







Land south of Bryn Lane

Wrexham

Ecological Impact Assessment

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Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

Executive Summary

Site Details	The site is approximately 3.72 hectares, located within an industrial estate. It comprises a mix of semi-improved grassland, native species rich hedgerows, scrub and scattered broadleaved trees. Historically used for manufacturing purposes, it has since become grazed grassland. Other features include a masonry formed drain in the southwestern corner and a derelict disused bunker in the northeast corner. The approximate central grid reference is SJ 38450 50752
Proposals	▸ The site application boundary measures 14,564 sq. m (GIA) of employment floorspace (Use Classes B2 and B8) alongside ancillary office floorspace (Use Class B1a) ▸ 146 car parking spaces (including 15 disabled car parking spaces) ▸ 30 cycle parking spaces within an external cycle store ▸ New landscaping ▸ Retention and enhancement of a Strategic Ecological Network around the southern and eastern perimeter of the Site ▸ Improved access off Byrn Lane and new internal circulation roads
Designated wildlife sites	▸ There are no designated sites within or directly adjacent to the site boundary. ▸ However, as the site falls within the impact zone of Afon Dyfrdwy SSSI, further consultation will be required with Natural Resources Wales. ▸ The scheme falls within a single IRZ for the River Dee (England). The proposals do not meet any of the risk parameters identified for this IRZ.
Important Ecological Features present within or adjacent to the site	▸ There are parcels of trees and scrub that have potential for foraging birds, located in east, south and west, which should be retained or enhanced where possible as part of the development. ▸ There is potential for amphibians, badgers, bats, nesting birds, reptiles, and hedgehog to be present within the site. ▸ The disused bunker has been surveyed in summer 2024 for roosting bats. ▸ Hibernation surveys of the bunker are on-going.

Conclusions	The following recommendations are made to ensure that delivery of the project remains compliant with relevant legislation and policy: • Standard pollution prevention and dust control measures should be set out in a contractors Construction Environmental Management Plan (CEMP) and implemented during site clearance and construction works • Any trees adjacent to the site boundary should be protected from incidental damage and disturbance during construction in accordance with current standards (BS5837:2012). • A Precautionary Working Method Statement (PWMS) should be produced for the protection of species on site including amphibians, badger, and nesting birds as a minimum prior to any proposed works commencing. • Supervision from a licensed Ecological Clerk of Works (ECoW) will be required during both pre and during construction to avoid impacts of protected and priority species. • Vegetation and wall clearance should be completed outside of the nesting period (typically taken to be March to August inclusive). • The protection and enhancement of the Strategic Ecology Network through proposals to improve the biodiversity of the site, inclusion of a wildlife pond, additional native species planting and erection bat and bird boxes. The introduction of these features will contribute to the Favourable Conservation Status of GCN within the Wrexham Ind Estate.

This Executive Summary is not a substitute for the full report. Refer to the full text of this report for further detail.

Contents

Page

1.0 INTRODUCTION 1

Scheme Location 1

Proposals 2

Planning Context 2

Scope 3

2.0 METHODS 5

Desk Study 5

Limitations 7

Habitats and Flora 7

Habitat Survey 7

Limitations 7

Fauna 8

Limitations 8

Limitations 9

Ecological Assessment Process 10

Assumptions 11

3.0 RESULTS 12

Wildlife Sites 12

National Sites Network 12

Other Statutory Wildlife Sites 12

Local Wildlife Sites 12

Other Wildlife Designations / Consultation Zones 13

Habitats and Flora 13

Pre-existing Data 13

Semi-improved Neutral Grassland 14

Scattered Broad-leaved Trees 15

Hedgerows with trees (Species poor) 16

Tall Ruderal and Scattered scrub 17

Plantation 18

Buildings 19

Bare ground with ephemeral short perennial 20

Running Water (Eutrophic Drain) 20
Wet Ditch 21
Notable or Invasive Flora 21
Habitat Connectivity 22
Fauna 22
Amphibians 22
Bats 23
Badger 25
Birds 25
Invertebrates 26
Reptiles 27
Hedgehog 27
Other Relevant Species 27
4.0 ASSESSMENT OF POTENTIAL IMPACTS 28
5.0 MITIGATION AND ENHANCEMENT 32
Flora 33
6.0 CONCLUSIONS 38

Figures

Figure 1: Scheme location 2
Figure 2: Semi-improved neutral grassland in the centre of the site 15
Figure 3: Scattered Broad-leaved trees across the site 16
Figure 4: Hedgerows with trees (Species poor) at the south-eastern boundary 17
Figure 5: Native species rich hedges and trees at the north of the site 17
Figure 6: Tall ruderals at the north of the site 18
Figure 7: Scattered scrub 18
Figure 8: Plantation area at the southeast of the site 19
Figure 9: Derelict building at the northeast of the site 19
Figure 10: Bare ground with ephemeral short perennial 20
Figure 11: Drainage Ditch at the south of the site 21
Figure 12: Wet ditch at the eastern boundary 21

Tables

Table 1: Categorisation of suitability of tree PRF's for roosting bats (taken from the BCT Good Practice Guidelines, Collins J, 2023 9

Table 2: Summary of key habitat features with Scheme 13

Table 3: Preliminary bat roost assessment 24

Annexes

Annex A: Desktop Study

Annex B: Development Proposals

Annex C: Annex C: eDNA results letter 2024 1040068-10204

Annex D: Target Notes

Annex E: 10204.003 Bat Survey Report

Drawings

Drawing 1: Phase 1 Habitat Survey Map (Ref G10204.007A)

1.0 Introduction

1.1 The Environment Partnership (TEP) was commissioned by Mauna Kea Limited in September 2023 to undertake an Ecological Impact Assessment (EcIA) to support of a proposed development at Land South of Bryn Lane, in Wrexham (hereafter referred to as 'the Scheme').

1.2 An Ecological Desk Study (Annex A) has been produced to support this EcIA, reported under separate cover (TEP Ref: 10204.001). This EcIA report should read in conjunction with the Desk Study.

1.3 This EcIA report includes details of the methods employed and any limitations of the surveys undertaken. Results are provided with supporting maps, together with an evaluation of the ecological features within the Scheme, an assessment of the potential impacts associated with the development proposals and requirements for mitigation. The assessment has been undertaken with due consideration for current best practice guidelines (CIEEM 2017a[1], 2018[2]).

Scheme Location

1.4 The site falls within the Wrexham Industrial Estate and is bounded by Bryn Lane to the north and a range of employment uses to the east, west, and south. Adjacent uses include warehouses used for leisure, distribution, manufacturing, and storage alongside the Kellogg's Factory which occupies a substantial footprint to the south-east of the Site.

1.5 The site was historically used for manufacturing purposes and has since become grassland, which was previously grazed, alongside vegetation and trees. Other features on site include an area of sloping masonry forming a drain in the south-western corner, a disused concrete bunker in the north-eastern corner, and redundant fencing. The location of the site is depicted by the red line shown in Figure 1. The approximate central grid reference of the site is SJ 38450 50752.

[1] CIEEM (2017a) Guidelines for Ecological Report Writing, 2nd Edition. Chartered Institute of Ecology & Environmental Management

[2] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester



Figure 1: Scheme location

Proposals

1.6 The Proposed Development will deliver high quality employment floorspace, housed within a single building alongside an improved access off Bryn Lane and landscaping. These are shown in Appendix B.

Planning Context

1.7 Relevant information regarding local planning policy is provided in the Ecological Desk Study (TEP Ref 10204.001) in Appendix A.

1.8 The Wrexham Unitary Development Plan 1996 – 2011 (Adopted 14th February 2005) included the following policies which relate to biodiversity and nature conservation:

- Policy PS11 – Biodiversity
- Policy GDP1 – Development Objectives
- Policy EC1 - Green barriers
- Policy EC4 - Hedgerows, Trees and Woodland
- Policy EC6 - Biodiversity Conservation

1.9 Wrexham County Borough Council adopted a new Local Development Plan (LDP) in December 2023. The following policies relate to biodiversity and nature conservation:

- Policy SP6: Green Wedge;
- Policy SP9: Wrexham Industrial Estate;
- Policy SP10: KSS3: Land to the north of Bryn Lane, Wrexham Industrial Estate;
- Policy SP14: Natural Environment;
- Policy SP18: Climate Change;
- Policy SP19: Green Infrastructure;
- Policy NE1: International and National Nature Conservation Designations
- Policy NE2: Local Designations for Nature Conservation and Geological Importance
- Policy NE3: Trees, Woodlands and Hedgerows; and
- Policy NE6 - Waste Water Treatment and River Water Quality.

1.10 The site and adjacent land is not allocated for biodiversity purposes. Under either of these plans.

Local Planning Guidance Notes

1.11 The Councils Local Planning Guidance Notes can be viewed at the following link: *https://www.wrexham.gov.uk/service/development-plans-and-other-planning-policy/local-planning-guidance-notes*

Scope

1.12 This ecological assessment considers potential ecological effects upon any notable habitats or species which may be present or adjacent to the Scheme.

1.13 This report provides baseline information on the habitats and protected species present on site, gathered during November 2023 and updated walkover June 2024:

- An ecology desk study (TEP Ref: 10204.001; Appendix A);
- Extended Phase 1 habitat survey / UKHab & Conditions Assessment Survey;
- Preliminary Ground-based Tree Assessment for Bats

1.14 This report presents the findings of the Ecological Impact Assessment, the objectives of which are to:

- Detail the methods and results of the aforementioned surveys;
- Identify features of ecological value within the Scheme, such as legally protected species or habitats of importance to biodiversity;
- Identify any non-native invasive species within the Scheme and provide advice regarding removal or management;

- Advise on avoidance or mitigation requirements that may be needed prior to development commencing; and
- Provide outline recommendations for biodiversity enhancement within Scheme proposals in accordance with the National Planning Policy Framework (NPPF).

2.0 Methods

Desk Study

2.1 In line with current best practice (CIEEM, 2016[3], 2017b[4]), information regarding designated sites, notable habitats and existing protected and notable species records of the past decade, within a 1km minimum radius of the Scheme was collated and reviewed to inform this ecological assessment. Further detail regarding ecological zones of influence (EZOI) applied for different ecological features and the sources of information included are presented in the Ecological Desk Study (TEP Ref 10204.001).

2.2 In brief, key data sources included Natural Resources Wales (NRW), Environment Agency (open source data); Wrexham County Borough Council (WCBC) , Wrexham County Borough Council adopted a new local plan (Adopted December 2023)[5] and other relevant planning documentation such as the Welsh Government Nature recovery action plan – Our Strategy for Nature 2015[6] and Nature Recovery Action Plan 2020-21, North Wales Environmental Information Service (COFNOD) and Wrexham Local Biodiversity Action Plan and a review of relevant (within the past ten years) species records. A review of previous surveys and reports relating to planning applications within 1.5km of the site from the Wrexham Borough Council's planning portal was also completed.

2.3 Statutory designated wildlife sites were searched for as follows (EZOI applied for each is indicated in brackets):

- Ramsar sites (10km);
- National Sites Network (10km), includes Special Areas of Conservation (SAC) and Special Protection Areas (SPA);
- Site of Special Scientific Interest (SSSI) (5km);
- National Nature Reserve (NNR) (5km); and
- Marine Nature Reserve (MNR) (5km);
- Local Nature Reserves (LNR) (2km).

2.4 Non-statutory designated wildlife sites were searched for within 2km of the Scheme and these may include:

[3] CIEEM (2016) Guidelines for Accessing and Using Biodiversity Data. Chartered Institute of Ecology & Environmental Management

[4] CIEEM (2017b) Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology & Environmental Management

[5] *Wrexham Unitary Development Plan https://www.wrexham.gov.uk/sites/default/files/2023-04/udp-statement.pdf* (Accessed November 2023

[6] Our Strategy for Nature 2015 *https://www.gov.wales/sites/default/files/publications/2019-05/nature-recovery-action-plan-2015.pdf* (Accessed November 2023)

- Site of Nature Conservation Interest (SNCI)
- Site of Importance for Nature Conservation (SINC)
- Local Wildlife Site (LWS)

2.5 Regionally Important Geological Sites (RIGS) are also identified in the search results provided by COFNOD, but assessment of RIGS and other geological features do not fall within the scope of this EcIA and are not discussed further.

2.6 Notable habitats were searched for within 500 metres of the Scheme. Notable habitats may include those listed under any of the following:

- Ancient woodland;
- Main rivers;
- Habitats of principal importance (HPI) as listed by the requirements of Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006[7]; and
- Protected species listed under Schedule 2 (animals) or Schedule 5 (plants) under the Conservation of Habitats and Species Regulations 2017 (EPS); and
- Species of principal importance (SPI) listed by requirements under Section 7 of the Environment (Wales) Act 2016;
- Local Biodiversity Action Plan Habitats (LBAP).

2.7 Pre-existing records for notable species were reviewed from the combined data sources, where found from within approximately 2km of the Scheme. Notable species include those listed under any of the following:

- 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);
- Invasive Alien Species (Enforcement and Permitting) Order 2019 (IAS);
- Protection of Badgers Act 1992 (PBA);

[7] Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

- Species of principal importance (SPI) listed by requirements under Section 7 of the Environment (Wales) Act 2016;
- Red and Amber listed Birds of Conservation Concern in Wales (BAm/BRd); and
- Local Biodiversity Action Plan Species (LBAP-W).

Limitations

2.8 Species records can provide a useful indication of the species present within the search area, although the absence of a given species from the dataset cannot be taken to represent actual absence.

Habitats and Flora

Habitat Survey

2.9 An extended Phase 1 habitat survey was undertaken on 8th November 2023 by a competent ecologist (Level 4 FISC)[8] with a repeat survey in June 2024 . The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC, 2010[9]), UK Habitat Classification (UKHab) assessment method[10] and Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017b[11]). The method records the habitat types present, within the survey area, based on the JNCC/UKHab descriptions. Plant species were identified in accordance with the New Flora of the British Isles (Stace, 2019[12]) and recorded as target notes using the DAFOR[13] scale, where relevant.

2.10 Habitats are displayed with the Scheme boundary on Phase One Drawing (G10204.007A)

Limitations

2.11 Any ecological survey represents a snapshot of ecological conditions at the time of survey; ecological conditions may change over time. Efforts to identify dominant plant species for the purposes of characterising broad habitat types do not constitute a detailed botanical survey. The timing of this survey was outside the optimum survey time of April to mid-October. However, the flora was still visible at this time, due to the mild nature of the weather, leading up to and on the day of survey. A repeat survey visit was carried out in June 2024.

[8] A national skills certification scheme operated by Botanical Society of Britain and Ireland. FISC 4 is the competency level recommended for Biodiversity Net Gain (BNG) field assessments

[9] JNCC (2010) Handbook for Phase 1 Habitat Survey – a technique for environmental audit

[10] The UK Habitat Classification User Manual Version 1.1 September 2020

[11] CIEEM (2016) Guidelines for Accessing and Using Biodiversity Data. Chartered Institute of Ecology & Environmental Management

[12] Clive Stace (2019) New Flora of the British Isles

[13] DAFOR = Dominant, Abundant, Frequent, Occasional & Rare

Fauna

2.12 Ordnance Survey maps and aerials were reviewed to identify potentially suitable habitats offsite within influence (e.g., dispersal distances for mobile species) of the Scheme. The Ecological Desk Study identified any pre-existing records for protected and notable species within at least 2km of the Scheme.

2.13 The habitat survey included an extended assessment of the habitats present for their potential to support notable or protected wildlife species, as described at paragraph 2.7**Error! Reference source not found.**. Any signs indicating the presence of these species were recorded.

2.14 In combination, this data informed the ecological evaluation of the Scheme and impact assessment for the proposed development.

Limitations

2.15 The Ecological surveys were completed within appropriate seasons over appropriate periods in accordance with industry standards for the specific survey. Nevertheless, the surveys will only identify habitats present within the site at the time of surveys. Additionally, the species investigated are mobile and will move into and out of areas over time. For these reasons a precautionary approach has been taken in the prediction of impacts. Where there is any doubt, except where specifically noted, species are assumed to be present, and the impact assessment assumes a higher level of significance (within the spectrum of possible significance).

Preliminary Roost Assessment for Bats

2.16 A daytime survey of the disused derelict bunker on site was carried out on the 20th August 2024 by an experienced TEP ecologist. Full details are provided at Annex E.

Ground Level Tree Assessment for Bats (GLTA)

2.17 A ground-based assessment of the trees within the site boundary was carried out to determine their suitability to provide bat roost habitat. These assessments were undertaken at the same time as the Phase 1 Habitat Survey. The habitats on site and surrounding the site were also assessed for potential to support roosting, foraging and commuting bats.

2.18 The GLTA involved the surveyor using close focussing binoculars to search from the ground for any Potential Roost Features (PRFs), which may be used by bats. Most tree roosts are created by 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).

2.19 Following the GLTA, the trees within the site were categorised in accordance with the criteria for roost habitat assessments identified in the Bat Conservation Trust (BCT) 2016 Good Practice Guidelines (Collins). Bat roost habitat suitability categorisation details are described in Table 2. Roost habitat suitability categorisation takes into consideration parameters such as location, habitat connectivity, materials, condition and aspect of structures and trees.

Table 1: Categorisation of suitability of tree PRF's for roosting bats (taken from the BCT Good Practice Guidelines, Collins J, 2023

Tree PRF Suitability	Further Requirements
Negligible	No survey requirements.
PRF - I (PRF is only suitable for individual bats, or very small numbers of bats, either due to size or lack of suitable surrounding habitat)	No further surveys required. Appropriate compensation required for each PRF-I, prior to impacts. Supervision of works and a precautionary inspection of the PRFs to be completed by a bat licenced consultant.
PRF - M (PRF is suitable for multiple bats and may therefore be used by a maternity colony.)	Three aerial PRF inspections of the PRF-M features to be undertaken within May – September, spaced three weeks apart. Where access is not possible for aerial inspection either by ladder or MEWP, or features are too extensive to survey thoroughly, three dusk emergence surveys will be carried out, supported with night vision camera aids.

Limitations

2.20 There are no seasonal constraints for undertaking preliminary bat roost assessments of trees. However, the optimal period to undertake this survey of trees is between December and March when trees are out of leaf. This survey was undertaken just outside of the optimal period, in November when trees were in partial leaf. Surveys from ground level also often have restricted visibility of features higher up in a tree, where a good view to assess the viability of a feature can be limited. Where visibility was obscured, a precautionary assessment was made.

Ecological Assessment Process

2.21 This EcIA follows the published guidelines (CIEEM, 2018) and accepted best practice approach (BS42020:2013[14]) of the mitigation hierarchy whereby impacts are first avoided or, where this is not possible, reduced or mitigated or, as a last resort, compensated.

2.22 In summary, the following procedure was undertaken during this EcIA:

- Describe the baseline and identify important ecological features;
- Describe important ecological features and identify those which may potentially be affected by the Scheme;
- Identify potential impacts upon important ecological features and characterise the effect of such impacts (in respect of biophysical changes and taking account of relevant aspects of ecosystem structure or function);
- Incorporate measures to avoid or reduce these effects;
- Determine whether residual ecological effects are considered significant after avoidance or mitigation;
- Identify appropriate compensation measures to offset significant residual effects; and
- Identify opportunities for ecological enhancement.

2.23 Important ecological features are identified and valued, ecological impacts are characterised and assessed, and recommendations for appropriate mitigation, compensation and enhancement are made, in accordance with CIEEM guidance.

2.24 BS42020:2013 defines a significant effect as one "which is important, notable, or of consequence, having regard to its context". CIEEM describes significance as "a concept related to the weight that should be attached to effects when decisions are made". CIEEM defines an ecological effect as significant if it is "sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project".

2.25 BS42020:2013 sets out a practical approach to determining the significance of an ecological effect, applicable at all levels of decision making in legal and policy terms, as follows:

- will the effect on biodiversity influence the balance of planning considerations and therefore the decision as to whether planning permission is likely to be refused or granted; and
- if planning permission is granted, is the effect important enough to warrant the use of planning conditions and/or obligations to guarantee proposed measures or to impose restrictions, or to

[14] British Standards Institution (2013) BS 42020:2013: Biodiversity — Code of practice for planning and development. BSI Standards Limited, London

seek further requirements (e.g., for mitigation, compensation, enhancement, monitoring or management).

2.26 Significance is therefore assessed on a case-specific basis according to the importance of the ecological feature (wildlife site, habitat or species) within the conservation hierarchy, and the effect upon it.

Assumptions

2.27 Information provided by third parties, including publicly available information, is assumed to be correct at the time of publication.

3.0 Results

Wildlife Sites

National Sites Network

3.1 Full details regarding designated sites are provided within the Ecological Desk Study (TEP Ref 10204.001).

3.2 There are four sites within the National Sites Network located within 10km of the site. These are:

- Afon Dyfrdwy a Llyn Tegid (Wales) Special Area of Conservation (SAC) located approximately 3.5km east of the site.
- Midland Meres & Mosses Phase 2 RAMSAR located approximately 3.7km northwest of the site.
- Johnstown Newt Sites (Wales) SAC located approximately 8km southwest of the site.
- River Dee and Bala Lake (England) SAC located approximately 8.4km northeast of the site

Other Statutory Wildlife Sites

3.3 There are five Sites of Special Scientific Interest (SSSIs) within the National Sites Network located within 5km. These are:

- Afon Dyfrdwy (River Dee) (Wales) located approximately 3.1km east
- Vicarage Moss (Wales) located approximately 3.7km northwest
- Dee Cliffs, Farndon (England) located approximately 4.4km northeast
- Sontley Marsh (Wales) located approximately 5.0km southwest

3.4 SSSI Impact Risk Zones (IRZ) highlight the potential for effects on a SSSI if certain types of development are planned within a specified radius of it. The site falls within a single IRZ for the River Dee (England). The proposals do not meet any of the risk parameters identified for this IRZ.

Local Wildlife Sites

3.5 There are two non-statutory local wildlife sites identified within 1km of the site. Of most relevance are the following:

- Wrexham Industrial Estate – Approximately 0.6km southwest – This is a series of sites within the industrial estate. Habitats include unmanaged grassland, ancient broad-leaved woodland, a mosaic of scrub, species-rich grassland and tall herb with species of interest including dyers greenweed *Genista tinctoria* and grass vetchling *Lathyrus nissolia*.
- Cefn Park – 1.5km Southwest – Fen and semi-natural broad-leaved woodland.

Other Wildlife Designations / Consultation Zones

3.6 The site lies within one SSSI Impact Risk Zone (IRZ), for River Dee (England) SSSI. SSSI Impact Risk Zones (IRZ) highlight the potential for effects on a SSSI if certain types of development are planned within a specified radius of it.

Habitats and Flora

Pre-existing Data

3.7 The Desk Study identified the following notable habitats on, adjacent to or connected with the site:

- One record of a veteran oak *Quercus sp.* tree (Tree ID 13793) approximately 60 metres to the east of the site boundary, registered by the Woodland Trust.

3.8 Protected and notable flora records were also returned within 2 km of the site include:

- Pennyroyal *Mentha pulegium* - BAP, S7, WCA8
- Bluebell *Hyacinthoides non-scripta* - WCA8

3.9 Non-native invasive species returned from within 2km of the site include:

- Himalayan Balsam *Impatiens glandulifera* - WCA9
- Himalayan Cotoneaster *Cotoneaster simonsii* - WCA9

3.10 Habitats of ecological value present in and around the site are described below and illustrated in Drawing G10204.007. Target notes (TN) illustrative of the habitats described are provided in Appendix A.

Table 2: Summary of key habitat features with Scheme

Habitat Type *(corresponding JNCC Phase 1 habitat type)*	Sum of area _ha or length in m
Semi-improved Neutral Grassland	3.21ha
Scattered Broad-leaved trees	-
Hedgerows with trees (Species poor)	58m

Habitat Type *(corresponding JNCC Phase 1 habitat type)*	Sum of area _ha or length in m
Native species rich hedges and trees	152m
Tall Ruderal	0.01ha
Scattered Scrub	0.15ha
Plantation	0.22ha
Buildings	0.02ha
Bare ground with ephemeral short perennial	0.05ha
Wet Ditch/Standing water	0.05ha

Semi-improved Neutral Grassland

3.11 The site is dominated by two large open, previously grazed semi-improved neutral grasslands TN2. A redundant fence divides the fields (see Drawing 10204.007A). This area has an abundant mix of common grasses such as creeping bent *Agrostis stolonifera*, Yorkshire-fog *Holcus lanatus*, annual meadow-grass *Poa annua*, rough meadow-grass *Poa trivialis*, creeping buttercup *Ranunculus repens*, broad-leaved dock *Rumex obtusifolius*, red clover *Trifolium pratense.*



Figure 2: Semi-improved neutral grassland in the centre of the site

Scattered Broad-leaved Trees

3.12 A number of scattered broad-leaved trees are present along the northern boundary edge of the site. Some trees lie outside the boundary fence with overhanging branches. Trees here include, wild cherry *Prunus avium*, ash *Fraxinus excelsior*, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* with the occasional beech *Fagus sylvatica* and oak *Quercus sp*.

3.13 On the northwestern part of the boundary (TN3) is a small area of plantation woodland with the dominant species being hawthorn with an understorey of bramble. All trees here range between young to mature in age.

3.14 On the edge of the site at the southern boundary (TN5) is a linear woodland buffer situated just outside of the site, containing a mixture of tree and scrub that provides a useful wildlife corridor. There are three small copse areas on the eastern edge dominated by blackthorn with the exception of an occasional mature hawthorn (TN7).



Figure 3: Scattered Broad-leaved trees across the site

Hedgerows with trees (Species poor)

3.15 A number of scattered broad-leaved trees are present within a hedgerow along the northern boundary edge of the site. Some trees lie outside the boundary fence with overhanging branches. Trees here include wild cherry, ash, beech and oak. The trees range between in age from semi-mature to mature.

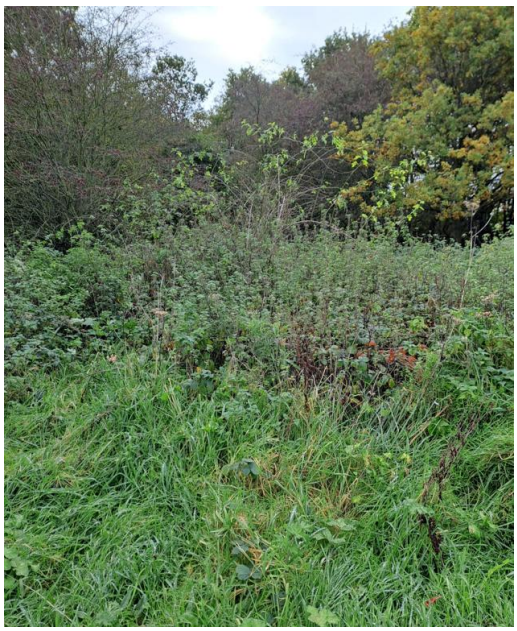


Figure 4: Hedgerows with trees (Species poor) at the south-eastern boundary

Native species rich hedges and trees rows with trees

3.1 A number of scattered broad-leaved trees are present within a hedgerow along the northern boundary edge of the site. Some trees lie outside the boundary fence with overhanging branches. Trees range from, hawthorn, wild cherry, ash, beech and oak. The trees range between in age from semi-mature to mature.



Figure 5: Native species rich hedges and trees at the north of the site

Tall Ruderal and Scattered scrub

3.2 At the north of the site adjacent to the B5130 road forming a linear line to the edge of the field parcel TN3 is an area of scrub with tall ruderal herbs and grasses. This area has an abundant mix of tall ruderals such as: blackthorn, bramble, meadowseet species *Spiraea sp*, nettle and occasional hogweed *Heracleum sphondylium* and spear thistle *Cirsium vulgare*.



Figure 6: Tall ruderals at the north of the site

3.3 Self-seeding scattered scrub was noted along the south TN4 and TN5 and northeast of the site TN8. Species include hawthorn, hogweed, bramble, dog rose Rosa canina agg and elder Sambucus nigra.



Figure 7: Scattered scrub

Plantation

3.4 There are two small plantation areas within the site. One at the north of the site TN3 and the other at the south of the site TN6 consisting of immature hawthorn and goat willow *Salix caprea*.



Figure 8:Plantation area at the southeast of the site

Buildings

3.5 At the time of the survey, there was one derelict building (B1), just outside the construction boundary of the site constructed of breezeblock and concrete, with a flat roof.



Figure 9: Derelict building at the northeast of the site

Bare ground with ephemeral short perennial

3.6 The areas surrounding the man-made ditch contains bare ground with ephemeral short perennial vegetation habitat (TN4) are present at the site, on areas containing a mixture of wood mulch and soil. creeping bent *Agrostis stolonifera*, cock's-foot *Dactylis glomerata*, Yorkshire fog *Holcus lanatus*, annual meadow-grass *Poa annua* and numerous moss species *Moss sp*. were among the plant species noted in this habitat.



Figure 10: Bare ground with ephemeral short perennial

Running Water (Eutrophic Drain)

3.7 Parcel of land, fenced from TN2. Contains a man-made drain/ditch surrounded by scrub vegetation. Evident that this area is managed, possibly for maintenance purposes, resulting in numerous log piles. The drain is an engineered, sloped, stoned bank, providing no opportunities for burrowing. The ditch enters the site from the west, meanders round and exits to the east. The central area within the ditch has abundant greater reedmace *Typha latifolia*, fools' watercress *Helosciadium nodiflorus* and New Zealand pygmyweed *Crassula helmsii*.



Figure 11: Drainage Ditch at the south of the site

Wet Ditch

3.8 A wet ditch ran along the eastern part of the boundary, adjacent to the fence line. At its deepest section, the ditch had approximately four to five inches or water.



Figure 12: Wet ditch at the eastern boundary

Notable or Invasive Flora

3.9 New Zealand pygmy weed (invasive) was noted on site in the south of the site TN4.

Habitat Connectivity

3.10 The habitats within the site are relatively well connected to the wider landscape through scrub and hedgerow habitats, which provide connectivity to areas of woodland and arable land within the vicinity of the site.

Fauna

3.11 The potential for the site to support legally protected and notable species has been assessed using the results of the desk study and observations made during the site survey of habitats within and immediately surrounding the site. Habitats present within the Site are suitable for the following species; further consideration is given below to the likelihood for these species to be present within the site:

- Amphibians;
- Bats;
- Badger;
- Birds;
- Invertebrates
- Reptiles; and
- Hedgehog

Amphibians

3.12 No evidence of amphibians was found on site. There are at least six bodies of water within 500m of the site boundary.

3.13 There were eighty-one records of newt species returned within 2km of the site, with twenty-five records those being great crested newt *Triturus cristatus*. The nearest great crested newt record was located 100m northeast of the site boundary.

3.14 There were eleven records of common toad *Bufo bufo* and seventeen records of common frog *Rana temporaria*.

3.15 The majority records of amphibians were recorded to the south of the site boundary where there is site is connected by a woodland corridor. There is a man-made drainage ditch that runs to the south of the site, entering from the west and leaving site from the east.

3.16 There is suitable breeding habitat for amphibians in respect of the drainage ditch. There were also piles of cleared brash and scrub that could provide suitable hibernacula for amphibians. No evidence of amphibians was found on site.

Bats

3.17 Records of at least eleven species of bat (Myotis genus could include multiple species) were returned within the data search from within 2km of the site:

- Brandt's Bat *Myotis brandtii*
- Brown Long-eared Bat *Plecotus auritus*
- Common Pipistrelle *Pipistrellus pipistrellus*
- Daubenton's Bat *Myotis daubentonii*
- Lesser Horseshoe Bat *Rhinolophus hipposideros*
- Whiskered/Brandt's Bat *Myotis mystacinus/brandtii*
- Whiskered Bat *Myotis mystacinus*
- Myotis Bat species *Myotis*
- Natterer's Bat *Myotis nattereri*
- Noctule Bat *Nyctalus noctula*
- Soprano Pipistrelle *Pipistrellus pygmaeus*

3.18 No bats were recorded on or adjacent to the site. The closest bat records were Myotis Bat species which were recorded 300m east of the site.

3.19 Trees are present along all sides of the site boundary and were assessed for bat roost suitability. The site itself does offer suitability for commuting/foraging bats, however no trees were assessed as having roost potential.

3.20 The building present on site at the northeast side was not assessed for bat roost suitability, due to not having access in November 2023 and June 2024. However, access has now been gained and inspections have proceeded in August 2024, further details at paragraph 4.8. Full details are set out at Annex E.

3.21 All bat species are EPS and WCA5, with the Lesser Horseshoe also listed as an LBAP-W species, therefore, further consideration with regards to bats is required.

Table 3: Preliminary bat roost assessment

Tree Reference	Description	Photographs
T1	Oak on the north just outside of fenced area Holds low suitability due to the lack of features PRF - I (PRF is only suitable for individual bats, or very small numbers of bats, either due to size or lack of suitable surrounding habitat) **Roosting Suitability:** Low (summer) Negligible (hibernation)	
T2	Crack Willow on the northeast bounded by a security fence on the east side. Holds low suitability, however has dense ivy cover and broken bough PRF - I (PRF is only suitable for individual bats, or very small numbers of bats, either due to size or lack of suitable surrounding habitat) **Roosting Suitability:** Low (summer) Negligible (hibernation)	

Tree Reference	Description	Photographs
		

Badger

3.22 [redacted]

3.23 The habitats on site of grazing fields, surrounded by further arable fields to the north, do provide suitable habitats for foraging, however no evidence of badger setts was recorded within the site or adjacent to the site during the Phase 1 habitat survey.

Birds

3.24 No records of birds were recorded from within the site boundary. WCA1 birds recorded within 2km of the site are:

- Barn Owl *Tyto alba*
- Cetti's Warbler *Cettia cetti*
- Crossbill *Loxia curvirostra*
- Fieldfare *Turdus pilaris*
- Goshawk *Accipiter gentilis*
- Green Sandpiper *Tringa ochropus*
- Hobby *Falco Subbuteo*
- Kingfisher *Alcedo atthis*
- Little Ringed Plover *Charadrius dubius*

- Peregrine *Falco peregrinus*
- Quail *Coturnix coturnix*
- Red Kite *Milvus milvus*
- Redwing *Turdus iliacus*

3.25 S7 birds recorded within 2km of the site:

- Bullfinch *Pyrrhula pyrrhula*
- Black-headed Gull *Chroicocephalus ridibundus*
- Cuckoo *Cuculus canorus*
- Curlew *Numenius arquata*
- Dunnock *Prunella modularis*
- Golden Plover *Pluvialis apricaria*
- Herring Gull *Larus argentatus*
- House Sparrow *Passer domesticus*
- Kestrel *Falco tinnunculus*
- Lapwing *Vanellus vanellus*
- Lesser Redpoll *Acanthis cabaret*
- Linnet *Linaria cannabina*
- Skylark *Alauda arvensis*
- Song Thrush *Turdus philomelos*
- Starling *Sturnus vulgaris*
- Tree Sparrow *Passer montanus*
- Yellowhammer *Emberiza citrinella*

3.26 Whilst onsite it was noted that there were a number of fieldfare and redwing spotted within the hedgerows and scrub. The scattered trees and scrub on site do provide nesting and foraging opportunities for birds. Therefore, nesting opportunities are considered for common bird species.

Invertebrates

3.27 Seven protected invertebrate species records were identified within the desk study. S7 invertebrates recorded within 2km of the site are:

- Blood-vein *Timandra comae*
- Cinnabar *Tyria jacobaeae*

- Dingy Skipper Erynnis tages
- Grizzled Skipper *Pyrgus malvae*
- Latticed Heath *Chiasmia clathrate*
- Shaded Broad-bar *Scotopteryx chenopodiata*
- Small Heath *Coenonympha pamphilus*

3.28 Although the site lies 1.1km north from an Important Invertebrate Area (IIA). The habitat onsite is not considered to be suitable for significant invertebrate populations such as the Dingy Skipper.

Reptiles

3.29 Two protected reptile species records were identified within the desk study. S7 reptile recorded within 2km of the site are:

- Common Lizard *Zootoca vivipara*
- Grass Snake *Natrix helvetica*

3.30 No evidence of reptiles was noted at the site during the Phase 1 habitat survey. However, the drainage ditch along the southern site boundary offers some foraging habitat and potential features are present at the site for reptile hibernation.

3.31 The industrial areas to the southwest and southeast of the site and the B5130 will act as physical barriers to connectivity and ecological dispersal.

Hedgehog

3.32 There were five records identified within the desk study, the nearest being 500m north of the site. There was no evidence found during the extended Phase 1 survey, however; given the habitat present on site, it is highly likely that hedgehog are within the area, especially areas of dense scrub and hedgerow.

Other Relevant Species

3.33 There were four records of Polecat *Mustela putorius* recorded within 2km of the site with the nearest record being 400m north. There was no evidence found during the extended Phase 1 survey and the site itself does not offer much in the way of suitable habitat, therefore they are not considered further in this report.

3.34 There were two records of Otter *Lutra lutra* recorded within 2km of the site with the nearest record being 1.4km east. There are no bodies of water onsite, other than the man-made drainage ditch which is unsuitable habitat, therefore they are not considered further in this report.

4.0 Assessment of Potential Impacts

4.1 This section assesses the potential impacts on ecological features associated with the Scheme described in Section 1.0 and detailed in Annex C.

4.2 Consideration is given to the 'mitigation hierarchy', i.e., that impacts are first avoided or where this is not practicable, mitigated and as a final resort, compensated (off-set).

Wildlife Sites

National Sites Network

4.3 The closest statutory designated site is Afon Dyfrdwy (River Dee) (Wales) which is located approximately 3.1km east of the proposed development site which is separated from the site by a large industrial estate and its associated infrastructure it is not anticipated that there would be any direct or indirect impacts through potential runoff.

Non-Statutory Sites

4.4 There are two non-statutory wildlife sites identified within 2km of the site, Wrexham Industrial Estate and Cefn Park.

Local Wildlife Sites (LWS)

4.5 LWS are non-statutory designations made by local authorities under the Town and Country Planning system and are a material consideration when planning applications are being determined.

4.6 Wrexham Industrial Estate LWS is only 600m southwest of the proposed development site. The LWS is a series of sites within the industrial estate, whose habitats include unmanaged grassland, ancient broad-leaved woodland, a mosaic of scrub, species-rich grassland and tall herb with species of interest including dyers greenweed *Genista tinctoria* and grass vetchling *Lathyrus nissolia*.

4.7 The proposed development is within Wrexham Industrial Estate and given its close proximity to the LWS and habitats, consideration must be given to any potential impacts that the proposed development may have, although only a scrub mosaic in the south of the proposed development.

4.8 Future proposals will retain and enhance habitats associated with Strategic Ecological Network, located on the eastern boundary.

Habitats and Flora

Notable Habitats

4.9 There are no notable habitats identified within or adjacent to the site, therefore, there will be no impacts on notable habitats as a result of the development.

Other Habitats

Semi - Improved Neutral Grasslands

4.10 The large area of semi - improved neutral grassland will be lost during the development. These habitats offer limited foraging and commuting potential for mammals, amphibians, reptiles and birds, due to grazing.

Woodland, Trees and Scrub

4.11 It is likely that a minimal number of trees, shrubs and dense scrub within the site boundary will be affected during the site development. These habitats are valuable for a number of fauna species including foraging and commuting bats, nesting birds and foraging, hibernating and commuting hedgehogs.

Hedgerows

4.12 Although the hedgerows on site are not species rich, they do produce fruit in the form of berries in the autumn and winter months. Removal of these may eliminate a potential food source for migrating birds such as redwing and fieldfare. The boundary hedgerows will stay in situ, providing corridors and food.

Running Water (Eutrophic)

4.13 It is likely that the drainage ditch will remain throughout construction, however the body of water and surrounding habitat is valuable for breeding amphibians.

4.14 There are current fixed development proposals for the site. Which identify key habitats that are to be retained and enhanced as part of the scheme. Corridors will be protected, and buffers created.

Notable Flora

4.1 There was no notable flora identified on or adjacent to the site. Therefore, there will be no implications for the proposals with regard to invasive plant species.

Invasive Flora

4.2 New Zealand pygmyweed was noted on site in the south of the site TN4. This is an invasive species, therefore there will be implications for the proposals with regard to invasive plant species.

Fauna

Amphibians/GCN

4.3 No evidence was recorded of great crested newt breeding or foraging at site. Great crested newt are an LBAP-W and EPS species, and are afforded full protection under the Habitats Regulations, along with common amphibians which are also protected under the WCA.

4.4 There are at least six bodies of water within 500m of the site boundary. None of these were accessed at the time of the survey, however it is known that GCN are present in the surrounding area.

4.5 A review of available online Ordnance Survey mapping and aerial imagery has identified one body of water on site and a further six ponds within 500 metres. The two ponds to the northeast (150 and 250 metres respectively) are within an agricultural field, one further pond to the northwest (280 metres) also within an agricultural field are separated by Bryn Lane which is a busy B road. A pond to the east (150 metres) is only buffered by a warehouse and the two further pond/ditches to the south (480 metres) and southwest (280metres) are not separated from the site by any major barriers to amphibian movement.

4.6 The nearest record of GCN was 100 metres northeast; however, these ponds have Bryn Lane acting as a barrier to movement. There is no confirmed breeding onsite as an eDNA survey carried out in 2024 by a licensed TEP ecologist, resulted in a negative result. There is connectivity to the ponds further south, however the nearest ponds that have records of GCN are over 500 metres from the site boundary.

4.7 The eastern and southern boundaries of the site, contain optimal terrestrial habitat for amphibians with foraging and resting opportunities and connectivity to the ponds in the wider landscape to the south. If there is to be loss of low terrestrial grassland habitat, there will be minimal implications with regards to the proposals and amphibians.

Bats

4.8 All British bats are European protected species, afforded full protection under the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended) with the Lesser Horseshoe bat being an LBAP-W species also. Bats are protected from killing or injury, and from disturbance at the place of rest. Bat roosts are also protected from obstruction, damage, or destruction (whether or not a bat is in occupation at the time).

4.9 The desk study returned twenty-eight records of bats located within 2km of the site. The site was assessed as having only low suitability for foraging and commuting bats. It is considered likely that only a small number of bats use the habitats present on site for commuting and foraging.

4.10 T1 and T2 (as detailed in Table 3) were assessed to have PRF-I suitability only suitable for individual bats, or very small numbers of bats, either due to size or lack of suitable surrounding habitat. Should proposals include the felling, or tree works to this tree, then supervision may be required.

4.11 During the daytime assessment of the disused derelict bunker in August 2024. The building was assessed as having moderate suitability to support roosting bats. Nocturnal emergence surveys in August and early October did not reveal roosting bats.

4.12 Hibernation surveys are being undertaken; no hibernating bats have been observed during the first hibernation survey. Two more hibernation surveys are to be completed in January and February.

4.13 Full details are provided at Annex E.

Badger

4.14 Badgers are protected under the Protection of Badgers Act 1992 from killing, injury and certain acts of cruelty. Their setts are also protected from damage, obstruction, or destruction.

4.15 The site offers suitable habitat for foraging and commuting badgers though no field signs of badger were identified during the survey. As the site could provide a suitable habitat for sett construction there will be implications for the proposed works with regard to badgers.

Birds

4.16 Native nesting birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981 (as amended) from damage and destruction, from the time of nest construction to fledging of the young.

4.17 Suitable habitat is present within all areas of the site for nesting birds, including, scrub, trees and hedgerow. These habitats, also provide opportunities for foraging birds.

4.18 There is a risk of damage or destroying a nest if vegetation clearance is carried out in the nesting period (generally considered to be between March to August inclusive, although geographical position of the site will influence this period and some species nest also commonly nest outside this period).

Invertebrates

4.19 There is limited diversity of habitats present on; therefore, the site is unlikely to support a diverse or important invertebrate assemblage. No impacts on invertebrates are anticipated. No further surveys are recommended.

Reptiles

4.20 Common lizard and grass snake are protected under the Wildlife and Countryside Act 1981 (as amended) from killing and injury and are both S7 species.

4.21 The habitats that will be impacted by the proposed works have potential for basking, refuge, foraging and commuting reptile species. There is a risk of killing/injury of the species if present.

Hedgehogs

4.22 There were five records of hedgehog returned within 2km of the site. There is suitable habitat including scrub and hedgerow for foraging. Scrub and hedgerow may also be used for hibernation during the hibernation period (typically October to April inclusive). There is therefore potential for killing or injury to hedgehog if these habitats will be cleared under the proposals

5.0 Mitigation and Enhancement

5.1 This section describes appropriate and proportionate measures for impact avoidance, mitigation and enhancement required or recommended to address the potential ecological effects described in Section 4.0.

Wildlife Sites

National Sites Network

5.2 Existing SACs and SPAs were notified via the Conservation of Habitats and Species Regulations 2017[15] (as amended) (the 2017 Regulations) which were the UK implementation of the European Union's Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives) prior to Brexit. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[16] (2019 Regulations) created a National Site Network on land and at sea, which includes all existing SACs and SPAs and any new SACs or SPAs designated under these Regulations.

5.3 The UK ratified Ramsar Convention[17] on wetlands of international importance underpins the designation of Ramsar sites through prior notification of these areas as SSSIs. Accordingly, these receive statutory protection under the Wildlife & Countryside Act 1981[18] (as amended). At a policy level and under the 2019 Regulations, Ramsar sites remain protected in the same way as SACs and SPAs.

Other Statutory Wildlife Sites

5.4 SSSIs are a statutory notification made under the Wildlife & Countryside Act 1981 (as amended); this Act also includes provision for the protection and management of SSSIs. LNRs are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949, amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006[19], by principal local authorities.

Avoidance and Mitigation Required

5.5 Given the distance of the Afon Dyfrdwy (River Dee) (Wales) 3.1km, there are no special mitigations required, however, standard pollution and prevention control measures set out in a contractors CEMP should be followed during site clearance and construction in order to prevent run off into the drainage ditch and beyond.

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[15] Conservation of Habitats and Species Regulations 2017 (SI 2017/1012) *https://www.legislation.gov.uk/uksi/2017/1012/*

[16] Conservation of Habitats and Species Regulations 2019 (SI 2019/579) *https://www.legislation.gov.uk/uksi/2019/579/*

[17] Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 2.2.1971 *https://www.ramsar.org/*

[18] Wildlife and Countryside Act 1981 c. 69 *https://www.legislation.gov.uk/ukpga/1981/69/*

[19] Natural Environment and Rural Communities Act 2006 c. 16 https://www.legislation.gov.uk/ukpga/2006/16/

Local Wildlife Sites

5.6 LWS are non-statutory designations made by local authorities under the Town and Country Planning system and are a material consideration when planning applications are being determined.

Avoidance and Mitigation Required

5.7 The proposed development is 600m north of nearest LWS and given its close proximity to the LWS pollution and prevention control measures should be followed during site clearance and construction. More detail is provided the Fauna section of this report in reference to specific species of interest.

Habitats and Flora

Flora

Avoidance and Mitigation Required

5.8 Habitats of high ecological value such as hedgerows (HPI), ditch should be retained and protected wherever possible.

5.9 Retained trees and hedgerows within the site boundary should be protected from accidental damage during construction works in line with BS5837:2012 Trees in relation to design, demolition and construction.

Invasive Flora

Avoidance and Mitigation Required

5.10 A pre-commencement invasive species walkover will be required to determine the presence of New Zealand pygmyweed to confirm if it has spread since the Phase 1 survey. Following this site visit, an invasive species management plan will be required detailing removal method (if appropriate), or future control methods.

Additional Measures or Enhancement Recommended

5.11 Biosecurity measures should be implemented including washing and disinfecting of footwear, tools, and machinery, within a controlled bunded area, to ensure that invasive species and zoonotic diseases are not brought onto or spread across or offsite as a result of the works.

5.12 Any works carried out by contractors should be accompanied by a Risk Assessment Method Statement (RAMS) detailing appropriate biosecurity measures to be observed for the duration of the works and outlining the scope of the works undertaken and any ongoing monitoring/works required.

Fauna

Amphibians/GCN

5.13 GCN and their habitats are fully protected under the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended). GCN and common toad are also S7, with GCN also being LBAP-W.

Avoidance and Mitigation Required

5.14 The nearest pond that was 100m northeast of the site boundary was surveyed by a licensed TEP ecologist in 2022. This pond resulted in a negative result when tested.

5.15 An eDNA survey was conducted on the body of water that is within the site boundary in April 2024. The results of the test came back negative, and no further surveys are currently required. The report can be viewed in Annex D.

Additional Measures or Enhancement Recommended

5.16 Precautionary working measures should be adopted and included in the Precautionary Working Method Statement (PWMS) to minimise the risk of harm or injury to common amphibian species including GCN. This should include hand searches, staged strimming of vegetation and removal to a safe location of any amphibians found. Should GCN be found then all works shall cease, and Natural Resource Wales will be consulted before any further works commence.

5.17 Future proposals seek to create and provide an improved environment on site to contribute to GCN population strategy in relation to the strategic strategy of the industrial estate. Although GCN have not been recorded at site, the site design will include a wildlife pond, additional scrub planting, trees and hibernacula's located within the Strategic Ecological Network corridor. The aim is to encourage GCN and other amphibians to colonise the pond providing breeding opportunities with management and monitoring. This will contribute to the Favourable Conservation Status of species within Wrexham Ind Estate.

Bats

5.18 All British bats are European protected species, afforded full protection under the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended). Bats are protected from killing or injury, and from disturbance at the place of rest. Bat roosts are also protected from obstruction, damage or destruction (whether or not a bat is in occupation at the time). Brown Long-eared Bat, Common Pipistrelle, Noctule Bat, Soprano Pipistrelle and Lesser Horseshoe Bat all S7 species, with the Lesser Horseshoe Bat also being LBAP-W.

Avoidance and Mitigation Required

5.19 Direct works to any trees that were identified as PRF in respect of roosting bats should be avoided wherever possible. If works to these trees are unavoidable then further assessment in the form of a Potential Roost Feature Inspection Survey for Bats will be required. There are no strict seasonal constraints to this type of survey if utilised to only confirm the suitability of the PRFs, other than requiring safe access

to the tree. A bat licensed ecologist will inspect features of the trees suitable to support roosting bats from close distance and using an endoscope where appropriate. The PRFs identified at height will be accessed by rope and/or ladder. Where rope access is required, the climbers will have Tree Climbing and Aerial Rescue certificates, issued by the National Proficiency Test Council (NPTC) and will complete the survey under the direction of a licensed bat surveyor. If a tree is confirmed to support PRFs categorised as PRF-M or a confirmed roost, then a total of three PRF inspection surveys and/or nocturnal roost surveys will be required to be undertaken during the period May to August in suitable weather conditions with surveys spaced at least 3 weeks apart.

5.20 There was disused derelict bunker onsite within Red Line Boundary, however this is not within the current site development proposals. No summer roosting bats have been recorded with the disused derelict bunker, hibernation surveys are ongoing and currently not recorded any hibernating bats. Mitigation will be confirmed on completion of the hibernation surveys. Full details are provided at Annex E.

5.21 Impacts on suitable foraging and commuting bat habitat, particularly the on-site hedgerows and trees, should be minimised, and hedgerows and trees will be retained. If hedgerows and trees are affected by design proposals, a Nighttime Bat Walkover (NBW) & Automated Static Detector Surveys will be required to determine the bat species present, assess the level of bat activity across the Scheme and identify important foraging and commuting areas, with due consideration for the BCT Guidelines (Collins, 2023)[20].

5.22 In accordance with BCT Guidelines13 the approach to the NBW surveys would be dynamic and adapted if survey results indicate that further surveys or extended surveys are required. As a minimum, at least one survey visit per season (Spring – April/May, Summer – June/July/August, and Autumn – September/October) would be undertaken in appropriate weather conditions.

5.23 These would be complemented by the use of automated static bat detectors set to record over five consecutive nights each month between April and October. Sonogram analysis will subsequently be carried out on all recorded bat passes to confirm species identification as far as possible.

5.24 Indirect impacts on foraging and commuting bats such as lighting should also be considered, with any lighting scheme designed in line with the Bats and Artificial Lighting at Night guidance[21].

5.25 Bat boxes can be incorporated on suitable trees within the site.

Badger

5.26 Badgers are protected under the Protection of Badgers Act 1992[22] from killing, injury and certain acts of cruelty. Their setts are also protected from damage, obstruction or destruction.

[20] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

[21] Institute of Lighting Professionals and Bat Conservation Trust (2023) Guidance Note GN08/23 Bats and Artificial Lighting at Night

[22] Protection of Badgers Act 1992 c. 51 *https://www.legislation.gov.uk/ukpga/1992/51/*

Avoidance and Mitigation Required

5.27 A badger survey and inspection of all surrounding habitats was completed as part of the Phase 1 survey and confirmed that no setts had been excavated which may be impacted by the proposals. If no works have commenced within 12 months of this report being issued, a further survey should be conducted.

5.28 Precautionary working measures should be adopted to minimise the risk of harm or injury to foraging and commuting badgers, which may be utilising the site, during the works. Measures should be outlined within a protected/priority species PWMS.

5.29 It is recommended that suitable habitat for badger foraging is maintained on site under the proposals to minimise the impacts of habitat loss on local badger populations. Consideration as been given to retain and enhance corridors, retaining areas of hedgerows, tree lines and scrub on site, which provide opportunities for both foraging and potentail sett creation. Any loss of suitable habitat for foraging badger will be compensated for through replacement planting within the soft landscaping site.

Birds

5.30 Native nesting birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981 (as amended) from damage and destruction, from the time of nest construction to fledging of the young.

Avoidance and Mitigation Required

5.31 Works should be completed outside of the nesting period (typically taken to be March to August inclusive). Where avoidance of the nesting period is not practicable, a nesting bird check must be carried out by an ecologist no more than 24 hours prior to the works, to confirm that no active nests are present. In the event that an active nest is identified, works within the surrounding area must halt until the chicks have fledged. The required radius of the exclusion area will depend on the species found nesting and the context of the nesting location.

Additional Measures or Enhancement Recommended

5.32 Where possible, hedgerows should be maintained or enhanced if the site boundary is to remain. As an enhancement, bird boxes should be erected on mature trees in the vicinity of the site.

Reptiles

5.33 Common lizard and grass snake are protected under the Wildlife and Countryside Act 1981 (as amended) from killing and injury and are both S7 species.

5.34 Precautionary working measures such as hand searches and staged vegetation clearance should be adopted to minimise the risk of harm or injury to reptiles during vegetation clearance. Measures should be outlined within a protected/priority species PWMS to ensure no harm or injury to reptiles if present on site.

Hedgehog

5.35 Precautionary working measures should be adopted to minimise the risk of harm or injury to hedgehogs during vegetation clearance. Measures should be outlined within a protected/priority species PWMS to ensure no harm or injury to this species, if present on site.

5.36 If vegetation clearance works are taking place during the hibernation period (October to March, inclusive) and a hibernating hedgehog is found, the hedgehog should be moved to a hibernation box placed in a safe place and lined with straw.

6.0 Conclusions

6.1 The site is considered to be of some ecological value with the most valuable areas being the western and southern perimeters. The project footprint is 3.72ha, comprising improved grassland with some native species rich hedgerows and scrub habitats that could provide foraging areas for a number of protected species.

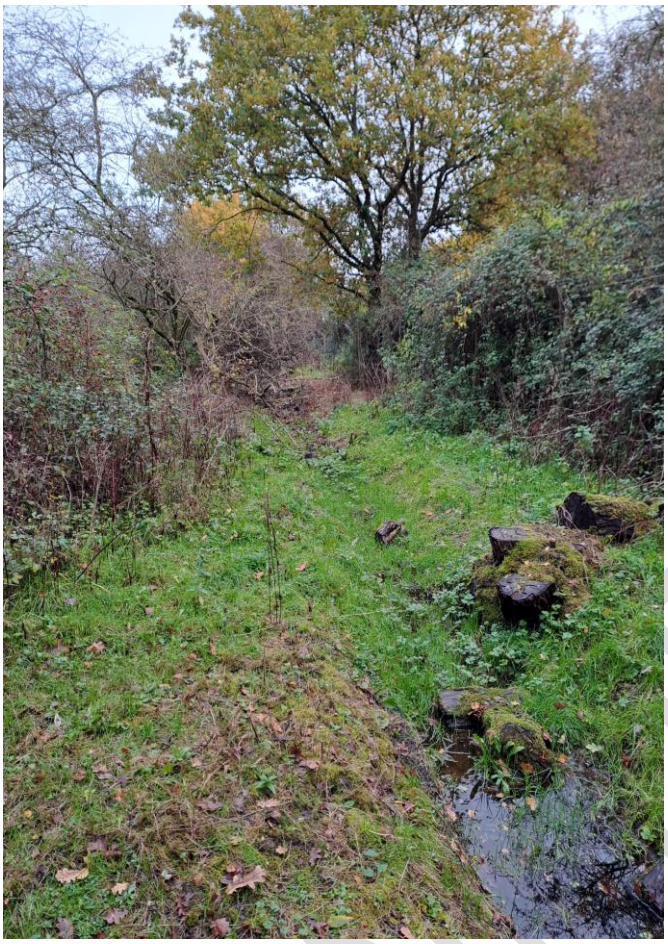
6.2 Clearance of the site will be required to facilitate the proposals. The Strategic Ecological Corridor will be retained and enhanced.

6.3 Two trees (T1 & T2) have been identified as having low suitability for bat roosting. These trees can be soft felled following a preliminary survey prior to and under the supervision of a bat licenced ecologist. In the unlikely event that bats are discovered to be roosting within the tree, then a licence from Natural Resource Wales will be required before any felling works can take place.

6.4 Impacts upon protected or notable species that may utilise the site will be avoidable by implementing precautionary working measures (see Section 5.3), including timing demolition to avoid sensitive periods and adopting sensitive construction methods.

6.5 All impacts are therefore anticipated to be temporary and reversible in the short term. With implementation of the precautionary working methods, no significant ecological effects are expected on statutory or non-statutory wildlife sites, notable habitats or protected or notable species.

Annex A: Desktop Study (10204.001)









CONFIDENTIAL

Land south of Bryn Lane

Wrexham

Ecological Desk Study

Prepared For: Net World Sports Limited

Document Reference: 10204.001

November 2023

Version 1.0

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Project Name:	Land south of Bryn Lane
Location:	Wrexham
Document Title:	Ecological Desk Study
Client:	Net World Sports Limited
Year of Surveys:	2023
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The conclusions and recommendations contained in this document are based upon information gathered by TEP and provided by third parties. Information provided by third parties and referred to herein has not been independently verified by TEP, unless otherwise expressly stated in the document.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

Contents

Page

1.0 INTRODUCTION 1

Location of Scheme 1

Context 1

Purpose 2

2.0 METHODS 3

Scope and Data Sources 3

Additional Supporting Data 6

3.0 LEGISLATION AND POLICY 7

Local Planning Policy 8

4.0 BIODIVERSITY INITIATIVES AND STRATEGIES 11

5.0 WILDLIFE SITES 12

Statutory Sites 12

Non-Statutory Wildlife Sites 22

6.0 NOTABLE HABITATS 25

Ancient Woodland 25

Priority Habitats 25

Main Rivers 25

7.0 PROTECTED AND NOTABLE SPECIES 27

Pre-existing Species Records 27

Figures

Figure 1: Location of Scheme 1

Figure 3: Internationally Designated Sites Within a 10km Buffer 17

Figure 4: Nationally Designated Sites Within a 5km Buffer 18

Figure 5: Statutory Locally Designated Sites Within a 2km Buffer 19

Figure 6: SSSI Impact Risk Zones relevant to the Scheme (refer to Table 3 for IRZ criteria) 21

Figure 7: Non-statutory wildlife sites within 2km of the site (map provided by COFNOD) 23

Figure 8: Extract from COFNOD showing the site within a B-line, Cymru 24

Figure 9: Notable habitats within 0.5km of the site 26

Tables

Table 1: Scope and preliminary ecological Zones of Influence (ZOI) 3
Table 2: Statutory wildlife sites 12
Table 3: SSSI Impact Risk Zones crossed by the options 20
Table 4: Non-statutory local wildlife sites 22
Table 5: Summary of pre-existing species records returned by Cofnod records centre 27

Annexes

Annex A: Key Ecological Legislation and National Policy

1.0 Introduction

1.1 The Environment Partnership (TEP) was commissioned by Net World Sports Limited in September 2023 to complete an Ecological Impact Assessment (EcIA) for a proposed development on a site adjacent to Bryn Lane in Wrexham. To inform the EcIA, an ecological desk study was also completed.

Location of Scheme

1.2 The Scheme is within the administrative area of Wrexham County Borough Council (WCBC). The location of the site is depicted by the red line shown in Figure 1. The approximate central grid reference of the site is SJ 38450 50752.

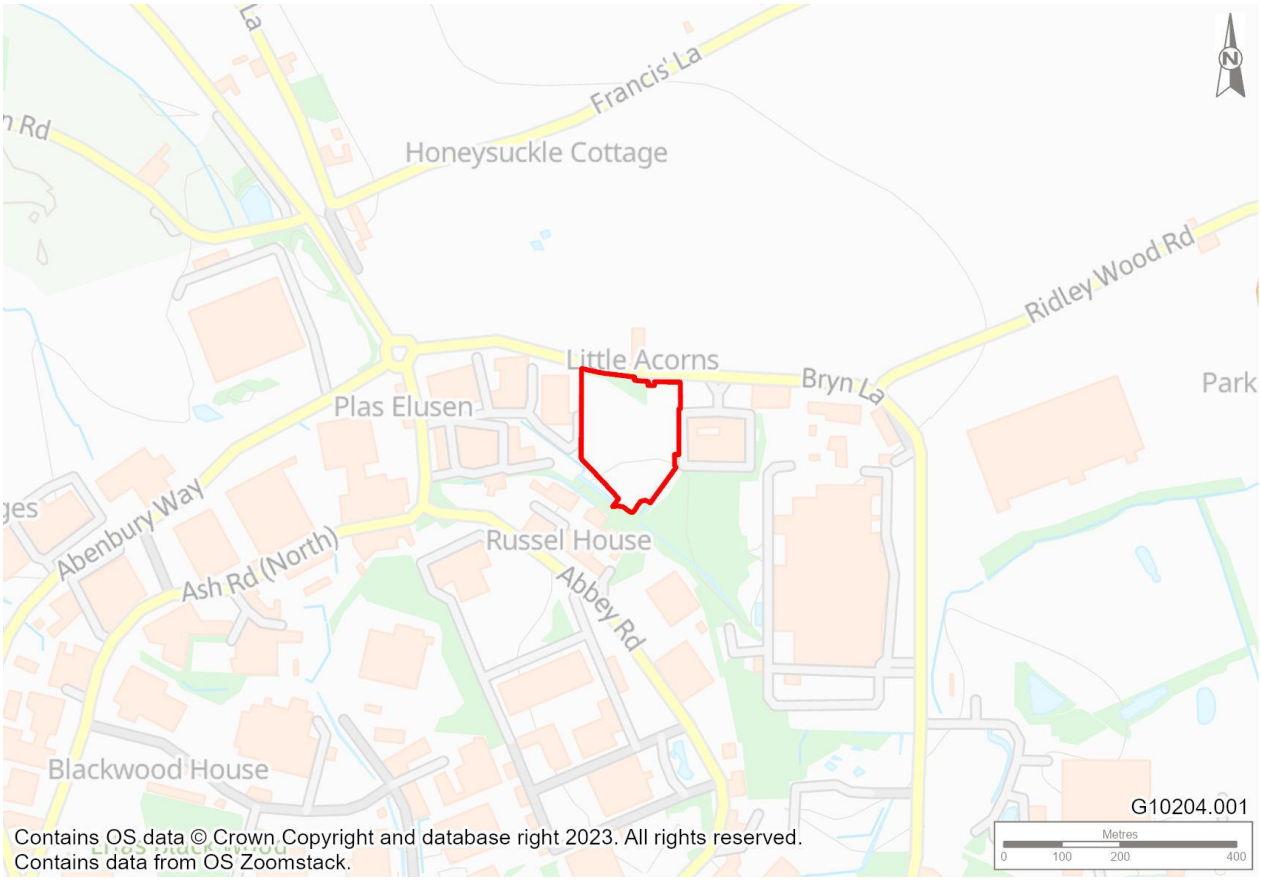


Figure 1: Location of Scheme

Context

1.3 The proposed site off Bryn Lane falls under Policy E1 – Employment Allocations on the Wrexham Industrial Estate, in the Wrexham Unitary Development Plan 1996 - 2011 (adopted 14th February 2005).

1.4 The Wrexham County Borough Council adopted a new Local Development Plan (LDP) in December 2023. The site and adjacent land are not allocated for biodiversity purposes under this plan.

Purpose

1.5 This Ecological Desk Study report details the method of data gathering and interpretation and presents the findings of the desk-based assessment.

1.6 This report is not sufficient in isolation to support a planning application. This report should be read in conjunction with the Ecological Assessment (TEP Report Ref: 10204.002).

2.0 Methods

Scope and Data Sources

2.1 The ecological Zone of Influence (ZOI) is an area defined by the ecological assessment within which valued ecological features may be subject to significant biophysical changes as a consequence of the proposed development under assessment.

2.2 For the purposes of this assessment, the preliminary ZOIs within which ecological features were searched for as part of this desk study were varied according to the geo-spatial and/or legal significance of the feature.

2.3 Table 1 summarises the scope and the preliminary ZOIs applied for this desk study. The preliminary ZOIs were applied by extending search radii of the respective distances from the Scheme boundary.

Table 1: Scope and preliminary ecological Zones of Influence (ZOI)

Feature	Scope	Key Source(s)	ZOI
Statutory wildlife sites:	Ramsar sites Proposed Ramsar sites Special Areas of Conservation (SAC) Possible SAC SAC with marine components Special Protection Areas (SPA) Potential SPA Marine Conservation Zones	MAGIC Maps[1] (public sector information) North Wales Environmental Information Service (COFNOD)[2] Wrexham Unitary Development Plan 1996 – 2011 (Adopted 14th February 2005)[3] Wrexham Local Development Plan 2013-2028 (adopted December 2023)[4]	10km
	Sites of Special Scientific Interest (SSSI) National Parks	Natural Resources Wales (NRW) (public sector information)	5km

[1] MAGIC Maps *https://magic.defra.gov.uk/home.htm* (Accessed November 2023)

[2] COFNOD *https://www.cofnod.org.uk/Home* (Accessed November 2023)

[3] *Wrexham Unitary Development Plan https://www.wrexham.gov.uk/sites/default/files/2023-04/udp-statement.pdf* (Accessed November 2023

[4] https://www.wrexham.gov.uk/service/development-plans-and-other-planning-policy/wrexham-local-development-plan-2-ldp2-2013-2028

Feature	Scope	Key Source(s)	ZOI
	National Nature Reserves (NNR) Marine Nature Reserves (MNR)	COFNOD Wrexham Unitary Development Plan 1996 - 2011 (Adopted 14th February 2005) Wrexham Local Development Plan 2013-2028 (adopted December 2023)	
	Local Nature Reserves (LNR) Country Parks Strategic Nature Areas	Natural Resources Wales (NRW) (public sector information) COFNOD Wrexham Unitary Development Plan 1996 – 2011 (Adopted 14th February 2005) Wrexham Local Development Plan 2013-2028 (adopted December 2023)	2km
Non-statutory wildlife sites:	Site of Nature Conservation Interest (SNCI) Site of Importance for Nature Conservation (SINC) Local Wildlife Site (LWS) Green Spaces Special Verges Special Road Verges Regional Parks Green Wedges Wildlife Corridors	COFNOD Wrexham Unitary Development Plan 1996 - 2011 (Adopted 14th February 2005) Wrexham Local Development Plan 2013-2028 (adopted December 2023)	2km
Notable habitats:	Ancient Woodland Habitats of principal importance Main rivers Habitat Network / Nature Recovery Network	COFNOD Welsh Government Nature recovery action plan – Our	0.5km

Feature	Scope	Key Source(s)	ZOI
		Strategy for Nature 2015[5] and Nature Recovery Action Plan 2020-21[6] Google Earth	
Protected or notable species:	Pre-existing records for protected or notable species[7], non-native invasive species	Natural Resources Wales (NRW) (public sector information) COFNOD	2km
Policy and Related Guidance	Land allocations and relevant environment / biodiversity policy Local biodiversity priority habitats and species	Wrexham Unitary Development Plan 1996 - 2011 (Adopted 14th February 2005) Wrexham Local Development Plan 2013-2028 (adopted December 2023) Welsh Government Nature recovery action plan (NRAP) (Updated 2021)[8]	As applicable to Scheme

2.4 An absence of records does not indicate the absence of protected species from the search area.

[5] Our Strategy for Nature 2015 *https://www.gov.wales/sites/default/files/publications/2019-05/nature-recovery-action-plan-2015.pdf* (Accessed November 2023)

[6] Nature Recovery Action Plan 2020-21 *https://www.gov.wales/sites/default/files/publications/2019-05/nature-recovery-action-plan-2015.pdf* (Accessed November 2023)

[7] Notable and protected species records may include those listed under any of the following:

- Protected species listed under Schedule 2 (animals) or Schedule 5 (plants) under the Conservation of Habitats and Species Regulations 2017 (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);
- Invasive Alien Species (Enforcement and Permitting) Order 2019 (IAS);
- Protection of Badgers Act 1992 (PBA);
- Species of principal importance (SPI) listed by requirements under Section 7 of the Environment (Wales) Act 2016;
- Red and Amber listed Birds of Conservation Concern in Wales (BAm/BRd); and
- Local Biodiversity Action Plan Species (LBAP-W).

[8] *Nature Recovery Action Plan* (Accessed November 2023)

2.5 Geological sites are not designated for ecology reasons and is therefore excluded from further consideration in this ecological assessment.

Additional Supporting Data

2.6 A search on Wrexham Borough Council's planning portal revealed three existing consultancy reports within 1.2km of the site. The first report[9] was for a site 0.6km away and noted a previously identified large population of GCN within the semi-improved grassland areas adjacent to the southern, eastern and western boundaries of the site. However, it was noted that there is no suitable refuge on site for GCN. The second report[10] was for a site 0.9 km away and again noted a known large population of GCN within the surrounding woodlands and pond areas adjacent to the east and north of the site. The report stated that there was no suitable refuge for GCN on site. The third report[11] was for a site was 1.2km away and again noted the large GCN population to the north of the site and that this area is now under management by North Wales Wildlife Trust (NWWT) to ensure the habitat is managed for the species present on site.

[9] BOYETT, L., 2017: "EE.410 Former Caparo Wire Factory. Ecological Site Walkover". Enfys Ecology Ltd

[10] MOSS, M., 2018: "EE.466 The Village Bakery. Preliminary Ecological Appraisal. Ecological Site Walkover". Enfys Ecology Ltd

[11] WAKE, K., 2021: "Village Bakery, Coed Abden Road. Ecological Walkover and GCN RAMs". Enfys Ecology Ltd

3.0 Legislation and Policy

3.1 The following summarises the legislation and planning policy which may have relevance to the scheme. Only legislation and policy of key relevance to biodiversity are listed. Further information is provided in Annex A.

- International Conventions:
  - The Convention on Wetlands of International Importance especially as Waterfowl Habitat ('Ramsar Convention'[12] or 'Wetlands Convention');
  - The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention[13]);
  - The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention[14] or CMS)
  - The Convention on Biological Diversity (Biodiversity Convention[15] or CBD)
- Conservation of Habitats and Species Regulations 2017[16] (the 2017 Regulations);
- Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[17] (the 2019 Regulations);
- Wildlife and Countryside Act (WCA) 1981[18];
- Environment Act 2021[19];
- Countryside and Rights of Way Act (CROW) 2000[20];
- Environment (Wales) Act 2016 [21];
- Hedgerow Regulations 1997[22];
- Protection of Badgers Act (PBA)1992[23];
- Wild Mammals (Protection) Act (WMPA) 1996[24];
- Planning Policy Wales 2021[25]

[12] Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 2.2.1971 *https://www.ramsar.org/*

[13] Convention on the Conservation of European Wildlife and Natural Habitats. Bern, 1979 *https://www.coe.int/*

[14] Convention on the Conservation of Migratory Species of Wild Animals, Bonn, June 1979 *https://www.cms.int/*

[15] Convention on Biological Diversity, Rio de Janeiro, June 1992*https://www.cbd.int/*

[16] Conservation of Habitats and Species Regulations 2017 (SI 2017/1012) *https://www.legislation.gov.uk/uksi/2017/1012/*

[17] Conservation of Habitats and Species Regulations 2019 (SI 2019/579) *https://www.legislation.gov.uk/uksi/2019/579/*

[18] Wildlife and Countryside Act 1981 c. 69 *https://www.legislation.gov.uk/ukpga/1981/69/*

[19] Environment Act 2001 c.30 *https://www.legislation.gov.uk/ukpga/2021/30/*

[20] Countryside and Rights of Way Act 2000 c. 37 *https://www.legislation.gov.uk/ukpga/2000/37/*

[21] Environment (Wales) Act 2016 *https://www.legislation.gov.uk/anaw/2016/3/contents/enacted*

[22] The Hedgerow Regulations 1997 (SI 1997/1167) *https://www.legislation.gov.uk/uksi/1997/1160/*

[23] Protection of Badgers Act 1992 c. 51 *https://www.legislation.gov.uk/ukpga/1992/51/*

[24] Wild Mammals (Protection) Act 1996 c.3 *https://www.legislation.gov.uk/ukpga/1996/3*

[25] Planning Policy Wales 2021 *https://www.gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf*

- Government Circular 06/2005[26].

Local Planning Policy

Wrexham Unitary Development Plan 1996 – 2011 (Adopted 14th February 2005)

3.2 The current Local Plan is the Wrexham Unitary Development Plan 1996 – 2011 (Adopted 14th February 2005 This remains in place after the replacement local plan (Wrexham Local Development Plan 2 (LDP2) 2013 to 2028) was recently rejected at the Wrexham Borough Council Full Council in April 2023.

3.3 The plan falls into two parts. Part 1 is the strategy which outlines the Council's broad intention for development in the area and provides a framework for the more specific policies and proposals. It is chiefly concerned with a vision of how the area should develop for the benefit of local people, developers and visitors alike. It indicates the provision to be made for housing, employment and other major land uses.

3.4 Part 2 deals with the specific policies accompanied by reasoned justifications, which expand on the strategic vision for the County Borough and provide detailed guidance for the development and other use of land.

3.5 The following policies relate to biodiversity and nature conservation:

- Policy PS11 – Biodiversity
- Policy GDP1 – Development Objectives
- Policy EC1 - Green barriers
- Policy EC4 - Hedgerows, Trees and Woodland
- Policy EC6 - Biodiversity Conservation

3.6 The site and adjacent land is not allocated for biodiversity purposes.

Wrexham Local Development Plan LDP 2013-2028 (Adopted December 2023)

3.7 The Wrexham County Borough Council adopted a new Local Development Plan (LDP) in December 2023. The following policies relate to biodiversity and nature conservation:

- Policy SP6: Green Wedge;

[26] Office of the Deputy Prime Minister (2005) 'Government Circular: Geological and Biological Conservation – Statutory obligations and their implications within the planning system' ODPM circular 06/2005, DEFRA circular 01/2005 *https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf*

- Policy SP9: Wrexham Industrial Estate;
- Policy SP10: KSS3: Land to the north of Bryn Lane, Wrexham Industrial Estate;
- Policy SP14: Natural Environment;
- Policy SP18: Climate Change;
- Policy SP19: Green Infrastructure;
- Policy NE1: International and National Nature Conservation Designations
- Policy NE2: Local Designations for Nature Conservation and Geological Importance
- Policy NE3: Trees, Woodlands and Hedgerows; and
- Policy EC6 - Biodiversity Conservation. Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.

3.8 The site and adjacent land are not allocated for biodiversity purposes.

Local Planning Guidance Note No. 32

3.9 This guidance note[27] is intended to raise the quality and profile of nature conservation, protected species and biodiversity issues when submitting and considering planning applications.

3.10 This note is one in a series of local planning guidance notes amplifying local development plan policies and reflecting national legislation. The guidance lists policies from the Wrexham Unitary Development Plan which have particular relevance to natural assets and the natural environment:

- Policy PS2 - Development must not materially detrimentally the quality of the natural environment.
- Policy PS11 - Encouragement will be given to proposals which improve the biodiversity value of sites.
- Policy EC4 - Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape
- Policy EC6 - Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site.

3.11 The main areas of focus are:

[27] Local Planning Guidance Note No. 32 *https://www.wrexham.gov.uk/sites/default/files/2023-04/lpg-32e.pdf* (Accessed November 2023)

- Appropriate assessment of the site
- Avoidance of harm
- Mitigation, compensation and new benefits
- Monitoring, management and compliance

3.12 The guidance note also provides recommendations for mitigation and incorporating biodiversity into development and will be used as a material consideration in the determination of planning applications.

4.0 Biodiversity Initiatives and Strategies

Wrexham Local Biodiversity Action Plan

4.1 The Local Biodiversity Action Plan (LBAP) for the Wrexham area is not available online. Any species listed in the Wrexham LBAP have been identified through the species records provided by COFNOD and are shown in section 6.0 of this report.

5.0 Wildlife Sites

Statutory Sites

5.1 Internationally significant statutory wildlife designations within 10km are illustrated on Drawing G10204.002 (Figure 3). Nationally significant statutory wildlife sites within 5km are illustrated on Drawing G10204.003 (Figure 4). Regionally or locally significant statutory wildlife sites within 5km are illustrated on Drawings G10204.004 (Figure 5). These statutory wildlife sites are summarised in Table 2 below. Distances are calculated between the closest points. Links to data forms and citations are also provided, where applicable

Table 2: Statutory wildlife sites

Site Name	Designation & Citation Link	Distance and Direction from Scheme	Reason(s) for Designation
Statutory wildlife sites of international significance within 10km of Scheme (Drawing G10204.002)			
Afon Dyfrdwy a Llyn Tegid (Wales)	SAC[28]	3.5km East	Annex I habitats that are a qualifying feature for selection: • Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho Batrachion* vegetation. Annex II species that are a qualifying reason for selection: • Atlantic salmon *Salmo salar* • Floating water-plantain *Luronium natans* Annex II species that are a qualifying feature for selection, but not a primary reason for site selection:
River Dee and Bala Lake (England)		8.4km Northeast	

[28] JNCC *https://sac.jncc.gov.uk/site/UK0030252* (Accessed November 2023)

Site Name	Designation & Citation Link	Distance and Direction from Scheme	Reason(s) for Designation
			▸ Brook lamprey *Lampetra planeri* ▸ Bullhead *Cottus gobio* ▸ Otter *Lutra lutra* ▸ River lamprey *Lampetra fluviatilis* ▸ Sea lamprey *Petromyzon marinus*
Midland Meres & Mosses Phase 2	Ramsar[29]	3.7km Northwest	Ramsar Criterion 1: ▸ The site comprises a diverse range of habitats from open water to raised bog. Ramsar Criterion 2: ▸ Supports a number of rare species of plants associated with wetlands, including the nationally scarce cowbane *Cicuta virosa* and, elongated sedge *Carex elongata*. Also present are the nationally scarce bryophytes *Dicranum affine* and *Sphagnum pulchrum*. ▸ Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insect listed for this site including the following endangered species: the moth *Glyphipteryx lathamella*, the caddisfly *Hagenella clathrata* and the sawfly *Trichiosoma vitellinae*.

[29] JNCC *https://jncc.gov.uk/jncc-assets/RIS/UK11080.pdf* (Accessed November 2023)

Site Name	Designation & Citation Link	Distance and Direction from Scheme	Reason(s) for Designation
Johnstown Newt Sites (Wales)	Special Areas of Conservation (SAC)[30]	8km Southwest	Annex II species that are a primary reason for selection: • Great crested newt *Triturus cristatus*
Statutory wildlife sites of national significance within 5km of Scheme (Drawing G10201.003)			
Afon Dyfrdwy (River Dee) (Wales)	Site of Special Scientific Interest (SSSI)[31, 32]	3.1km East	Afon Dyfrdwy (River Dee) is of special interest for: ➢ fluvial geomorphology ➢ Carboniferous geology ➢ Range of river habitat types ➢ Saltmarsh transition habitats • Populations of floating water plantain *Luronium natans*, slender hare's-ear *Bupleurum tenuissimum*, sea barley *Hordeum marinum*, hard-grass *Parapholis strigose*. • Otter *Lutra lutra* • Salmon *Salmo salar*, bullhead *Cottus gobio*, brook lamprey *Lampetra planeri*, river lamprey *Lampetra fluviatilis*, sea lamprey *Petromyzon marinus* • Club-tailed dragonfly *Gomphus vulgatissimus* and other aquatic invertebrates

[30] JNCC *https://sac.jncc.gov.uk/site/UK0030173* (Accessed November 2023)

[31] Natural Resources Wales *https://naturalresources.wales/media/677391/sssi_2554_citation_en001.pdf* (Accessed November 2023)

[32] Natural England *https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000452.pdf* (Accessed November 2023)

Site Name	Designation & Citation Link	Distance and Direction from Scheme	Reason(s) for Designation
Dee Cliffs, Farndon (England)	SSSI[33]	4.4km Northeast	Geological interest
Vicarage Moss (Wales)	SSSI[34]	3.7km Northwest	Designated for its geomorphology & biological interest. It is the largest example of a basin mire in Clwyd, the vegetation being distinctly zoned, particularly in the isolated mire occupying a subsidiary kettle hole to the south.
Sontley Marsh (Wales)	SSSI[35]	5.0km Southwest	Botanical interest. One of the best wetland examples in Clwyd of the "southern mesotrophic mire" type more characteristic of south-west Wales and, in North Wales, largely restricted to Ynys Môn, Dwyfor and Clwyd. Noted for Extensive areas of alder carr (woodland) and tall fen vegetation.
Statutory wildlife sites of regional/local significance within 2km of Scheme (Drawing G10204.004)			
N/A	N/A	N/A	N/A

SSSI Impact Risk Zones

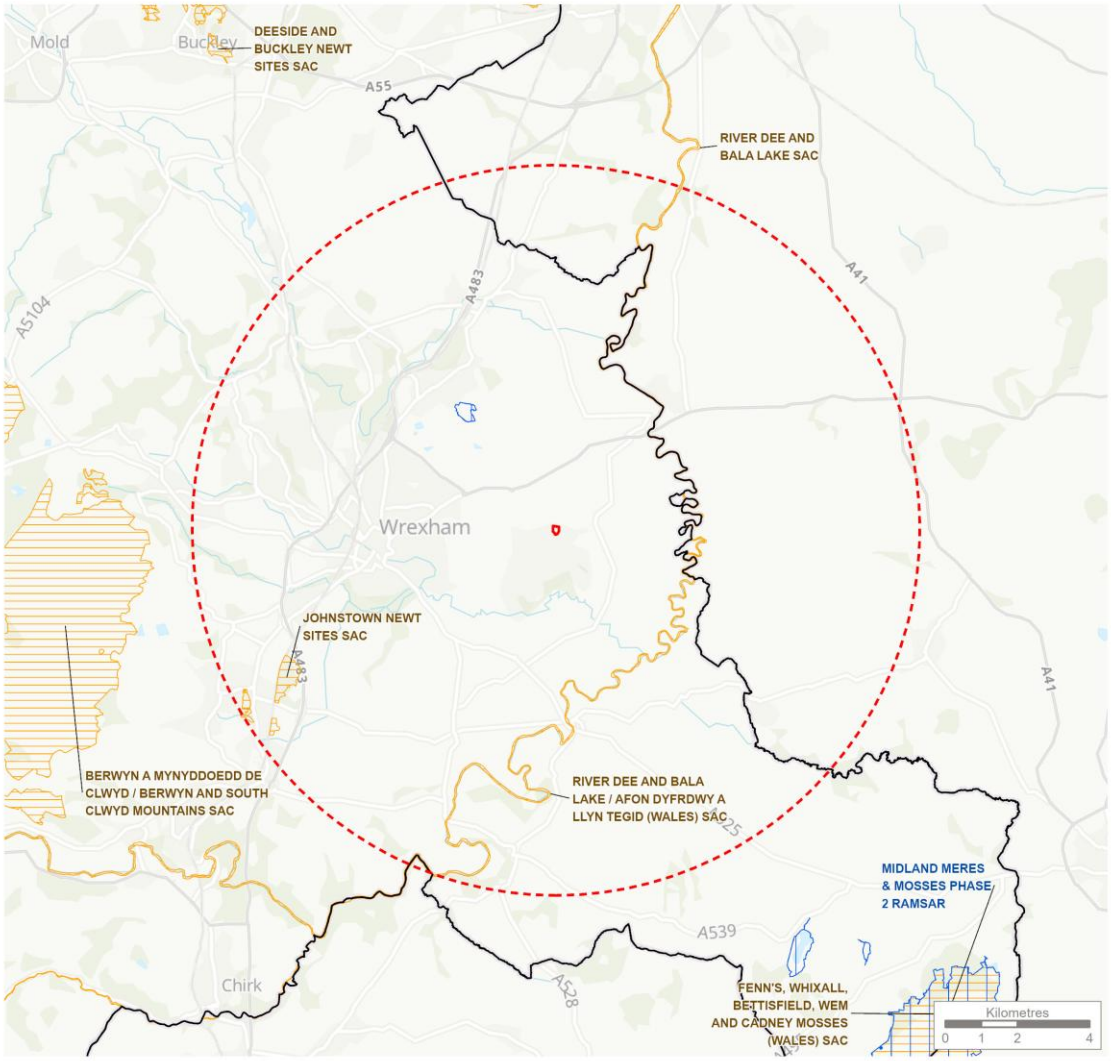
5.2 The Scheme lies within one SSSI Impact Risk Zone (IRZ), for River Dee (England) SSSI. SSSI IRZ's are zones determined by Natural England but can extend into Wales for sites

[33] JNCC *https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1002499.pdf* (Accessed November 2023)

[34] Natural Resources Wales *https://naturalresources.wales/media/658648/SSSI_1064_Citation_EN001b3ba.pdf* (Accessed November 2023)

[35] Natural Resources Wales *https://naturalresources.wales/media/655861/SSSI_0950_Citation_EN001caa5.pdf* (Accessed November 2023)

located close to the border. IRZs identify likely impacts upon SSSIs, SACs, SPAs or Ramsar sites that may result from planned development.



Key

- Site boundary
- Site boundary - 10km buffer
- Wales and England Border
- Ramsar
- Special Areas of Conservation (SAC)

Sites searched for were as follows:
- Ramsar
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)

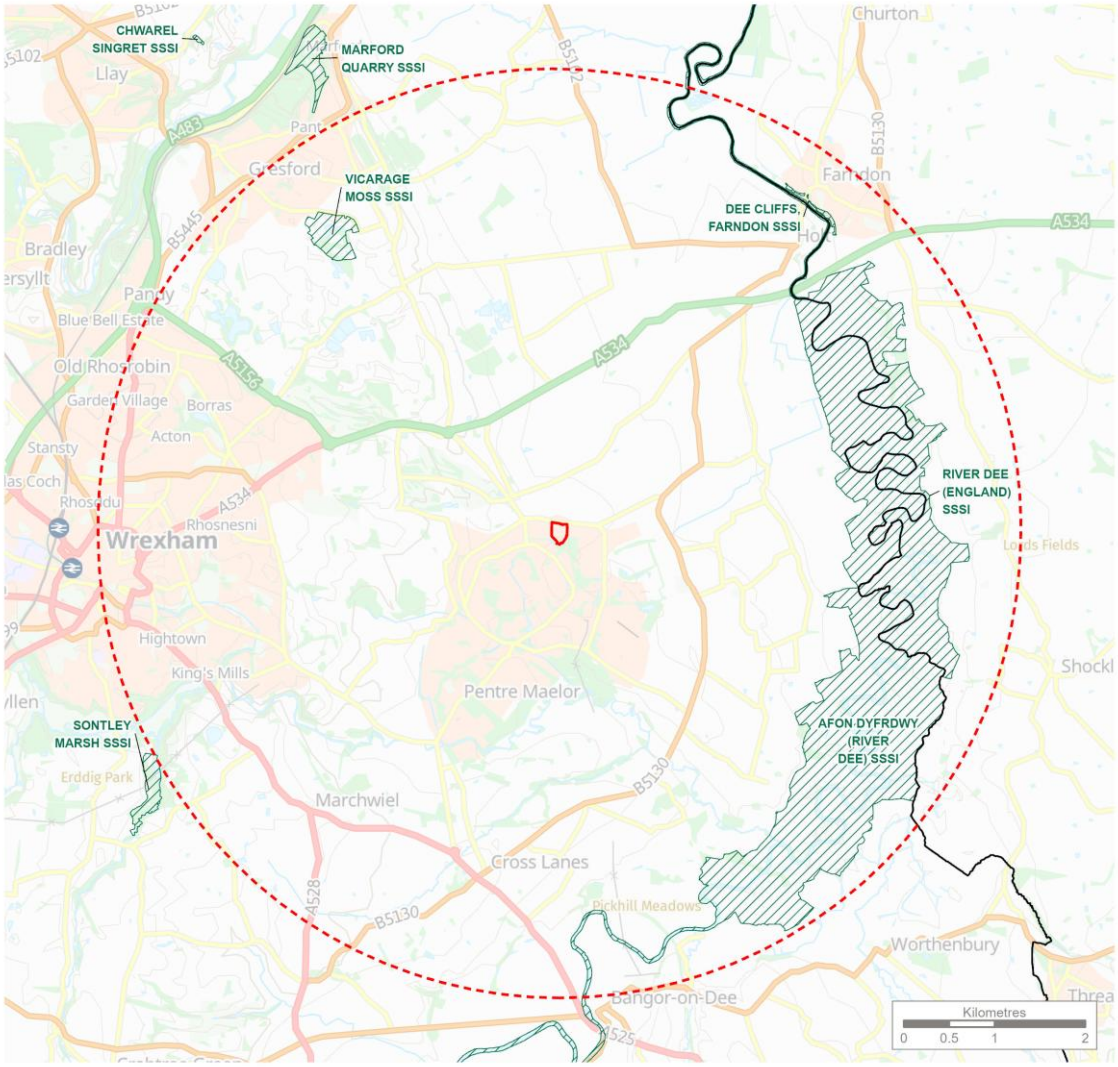
THE ENVIRONMENT PARTNERSHIP
401 Faraday Street, Birchwood Park, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project	Land South of Bryn Lane, Wrexham
Title	Internationally Designated Sites Within a 10km Buffer
Drawing Number	G10204.002
Scale	1:150,000 @ A4
Date	21/11/2023
Drawn	OH
Checked	AR
Approved	KR

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Contains data from OS Zoomstack

5.3

5.4 Figure 2: Internationally Designated Sites Within a 10km Buffer



Key

- Site boundary
- Site boundary - 5km buffer
- Wales and England Border
- 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)

THE ENVIRONMENT PARTNERSHIP
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Project: Land South of Bryn Lane, Wrexham

Title: Nationally Designated Sites Within a 5km Buffer

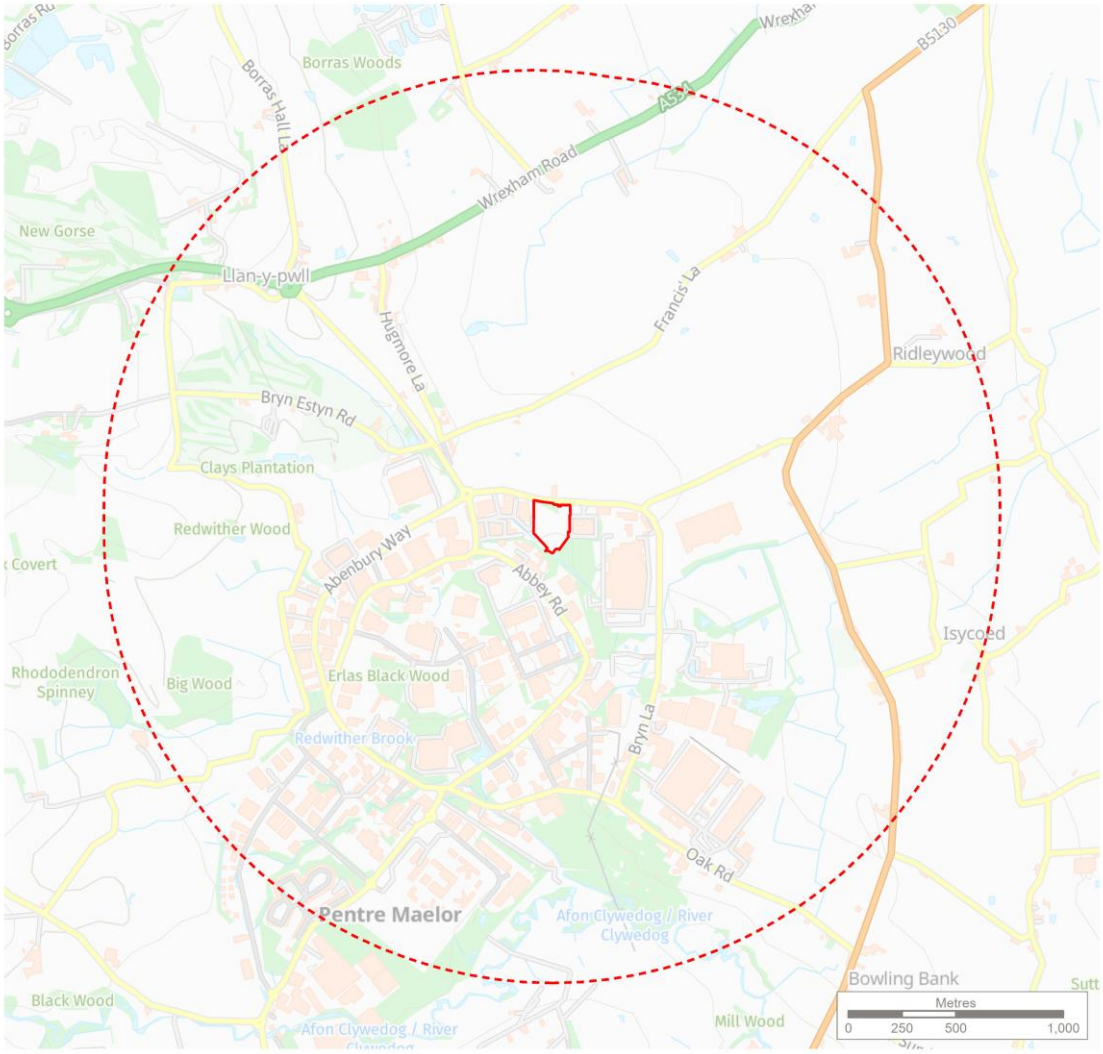
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Scale	Date
1:60,000 @ A4	22/11/2023

Drawn	Checked	Approved
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Figure 3: Nationally Designated Sites Within a 5km Buffer



Key

Site boundary

Site boundary - 2km buffer

Sites searched for were as follows:
- Local Nature Reserves

No records found

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Project
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Title
Statutory Locally Designated Sites Within a 2km Buffer

Drawing Number
G10204.004

Scale	Date
1:25,000 @ A4	21/11/2023

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Figure 4: Statutory Locally Designated Sites Within a 2km Buffer

5.5 illustrates and references the IRZs that overlap with the Scheme. The relevant IRZ and risk criteria are cross-referenced in

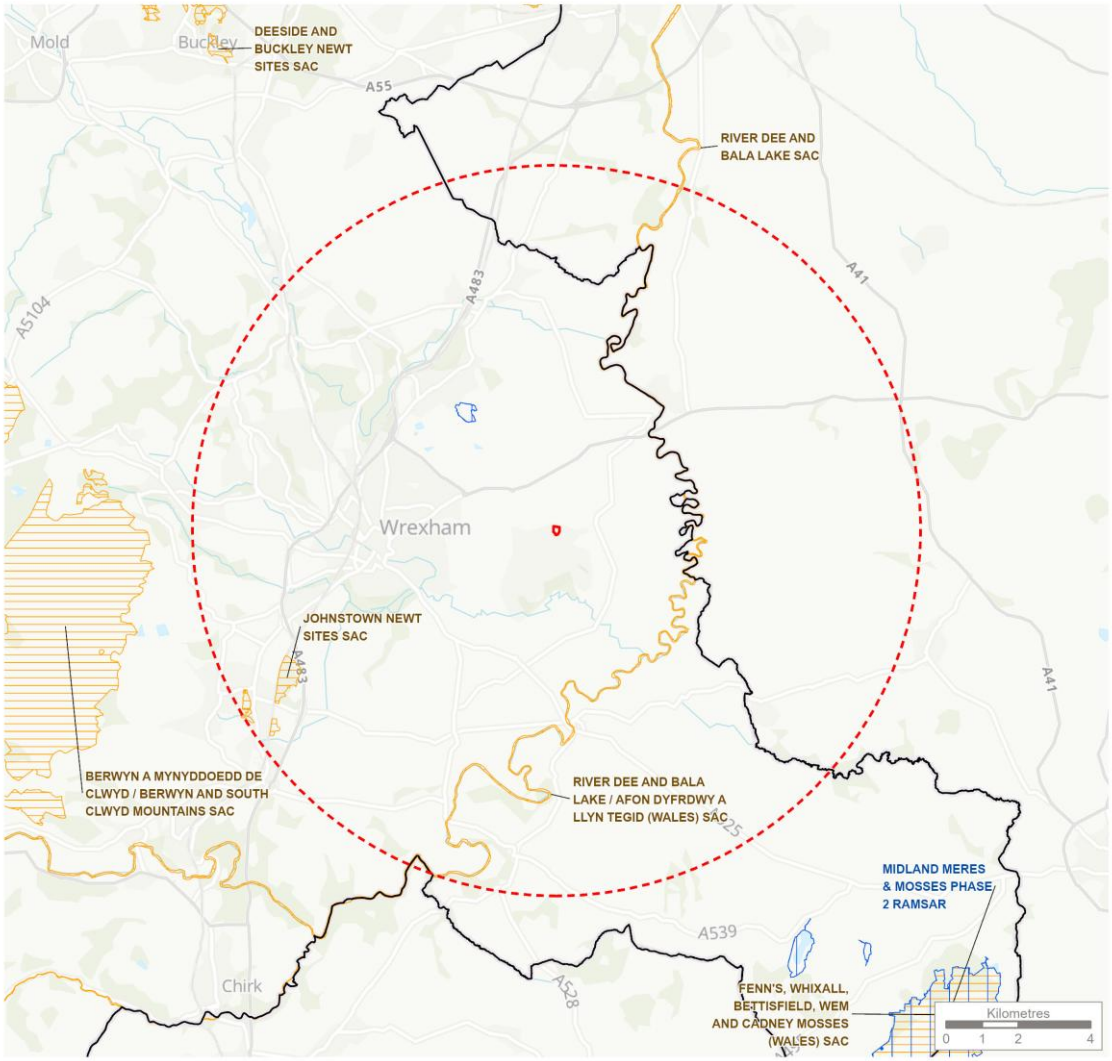
5.6 Table 3: SSSI Impact Risk Zones crossed by the options

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

1 PROPOSAL IRZ	2 LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Airports, helipads and other aviation proposals.
Wind & Solar Energy	
Minerals, Oil & Gas	
Rural Non-Residential	
Residential	
Rural Residential	
Air Pollution	Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).
Combustion	General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	
Composting	
Discharges	
Water Supply	
Notes 1	
GUIDANCE	*How to use the impact guidance*

5.7 .



Key

- Site boundary
- Site boundary - 10km buffer
- Wales and England Border
- Ramsar
- Special Areas of Conservation (SAC)

Sites searched for were as follows:
- Ramsar
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)

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Title
Internationally Designated Sites Within a 10km Buffer

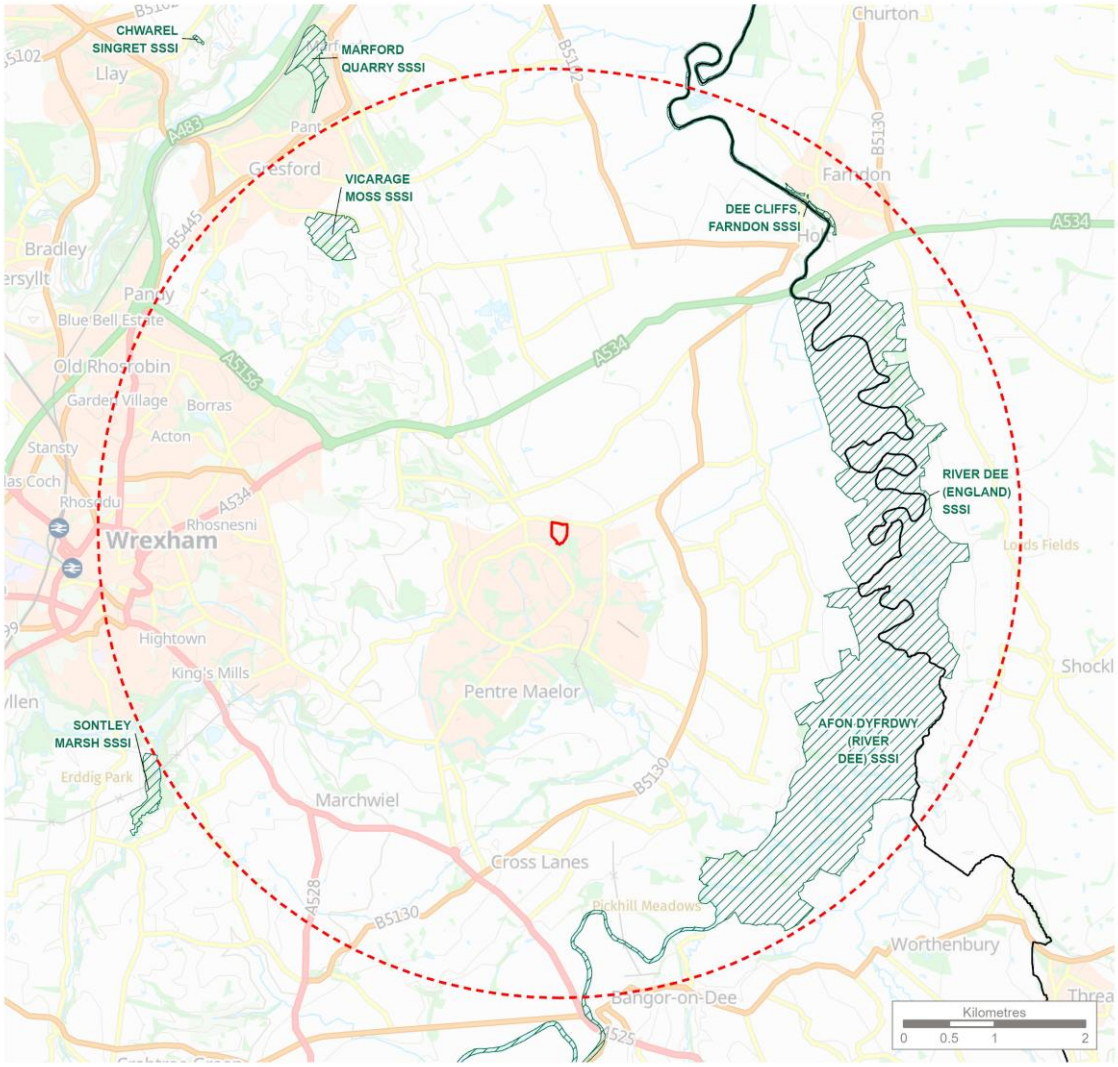
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Figure 2: Internationally Designated Sites Within a 10km Buffer



Key

- Site boundary
- Site boundary - 5km buffer
- Wales and England Border
- 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: Land South of Bryn Lane, Wrexham

Title: Nationally Designated Sites Within a 5km Buffer

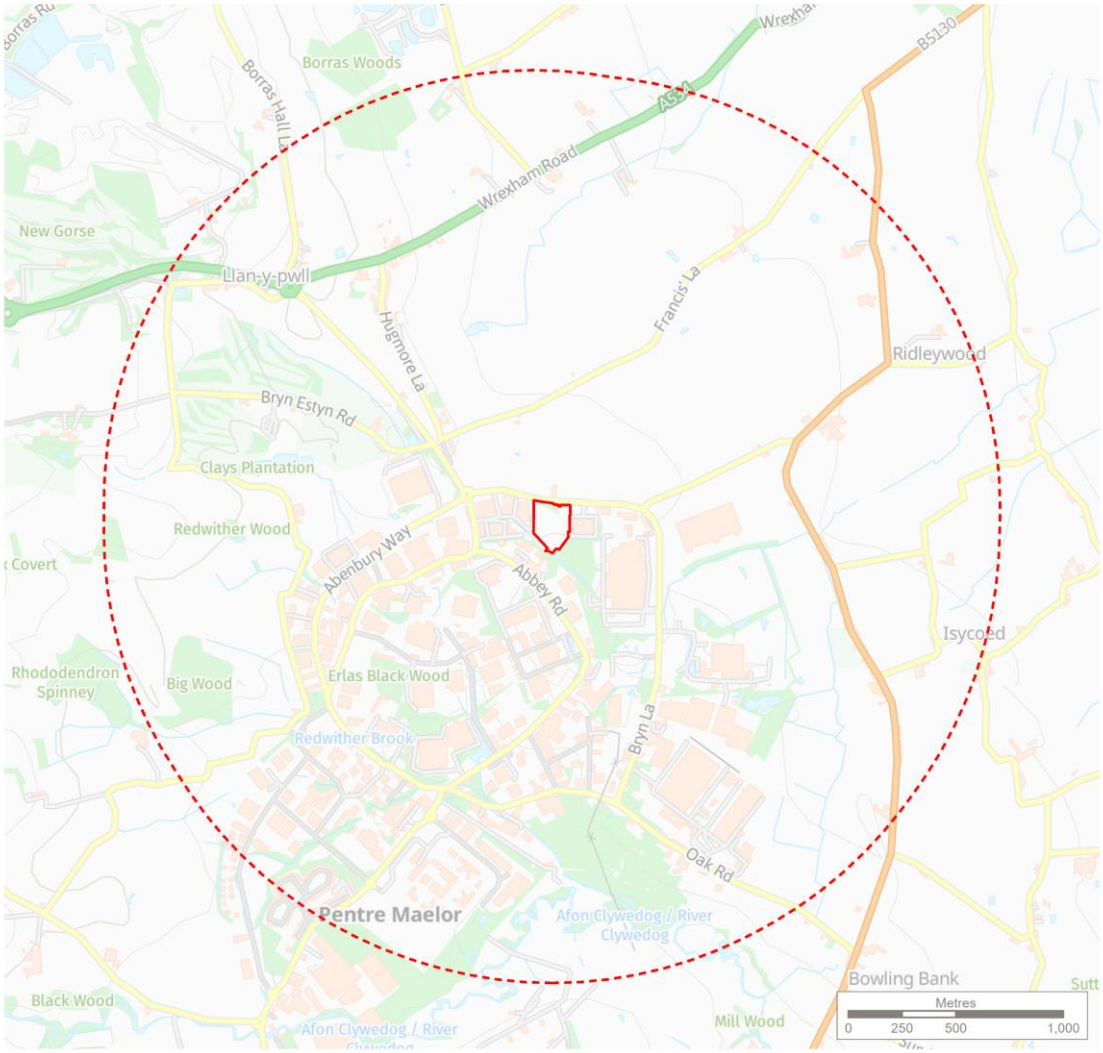
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Figure 3: Nationally Designated Sites Within a 5km Buffer



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 a 2km Buffer

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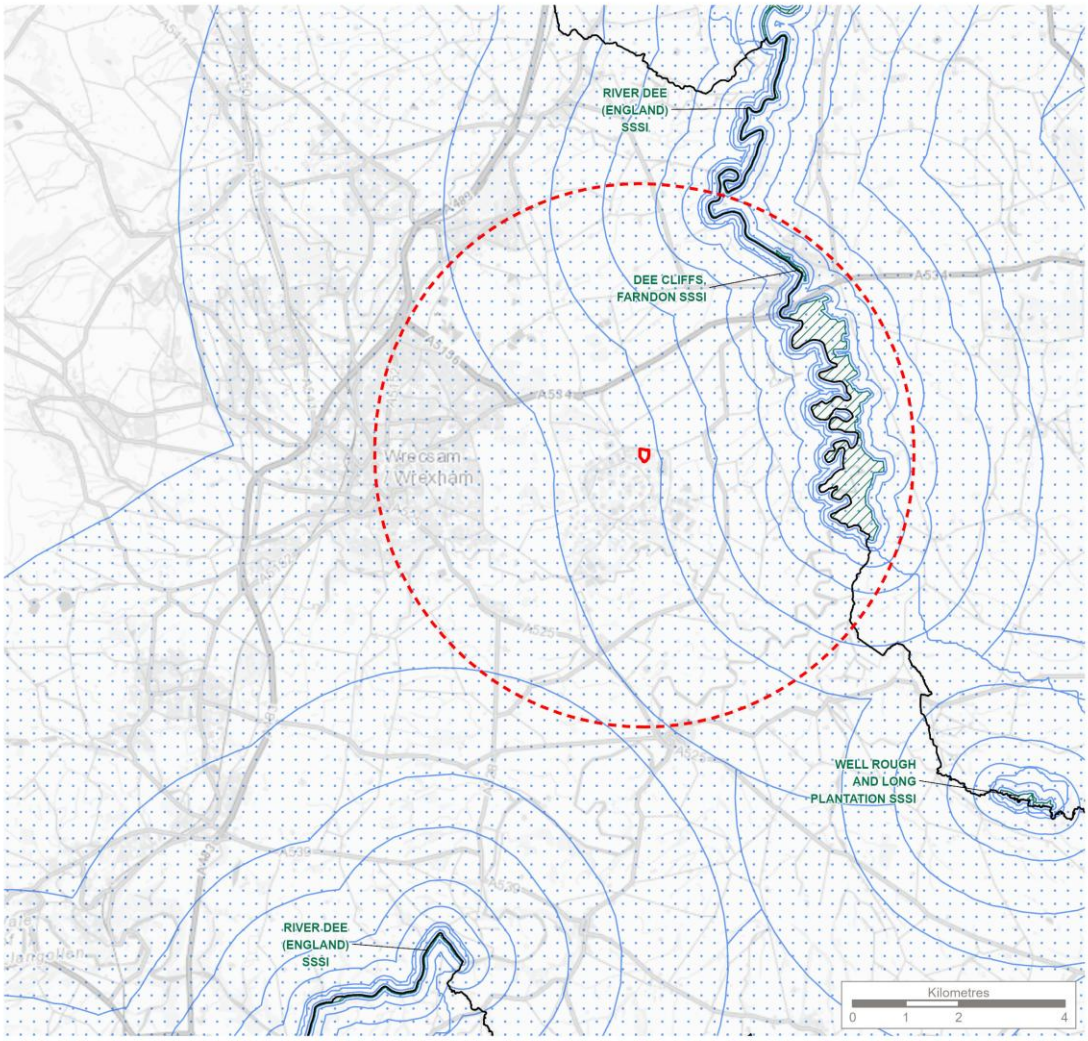
Figure 4: Statutory Locally Designated Sites Within a 2km Buffer

Table 3: SSSI Impact Risk Zones crossed by the options

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

1 PROPOSAL IRZ	2 LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Airports, helipads and other aviation proposals.
Wind & Solar Energy	
Minerals, Oil & Gas	
Rural Non-Residential	
Residential	
Rural Residential	
Air Pollution	Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).
Combustion	General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	
Composting	
Discharges	
Water Supply	
Notes 1	
GUIDANCE	*How to use the impact guidance*



Key

- Site boundary
- Site boundary - 5km buffer
- Wales and England Border
- Sites of Special Scientific Interest (SSSI)
- Sites of Special Scientific Interest - Impact Risk Zone

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Project
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Title
Sites of Special Scientific Interest - Impact Risk Zone

Drawing Number
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Figure 5: SSSI Impact Risk Zones relevant to the Scheme (refer to Table 3 for IRZ criteria)

Non-Statutory Wildlife Sites

5.8 Table 4 summarises the non-statutory locally designated wildlife sites identified within 2km of the site. Distances are calculated between the closest points.

5.9 Data relating to these sites were provided by COFNOD and the location of the sites are illustrated at Figure 7.

Table 4: Non-statutory local wildlife sites

Site Name	Status	Distance and Direction from Scheme	Key Interest Feature(s)
Wrexham Industrial Estate	LWS	Approximately 0.6km southwest	This is a series of sites within the industrial estate. Habitats include unmanaged grassland, ancient broad-leaved woodland, a mosaic of scrub, species-rich grassland and tall herb with species of interest including dyers greenweed *Genista tinctoria* and grass vetchling *Lathyrus nissolia.*
Cefn Park	Local Wildlife Site (LWS)	1.5km Southwest	Fen and semi-natural broad-leaved woodland

5.10 The Scheme lies within a B-line[36], Cymru (Figure 4). B-line is an initiative that has mapped insect pathways and the Cymru area is a stronghold for rare species such as the Shrill carder bee.

5.11 The scheme lies 1.1km north from an Important Invertebrate area (IIA) [37]The Northeast Wales IIA encompasses vast areas of contrasting upland and lowland habitats in Powys, Denbighshire, Wrexham, Shropshire and Cheshire along the route of the River Dee/Afon Dyfrdwy. These are places that are home to nationally or internationally significant invertebrate populations and their habitats. They include diverse species from beetles and moths to freshwater shrimps and woodlice, and habitats from the shoreline, along rivers and to the uplands.

[36] *https://www.buglife.org.uk/our-work/b-lines/b-lines-wales/* (Accessed November 2023)

[37] *https://www.buglife.org.uk/our-work/important-invertebrate-areas/* (Accessed November 2023)

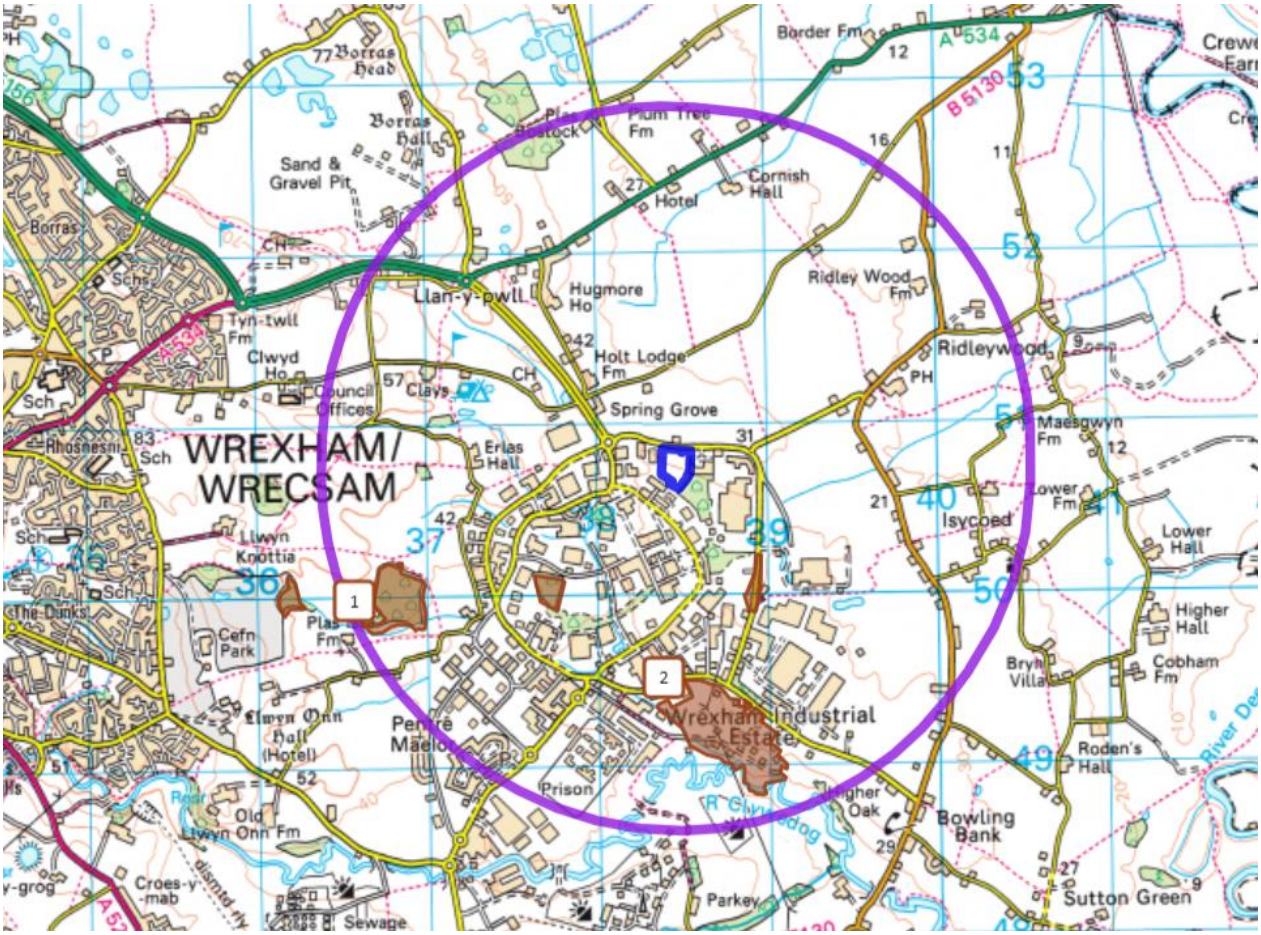


Figure 6: Non-statutory wildlife sites within 2km of the site (map provided by COFNOD)

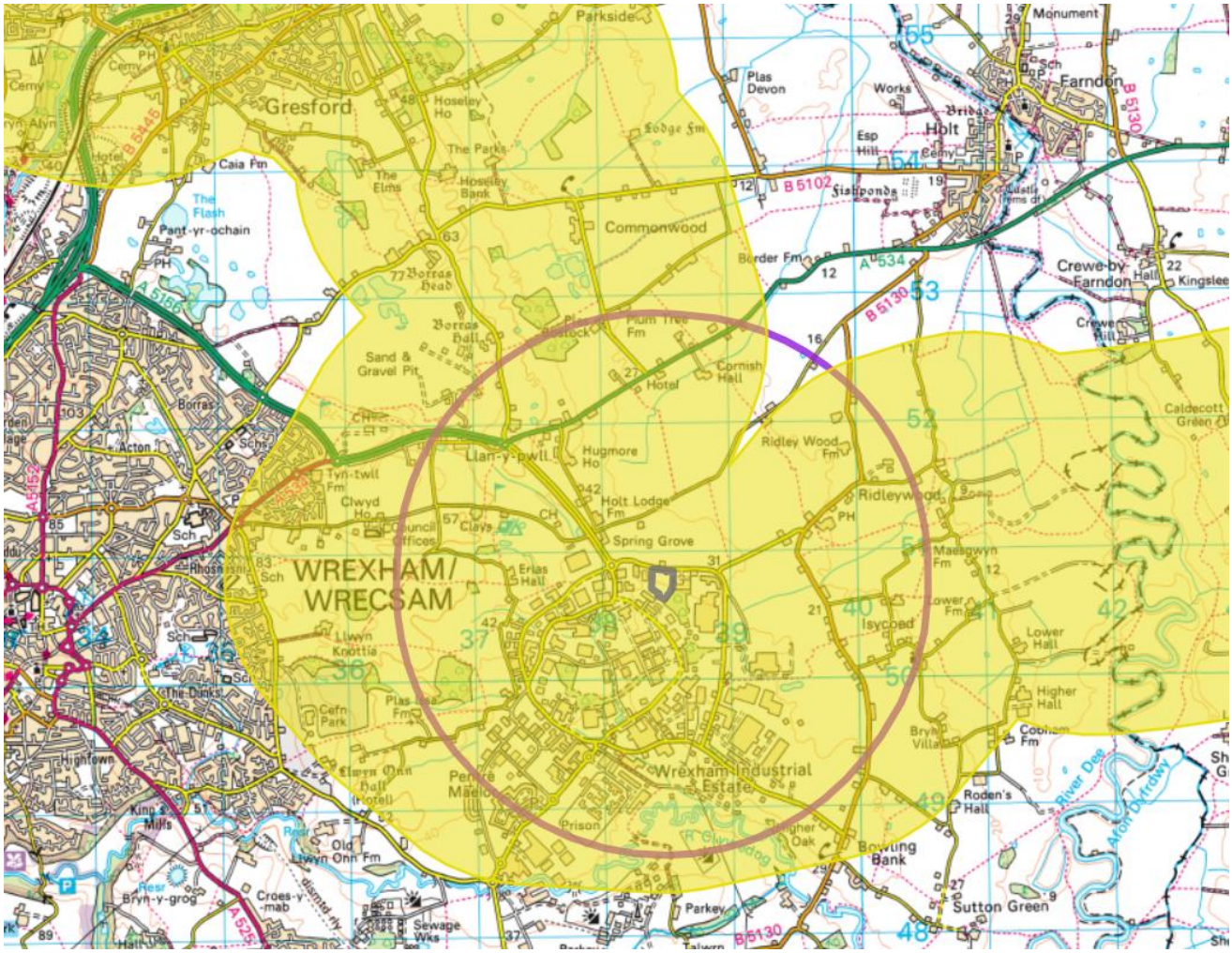


Figure 7: Extract from COFNOD showing the site within a B-line, Cymru

6.0 Notable Habitats

Ancient Woodland

6.1 There are no areas of ancient woodland identified within 500 metres of the site.

6.2 There is one record of a veteran oak *Quercus sp.* tree (Tree ID 13793) approximately 60 metres to the east of the site boundary, registered by the Woodland Trust[38].

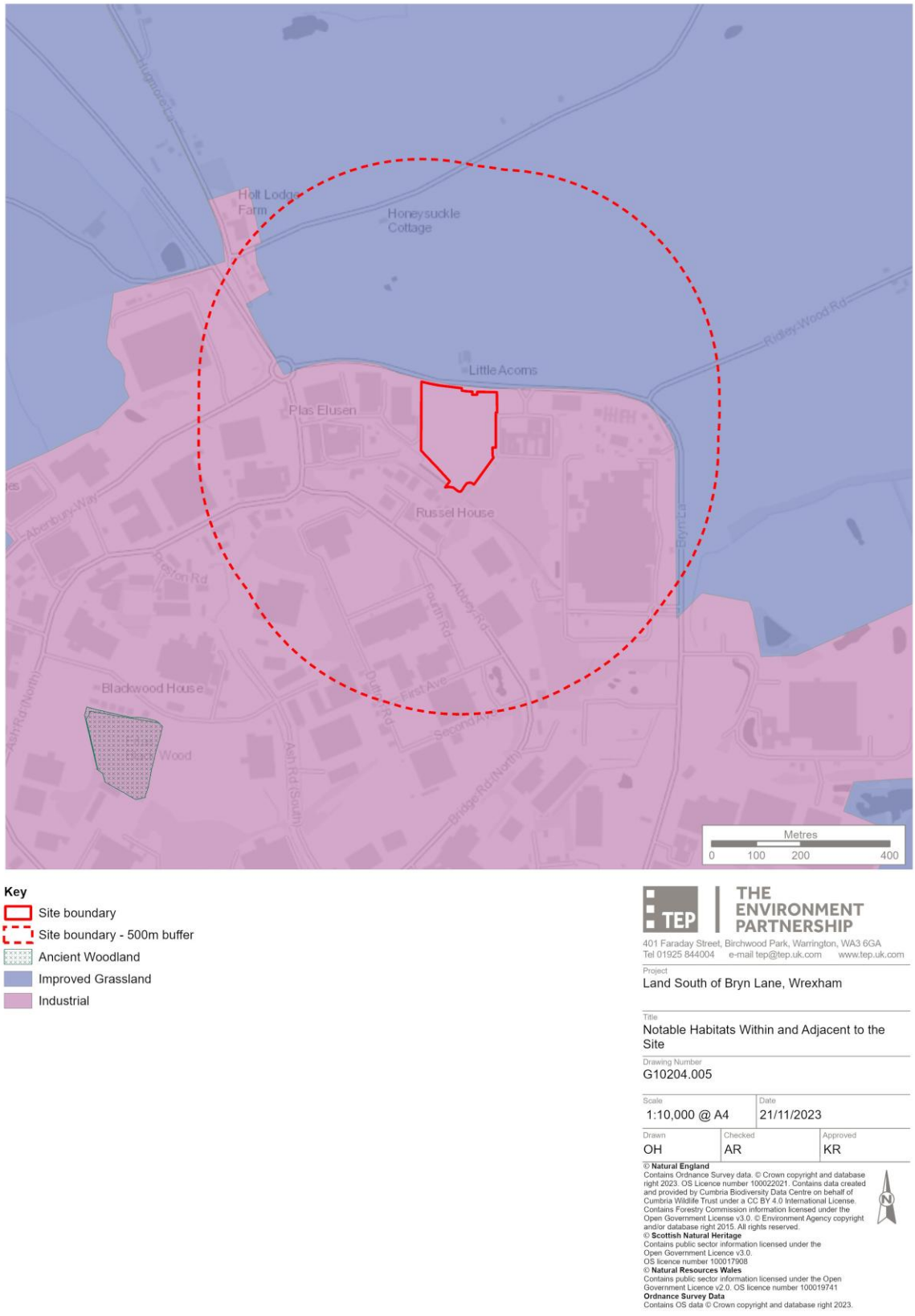
Priority Habitats

6.3 No S7 priority habitats were identified within or adjacent to the site (Figure 6).

Main Rivers

6.4 There are no statutory main rivers on or adjacent to the site.

[38] The Woodland Trust *https://ati.woodlandtrust.org.uk/tree-search/?v=2413649&ml=map&z=16&nwLat=53.05399312368196&nwLng=-2.9374122801427216&seLat=53.04728595653765&seLng=-2.9054832640294403* (Accessed November 2023)



Key

- Site boundary
- Site boundary - 500m buffer
- Ancient Woodland
- Improved Grassland
- Industrial

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Title
Notable Habitats Within and Adjacent to the Site

Drawing Number
G10204.005

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Figure 8: Notable habitats within 0.5km of the site

7.0 Protected and Notable Species

Pre-existing Species Records

7.1 Numerous species records were returned from Cofnod for within 2km of the Scheme. These are summarised in **Error! Reference source not found.**.

Table 5: Summary of pre-existing species records returned by Cofnod records centre

Name of Species	Relevant Legislation / Status (as assigned by Cofnod records centre)	Number of records	Nearest record relevance (in metres)
Amphibians			
Great Crested Newt *Triturus cristatus*	LBAP-W, S7, WCA5, EPS (Sch2)	25	0.6km East
Common Toad *Bufo bufo*	WCA5, S7	11	0.6km Southeast
Common Frog *Rana temporaria*	WCA5	17	0.1km East
Smooth Newt *Lissotriton vulgaris*	WCA5	27	0.5km Southeast
Palmate Newt *Lissotriton helveticus*	WCA5	7	0.9km South
Lissotriton sp.	WCA5	22	0.5km Southeast
Birds			
Bullfinch *Pyrrhula pyrrhula*	BAm, S7	7	0.08km East
Barn Owl *Tyto alba*	WCA1.1, LBAP-W	8	0.8km North
Black-headed Gull *Chroicocephalus ridibundus*	S7, BRd	5	0.12km East
Cetti's Warbler *Cettia cetti*	WCA1.1	1	1.4km Southeast

Name of Species	Relevant Legislation / Status (as assigned by Cofnod records centre)	Number of records	Nearest record relevance (in metres)
Coal Tit *Periparus ater*	BAm	3	0.12km East
Common Gull *Larus canus*	BAm	1	2km Northeast
Coot *Fulica atra*	BAm	2	2km Northeast
Crossbill *Loxia curvirostra*	WCA1.1	1	0.9km West
Cuckoo *Cuculus canorus*	S7, BRd	2	1.5km Southeast
Curlew *Numenius arquata*	S7, BRd	6	1.4km East
Dunnock *Prunella modularis*	S7, BAm	1	1.1km South
Fieldfare *Turdus pilaris*	WCA1.1, BAm	3	0.12km East
Goldcrest *Regulus regulus*	BRd	4	0.08km East
Golden Plover *Pluvialis apricaria*	S7, BRd	1	2km Northeast
Goshawk *Accipiter gentilis*	WCA1.1, BAm	1	0.4km East
Green Sandpiper *Tringa ochropus*	WCA1.1, BAm	1	1.1km North
Green Woodpecker *Picus viridis*	BAm	17	0.12km East
Greenfinch *Chloris chloris*	BRd	2	1.7km East
Grey Wagtail	BAm	5	0.12km East

Name of Species	Relevant Legislation / Status (as assigned by Cofnod records centre)	Number of records	Nearest record relevance (in metres)
Motacilla cinerea			
Greylag Goose *Anser anser*	WCA1.2	2	1.7km Northeast
Herring Gull *Larus argentatus*	S7, BRd	8	0.12km East
Hobby *Falco subbuteo*	WCA1.1	1	0.12km East
House Martin *Delichon urbicum*	BAm	4	0.12km East
House Sparrow *Passer domesticus*	S7, BAm	2	0.12km East
Jack Snipe *Lymnocryptes minimus*	BAm	1	1.5km East
Kestrel *Falco tinnunculus*	S7, BRd	11	0.2km East
Kingfisher *Alcedo atthis*	WCA1.1	1	0.12km East
Lapwing *Vanellus vanellus*	BRd, S7	2	2km West
Lesser Black-backed *Gull Larus fuscus*	BRd	3	0.12km East
Lesser Redpoll *Acanthis cabaret*	S7, BAm	1	0.12km East
Linnet *Linaria cannabina*	S7, BRd	1	1.7km Southeast
Little Ringed Plover *Charadrius dubius*	WCA1.1	1	0.12km East
Meadow Pipit *Anthus pratensis*	BRd	2	0.12km East

Name of Species	Relevant Legislation / Status (as assigned by Cofnod records centre)	Number of records	Nearest record relevance (in metres)
Mistle Thrush *Turdus viscivorus*	BAm	3	0.12km East
Oystercatcher *Haematopus ostralegus*	BAm	1	2km Northeast
Peregrine *Falco peregrinus*	WCA1.1	3	0.19km East
Pintail *Anas acuta*	WCA1.2, BAm	1	2km Northeast
Quail *Coturnix coturnix*	BAm, WCA1.1	1	2.2km Northeast
Red Kite *Milvus milvus*	WCA1.1	1	0.9km West
Redshank *Tringa totanus*	BRd	1	2km Northeast
Redwing *Turdus iliacus*	WCA1.1	4	0.12km East
Rook *Corvus frugilegus*	BRd	4	0.12km East
Shelduck *Tadorna tadorna*	BRd	1	2km Northeast
Shoveler *Spatula clypeata*	BAm	1	2km Northeast
Skylark *Alauda arvensis*	S7, BAm	3	0.12km East
Song Thrush *Turdus philomelos*	LBAP-W, S7	4	0.12km East
Starling *Sturnus vulgaris*	S7, BRd	2	0.6km Northwest

Name of Species	Relevant Legislation / Status (as assigned by Cofnod records centre)	Number of records	Nearest record relevance (in metres)
Swift *Apus apus*	BRd	4	0.12km East
Teal *Anas crecca*	BAm	1	2km Northeast
Tree Sparrow *Passer montanus*	S7, BRd	1	0.6km Northeast
Whitethroat *Curruca communis*	BRd	3	0.12km East
Wigeon *Mareca penelope*	BAm	1	2km Northeast
Willow Warbler *Phylloscopus trochilus*	BRd	2	0.7km North
Woodcock *Scolopax rusticola*	BRd	2	0.01km East
Yellowhammer *Emberiza citrinella*	S7, BRd	1	1.9km Northeast
Flowering plants			
Pennyroyal *Mentha pulegium*	BAP, S7, WCA8	4	0.3km Southeast
Bluebell *Hyacinthoides non-scripta*	WCA8	3	0.9km Southwest
Invertebrates			
Blood-vein *Timandra comae*	S7	1	1.8km South
Cinnabar *Tyria jacobaeae*	S7	2	0.9km Southwest
Dingy Skipper *Erynnis tages*	S7	66	0.14km East

Name of Species	Relevant Legislation / Status (as assigned by Cofnod records centre)	Number of records	Nearest record relevance (in metres)
Grizzled Skipper *Pyrgus malvae*	S7	49	0.16km East
Latticed Heath *Chiasmia clathrata*	S7	3	0.2km East
Shaded Broad-bar *Scotopteryx chenopodiata*	S7	1	0.6km Southwest
Small Heath *Coenonympha pamphilus*	S7	38	0.1km East
Terrestrial Mammals			
[redacted]			
Brandt's Bat *Myotis brandtii*	EPS (Sch2), WCA5,	2	0.7km Southwest
Brown Long-eared Bat *Plecotus auritus*	EPS (Sch2), S7, WCA5	3	0.2km East
Common Pipistrelle *Pipistrellus pipistrellus*	EPS (Sch2), S7, WCA5	8	0.8km Southwest
Daubenton's Bat Myotis daubentonii	EPS (Sch2), WCA5	2	0.9km East
Brown Hare *Lepus europaeus*	S7	2	1.8km Northwest
Lesser Horseshoe Bat *Rhinolophus hipposideros*	EPS (Sch2), BAP, LBAP-W, S7, WCA5	1	0.9km East
Whiskered/Brandt's Bat *Myotis mystacinus/brandtii*	EPS (Sch2), WCA5	1	0.9km East

Name of Species	Relevant Legislation / Status (as assigned by Cofnod records centre)	Number of records	Nearest record relevance (in metres)
Whiskered Bat *Myotis mystacinus*	EPS (Sch2), WCA5	1	1.6km East
Myotis Bat species *Myotis*	EPS (Sch2), WCA5	2	0.3km East
Natterer's Bat *Myotis nattereri*	EPS (Sch2), WCA5	1	0.9km East
Noctule Bat Nyctalus noctula	EPS (Sch2), S7, WCA5	5	0.7km Southwest
Soprano Pipistrelle *Pipistrellus pygmaeus*	EPS (Sch2), S7, WCA5	3	0.7km Southwest
Otter *Lutra lutra*	LBAP-W, S7, WCA5, EPS (Sch2)	4	1.4km East
Hedgehog *Erinaceus europaeus*	S7	5	0.5km North
Polecat *Mustela putorius*	S7	2	1.4km East
Reptiles			
Common Lizard *Zootoca vivipara*	S7, WCA5	1	0.4km Southwest
Grass Snake *Natrix helvetica*	S7, WCA5	1	1km South
Bony Fish			
Eel *Anguilla anguilla*	S7	2	0.7km Southeast

Annex A: Key Ecological Legislation and National Policy

Relevant Legislation

International Conventions

a. The UK is a Contracting Party to numerous environmental conventions, the commonest form of international agreements to encourage a coordinated response to managing the environment. Key environmental conventions ratified in the UK include:

- The Convention on Wetlands of International Importance especially as Waterfowl Habitat ('Ramsar Convention'[39] or 'Wetlands Convention') - provides the only international mechanism for protecting sites of global importance;
- The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention[40]) - imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species;
- The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention[41] or CMS) - provides strict protection for endangered migratory species. The UK has currently ratified four legally binding Agreements under the convention relating to bats (EUROBATS), African-Eurasian migratory birds (AEWA), small cetaceans in the Baltic, Irish and North Seas (ASCOBANS) and albatrosses and petrels (ACAP) in addition to five Memorandum of Understanding (MoU) and is non-party range state to a further Agreement and a further MoU;
- The Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO World Heritage Convention) - seeks to protect both cultural and natural heritage;
- The Convention on Biological Diversity (Biodiversity Convention[42] or CBD) - provides a legal framework for biodiversity conservation. Within the UK, delivery of the CBD and the Strategic Plan for Biodiversity 2011-2020[43] is guided by the UK Post-2010 Biodiversity Framework[44].

b. The legal obligations of the multiple Conventions to which the UK is a Contracting Party are enacted through a suite of national environmental legislation. The most relevant are described in the following paragraphs.

---

[39] Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 2.2.1971 *https://www.ramsar.org/*

[40] Convention on the Conservation of European Wildlife and Natural Habitats. Bern, 1979 *https://www.coe.int/*

[41] Convention on the Conservation of Migratory Species of Wild Animals, Bonn, June 1979 *https://www.cms.int/*

[42] Convention on Biological Diversity, Rio de Janeiro, June 1992*https://www.cbd.int/*

[43] In October 2010, at the 10th Conference of the Parties to the CBD in Nagoya, Japan, the Parties adopted a new 'Strategic Plan for Biodiversity 2011–2020' along with its 20 'Aichi targets'. *https://www.cbd.int/sp/*

[44] The framework is overseen by the Environment Departments of the four UK governments working through the Four Countries' Biodiversity Group. It demonstrates how the UK, through each of the four countries, contributes to achieving the 'Aichi targets', and identifies the activities required to complement the individual country biodiversity strategies *https://jncc.gov.uk/our-work/uk-post-2010-biodiversity-framework/*

Conservation of Habitats and Species Regulations

c. The Conservation of Habitats and Species Regulations 2017[45] (2017 Regulations) transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives) into domestic law.

d. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[46] (2019 Regulations) amends the 2017 Regulations to make them operable following the withdrawal of the United Kingdom from the European Union (EU). Most of the changes involve transferral of functions from European Commission to the appropriate authorities in England and Wales, also extending to Scotland and Northern Ireland and applies to Scotland and Northern Ireland (including the adjacent territorial sea to a limited degree), as regards reserved and excepted matters respectively. It also amends Section 27 of the Wildlife and Countryside Act 1981 to maintain existing protections and enforcement for species of wild birds.

e. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance and obligations (of a competent authority) remain relevant.

National Site Network

f. Under the 2019 Regulations, Special Areas of Conservation (SAC) and Special Protection Areas (SPA) in the UK no longer form part of the EU's 'Natura 2000' ecological network, but instead (along with new SACs and SPAs designated under the 2019 Regulations) form the new National Site Network (NSN). Ramsar sites[12] do not form part of the NSN but remain protected in the same way as SACs and SPAs.

g. Proposals which may significantly affect a site belonging to the NSN and which are not connected with or necessary to the management of that site require (by Regulations 63 and 64 of the 2017 Regulations, as amended by Regulations 24 and 25 of the 2019 Regulations, respectively) competent authorities to undertake an Appropriate Assessment of the implications of the plan or project in view of that site's conservation objectives. This process is commonly referred to as a 'Habitats Regulations Assessment' (HRA). The assessment must consider 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

[45] Conservation of Habitats and Species Regulations 2017 (SI 2017/1012) *https://www.legislation.gov.uk/uksi/2017/1012/*

[46] Conservation of Habitats and Species Regulations 2019 (SI 2019/579) *https://www.legislation.gov.uk/uksi/2019/579/*

imperative reasons of over-riding public interest (IROPI) and if the necessary compensatory measures can be secured.

Protected Species

h. Certain animals and their breeding sites or resting places are protected under Regulation 43 of the 2017 Regulations, which makes it illegal to:

- Deliberately capture, injure or kill any such animal or to deliberately take or destroy the eggs of such an animal;
- Deliberately disturb such an animal; and
- Damage or destroy a breeding site or resting place of such an animal.

i. Disturbance is defined in the 2017 Regulations as an activity which is likely to impair a species' ability to survive, to breed or reproduce, to rear or nurture young or, in the case of animals hibernating or migratory species, to hibernate, migrate or which may significantly affect the local distribution or abundance; of the species.

j. A bat's resting place is known as a roost site. Because bats tend to be faithful to roost sites, but their biology is such that different roost site characteristics are preferred at different times of the year by different species for different functions, a bat roost is considered to be afforded protection even when it is not occupied.

k. Certain plant species are protected under Regulation 47 of the 2017 Regulations against deliberate picking, collecting, cutting, uprooting or destruction. It is also an offence to be in possession or control and to transport any live or dead plant or part of a plant of such a species which has been taken in the wild.

l. The 2017 Regulations (Regulation 55) enables a relevant licensing body to grant a licence for certain activities that may affect animal or plant species protected by the above provisions. The purpose must conform to one of those listed under Regulation 55(2). For most development related activities, the purpose normally relates to Regulation 55(2)(e) 'preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequence of primary importance for the environment' – commonly known as the IROPI test. Regulation 55(9) introduces two further tests that the licensing body must consider:

- There is no satisfactory alternative; and
- The favourable conservation status of the species concerned will be maintained and/or enhanced.

m. Under Regulation 9(1) of the 2017 Regulations (as amended), competent authorities "must exercise their functions which are relevant to nature

conservation… so as to secure compliance with the requirements of the Directives". Regulation 9(3) requires a competent authority, in exercising any of its function, to "have regard to the requirements of the Directives so far as they be affected by the exercise of those functions." Local planning authorities must therefore consider the above three 'tests' when determining if planning permission should be granted for developments likely to cause an offence under the Regulations.

Wildlife and Countryside Act 1981

n. The Wildlife and Countryside Act 1981 (as amended)[47] (WCA) is a major legal instrument for wildlife protection in the UK. In respect of habitats and flora, the WCA protects important habitats and/or species as Sites of Special Scientific Interest (SSSI). The designation of UK Ramsar sites[12] has usually been underpinned through prior notification of these areas as SSSI and accordingly they receive statutory protection under the WCA.

o. The obligations of the Bern Convention[13] (the protection of wild plant and animal species and their natural habitats) are transposed into law for England and Wales[48] by the WCA. The legal requirement for the protection of migratory species listed by the Bonn Convention[14] is also provided by the WCA.

p. All wild birds (as defined by the WCA and with exception to species listed in Schedule 2) are protected under the WCA, which makes it illegal to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest (whilst being built or in use) of any wild bird; or
- Take or destroy the eggs of any wild bird.

q. Special penalties are available for offences related to birds listed in Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate Areas of Special Protection (subject to exceptions) to provide further protection to birds. The WCA also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.

r. Certain animal species (listed under Schedule 5) of the WCA receive protection which makes it illegal (with certain exceptions) to:

[47] Wildlife and Countryside Act 1981 c. 69 *https://www.legislation.gov.uk/ukpga/1981/69/*

[48] In Scotland by the Nature Conservation (Scotland) Act 2004 (as amended) and in Northern Ireland by Wildlife (Northern Ireland) Order 1985 and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985.

- 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;
- Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.

s. The Environment Act (EA) 2021 amends the licensing regime under Section 16 of the WCA 1981 to enable licences to be granted (in England only) for reasons of overriding public interest. This new purpose will enable those involved in development activities to apply for a derogation under the WCA for species domestically protected under Schedule 5 of the WCA 1981.

t. The amendments introduced by the EA 2021 at Section 16(3) requires that licensed may only be granted (in England) where:

- there is no other satisfactory solution, and
- the grant of the licence is not detrimental to the survival of any population of the species of animal or plant to which the licence relates.

u. Plant species listed under Schedule 8 of the WCA 1981 are protected from unauthorised intentional picking, uprooting and destruction.

v. It is an offence to plant or otherwise cause to grow in the wild any plant that is included in Schedule 9.

Countryside and Rights of Way Act 2000

w. Part III of the Countryside and Rights of Way Act 2000[49] (CROW) deals specifically with wildlife protection and nature conservation. It requires that Government Departments have regard for the conservation of biodiversity, in accordance with the CBD. In addition, it requires that The Secretary of State publishes a list of living organisms and habitat types that are considered to be of principal importance in conserving biodiversity.

x. CROW also amends the WCA, expanding the terms of offences to include reckless activity. It increases the legal protection of threatened species, by also making it an offence to "recklessly" obstruct access to a sheltering place used by an animal listed in Schedule 5 of the WCA or "recklessly" disturb an animal occupying such a structure or place.

[49] Countryside and Rights of Way Act 2000 c. 37 *https://www.legislation.gov.uk/ukpga/2000/37/*

Environment (Wales) Act 2016

y. 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.

z. Section 7 of the Environment Act requires The Welsh Ministers to publish, review and revise lists of living organisms and types of habitats 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.

Environment Act 2021

aa. The Environment Act 2021[50] was passed into law in November 2021. The Act applies only to England, although many of its measures are designed to be operable across the UK with the consent of devolved administrations. The Act requires statutory long-term (15+ years) targets to be set (and monitored, reported and reviewed) in the four priority areas of waste reduction, air quality, water resources and biodiversity as well as additional targets relating to species abundance and fine particulates by 2030.

bb. The Environment Act amends the Town and Country Planning Act 1990[51] in that planning permissions granted after the provisions come into force[52] are deemed to be subject to a condition prohibiting the start of development before a biodiversity gain plan has been submitted to and approved by the Local Planning Authority (LPA).

cc. The biodiversity gain plan must demonstrate a net gain of at least 10% in the biodiversity value of the development site "as at the time the development is completed". Biodiversity net gain must be demonstrated by calculations using the biodiversity metric (currently version 3.1 published by Natural England)

dd. The Environment Act introduces Local Nature Recovery Strategies (LNRS), a new system of spatial strategies for nature, covering the whole of England. LNRS are to be prepared and published by the 'responsible authority', namely the local authority, mayoral authority or National Park authority whose area is, or is within, the strategy

[50] Environment Act 2001 c.30 *https://www.legislation.gov.uk/ukpga/2021/30/*

[51] Town and Country Planning Act 1990 c. 8 *https://www.legislation.gov.uk/ukpga/1990/8/*

[52] The Biodiversity Gain provision of the Environment Act requires the Secretary of State to first publish detailed regulations (see s147(3) of the Act). These are anticipated in November 2023.

area, the Broads Authority or Natural England. Section 40 of the NERC Act (duty to conserve biodiversity) makes provision about the duties of public authorities in relation to LNRS.

ee. A 'responsible authority' is to be appointed to lead each LNRS area, which could include LPAs and which in mayoral combined authorities is highly likely to be the mayor. The responsible Authority must map the most valuable existing natural habitat in its area and develop a biodiversity strategy, including specific proposals for creating or improving habitats and priorities for nature recovery.

ff. In addition to the above, the Environment Act Part 6 (Nature and biodiversity) will also:

- Strengthen the biodiversity duty through amendments to Section 40 of the NERC Act.
- Impose a duty upon Local Authorities to consult on street tree felling;
- Strengthen woodland protection enforcement measures;
- Introduce Conservation Covenants (agreements between a landowner and a responsible body);
- Protected Site Strategies (prepared and published by Natural England) to improve the conservation and management of a protected site (including SACs, SPAs listed before exit day, Sites of Community Importance (SCI)[53] listed before exit day and those sites proposed before exit day as SACs).
- Species Conservation Strategies (prepared and published by Natural England) to improve the conservation status of any species of flora or fauna, with which a LPA in England and any prescribed authority must have regard so far as relevant to its functions, including when discharging its duties under the 2017 Regulations (as amended);
- Prohibit larger UK businesses from using commodities associated with wide-scale deforestation (where 'forest' is defined as "an area of land of more than 0.5 hectares with a tree canopy cover of at least 10% (excluding trees planted for the purpose of producing timber or other commodities)", which includes "land that is wholly or partly submerged in water whether temporarily or permanently");
- Require regulated businesses to establish a system of due diligence for each regulated commodity used in their supply chain, requires regulated businesses to report on their due diligence, introduces a due diligence enforcement system.

Hedgerow Regulations 1997

gg. Important hedgerows are protected from removal by the Hedgerows Regulations[54] (as amended). Regulation 3 defines the hedgerows to which the Regulations apply. Regulation 4 sets out the criteria for identifying "important hedgerows" including ecological, landscape or historical/cultural reasons. Under the Hedgerow

[53] SCIs are established under the European Union Habitats Directive (92/43/EEC) and are (under the Habitats Directive) the pre-requisite step for establishing SACs and SPAs.

[54] The Hedgerow Regulations 1997 (SI 1997/1167) *https://www.legislation.gov.uk/uksi/1997/1160/*

Regulations it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. Works to "important hedgerows" are exempt under the Hedgerow Regulations if planning consent is granted which allows their removal.

hh. The identification of important hedgerows also provides an additional means to value hedgerows aside from their botanical value (e.g., species richness) as the assessment of importance also includes characteristics relating to maturity and structure (e.g. associated features, connectivity, integrity) which will affect the functional value of the hedgerow.

Protection of Badgers Act 1992

ii. Badgers and their setts receive statutory protection under the Protection of Badgers Act 1992 (PBA)[55]. This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett.

jj. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as "any structure or place, which displays signs indicating current use by a badger."

Wild Mammals (Protection) Act 1996

kk. All UK wild mammals are afforded a degree of protection from certain cruel acts. The Act is intended to preserve animal welfare more so than nature conservation. The Act makes it an offence to use a variety of methods to intentionally cause suffering to a wild mammal. It also has exemptions including in relation to euthanasia and otherwise lawful use of certain methods of killing.

Relevant National Policy

Planning Policy Wales 2021

ll. 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

[55] Protection of Badgers Act 1992 c. 51 *https://www.legislation.gov.uk/ukpga/1992/51/*

to nature conservation and biodiversity. 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.

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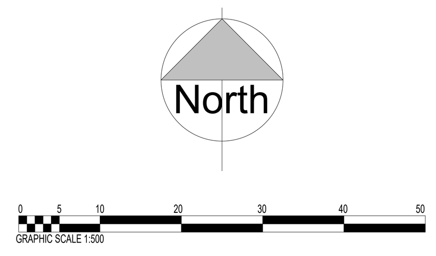
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Annex B: Development Proposals

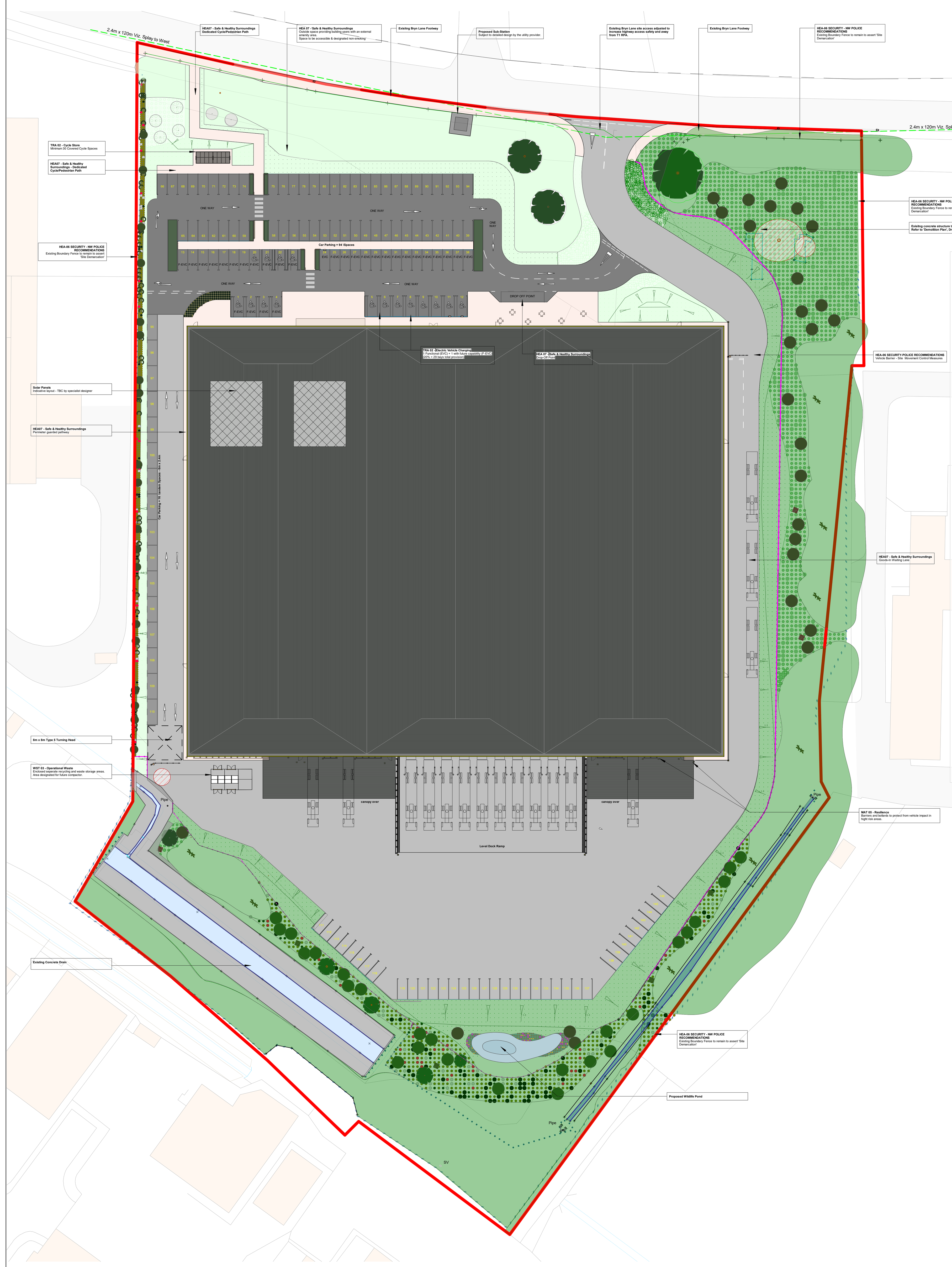
2042_P_004(E)-Proposed Site Plan_15_12_24



1. This drawing has been produced for the client for the project on the site shown. It was prepared for a purpose agreed with the client and will have a commensurate degree of accuracy.
2. This drawing is not intended for use by any other person or for any other purpose without express permissions.
3. Pace Architecture Limited accept no liability whatsoever if this drawing is used by any other person or for any other purpose.
4. Do not scale from this drawing. All measurements to be checked on site.
5. Report to the Architect any discprenacies or information requiring updated.
6. CDM (2015) - All designers have a duty to review, identify and circulate health and safety risks when apparent.
7. Under CDM (2015) Pace Architecture ltd assumes the role of 'Designer', unless otherwise appointed in writing by the client.
8. If in doubt ask.

THE ABOVE TO BE DESIGNED BY SPECIALISTS IN ACCORDANCE WITH BRITISH STANDARDS BELOW:

BS 9999 (2017) - Fire safety in the design, management and use of buildings – Code of practice
BS 6564 (2017) - Sanitary installations. Code of practice for the design of sanitary facilities
BS 5266 (2016) - Emergency Lighting - Code of practice for the emergency lighting of premises
BS 5499 (2014) - Guidance for the selection and use of safety signs and fire safety notices



KEY

LANDSCAPE

Soft Landscape *15,419m2*
Refer to submitted design by Landscape Architect Drg. 1059-01-NLD.151 Bryn Lane South - v2 by 'Nicholsons'

SP9 Policy Ecology Corridor
9,900m2

HARDSCAPE

Asphalt
To car parks & access road - 2560m2

Paving - 1,057m2
(includes substation, not inc. public pathway)

Concrete
To service yard - 7,796m2

Trees - To be Retained
Refer to submitted design by Landscape Architect Drg.1059-01-NLD.151 Bryn Lane South - v2 by 'Nicholsons'

Trees - To be Removed
Refer to submitted AIA Ref 'BTC2998' by 'Bowland Tree Consultancy'.

Disabled Parking Bays
15 No. Proposed

Covered Cycle Shelter
30 spaces provided

Vehicle Barriers

1.8m Palisade Fencing

Fence
Restricting personnel access to SP9 Corridor

A	Notes Updated	14.10.24
B	Lanscape design added	01.12.24
C	Landscape Key adjusted	16.12.24
D	Notes & access rd adjusted	24.01.25
E	Roof orientation updated	13.02.25

INTERNAL AREAS

Name	Area
Ancillary	618 m²
Circulation	1070 m²
Office	1375 m²
St/Serv	371 m²
Warehouse	11130 m²
	14564 m²

LOCAL PLANNING GUIDANCE NOTE NO.16

Figure B

Type of Development	Parking Standard	Cycle Parking Standard
B1 Business and light industry	1 car space per 30m² gross floor space	1 cycle space per 300m² gross floor space
B2 General Industry	1 car space per 50m² gross floor space	1 cycle space per 500m² gross floor space
B8 Storage and Distribution	1 car space per 100m² gross floor space	1 cycle space per 1000m² gross floor space

INDICATED PARKING PROVISION CALCULATIONSS.

146 Car Spaces	(14564 / 1 per 100m2)
15 Disabled Spaces	(10% of gross provision)
30 Cycle Spaces	(14564 / 1 per 500m2)

NET WORLD SPORTS

PURPOSE OF ISSUE: PRE-PLANNING

PACE | ARCHITECTURE

PROJECT: LAND SOUTH

ADDRESS: Bryn Lane, Wrexham Industrial Estate

TITLE: Proposed Site Plan

CLIENT: Mauna Kea Limited

DRAWN BY	CHECKED BY	DATE
NC	AC	30.09.24

SCALE (@ A1)	PROJECT NUMBER
1 : 500	2042

DRAWING NUMBER	REV
2042 . P . 004(E)	

13/02/2025 13:49:57

Annex C: eDNA results letter 2024 1040068-10204

Client: Nicola Morris,
The Environment Partnership

ADAS
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Tel: 01159 229249
Email: Helen.Rees@adas.co.uk

www.adas.uk

Sample ID: ADAS-4214	Condition on Receipt: Good	Volume: Passed
Client Identifier: South Bryn Lane, 10204	Description: pond water samples in preservative	
Date of Receipt: 02/05/2024	Material Tested: eDNA from pond water samples	

Determinant	**Result**	**Method**	**Date of Analysis**
Inhibition Control[†]	2 of 2	Real Time PCR	10/05/2024
Degradation Control[§]	Within Limits	Real Time PCR	10/05/2024
Great Crested Newt*	0 of 12 (GCN negative)	Real Time PCR	10/05/2024
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µL)[#]	4 of 4	Real Time PCR	As above for GCN

Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	10/05/2024	Date of issue:	10/05/2024

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

[†] Recorded as the number of positive replicate reactions at expected C_t value. If the expected C_t value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

[§] No degradation is expected within time frame of kit preparation, sample collection and analysis.

[#]Additional positive controls (10^{-1}, 10^{-2}, 10^{-3} ng/µL) are also routinely run, results not shown here.

Client: Nicola Morris,
The Environment Partnership

ADAS
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Tel: 01159 229249
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www.adas.uk

Sample ID: ADAS-4047	Condition on Receipt: Good	Volume: Passed
Client Identifier: P2 East Lancaster	Description: pond water samples in preservative	
Date of Receipt: 02/05/2024	Material Tested: eDNA from pond water samples	

Determinant	**Result**	**Method**	**Date of Analysis**
Inhibition Control[†]	2 of 2	Real Time PCR	09/05/2024
Degradation Control[§]	Within Limits	Real Time PCR	09/05/2024
Great Crested Newt*	0 of 12 (GCN negative)	Real Time PCR	09/05/2024
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µL)[#]	4 of 4	Real Time PCR	As above for GCN

Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	10/05/2024	Date of issue:	10/05/2024

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** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

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[#]Additional positive controls (10^{-1}, 10^{-2}, 10^{-3} ng/µL) are also routinely run, results not shown here.

Appendix 1: Interpretation of results

Sample Condition

Upon sample receipt we score your samples according to quality: good, low sediment, medium sediment, high sediment, white precipitate, and presence of algae.

There are three reasons as to why sediment should be avoided:

1. It is possible for DNA to persist within the sediment for longer than it would if it was floating in the water which could lead to a false positive result i.e. in this case GCN not recently present but present a long time ago
2. In some cases sediment can cause inhibition of the PCR analysis used to detect GCN eDNA within samples which could lead to an indeterminate result.
3. In some cases sediment can interfere with the DNA extraction procedure resulting in poor recovery of the eDNA which in turn can lead to an indeterminate result.

Algae can make the DNA extraction more difficult to perform so if it can be avoided then this is helpful.

Sometimes samples contain a white precipitate which we have found makes the recovery of eDNA very difficult. This precipitate can be present in such high amounts that it interferes with the eDNA extraction process meaning that we cannot recover the degradation control (nor most likely the eDNA itself) at sufficient levels for the control to be within the acceptable limits for the assay, therefore we have to classify these type of samples as indeterminate.

What do my results mean?

A positive result means that great crested newts are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).

A negative result means that DNA from the great crested newt has not been detected in your sample.

On occasion an inconclusive result will be issued. This occurs where the DNA from the great crested newt has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process. A re-test could be performed but a fresh sample would need to be obtained. We have successfully performed re-tests on samples which have had high sediment content on the first collection and low sediment content (through improved sample collection) on the re-test. If water chemistry was the cause of the indeterminate then a re-test would most likely also return an inconclusive result.

The results will be recorded as indeterminate if the GCN result is negative and the degradation result is recorded as:

1. evidence of decay - meaning that the degradation control was outside of accepted limits
2. evidence of degradation or residual inhibition - meaning that the degradation control was outside of accepted limits but that this could have been due to inhibitors not being removed sufficiently by the dilution of inhibited samples (according to the technical advice note)

Annex D: Target Notes

Target Notes Report

Survey Undertaken 08.11.24

Land South of Bryn Lane 10204

Target Note TN1

Hedgerow with trees adjacent to main road, providing a 5-metre buffer.

Anthriscus sylvestris	Cow Parsley	A
Galium aparine	Cleavers	A
Hedera helix	Ivy	A
Heracleum sphondylium	Hogweed	A
Rubus fruticosus agg.	Bramble	A
Urtica dioica	Nettle	A
Crataegus monogyna	Hawthorn	F
Dactylis glomerata	Cock's-foot	F
Fraxinus excelsior	Ash	O
Prunus avium	Wild Cherry	O
Rosa canina agg.	Dog Rose	O
Symphytum officinale	Common Comfrey	O
Fagus sylvatica	Beech	R
Quercus sp.	Oak species	R

Target Note TN2

Large open field, previously grazed, semi-improved. Surrounded by a buffer of mature trees and shrubs. There is a buffer of trees on the east side and a parcel of trees and shrubs to the north of the site adjacent to Bryn Lane. On the western side is warehousing (recent development). On the southern side there is further warehousing and a woodland parcel. A redundant fence divides the field.

Agrostis stolonifera	Creeping Bent	A
Holcus lanatus	Yorkshire-fog	A
Poa annua	Annual Meadow-grass	A
Poa trivialis	Rough Meadow-grass	A
Ranunculus repens	Creeping Buttercup	A
Rumex obtusifolius	Broad-leaved Dock	A
Trifolium pratense	Red Clover	A
Centaurea nigra	Knapweed	F
Lolium perenne	Perennial Ryegrass	F
Plantago lanceolata	Ribwort Plantain	F
Taraxacum officinale agg.	Dandelion	F
Cirsium vulgare	Spear Thistle	O
Cynosurus cristatus	Crested Dog's-tail	O
Festuca rubra	Red Fescue	O
Jacobaea vulgaris	Common Ragwort	O
Vicia cracca	Tufted Vetch	O
Leucanthemum vulgare	Oxeye daisy	R
Potentilla reptans	Creeping Cinquefoil	R
Poterium sanguisorba	Salad Burnet	R
Ranunculus acris	Meadow Buttercup	R
Stellaria media	Chickweed	R
Trifolium repens	White Clover	R
Taraxacum sp.	Dandelion species	

Target Note TN3

Parcel of trees (plantation) and scrub with tall ruderal herbs and grasses. Partly bunded, containing a ditch adjacent to road forming a linear line to the edge of the field parcel.

Prunus spinosa	Blackthorn	A
Rubus fruticosus agg.	Bramble	A
Spiraea sp.	Spiraea species	A
Urtica dioica	Nettle	A
Agrostis stolonifera	Creeping Bent	F
Crataegus monogyna	Hawthorn	F
Festuca rubra	Red Fescue	F
Holcus lanatus	Yorkshire-fog	F
Rosa canina agg.	Dog Rose	F
Arrhenatherum elatius	False Oat-grass	O
Chaenorhinum minus	Small Toadflax	O
Cirsium vulgare	Spear Thistle	O
Corylus avellana	Hazel	O
Dactylis glomerata	Cock's-foot	O
Geum urbanum	Wood Avens	O
Heracleum sphondylium	Hogweed	O
Plantago lanceolata	Ribwort Plantain	O
Populus x canescens	Grey Poplar	O
Silene dioica	Red Campion	O
Symphytum officinale	Common Comfrey	O
Vicia cracca	Tufted Vetch	O
Aesculus hippocastanum	Horse-chestnut	R
Arctium minus	Lesser Burdock	R
Betonica officinalis	Betony	R
Cynosurus cristatus	Crested Dog's-tail	R
Medicago lupulina	Black Medick	R
Persicaria maculosa	Redshank	R
Plantago major	Greater Plantain	R
Potentilla reptans	Creeping Cinquefoil	R
Quercus sp.	Oak species	R
Salix fragilis	Crack Willow	R
Sonchus oleraceus	Smooth Sow-thistle	R
Tanacetum vulgare	Tansy	R
Trifolium repens	White Clover	R

Target Note TN4

Parcel of land, fenced from TN2. Contains a man-made drain/ditch surrounded by scrub vegetation. Recently cleared within the last six months, possibly for maintenance purposes, resulting in numerous log piles. The drain is an engineered, sloped, stoned bank, providing no opportunities for burrowing. The ditch enters site from the west, meanders round and exits to the east. The central area within the ditch contains greater reedmace, fools' watercress and New Zealand pygmy weed.

Agrostis stolonifera	Creeping Bent	A
Crassula helmsii	New Zealand Pygmyweed	A
Dactylis glomerata	Cock's-foot	A
Helosciadium nodiflorus	Fool's Watercress	A
Holcus lanatus	Yorkshire-fog	A
Moss sp.	Moss species	A
Poa annua	Annual Meadow-grass	A
Typha latifolia	Greater Reedmace	A
Crataegus monogyna	Hawthorn	F
Galium aparine	Cleavers	F
Geum urbanum	Wood Avens	F
Heracleum sphondylium	Hogweed	F
Rubus fruticosus agg.	Bramble	F
Rumex obtusifolius	Broad-leaved Dock	F
Taraxacum sp.	Dandelion species	F
Apium graveolens	Wild Celery	O
Geranium robertianum	Herb-Robert	O

Juncus inflexus	Hard Rush	O
Plantago lanceolata	Ribwort Plantain	O
Alliaria petiolata	Garlic Mustard	R
Carex pendula	Pendulous Sedge	R
Epilobium montanum	Broad-leaved Willowherb	R
Glechoma hederacea	Ground-ivy	R
Leucanthemum vulgare	Oxeye daisy	R
Poterium sanguisorba	Salad Burnet	R
Ranunculus acris	Meadow Buttercup	R

Target Note TN5

On the edge of the site at the southern boundary is a linear woodland buffer, outside of the site containing a drain/ditch. There is a mixture of tree and scrub that provides a useful wildlife corridor.

Crataegus monogyna	Hawthorn	F
Quercus sp.	Oak species	F
Rosa canina agg.	Dog Rose	F
Sambucus nigra	Elder	F

Target Note TN6

A plantation area with a poor understory. Managed with small habitat piles. Trees are immature

Agrostis stolonifera	Creeping Bent	F
Crataegus monogyna	Hawthorn	F
Geum urbanum	Wood Avens	O
Rumex obtusifolius	Broad-leaved Dock	O
Salix caprea	Goat Willow	O
Urtica dioica	Nettle	O
Quercus sp.	Oak species	R

Target Note TN7

Three small copse areas on the eastern edge dominated by blackthorn. Containing immature trees with the exception of an occasional mature hawthorn.

Prunus spinosa	Blackthorn	A
Crataegus monogyna	Hawthorn	O
Fraxinus excelsior	Ash	R
Quercus sp.	Oak species	R

Target Note TN8

Fenced parcel on the northeast boundary, bounded by security fencing on the east side. Containing a large bramble path with willow and hawthorn scrub. There is a large crack willow with a large trunk, mostly ivy covered, that has recently been partially felled with numerous broken boughs. Below the crack willow is a small redundant brick building that does not allow access for further investigation. The tree is densely covered in ivy, therefore not allowing proper inspection. Low bat potential

Agrostis stolonifera	Creeping Bent	A
Holcus lanatus	Yorkshire-fog	A
Poa annua	Annual Meadow-grass	A
Poa trivialis	Rough Meadow-grass	A
Ranunculus repens	Creeping Buttercup	A
Rumex obtusifolius	Broad-leaved Dock	A
Trifolium pratense	Red Clover	A
Centaurea nigra	Knapweed	F
Hedera helix	Ivy	F
Lolium perenne	Perennial Ryegrass	F
Plantago lanceolata	Ribwort Plantain	F
Taraxacum officinale agg.	Dandelion	F
Trifolium repens	White Clover	F

Annex E: 10204.003 Bat Survey Report









Land south of Bryn Lane

Wrexham

Bat Survey Technical Report

Prepared For: Net World Sports Ltd

Document Reference: 10204.003

Date: November 2024

Version: 1.0

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Project Name:	Land south of Bryn Lane
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CONTENTS PAGE

1.0 INTRODUCTION 1
Purpose of this Document 1
Legislation 1
Scheme Description 2
2.0 METHODS 3
Ecological Desk Study 3
Roost Surveys 3
Data Analysis and Species Identification 5
3.0 RESULTS 7
Ecological Desk Study 7
Roost Surveys 7
4.0 CONCLUSIONS 11
5.0 RECOMMENDATIONS 12

TABLES

Table 2: Weather conditions during nocturnal building surveys 4
Table 3: Results of daytime structure inspection on the structure present on site 8

FIGURES

Figure 1: Site Location and Context 2

DRAWINGS

G10204.007A Phase 1 Habitat Survey

G10204.008A Bat Emergence Building Survey Results

1.0 INTRODUCTION

1.1 TEP was commissioned by Net World Sports Ltd in September 2024 to undertake bat surveys at the site known as Land south of Bryn Lane, Wrexham. The Scheme is located at grid reference SJ 38450 50752 and is approximately 3.5 ha in extent. For the purposes of this report this will be referred to as 'the Scheme'.

1.2 This technical report includes details of the methods employed and any limitations of the surveys undertaken thus far, with further surveys yet to be undertaken during winter 2025. Results are provided with supporting maps, together with an evaluation of bats within the Scheme. An assessment of the potential impacts associated with the development proposals and requirements for mitigation are presented within the main body of the Ecological Impact Assessment (EcIA) report (TEP Refs: 10204.002).

Purpose of this Document

1.3 This report has the following objectives:

- give an overview of the habitats present within the site which could be used by bats for roosting, foraging and commuting;
- identify and characterise any confirmed bat roosts within the site, including species, type and status of roost;
- identify how bats use the site for foraging and commuting; and
- evaluate the value of the site for bats.

Legislation

1.4 All bat species and their roosts are legally protected in the UK. All bats are listed as European Protected Species (EPS) in Conservation of Natural Habitats and of Wild Fauna and Flora, better known as the Habitats Directive. There is also protection for bats and roosts in England and Wales under the Wildlife & Countryside Act 1981 (as amended).

1.5 It is a criminal offence if any persons:

- deliberately capture, injure or kill a bat;
- intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);

- possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; or
- intentionally or recklessly obstruct access to a bat roost.

Scheme Description

1.6 The Scheme is situated north of Wrexham Industrial Estate. The site itself is a large open field of previously grazed semi-improved grassland. To the north are agricultural fields, whereas to the south, east and west are areas of heavy industrial estate, interspersed with parcels of broadleaved woodland and scrub. The location of the site is depicted by the red line shown in Figure 1.

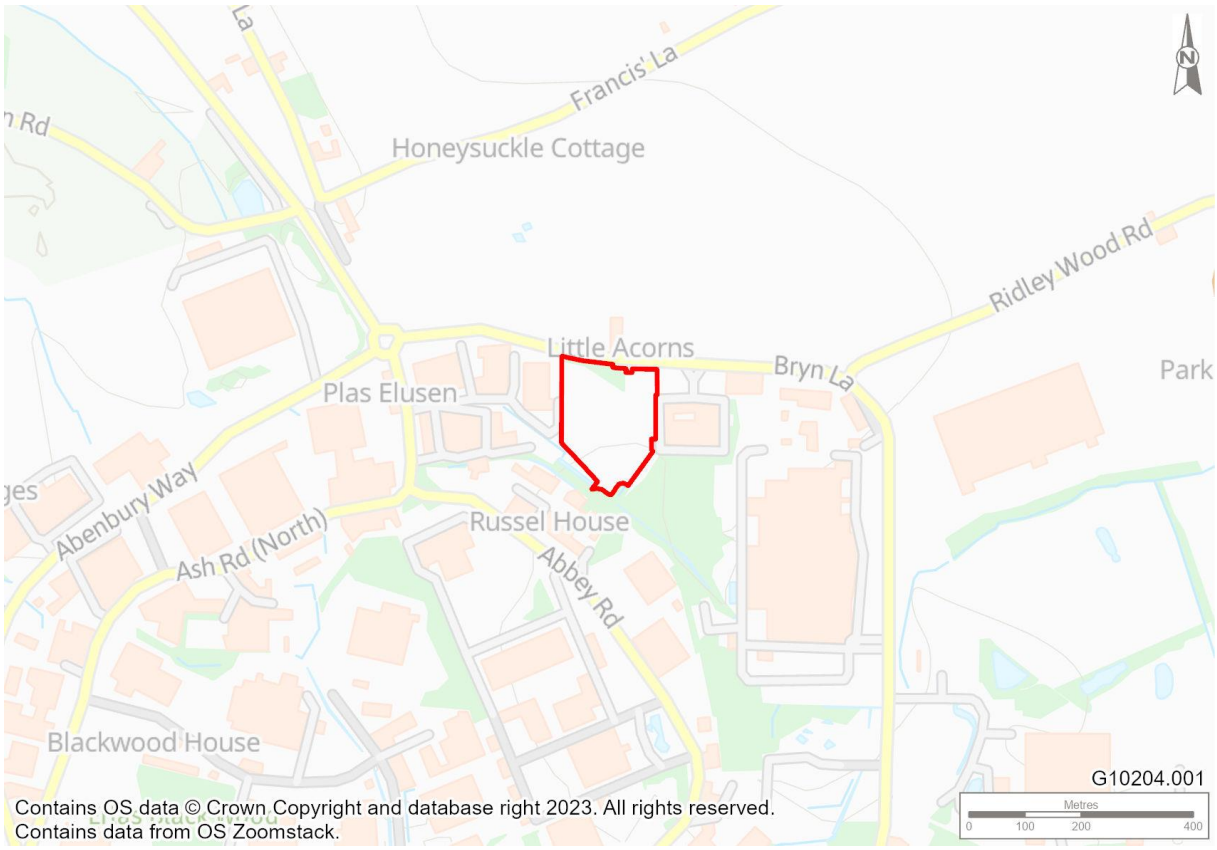


Figure 1: Site Location and Context

2.0 Methods

2.1 The following bat surveys were undertaken in accordance with the Bat Conservation Trust (BCT) Survey Guidelines (Collins, 2023[1]).

Ecological Desk Study

2.2 In line with current best practice (CIEEM, 2016[2], 2017b[3]), information regarding designated sites, notable habitats and existing protected and notable species records of the past decade, within a minimum 2km radius of the Site, was collated and reviewed to inform the EcIA reports. This included pre-existing records for bats. further details are presented within the Ecological Desk Study (TEP Ref: 10204.001).

Roost Surveys

Preliminary Roost Assessment

2.3 A daytime survey of the structure on site was carried out at one structure on site on 20th August 2024 by an experienced TEP ecologist.

2.4 The structure was inspected externally and partially internally for field signs of bats such as droppings, scratch marks, insect remains and urine smear marks, with an endoscope used as an aid. The survey was conducted with year-round use by bats in mind.

2.5 The structure was then categorised according to its bat roost suitability as determined by the characteristics and potential roost features (PRF) detailed in table 4.1 of the Bat Conservation Trust (BCT) Survey Guidelines (Collins, 2023[4]).

Survey Constraints

2.6 Bat droppings are one of the field signs the survey looks to identify as evidence of bat activity. However, droppings on external surfaces can be washed or blown away by weather. Weather prior to and during the daytime survey was calm with no rain and therefore there was no significant constraint to the external inspections.

---

[1] Collins, J (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London

[2] CIEEM (2016) Guidelines for Accessing and Using Biodiversity Data. Chartered Institute of Ecology & Environmental Management

[3] CIEEM (2017b) Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology & Environmental Management

[4] Collins, J (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London

Nocturnal Roost Surveys of Structure

2.7 The structure was identified during the daytime evaluation to have moderate suitability for roosting. The structure was therefore subject to two nocturnal surveys in accordance with the evaluation.

2.8 Surveys were led by experienced TEP surveyors. Two surveyors were stationed at fixed vantage points around the structure. All structure building access points for bats were covered by strategic placements of surveyors. Two dusk emergence surveys were used and commenced 15 minutes before sunset and finished 1.5 hours after sunset.

2.9 One full spectrum detector (BatLogger M and Anabat Scout) was employed at each vantage point on all surveys. Night vision aids (NVA) were deployed at one vantage point focusing on key features of the building during both surveys alongside a surveyor.

2.10 During each survey observations such as bat species, the number of bats entering or leaving the structure, the location of entry and exit points, behaviours such as close interest in a building or its features, commuting or passing bats and weather conditions were recorded.

2.11 Surveys were carried out during the optimal survey period of the year (May to September) and slightly after in the beginning of October. Weather conditions were recorded at the start and end of surveys in addition to any significant change in condition during the survey and are outlined in Table 2.

Table 1: Weather conditions during nocturnal building surveys

Date	Sunset	Start	End	Temperature		Wind*		Cloud**		Precipitation	Moon Illumination
				Start	End	Start	End	Start	End		
30/08/24	21:11	19:58	22:41	18	15	2	2	7	7	Rain lasting one minute before survey end.	Waning Crescent
02/10/24	18:45	18:30	20:15	13	11	0	0	5	0	None	New Moon

*Cloud cover is reported in oktas or eights (i.e. oktas represents the complete absence of cloud, 1 okta cloud cover or 1 eighth or less and so on to 8 oktas which represents full cloud cover), with the additional convention that 9 oktas represent sky obscured by fog or mist
**Wind strength is reported using the Beaufort Scale of Wind Force, this scale runs from 0 to 12, information on the conditions experience during the survey were as follows: 1 - Light air (Smoke drifts); 2 – Light breeze (Leaves rustle); 3 – Gentle breeze (Small twigs constantly move); 4 - Moderate breeze (Small branches begin to move); 5 - Fresh breeze (Small trees in leaf begin to sway).

2.12 Calls of bats recorded by the full spectrum detectors were analysed to verify species identification after the completion of nocturnal surveys using Kaleidoscope Pro Software by suitably trained TEP ecologists.

Survey Constraints

2.13 Visit one incurred an SD error in one detector, which resulted in no sonogram data for one of the vantage points although the detector functioned to enable live listening to bat calls during the survey. For visit one, the second vantage point detector recorded a large number of noise files and very little bat activity. Both vantage points were focused on one group of features. These features were the only access point into the internal of the structure. The second surveyor was present as a health and safety second, so the data provided by the bat detector that worked was sufficient for the purposes of the survey. Visit one also incurred SD errors in the NVA which led to no footage. In terms of NVA the vantage points were in close proximity to the features and bat activity was very low throughout the survey. Given these factors we are confident that bat emergence would have been recorded despite the failure of the NVA.

2.14 Weather was optimal during all the nocturnal surveys, being dry with little breeze and temperatures ranging from 18ºC at the start to 11ºC at the finish. There was light breeze during the first nocturnal survey and light rain 1 minute before end of survey but this did not affect bat activity.

2.15 The building has been assessed as having moderate suitability as set out in Table 7.2 of the Bat Conservation Trust (BCT) Survey Guidelines (Collins, 2023[5]), this requires two surveys, one between May and August and one can be in September. The second survey was undertaken on the 2nd October 2024. The reason for this is that most of the month of September was affected by heavy rain. Whilst acknowledging the survey was undertaken in October it was undertaken just within the month of October, moreover weather conditions were optimal and moderate levels of bat activity was recorded on site.

Data Analysis and Species Identification

Constraints

2.16 Analysing bat sonograms using Kaleidoscope software can clearly identify certain species however, bats vary their calls dependent on the habitats they fly in and on their activity (commuting, foraging, social interaction, etc.). It is not always possible to identify bat calls to species level owing to the overlap of call parameters between some species

[5] Collins, J (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London

and/or poor-quality recordings (e.g., brief, and distant passes). In these cases, it is accepted that species are identified to genus level or group level (e.g., Myotis species, and Nyctalus/Eptesicus) (Russ, 2012[7]). Where call parameters are inconclusive the species has been labelled as 'unidentified'. This ensures the dataset is interpreted accurately and transparently.

2.17 The detectability of some bat species, such as *Plecotus* and *Barbastella*, is lower than that of, for example, *Nyctalus* and *Pipistrellus*. The echolocation calls of *Plecotus* and *Barbastella* are comparatively more difficult to detect with bat detectors, and their particular hunting strategies take them into less open habitats, where survey transect routes may not venture. Careful interpretation has been applied when comparing survey results across species.

2.18 *Myotis* species have overlapping call characteristics and it is therefore not possible to identify these bats to species level with good confidence (at least 80%). *Myotis* data represent a small proportion of the activity recorded and therefore for the purposes of meaningful data presentation, Myotis species have been grouped. Where possible, individual *Myotis* species are identified.

2.19 Large bats noctule and serotine have been identified through sonogram analysis. However, very few serotines were recorded and therefore for the purposes of meaningful data presentation, big bat species (*Nyctalus* and *Eptesicus*) have been grouped.

Hibernation Surveys of Structure

2.20 Hibernation surveys of the structure for roosting bats are ongoing. One inspection has been undertaken on the 5th November 2024. The structure was inspected for signs of hibernating bats. Were appropriate a torch and endoscope were used as aids. Two more inspections are planned for January and February 2025. Given that the roosting features within the structure can be fully viewed with an endoscope and torch as the deepest feature is no more than approx. 10cm then it was deemed that three surveys during the months of November, January and February is sufficient to ascertain if bats are using the structure for hibernation.

Survey Constraints

2.21 No survey constraints have been encountered so far during the hibernation surveys.

3.0 Results

Ecological Desk Study

3.1 The desk study identified the following bat records:

- Brandt's bat *Myotis brandtii* – 2 records, nearest 0.7 km southwest
- Brown long-eared bat *Plecotus auratus* – 3 records, nearest 0.2 km east
- Common pipistrelle *Pipistrellus pipistrellus* – 8 records, nearest 0.8 km southwest
- Daubenton's bat *Myotis daubentonii* – 2 records, nearest 0.9 km east
- Lesser horseshoe bat *Rhinolophus hipposideros* – 1 record, 0.9 km east
- Myotis bat species *Myotis sp.* – 2 records, nearest 0.3 km east
- Natterer's bat - *Myotis nattereri* – 1 record, 0.9 km east
- Noctule bat *Nyctalus noctula* – 5 records, nearest 0.7 km southwest
- Soprano pipistrelle *Pipistrellus pygmaeus* – 3 records, nearest 0.7 km southwest
- Whiskered/Brandt's bat *Myotis mystacinus/brandtii* – 1 record, 0.9 km east
- Whiskered bat *Myotis mystacinus* – 1 record, 1.6 km east

Roost Surveys

Preliminary Roost Assessment

3.2 The findings and a photographic record of the daytime assessment of the structure is presented in Table 3. The location of the structure and wider habitats is illustrated in Drawing G10204.008A.

3.3 No bats or evidence of roosting bats was found during daytime survey of the structure. Based on the daytime surveys, the structure was assessed to have moderate suitability for summer roosting bats and moderate hibernation suitability in winter.

Table 2: Results of daytime structure inspection on the structure present on site

Description	Photographs
Exterior: Concrete bunker structure. The structure has concrete sides and roof. The structure is largely surrounded by bramble. The only access points are some gaps to the side of the doorway. *Doorway was removed prior to internal inspection of structure then replaced immediately after internal inspection of the structure. A crack willow is situated between the two sections of the building that can be seen from above ground.	     

Description	Photographs
Interior: Internally the walls are composed of corrugated metal. Some areas of the roof and sides have plywood boarding on them where sections of the original structure are missing. There are a number of gaps were the walls of the structure meet the roof. These gaps are no more than 10 cm in depth.	  
Roost suitability: A number of gaps in plyboard beside the boarded-up entrance provide the only access for bats into the internal of the structure. Internally roosting features are a number of gaps associated were the walls meet the roof and gaps associated with the roof of the structure. These gaps provide suitability for small numbers of roosting of day roosting bats and low numbers of hibernating bats. No evidence was found nor does the structure have features suitable for supporting maternity roosting. The entrance to the structure was too small and cluttered to allow access for lesser horseshoe bats. Moderate (Summer) Moderate (Hibernation)	

3.4 No other buildings or structures were recorded on site.

Nocturnal Roost Surveys of the structure

3.5 Nocturnal survey results and surveyor locations are presented in Drawing G10204.008A.

3.6 No roosting bats were identified in the structure during the nocturnal emergence surveys.

3.7 During visit one, 30th August, no foraging or commuting activity was observed. Two species were recorded, that being common pipistrelle and soprano pipistrelle, both with a first contact at 20:37.

3.8 During visit two, 2nd October, foraging activity was recorded taking place along the treeline and Bryn Lane. Foraging was near constant between 19:15 and 20:05, with reduced foraging for the remainder of the survey. Common pipistrelle and soprano pipistrelle were the only bat species recorded with first contacts taking place at 19:12 and 19:24 respectively. A myotis bat was also recorded with a first contact at 19:41 following sonogram analysis. A tawny owl *Strix aluco* was also incidentally recorded calling from the trees south of the building during the survey.

Hibernation Survey of Structure

3.9 No roosting bats were found during the first nocturnal survey on 5th November 2024.

4.0 Conclusions

3.10 No summer roosting bats were identified in the structure during nocturnal emergence surveys; therefore, no European Protected Species Licence (EPSL) will be required. The findings of these surveys are valid for up two survey seasons from the completion date of the final nocturnal survey (October 2024), pending the site is subject to no changes.

3.11 Precautionary working measures are set out in section 5 of this report to take into account bats that may have moved to roost in the structure in the intervening period between the 2024 roost surveys and demolition of the structure.

3.12 The structure has been assessed as having moderate suitability to support hibernating bats. As set out in table 4.1 of Bat Conservation Trust Guidelines 2023 (Collins, 2023) three hibernation surveys are currently being undertaken as outlined in section 5 of this report.

5.0 Recommendations

3.13 This section sets out the recommendations for appropriate further survey, mitigation, avoidance and enhancement required for the site.

Hibernation Roosting

3.14 Three hibernation checks are currently taking place in November, January and February by a Natural Resources Wales licenced bat ecologist. Should hibernating bats be found then a licence from Natural Resources Wales will be required to proceed with works. If no hibernating bats are found during the hibernation surveys, then precautionary working measures should be adopted if demolition works are undertaken between November and March. Measures will include a pre works check of suitable features from the daytime survey of the structure identified in Table 3. These checks must be undertaken by a Natural Resources Wales licensed bat ecologist prior to renovation works impacting the features. The inspection will involve using an endoscope and 1 million Clulite torch. Should hibernating bats be found during these pre demolition checks then a licence from Natural Resources Wales will be required to permit demolition of the structure.

Summer Roosting

3.15 Precautionary working measures should be adopted if demolition works are undertaken between April and October, to minimise the risk of harm or injury to bats. Measures will include a pre works check of suitable features from the daytime survey of structure identified in Table 3. These checks must be undertaken by a Natural Resources Wales licensed bat ecologist prior to renovation works impacting the features. The inspection will involve using an endoscope and 1 million clulite torch.

3.16 In the unlikely event bat(s) are found roosting during pre works checks then a licence from Natural Resources Wales will be required to permit demolition of the structure.

Drawings

G10204.007A Phase 1 Habitat Survey
G10204.008A Bat Emergence Building Survey Results



KEY

- Site boundary
- Target note
- Scattered scrub
- Scattered broad-leaved tree
- Standing water
- Native species-rich hedge and trees
- Species-poor hedge and trees
- Fence
- Plantation broad-leaved woodland
- Dense/continuous scrub
- Semi-improved neutral grassland
- Tall ruderal
- Wet ditch
- Bare ground with ephemeral/short perennial
- Introduced shrub
- Building
- Hardstanding

Species Codes

Cm Hawthorn
Fx Ash
Sxc Goat willow

Note:
The locations of habitats and habitat features are indicative.
Off-site habitats displayed with transparency.

Metres
0 20 40 80

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Rev	Description	Drawn	Approved	Date
A	Update to site boundary and habitats	OH	LG	12/11/2024

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Project
Land South of Bryn Lane, Wrexham

Title
Phase 1 Habitat Survey

Drawing Number
G10204.007A

Drawn	Checked	Approved	Scale	Date
OH	SP	KR	1:1,100 @ A3	12/11/2024



KEY

Site boundary

Building

Survey locations

Night Vision Aid

Surveyor

Note:
No emergence recorded during the survey.
The locations of habitats and habitat features are indicative.

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Site Map



Rev	Description	Drawn	Approved	Date
A	Updated survey locations	SP	JC	29/11/2024

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Project
Land South of Bryn Lane, Wrexham

Title
Bat Emergence Survey Results Plan

Drawing Number
G10204.008A

Drawn	Checked	Approved	Scale	Date
IJ	BJ	CN	1:500 @ A3	29/11/2024

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Drawings

Drawing 1: Phase 1 Habitat Survey Map (Ref G10204.007A)



KEY

- Site boundary
- Target note
- Scattered scrub
- Scattered broad-leaved tree
- Standing water
- Native species-rich hedge and trees
- Species-poor hedge and trees
- Fence
- Plantation broad-leaved woodland
- Dense/continuous scrub
- Semi-improved neutral grassland
- Tall ruderal
- Wet ditch
- Bare ground with ephemeral/short perennial
- Introduced shrub
- Building
- Hardstanding

Species Codes

Cm Hawthorn
Fx Ash
Sxc Goat willow

Note:
The locations of habitats and habitat features are indicative.
Off-site habitats displayed with transparency.

Metres
0 20 40 80

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Rev	Description	Drawn	Approved	Date
A	Update to site boundary and habitats	OH	LG	12/11/2024

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Project
Land South of Bryn Lane, Wrexham

Title
Phase 1 Habitat Survey

Drawing Number
G10204.007A

Drawn	Checked	Approved	Scale	Date
OH	SP	KR	1:1,100 @ A3	12/11/2024

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