to avoid the use of chemical treatments. Wood panel boundary fencing will include small gateways (13cm x 13cm) to allow dispersal of hedgehogs across the site.
- 5.18 During the site clearance works, consideration should be given to chipping or composting vegetation for re-use on the new habitats on site, or creation of brash piles on the periphery of the site as a further aid to increasing biodiversity. This could also enhance the site for hedgehogs by providing additional refuge opportunities for the species
- 5.19 New planting will provide biodiversity benefits by creating new vegetated habitat. Native berry producing and nectar bearing species should be used where feasible and will provide foraging and commuting opportunities for local wildlife.
- 5.20 If feasible and where the site's existing operational health and safety lighting requirements are not compromised, a sensitive lighting design should be implemented to reduce light spill on to newly created habitats and landscaped areas which would enhance their suitability for nocturnal wildlife.

APPENDIX A: Desk Study



THE
ENVIRONMENT
PARTNERSHIP



HERITAGE WAY BRYMBO ECOLOGY DESK STUDY

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1.0 Introduction

- 1.1 The Environment Partnership (TEP) were commissioned, by Taylor Wimpey North West in December 2020, to complete an ecology desk based assessment of land known as Heritage Way in Brymbo, North Wales (hereafter referred to as 'the site'). This assessment is required to inform proposed residential development.
- 1.2 The central grid reference of the site is SJ 29739 52528 and the location of the site is shown in Figure 1 below.



Figure 1: Site Location Plan

2.0 Method

2.1 Information regarding historic species records and protected sites was requested/gathered from the sources listed in Table 1. This collated data gives a useful indication of the distribution and abundance of ecological receptors at a given locale. An absence of records does not indicate the absence of protected species from the search area.

Table 1: Sources of Ecological Information

Source of Information	Nature of Information
Natural Resources Wales (NRW)	Statutory designated wildlife sites of international importance within 10km Statutory designated wildlife sites of national importance within 5km Statutory designated wildlife sites of local importance within 2km
LANDMAP	Notable habitats within and adjacent to the site
North Wales Environmental Information Service (COFNOD)	Protected species records within 2km Non-statutory designated wildlife sites of local importance within 2km
Wrexham County Borough Council	Land allocations and relevant policies
ArcMap10	Ordnance & Aerial survey mapping

2.2 Statutory designated wildlife sites of international importance may include:

- Ramsar sites;
- Special Areas of Conservation (SAC); and
- Special Protection Areas (SPA).

2.3 Statutory designated wildlife sites of national importance may include:

- Site of Special Scientific Interest (SSSI);
- National Nature Reserve (NNR);
- Marine Nature Reserve (MNR); and
- Area of Outstanding National Beauty (AONB).

2.4 Statutory designated wildlife sites of local importance refers to Local Nature Reserves (LNR).

2.5 Non-statutory designated wildlife sites of local importance may include:

- Local Wildlife Site (LWS);
- Site of Biological Importance (SBI); and

- Biological Heritage Site (BHS).

2.6 Habitats of value may include those listed under any of the following:

- Ancient woodland;
- Main rivers¹;
- Habitats of principal importance under Section 7 of the Environment (Wales) Act 2016 (S7); and
- Local Biodiversity Action Plan Habitats (LBAP).

2.7 Protected species records may include those listed under any of the following:

- European Protected Species (EPS);
- Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
- Protected plant species under Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
- Invasive non-native plant species under Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
- Protection of Badgers Act 1992 (PBA);
- Species of principal importance under Section 7 of the Environment (Wales) Act 2016 (S7);
- Red and Amber listed Birds of Conservation Concern (BRd/BAm); and
- Red and Amber listed Birds of Conservation Concern in Wales (BRd*/BAm*); and
- Local Biodiversity Action Plan Species (LBAP).

¹ Main rivers are statutory watercourses designated by the Environment Agency (in England). 'Main rivers' are usually larger streams and rivers, but some of them are small watercourses of significance. Works within 8m of main rivers are generally prohibited or require permission as there could be flood risk implications.

3.0 Legislation and Planning Policy

- 3.1 This section details legislation and planning policy which may have relevance to the site. Only legislation and policy relevant to biodiversity are included.

International Planning Policy

Conservation of Habitats and Species Regulations 2017

Protected Species

- 3.2 European Protected Species (EPS) and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (and as amended), which makes it illegal to:
- Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs;
 - Deliberately disturb such an animal; and
 - Damage or destroy a breeding site or resting place of such an animal.
- 3.3 European Protected Species (EPS) licenses can be granted by NRW in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed, namely:
- The development is for reasons of overriding public interest;
 - There is no satisfactory alternative; and
 - The favourable conservation status of the species concerned will be maintained and/or enhanced.
- 3.4 Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a duty to 'have regard to the requirements of the EC Habitats Directive' i.e. LPA's must consider the above 3 'tests' when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations.

Protected Sites

- 3.5 The Regulations also deal with the assessment of potential impacts on sites of European nature conservation importance, in this case, the Berwyn and South Clwyd Mountains SAC and Johnstown Newt Sites SAC. Requirements are set out within Regulations 63 and 64 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 63 and 64 are commonly referred to as the 'Habitats Regulations Assessment' process.

- 3.6 All plans and projects (including planning applications) that are not directly connected with, or necessary for, the conservation management of a habitat site, require consideration of whether the plan or project is likely to have significant effects on that site. This consideration should take into account the potential effects both of the plan/project itself and in combination with other plans or projects. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of overriding public interest and if the necessary compensatory measures can be secured.

National Planning Policy

Planning Policy Wales 2018

- 3.7 Planning Policy Wales delivers land use planning policy for Wales and provides a framework for the effective preparation of local planning authorities' development plans. This is supplemented by 21 topic based Technical Advice Notes (TANs). Technical Advice Note 5- Nature Conservation and Planning is a key TAN in relation to nature conservation and biodiversity.
- 3.8 TAN 5 states that the town and country planning system in Wales should:
- work to achieve nature conservation objectives through a partnership between local planning authorities, NRW, the Environment Agency Wales, voluntary organisations, developers, landowners and other key stakeholders;
 - integrate nature conservation into all planning decisions looking for development to deliver social, economic and environmental objectives together over time;
 - ensure that the UK's international and national obligations for site, species and habitat protection are fully met in all planning decisions;
 - look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally;
 - help to ensure that development does not damage, or restrict access to, or the study of, geological sites and features or impede the evolution of natural processes and systems especially on rivers and the coast;
 - forge and strengthen links between the town and country planning system and biodiversity action planning particularly through policies in local development plans and the preparation of supplementary planning guidance that adds value to Local Biodiversity Action Plans (LBAPs) by highlighting the ways in which the planning system can help to deliver the objectives of LBAPs in practical ways; and
 - plan to accommodate and reduce the effects of climate change by encouraging development that will reduce damaging emissions and energy consumption and that help habitats and species to respond to climate change.

Wildlife and Countryside Act 1981

- 3.9 Animal species listed under Schedule 5 of the Wildlife and Countryside Act 1981 (and as amended) receive full protection which makes it illegal (subject to certain exceptions) to:
- Intentionally kill, injure or take any such animal;
 - Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and
 - Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
- 3.10 Some species receive partial protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which provide protection against intentional killing or injury of any such animal.
- 3.11 All wild birds (as defined by the act) are protected under the Wildlife and Countryside Act 1981 (and as amended), which makes it illegal (subject to exceptions) to:
- Intentionally kill, injure or take any wild bird;
 - Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
- 3.12 Additional protection is provided to birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (and as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to:
- Intentionally or recklessly disturb any bird listed on Schedule 1, or their dependent young while nesting.
- 3.13 Plant species listed under Schedule 8 of the Wildlife and Countryside Act 1981 (and as amended) are protected from unauthorised intentional picking, uprooting and destruction.

Environment (Wales) Act 2016

- 3.14 Section 6 of the Environment Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'.
- 3.15 Section 7 of the Environment Act requires The Welsh Ministers to publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales. This is known as the S7 list.

Protection of Badgers Act 1992

- 3.16 The Protection of Badgers Act 1992 makes it an offence to kill, injure or take a badger from the wild. It is also an offence to disturb, damage or interfere with a sett unless a licence is obtained from a statutory authority.

Local Planning Policy

Natural Resources Wales Area Statements

- 3.17 Natural Resources Wales have developed seven Area Statements covering different areas of Wales. These statements are seen as a collaborative response to the Natural Resources Policy, published by the Welsh Government in 2017.
- 3.18 The Area Statement for North East Wales can be viewed by following the link: <https://naturalresources.wales/about-us/area-statements/?lang=en>
- 3.19 The following sections of the Area Statement relate to biodiversity and nature conservation:
- Climate emergency
 - Develop and improve urban and rural green infrastructure
 - Increasing woodlands
 - Promoting the resilience of ecosystems in maintaining and enhancing biodiversity
 - Farming and sustainable land management

Wrexham Unitary Development Plan (UDP) 1996 to 2011

- 3.20 The Wrexham UDP 1996 to 2011 was adopted on 14th February 2005. The plan can be viewed by the following link: <https://www.wrexham.gov.uk/sites/default/files/2020-05/udp-statement.pdf>.
- 3.21 The site and adjacent land is allocated as Green Barrier (EC1) and Land Reclamation (EC16) in the Wrexham UDP.
- 3.22 The following policies relate to biodiversity and nature conservation and are relevant to the site:
- Policy EC1 Green Barriers
 - Policy EC4 Hedgerows, Trees and Woodland
 - Policy EC5 Special Landscape Areas
 - Policy EC6 Biodiversity Conservation

Local Biodiversity Action Plans (LBAP)

- 3.23 The LBAP document for Wrexham can be viewed by following the link: <https://webarchive.nationalarchives.gov.uk/20110303154000/http://www.ukbap.org.uk/lbap.aspx?id=499>
- 3.24 The following habitats are identified within LBAPs by Wrexham County Borough Council:
- Derelict and Industrial Land
 - Garden
 - Linear aquatic habitats (rivers, streams, canals)
 - Ponds
 - Upland moorland
 - Woodland
 - Lowland raised bog

- Lowland wood-pasture and parkland
- Wet woodland

3.25 The following species are identified within LBAPs by Wrexham County Borough Council:

- Great crested newt
- Barn owl
- Song thrush
- Badger
- Otter
- Lesser horseshoe bat
- Black poplar

4.0 Site Designations

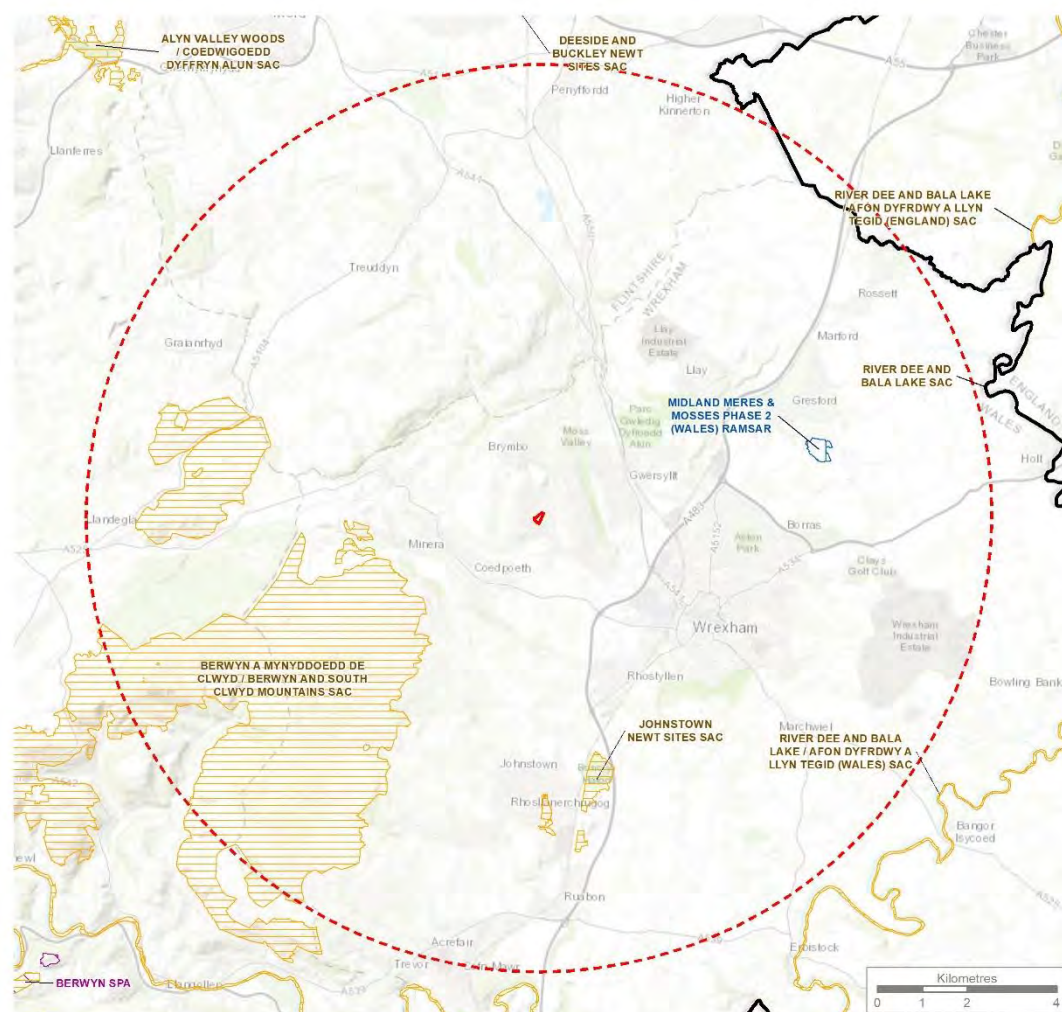
Statutory Designated Wildlife Sites of International Importance

- 4.1 There are three internationally designated wildlife sites within 10km of the site (Figure 2). These are detailed in Table 2 below.

Table 2: Details of Internationally Designated Wildlife Sites within 10km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Berwyn a Mynyddoedd De Clwyd / Berwyn and South Clwyd Mountains	SAC	3.1 km to the south-west	• European dry heaths • Blanket bogs (* if active bog) • Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) • Transition mires and quaking bogs • Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>) • Calcareous rocky slopes with chasmophytic vegetation
Johnstown Newt Sites	SAC	5.2 km to the south	• Great crested newt

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Midlands Meres and Mosses Phase 2 (Wales)	Ramsar	6.1 km to the east	- The site comprises a diverse range of habitats from open water to raised bog. - Supports a number of rare species of plants associated with wetlands, including the nationally scarce cowbane <i>Cicuta virosa</i> and elongated sedge <i>Carex elongata</i>. Also present are the nationally scarce bryophytes <i>Dicranum affine</i> and <i>Sphagnum pulchrum</i>. - Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insect listed for this site.



- Key**
- Site boundary
 - Site boundary - 10km buffer
 - Wales and England Border
 - Ramsar
 - Special Areas of Conservation (SAC)
 - Special Protection Areas (SPA)
- Sites searched for were as follows:
- Ramsar
 - Special Protection Areas (SPA)
 - Special Areas of Conservation (SAC)

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Project
Heritage Way, Brymbo

Title
Internationally Designated Sites Within 10km Buffer

Drawing Number
G8576.002

Scale 1:115,000 @ A4	Date 14/01/2021
Drawn CW	Checked SA
	Approved LJ

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Figure 2: Internationally Designated Wildlife Sites within 10km of the Site

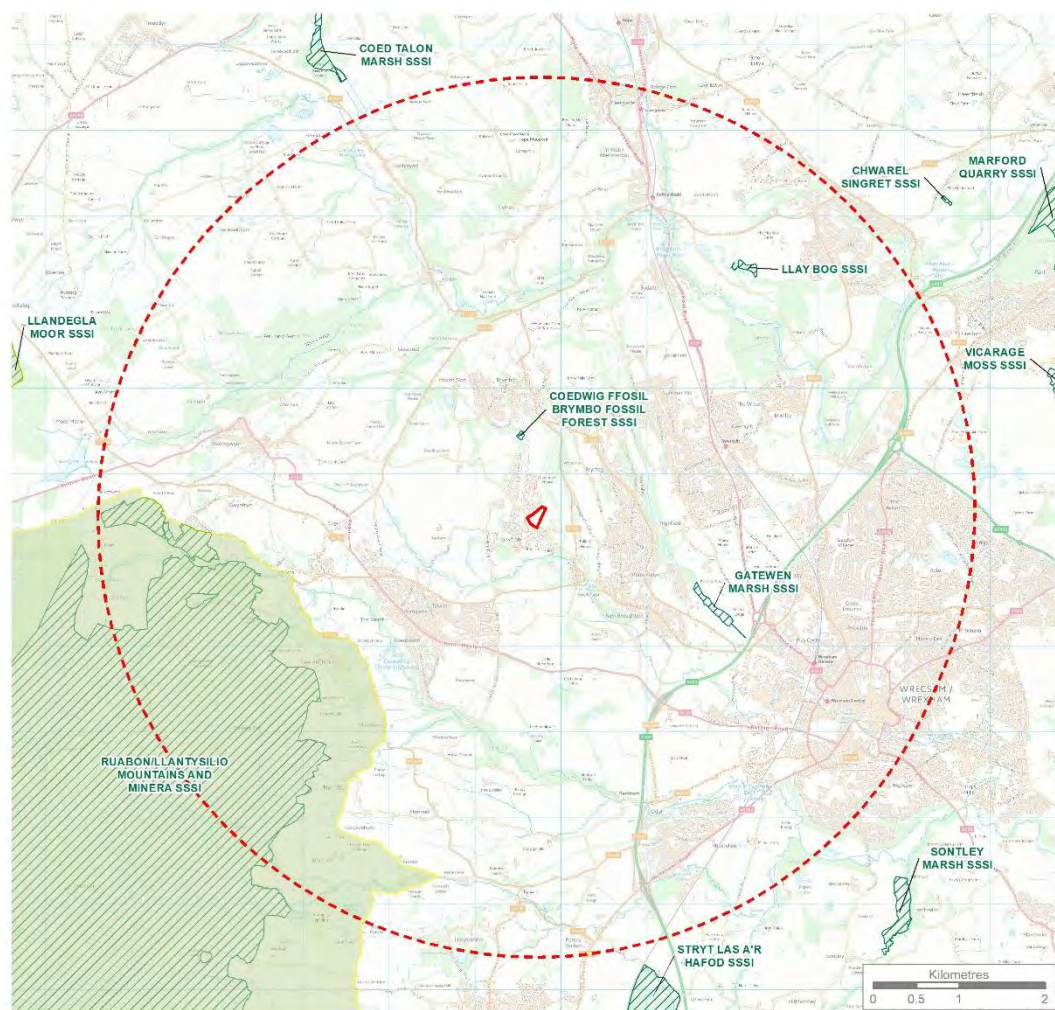
Statutory Designated Wildlife Sites of National Importance

- 4.2 There are four nationally designated wildlife sites within 5km of the site (Figure 3). These are detailed in Table 3 below.

Table 3: Details of Nationally Designated Wildlife Sites within 5km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Coedwig Ffosil Brymbo Fossil Forest	SSSI	0.8 km to the north	Internationally important plant fossil assemblage
Gatewen Marsh	SSSI	1.9 km to the south-east	One of only three significant examples in the former county of Clwyd of the "southern mesotrophic mires" wetland type. The marsh is unusual in containing substantial stands of Great Reedmace <i>Typha latifolia</i> in shallow water with Brooklime <i>Veronica beccabunga</i> , Water Plantain <i>Alisma plantagoaquatica</i> and Bottle Sedge <i>Carex strata</i> .

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Ruabon/Llantysilio Mountains and Minera	SSSI	3.2 km to the south-west	Designated for its heather moor, limestone and neutral grassland habitats and for its species interest comprising a range of upland breeding birds, rare and uncommon plants and the use of mines and caves by bats. The site is also notified for its geological interest.
Llay Bog	SSSI	3.4 km to the north-east	A small peat bog in an ice hollow in the glacial drift deposits, designated for its botanical interest.



Key

- Site boundary
- Site boundary - 5km buffer
- Areas of Outstanding Natural Beauty
- Sites of Special Scientific Interest (SSSI)

Sites searched for were as follows:

- Sites of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Area of Outstanding Natural Beauty (AONB)

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Project
Heritage Way, Brymbo

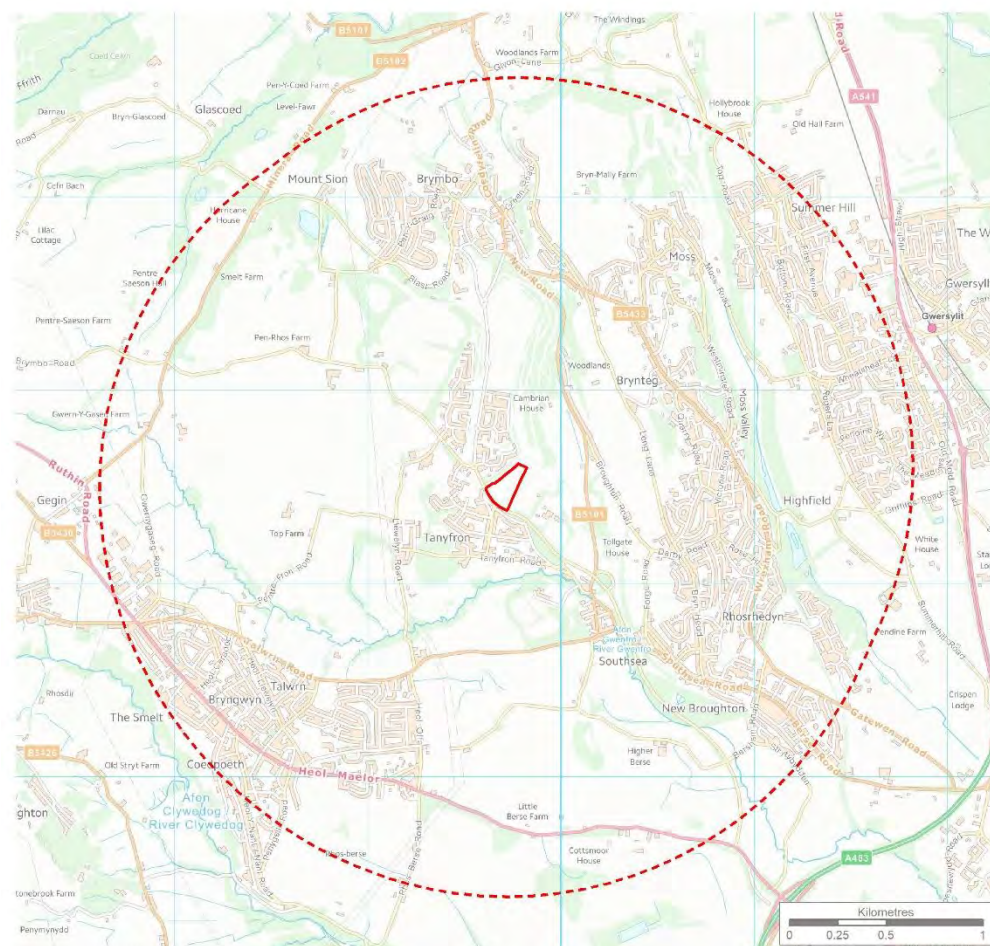
Title
Nationally Designated Sites Within 5km Buffer
Drawing Number
G8576.003
Scale
1:60,000 @ A4 Date
14/01/2021
Drawn
CW Checked
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Figure 3: Nationally Designated Wildlife Sites within 5km of the Site

Statutory Designated Wildlife Sites of Local Importance

- 4.3 There are no statutory locally designated wildlife sites within 2km of the site (Figure 4).



Key
 Site boundary
 Site boundary - 2km buffer

Sites searched for were as follows:
 - Local Nature Reserves

No records found

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Title
 Statutory Locally Designated Sites Within
 2km Buffer

Drawing Number
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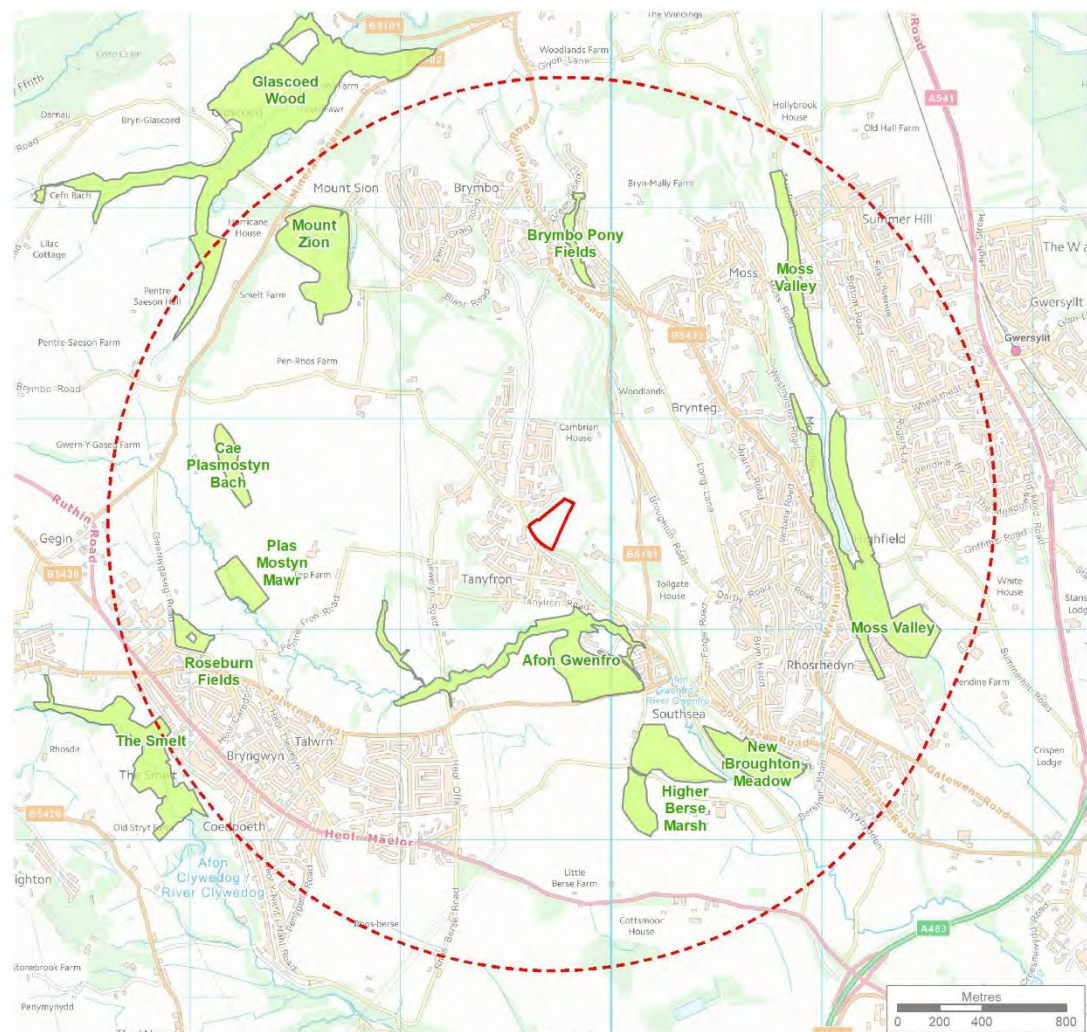
Figure 4: Statutory Locally Designated Wildlife Sites within 2km of the Site

Non-statutory Designated Wildlife Sites of Local Importance

- 4.4 There are 11 non-statutory locally designated wildlife sites within 2km of the site (Figure 5). These are detailed in Table 4 below.

Table 4: Details of Non-statutory Locally Designated Wildlife Sites within 2km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Afon Gwenfro	LWS	0.3 km to the south	Not provided
Higher Berse Marsh	LWS	0.9 km to the south-east	Not provided
Brymbo Pony Fields	LWS	0.9 km to the north	Not provided
Moss Valley	LWS	1.1 km to the east	Not provided
New Broughton Meadow	LWS	1.1 km to the south-east	Not provided
Plas Mostyn Mawr	LWS	1.2 km to the west	Not provided
Cae Plasmostyn Bach	LWS	1.3 km to the west	Not provided
Mount Zion	LWS	1.3 km to the north-west	Not provided
Roseburn Fields	LWS	1.5 km to the west	Not provided
Glascoed Wood	LWS	1.8 km to the north-west	Not provided
The Smelt	LWS	1.9 km to the south-west	Not provided



Key
 Site boundary
 Site boundary - 2km buffer
 Local Wildlife Site (LWS)

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Title
 Non-Statutory Locally Designated Sites
 Within 2km Buffer

Drawing Number
 G8576.008

Scale
 1:25,000 @ A4

Date
 14/01/2021

Drawn JK	Checked CW	Approved CC
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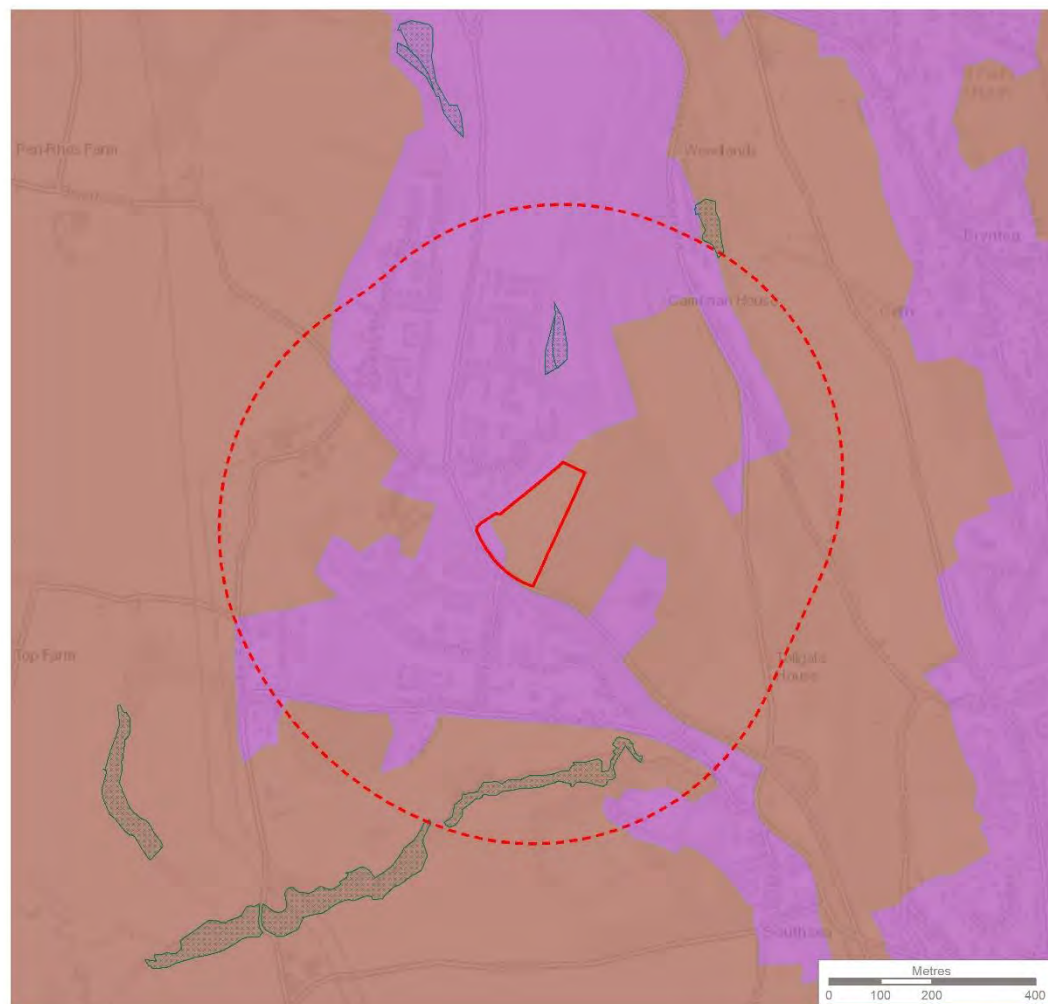
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Figure 5: Non-statutory Locally Designated Wildlife Sites within 2km of the Site

5.0 Habitats

5.1 There are no notable habitats within or immediately adjacent to the site (Figure 6).



Key

- Site boundary
- Site boundary - 500m buffer
- Ancient Woodland
- Mosaic
- Residential/Green Space



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Project
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Title
Notable Habitats Within and Adjacent to the Site

Drawing Number
G8576.005

Scale
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Date
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Figure 6: Notable Habitats within and Adjacent to the Site

6.0 Species

6.1 Numerous species records were returned from COFNOD for within 2km of the site. These are shown in Table 5.

Table 5: Notable Species Records within 2km of the Site

Name of Species	Legislation	Number of Records Returned	Closest Record to Site
<i>Amphibians</i>			
Great crested newt	EPS, WCA5, S7, LBAP	60	0.9 km to the north
Common toad	S7	20	0.3 km to the west
<i>Birds</i>			
Barn owl	WCA1, LBAP	17	Within 2 km of the site
Black grouse	S7, BRd, BRd*	1	Within 2 km of the site
Black-headed gull	S7, BAm, BRd*	86	Within 2 km of the site
Brambling	WCA1, BAm*	6	Within 2 km of the site
Bullfinch	S7, BAm, BRd*	87	Within 2 km of the site
Common gull	BAm, BRd*	16	Within 2 km of the site
Cuckoo	S7, BRd, BRd*	1	Within 2 km of the site
Curlew	S7, BRd, BRd*	3	Within 2 km of the site
Dipper	BAm, BAm*	3	Within 2 km of the site
Dunnock	S7, BAm	126	Within 2 km of the site
Fieldfare	WCA1, BRd, BAm*	10	Within 2 km of the site

Name of Species	Legislation	Number of Records Returned	Closest Record to Site
Grey partridge	S7, BRd, BRd*	1	Within 2 km of the site
Hen harrier	WCA1, S7, BRd, BRd*	3	Within 2 km of the site
Herring gull	S7, BRd, BRd*	30	Within 2 km of the site
House martin	BAm	49	Within 2 km of the site
House sparrow	S7, BRd, BAm*	195	Within 2 km of the site
Kestrel	S7, BAm, BRd*	61	Within 2 km of the site
Kingfisher	WCA1, BAm, BAm*	7	Within 2 km of the site
Lapwing	S7, BRd, BRd*	20	Within 2 km of the site
Lesser black-backed gull	BAm, BAm*	26	Within 2 km of the site
Lesser redpoll	S7, BRd, BAm*	9	Within 2 km of the site
Linnet	S7, BRd, BRd*	19	Within 2 km of the site
Little ringed plover	WCA1	2	Within 2 km of the site
Mallard	BAm, BAm*	79	Within 2 km of the site
Meadow pipit	BAm, BAm*	8	Within 2 km of the site
Mute swan	BAm	5	Within 2 km of the site
Oystercatcher	BAm, BAm*	1	Within 2 km of the site

Name of Species	Legislation	Number of Records Returned	Closest Record to Site
Peregrine	WCA1	4	Within 2 km of the site
Red grouse	S7, BAm, BRd*	1	Within 2 km of the site
Red kite	WCA1, BAm*	3	Within 2 km of the site
Redwing	WCA1, BRd, BAm*	26	Within 2 km of the site
Reed bunting	S7, BAm, BAm*	17	Within 2 km of the site
Shelduck	BAm, BAm*	1	Within 2 km of the site
Skylark	S7, BRd, BAm*	21	Within 2 km of the site
Slavonian grebe	WCA1, BRd, BRd*	1	Within 2 km of the site
Song thrush	S7, BRd, BAm*, LBAP	78	Within 2 km of the site
Spotted flycatcher	S7, BRd, BRd*	1	Within 2 km of the site
Starling	S7, BRd, BRd*	147	Within 2 km of the site
Swift	BAm, BAm*	93	Within 2 km of the site
Teal	BAm, BAm*	1	Within 2 km of the site
Tree sparrow	S7, BRd, BRd*	2	Within 2 km of the site
Wheatear	BAm	2	Within 2 km of the site
Willow warbler	BAm, BRd*	34	Within 2 km of the site

Name of Species	Legislation	Number of Records Returned	Closest Record to Site
Woodcock	BRd, BRd*	2	Within 2 km of the site
Yellowhammer	S7, BRd, BRd*	12	Within 2 km of the site
<i>Invertebrates</i>			
Minutest diving beetle	S7	1	1.0 km to the north
<i>Mammals</i>			
Bats	EPS, WCA5	21	1.3 km to the south-west
Brown long-eared bat	EPS, WCA5, S7	5	1.7 km to the south
Common pipistrelle	EPS, WCA5, S7	16	0.8 km to the north-east
Lesser horseshoe bat	EPS, WCA5, S7, LBAP	18	1.5 km to the south-west
Natterer's bat	EPS, WCA5	1	1.8 km to the south-east
Noctule bat	EPS, WCA5, S7	6	1.2 km to the south-east
Pipistrelle bats	EPS, WCA5	1	1.3 km to the north
Soprano pipistrelle	EPS, WCA5, S7	4	1.5 km to the south-west
Badger	PBA, LBAP	31	Within 2 km of the site
Hedgehog	S7	56	0.1 km to the south
Otter	EPS, WCA5, S7, LBAP	1	1.9 km to the south
Polecat	S7	4	1.4 km to the north-east
<i>Plants</i>			

Name of Species	Legislation	Number of Records Returned	Closest Record to Site
Black poplar	LBAP	1	0.9 km to the
Bluebell	WCA8	22	0.4 km to the east
Himalayan balsam	WCA9	7	1.2 km to the east
Himalayan cotoneaster	WCA9	2	0.9 km to the north
Japanese knotweed	WCA9	19	0.6 km to the west
Japanese rose	WCA9	2	0.9 km to the north
Montbretia	WCA9	1	2.0 km to the north-west
New Zealand pygmyweed	WCA9	3	1.7 km to the north-west
Nuttall's waterweed	WCA9	5	1.2 km to the east
Parrot's-feather	WCA9	3	1.2 km to the east
Variegated yellow archangel	WCA9	2	1.5 km to the north-west
Wall cotoneaster	WCA9	1	2.0 km to the north-east
Water fern	WCA9	1	1.2 km to the east
<i>Reptiles</i>			
Grass snake	WCA5, S7	1	1.6 km to the north-west

APPENDIX B: Phase 1 Target Note Report

Target Notes Report

Survey 8576-1

Target Note TN1

Area of unmanaged modified neutral grassland with scattered scrub. Some evidence of informal public access ie desire lines and recent ground investigations.

<i>Moss sp.</i>	Moss species	A
<i>Achillea millefolium</i>	Yarrow	F
<i>Agrostis capillaris</i>	Common Bent	F
<i>Cynosurus cristatus</i>	Crested Dog's-tail	F
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	F
<i>Plantago lanceolata</i>	Ribwort Plantain	F
<i>Salix caprea</i>	Goat Willow	F
<i>Centaurea nigra</i>	Knapweed	O
<i>Centaureum erythraea</i>	Common Centaury	O
<i>Hypericum sp.</i>	St John's-wort	O
<i>Jacobaea vulgaris</i>	Common Ragwort	O
<i>Juncus inflexus</i>	Hard Rush	O
<i>Medicago lupulina</i>	Black Medick	O
<i>Prunella vulgaris</i>	Selfheal	O
<i>Ranunculus repens</i>	Creeping Buttercup	O
<i>Taraxacum officinale agg.</i>	Dandelion	O
<i>Trifolium pratense</i>	Red Clover	O
<i>Vicia sativa</i>	Common Vetch	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Arrhenatherum elatius</i>	False Oat-grass	R
<i>Betula pendula</i>	Silver Birch	R
<i>Cardamine pratensis</i>	Cuckooflower	R
<i>Carex nigra</i>	Common Sedge	R
<i>Cerastium fontanum</i>	Common Mouse-ear	R
<i>Chamaenerion angustifolium</i>	Rosebay Willowherb	R
<i>Cirsium arvense</i>	Creeping Thistle	R
<i>Dactylorhiza sp.</i>	Marsh-orchid	R
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	R
<i>Festuca rubra</i>	Red Fescue	R
<i>Fraxinus excelsior</i>	Ash	R
<i>Galium aparine</i>	Cleavers	R
<i>Heracleum sphondylium</i>	Hogweed	R
<i>Holcus lanatus</i>	Yorkshire-fog	R
<i>Hypochaeris radicata</i>	Common Cat's-ear	R
<i>Juncus effusus</i>	Soft Rush	R
<i>Mercurialis perennis</i>	Dog's Mercury	R
<i>Quercus robur</i>	English Oak	R
<i>Rosa canina agg.</i>	Dog Rose	R
<i>Rumex acetosa</i>	Common Sorrel	R
<i>Salix fragilis</i>	Crack Willow	R
<i>Trifolium repens</i>	White Clover	R
<i>Tussilago farfara</i>	Colt's-foot	R

Target Note TN2

Area of unmanaged modified neutral grassland between existing palisade fenceline and public footway.

<i>Dactylis glomerata</i>	Cock's-foot	A
<i>Achillea millefolium</i>	Yarrow	F
<i>Plantago lanceolata</i>	Ribwort Plantain	F
<i>Anthriscus sylvestris</i>	Cow Parsley	O
<i>Jacobaea vulgaris</i>	Common Ragwort	O
<i>Ranunculus acris</i>	Meadow Buttercup	O
<i>Vicia sativa</i>	Common Vetch	O

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

<i>Centaurea nigra</i>	Knapweed	R
<i>Cerastium fontanum</i>	Common Mouse-ear	R
<i>Cirsium arvense</i>	Creeping Thistle	R
<i>Dryopteris filix-mas</i>	Male-fern	R
<i>Geranium molle</i>	Dove's-foot Cranesbill	R
<i>Heracleum sphondylium</i>	Hogweed	R
<i>Hypericum sp.</i>	St John's-wort	R
<i>Lolium perenne</i>	Perennial Ryegrass	R
<i>Moss sp.</i>	Moss species	R
<i>Ranunculus repens</i>	Creeping Buttercup	R
<i>Rubus fruticosus agg.</i>	Bramble	R
<i>Rumex obtusifolius</i>	Broad-leaved Dock	R
<i>Trifolium pratense</i>	Red Clover	R
<i>Urtica dioica</i>	Nettle	R

Target Note TN3

Area of young semi-natural broadleaved woodland developing along the western and southern boundaries of the site. Non-native invasive species present.

<i>Salix caprea</i>	Goat Willow	A
<i>Betula pendula</i>	Silver Birch	F
<i>Hedera helix</i>	Ivy	F
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Asplenium scolopendrium</i>	Hart's-tongue	R
<i>Buddleja davidii</i>	Buddleia	R
<i>Cotoneaster sp.</i>	Cotoneaster species	R
<i>Crataegus monogyna</i>	Hawthorn	R
<i>Crocsmia x crocosmiiflora</i>	Montbretia	R
<i>Dryopteris filix-mas</i>	Male-fern	R
<i>Fraxinus excelsior</i>	Ash	R
<i>Geum urbanum</i>	Wood Avens	R
<i>Ilex aquifolium</i>	Holly	R
<i>Pinus sylvestris</i>	Scots Pine	R
<i>Reynoutria japonica</i>	Japanese Knotweed	R
<i>Rosa canina agg.</i>	Dog Rose	R
<i>Sambucus nigra</i>	Elder	R

Target Note TN4

Raised bank (approx. 50cm high) of rubble that runs along the eastern boundary of the site.

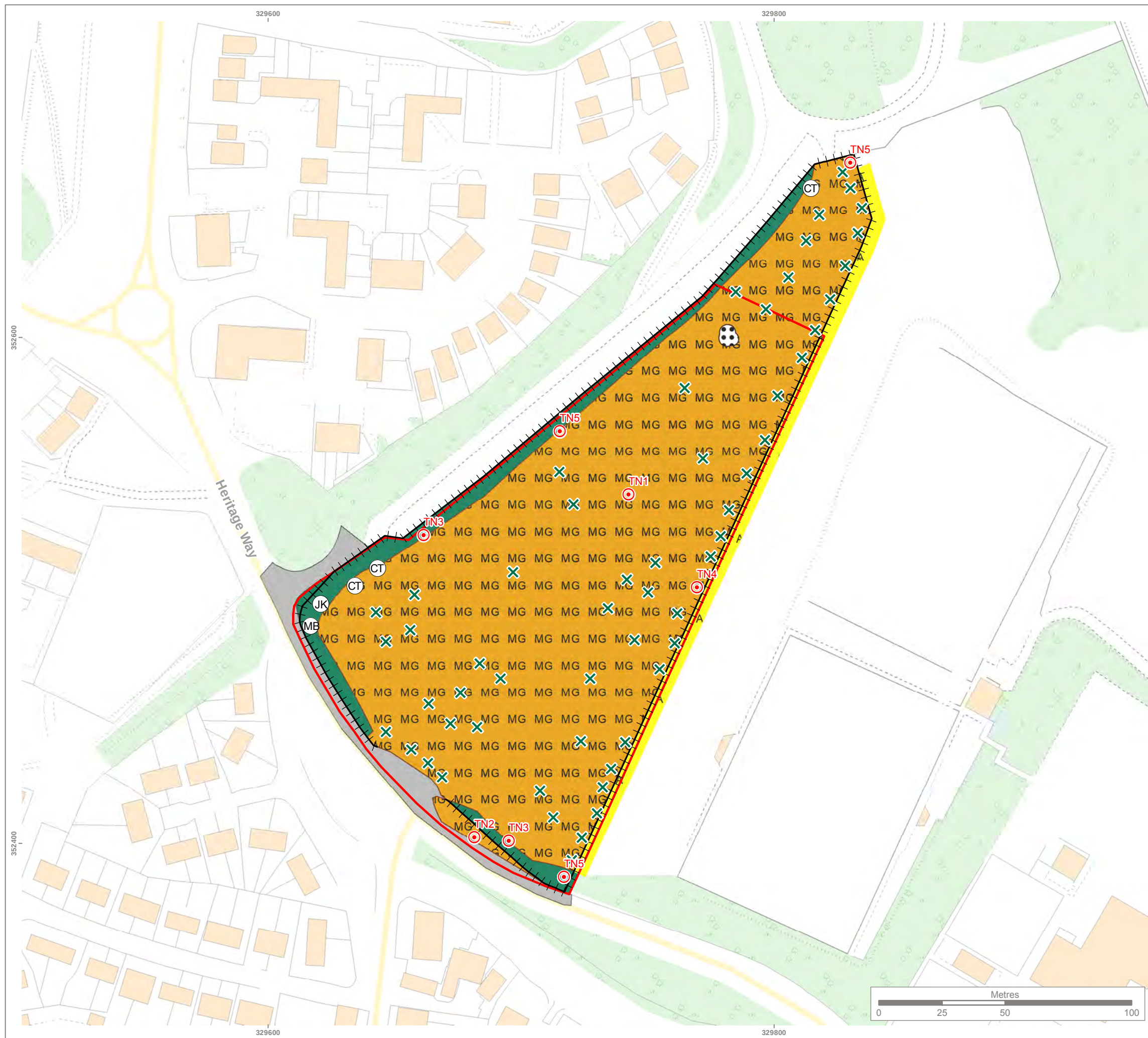
Target Note TN5

Mammal pathways that pass through the site. These are most probably badger but no other field signs were present. In the northern tip of the site the pathways continue off site into young broadleaved woodland to the north and amenity grassland to the north-east.

A pathway runs within the young broadleaved woodland on the western part of the site and continues along the south-east section of similar habitat before exiting the site under a fenceline in the south-east corner of the site.

DRAWINGS

Phase 1 Habitat Survey G8576.007

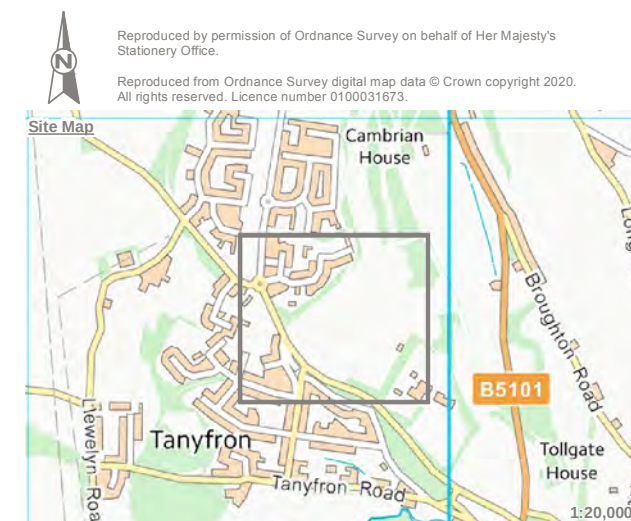


KEY

- Site boundary
- Target note
- CT Cotoneaster
- JK Japanese knotweed
- MB Montbretia
- X Scattered scrub
- Fence
- Semi-natural broad-leaved woodland
- MG MG Modified neutral grassland
- A A Amenity grassland
- Bare ground
- Hardstanding

Note:

The locations of habitats and habitat features are indicative.



Rev	Description	Drawn	Approved	Date



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