

RPS

**PRELIMINARY ECOLOGICAL
APPRAISAL**

Crispin Lane, Wrexham
Glyndwr University



November 2018

QUALITY ASSURANCE

Prepared by:	Phillipa Mudd
Surveyors:	Laura Hammerton & Phillipa Mudd
Reviewed by:	Peter Watson
Authorised by:	Peter Watson
Date:	November 2018
Project Number/Document Reference:	ECO00246
Client:	Glyndwr University, Wrexham

COPYRIGHT © RPS

This report is the copyright of RPS. It remains the property of RPS until such time as payment in full for the services conducted as per the contract of RPS' appointment has been compensated. Unauthorised reproduction or usage by any person is prohibited.

LIABILITY:

The material presented in this report is confidential. This report has been prepared for the exclusive use of Glyndwr University and shall not be distributed or made available to any other company or person without the knowledge and written consent of Glyndwr University or RPS.

To achieve the study objectives stated in this report, we were required to base our conclusions on the best information available during the period of the investigation and within the limits prescribed by our client in the agreement.

No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. Thus, we cannot guarantee that the investigations completely defined the degree or extent of e.g. species abundances or habitat management efficacy described in the report.

1 Executive Summary

RPS Planning and Development Ltd was instructed by client to carry out a Preliminary Ecological Appraisal of the land off Crispin Lane, Wrexham to inform a planning application for the development of the site. The report provides ecological information to submit with planning application.

Recommendations for further surveys are detailed within this report, where additional surveys are not required, recommendations for mitigation and compensation may also outlined below to negate or minimise potential ecological impacts:

Table 1: Summary of recommendations

Habitats / Species	Consideration	Further Surveys Required ¹	Avoidance (A); Mitigation (M); Compensation (C); and Enhancement (E)	Optimal Timings
Invasive species	Invasive species were recorded adjacent to the site.	Yes: a pre-commencement check for invasive species within the site	Further advice will be provided upon the completion of invasive survey	Prior to works
Birds	Birds may nest within the vegetation on site.	No	A: No impacts to suitable habitat M: Nesting bird check be carried out prior to vegetation clearance if works commence between March and August inclusively. C & E: Addition of bird boxes on the final development.	March to August inclusively.

¹ Please note that all further surveys should be completed before a planning application is submitted / works commence on site

CONTENTS

1	EXECUTIVE SUMMARY.....	4
2	INTRODUCTION AND BACKGROUND.....	6
3	METHODOLOGY	9
4	RESULTS.....	14
5	DISCUSSION AND RECOMMENDATIONS.....	19
6	REFERENCES	22

FIGURES

Figure 1: Site location plan	7
------------------------------	---

TABLES

Table 1: Summary of recommendations	4
Table 2: Consulted resources	11
Table 3: Criteria for bat roost potential in buildings / trees	12
Table 4: Assessment of site value for bats, based on the occurrence of habitat features	13
Table 5: Statutorily designated sites	14
Table 6: Non-statutory designated sites	14
Table 7: Summary of protected and notable species records	14
Table 8: Summary of weather conditions	16
Table 9: Rapid risk assessment	17

APPENDICES

Appendix 1: Phase 1 Habitat Plan	23
Appendix 2: Site proposals	24

2 Introduction and Background

2.1 Purpose and Scope of this Report

RPS Planning and Development Ltd (RPS) was commissioned to assess the potential impacts of a proposed student halls complex in Wrexham. To complete an ecological impact assessment of the proposals, a desk-based assessment, Phase 1 Habitat Survey, and a preliminary protected species assessment were carried out. Taken together, in common with the Chartered Institute of Ecology & Environmental Management's (CIEEM) 2017 publication this is termed as a Preliminary Ecological Appraisal Report (PEAR). This assessment is considered 'preliminary' until any required protected species, habitat or invasive species surveys can be completed, and the results are then updated into a final 'Ecological Appraisal' or Environmental Impact Assessment (EclA) which can be used to lawfully determine a planning application in line with current planning policy².

This appraisal is based on a review of the development proposals provided by the client, desk study data (third party information) and a survey of the site. This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist, based on their personal interpretation of legislation and planning policy.

The study area is defined as shown in Figure 1 and Phase 1 Habitat plan (Appendix 1) plus a buffer zone extended to include the Zone of Influence (Refer to Section 2.3) of the proposals (hereafter referred to as the "site").

The aims of this report are to:

- classify the habitat types at the sites based on standard Phase 1 Habitat survey methodology;
- evaluate any potential for protected species to be present;
- identify any significant ecological impacts likely to result from the proposed development; and,
- provide recommendations for any further surveys that might be required, for example to confirm presence / likely absence of protected species, which would need to be proven in order for a planning decision to be concurrent with current planning policy.

This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RPS. The surveys and desk-based assessments undertaken as part of this review and subsequent report including the Ecological Appraisal Notes are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).

2.2 Proposed Site Plans

The site is proposed to be developed as additional student housing adjacent to the existing Wrexham Village complex. It is considered that all the existing habitats on site will be lost to facilitate the development.

The currently proposed site plan is provided in Appendix 2.

2.3 Zone of Influence

The term Zone of Influence is used to describe the geographic extent of potential impacts of a proposed development. The Zone is determined by the nature of the development and also in

² Office of the Deputy Prime Minister Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within The Planning System

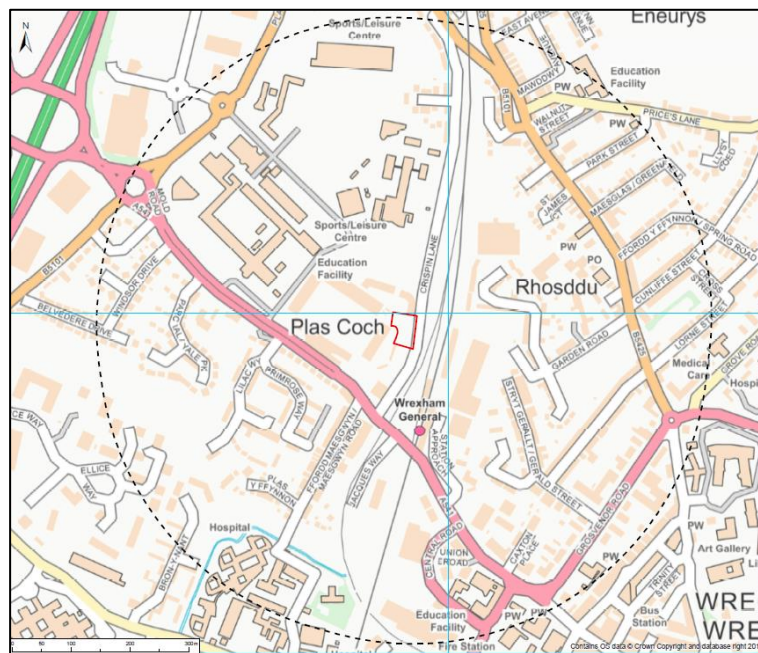
relation to individual species, depending on their habitat requirements, mobility and distances indicated in any best practice guidelines.

For this site, the Zone of Influence is considered to be land on and immediately adjacent to the site and, specifically in respect of great crested newts *Triturus cristatus*, land within 500m of the site boundary as illustrated on the location plan.

2.4 Site Context and Location

The site comprises approximately 0.2ha situated towards the north west of Wrexham city, central grid reference SJ329509. The site comprises bare ground and hard standing which has been gradually re-colonised by plants through lack of management. The adjacent land use is university accommodation and Wrexham football club stadium. The location in a local context is illustrated on Figure 1 below:

Figure 1: Site location plan



© Crown Copyright and Database Rights 2013 Ordnance Survey

(red line denotes site location and dotted black line illustrates the zone of influence)

Online aerial imaging was also reviewed to assess the site in relation to its context in the wider landscape. As illustrated in Figure 2 the site is situated towards the north west of Wrexham within heavily urbanised landscape. The site is considered to be poorly connected to the wider landscape with few green spaces and a lack of interlinking habitats.

2.5 Legislation and Planning Policy

2.5.1 General

Articles of British wildlife and countryside legislation, policy guidance and both Local and National Biodiversity Action Plans (BAPs) are referred to throughout this report. Their context and application is explained in the relevant sections of this report. The relevant articles of legislation are:

- The National Planning Policy Framework (NPPF, 2018);
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2018);
- Local planning policies (Wrexham County Council);
- The Conservation of Habitats and Species Regulations 2017;

- The Wildlife and Countryside Act 1981 (as amended);
- EC Council Directive on the Conservation of Wild Birds 79/409/EEC;
- National Parks and Access to the Countryside Act 1949;
- The Protection of Badgers Act 1992;
- The Countryside and Rights of Way Act 2000;
- The Hedgerow Regulations 1997;
- The Natural Environment and Rural Communities Act 2006;
- Local Biodiversity Action Plan for Wrexham.

Under the National Planning Policy Framework 2018 the presence of any protected species is a material planning consideration. The Framework states that impacts arising from development proposals must be avoided where possible or adequately mitigated/ compensated for and that opportunities for ecological enhancement should be sought.

2.5.2 Great Crested Newt (GCN)

Great Crested Newts are fully protected under Schedule 2 of The Conservation of Species and Habitats Regulations 2017 and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Combined, these acts make it an offence to:

- kill, injure or take a great crested newt (or attempt to);
- destroy any place where they live or breed;
- damage any one of the above places (or any part of it);
- obstruct access to these places;
- disturb a great crested newt in any place it uses for shelter;
- disturb the species such that it affects its ability to hibernate or migrate; and
- sell/ exchange (or offer for sale/exchange) any part of a great crested newt, live or dead.

Offences can be deliberate, intentional or reckless and penalties for any of the above include fines of up to £5000.00 and imprisonment of up to 6 months, per animal affected.

At the local level, the site falls within the area covered by the Bedfordshire and Luton Biodiversity Action Plan (BAP), in which GCN are identified as a Priority Species. GCN are also listed in Section 41 of the NERC Act 2006 as Species of Principal Importance; national objectives & targets include the maintenance of the geographical range and viability of existing great crested newt populations to ensure that it remains in favourable conservation status.

Under the NPPF the presence of a protected species such as Great Crested Newts are a material planning consideration. The Framework states that impacts on protected species arising from development proposals must be avoided where possible or adequately mitigated for and that opportunities for ecological enhancement should be sought.

2.5.3 Bats

All UK species of British bats are fully protected under *The Conservation of Habitats and Species Regulations 2017*. The Regulations prohibit:

- intentionally, recklessly or deliberately kill, injure or take a bat;
- the deliberate disturbance of any bat species in such a way as to be significantly likely to affect:
 - their ability of to survive, hibernate, migrate, breed, or rear or nurture their young;
 or;

- the local distribution or abundance of that species.
- damage or destruction of a breeding site or resting place (roost); and
- the possession or transport of bats or any other part of.

Bats are also protected under the *Wildlife and Countryside Act 1981* (as amended) through their inclusion in Schedule 5. Under the Act, they are protected from:

- intentional or reckless disturbance (at any level);
- obstruction of access to any place of shelter, breeding or rest; and
- selling, bartering or exchange of these species, or parts of.

Seven British bat species are listed as Species of Principal Importance (SPI) under the *Natural Environment and Rural Communities (NERC) Act 2006*. These are barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus*, greater horseshoe *Rhinolophus ferrumequinum* and lesser horseshoe *Rhinolophus hipposideros*.

2.5.4 Birds

The Wildlife & Countryside Act 1981 (as amended) protects wild birds, their nests and young. The Act makes it an offence to intentionally or recklessly kill, injure or take any wild bird, or damage or destroy the nest whilst being built or in use, or the eggs of breeding birds. Species listed on Schedule 1 of the Act, including barn owl, are further protected to include the intentional or reckless disturbance of birds and their dependant young whilst at or near the nest as an offence.

3 Methodology

3.1 Impact Appraisal

The overall ecological appraisal is based on the standard best practice methodology provided by the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). The assessment identifies sites, habitats, species and other ecological features that are of value based on factors such as legal protection, statutory or local site designations such as Sites of Special Scientific Interest (SSSI) or Local Wildlife Sites (LWS) or inclusion on Red Data Book Lists or Biodiversity Action Plans.

The assessment also refers to planning policy guidance (e.g. NPPF) where relevant to relate the value of the site and potential impacts of development to the planning process, identifying constraints and opportunities for ecological enhancement in line with both national and local policy.

The methodology for evaluation of the nature conservation value of ecological features affected by development (ecological receptors) is adapted from the current Chartered Institute of Ecology & Environmental Management guidelines for Ecological Impact Assessment (CIEEM, 2016). These guidelines recommend assignment of value (or potential value) to ecological receptors in accordance with the following scale:

- I. International;
- II. UK;
- III. National (i.e. England/Northern Ireland/Scotland/Wales);
- IV. Regional;
- V. County (or Metropolitan - e.g. in London);
- VI. District (or Unitary Authority, City, or Borough);
- VII. Local or Parish; and/or
- VIII. within immediate zone of influence only.

Following on from the above, potential constraints to development are identified on that basis, with recommendations for further, more detailed surveys made as appropriate, for example to fully investigate botanical value or to confirm presence / likely absence of a protected species

In appraising any impacts, the review considers the client's site proposals and any subsequent recommendations made are proportionate and appropriate to the site and have considered the Mitigation Hierarchy as identified below:

Avoid: Provide advice on how the development may proceed by avoiding impacts to any species or sites by either consideration of site design or identification of an alternative option.

Mitigate: Where avoidance cannot be implemented mitigation proposals are put forward to minimise impacts to species or sites as a result of the proposals. Mitigation put forward is proportionate to the site.

Compensate: Where avoidance cannot be achieved any mitigation strategy will consider the requirements for site compensatory measures.

Enhance: The assessment refers to planning policy guidance (e.g. NPPF) to relate the ecological value of the site and identify appropriate and proportionate ecological enhancement in line with both national and local policy.

When describing impacts on ecosystem structure and function, reference is made to the following aspects where appropriate:

- I. extent;
- II. magnitude;
- III. duration;
- IV. reversibility;

- V. timing and frequency; and
- VI. cumulative effects.

Understanding the nature of the impact enables determination of the effect on the ecological integrity of the ecological receptor. This in turn is assessed against the importance of the receptor to determine the significance of the effect on nature conservation interests as being (i) not significant, or (ii) a significant positive or adverse impact.

3.2 Desk Based Assessment

Data regarding statutory and non-statutory designated sites, plus any records of protected or notable species and habitats was obtained from the local ecological records centre and online resources on the 7th August 2018, details of which are provided in Table 2 below.

Table 2: Consulted resources

Consultee/ resource	Data sought		Search radius from boundary
Cofnod (Local environmental records centre for north Wales)	Site designations, protected/notable species records		2km
www.magic.gov.uk ³	Statutory Site Designations	International	5km
		National	2km
	NERC 2006 Habitats of Principal Importance		1km

3.3 Phase 1 Habitat Survey

A Phase 1 habitat survey of the site was carried out on 21st June 2018. Habitats were described and mapped following standard Phase 1 habitat survey methodology (JNCC, 2010), which categorises habitat type through the identification of individual plant species, botanical community and habitat conditions.

Nomenclature follows Stace (Stace, 2010) for vascular plant species and uses the DAFOR scale for relative abundance (D = dominant, A = abundant, F = frequent, O = occasional and R = rare/infrequent).

3.3.1 Surveyor

The habitat survey was carried out by Laura Hammerton BSc Hons MSc ACIEEM assisted by Phillipa Mudd BSc Hons MSc. Laura has been a professional ecologist for six years and is appropriately experienced to carry out this type of survey.

3.4 Protected / Notable Species Scoping

The habitats on site were assessed for their suitability to support any legally protected or notable species that may present constraints to the proposed development. This includes invasive non-native plant species such as Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera*.

Any incidental sightings of individual species or field signs such as footprints, latrines or feeding remains identified during the survey were noted.

In the case of great crested newts and bats, specific assessment methodologies have been adopted industry wide and details of these are provided below:

³ Multi Agency Geographic Information for the Countryside Interactive GIS Map.

3.4.1 Bats

3.4.1.1 Daytime Bat Assessment

Any buildings and trees present on or immediately adjacent to the site were visually inspected and all potentially suitable entry / exit points for bats such as holes and crevices were noted together with any evidence of bat presence such as droppings or feeding remains.

Following standard best practice methodology (Collins, J., 2016), each building and tree was then classified either as confirmed roost, high, medium, low or negligible potential (see Table 3), which informs the need for and survey effort of any nocturnal survey required.

Table 3: Criteria for bat roost potential in buildings / trees

Roost potential	Description	Surveys required* - Buildings	Surveys required* - trees
Confirmed	Evidence of bats found during initial daytime inspection.	Three surveys comprising dusk / dawn, one must be a dawn survey between May to September with at least two of the surveys between May and August.	
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three surveys comprising dusk / dawn, one must be a dawn survey between May to September with at least two of surveys between May and August.	
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Two surveys comprising dusk / dawn, one must be a dawn survey between May to September with at least one of surveys between May and August	
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	One survey required between May to August	No further surveys required. Precautionary Method of works recommended.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further surveys are required	

**Unless it is a confirmed roost, additional surveys are required of buildings and/or trees to assess presence / likely absence of a roost. The number of surveys are indicative to give confidence in a negative result, i.e. where no bats are found, confidence in a result can be taken.*

The overall value of the site for foraging and/or commuting bats was also assessed based on the guidelines provided in Table 4 below.

Table 4: Assessment of site value for bats, based on the occurrence of habitat features

	Description of feature
Low	No features likely to be used by bats (for roosting, foraging or commuting) Small number of potential (opportunistic) roost sites (i.e. probably not maternity roosts or hibernacula). Isolated habitat that could be used by foraging bats (e.g. a lone tree or patch of scrub – not parkland) Isolated site not connected by prominent linear features to suitable adjacent/other foraging habitat Several potential roost sites in buildings, trees or other structures Habitat could be used by foraging bats (e.g. trees, shrub, grassland or water) Site is connected with the wider landscape by linear features that could be used by commuting bats (e.g. lines of trees and scrub or linked gardens) Buildings, trees or other structures (e.g. mines, caves, tunnels, ice houses and cellars) of particular significance to roosting bats Site includes habitat of high quality for foraging bats (e.g. broadleaved woodland, tree-lined watercourses and grazed parkland)
High	Site is connected with the wider landscape by strong linear features that could be used by commuting bats (e.g. river valleys, streams, hedgerows) Site is close to known roosts Bats recorded or observed using an area for foraging or commuting close to a potential roost
Confirmed presence	Evidence indicates that a building, tree or other structure is used by bats (e.g. bats seen roosting or observed flying from a roost or freely in the habitat; droppings, carcasses, feeding remains etc. found; and/or bats heard 'chattering' inside a roost on a warm day or at dusk.

3.5 Limitations

3.5.1 Desk Based Assessment

The desk study data is third party controlled data, purchased for the purposes of this report only. RPS cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

3.5.2 Survey

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

The protected/notable species assessment provides a preliminary view of the likelihood of these species occurring on the site, based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries and any direct evidence on the site. It should not be taken as providing a full and definitive survey of any protected/notable species group.

3.5.3 Accurate Lifespan of Ecological Data

The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for two years, notwithstanding any considerable changes to the site conditions.

4 Results

4.1 Desk Based Assessment

A single statutorily designated site was recorded within the search area identified in Section 3.1. The results are detailed below in Table 5.

Table 5: Statutorily designated sites

Site name	Designation	Location	Brief description
Gatewen Marsh	SSSI	400m NW	One of only three significant examples in the former county of Clwyd of the 'southern mesotrophic mires' wetland type.

Six non-statutorily designated sites were also identified, details of which are provided in Table 6.

Table 6: Non-statutory designated sites

Site name	Designation	Location	Brief description
Berse Drelincourt	LWS ⁴	1km W	A small area with a mosaic of semi-natural habitats.
Moss Valley	LWS	1.2km NW	Well wooded valley slopes with adjoining grassland.
Erddig Estate	LWS	1.5km S	National Trust estate with woodlands, semi-improved neutral grasslands and marshes.
New Broughton Meadow	LWS	1.6km W	A site with a variety of semi-natural habitats.
Bryn Alyn and Wormswood	LWS	1.8km N	A series of semi-natural woods and semi-improved grasslands around a meander of the River Alyn.
Woodlands and Fishpond Wood	LWS	2km N	Two areas of wetland.

The closest NERC (2006) Habitat of Principal Importance is broadleaved woodland, located over 800m from the survey area.

Protected species records were received from Cofnod Environmental Records Centre. A summary of the records considered most relevant to the site and/or proposed development are provided in Table 7.

Table 7: Summary of protected and notable species records

Species	Most Recent record	Closest Record to Site	Total Number of Records	Conservation Status
Amphibian				
Smooth Newt	2018	1.4km N	4	LBAP
Great crested newt	2018	1.4km N	7	EPS ⁵ Fully protected ⁶
Palmate Newt	2018	1.5km N	3	LBAP ⁷
Mammal				

⁴ Local Wildlife Site (LWS)

⁵ European Protected Species (EPS)

⁶ European Protected Species (EPS), protected by the Conservation of Habitats and Species Regulations 2010

⁷ Local Biodiversity Action Plan for North Wales (LBAP)

Species	Most Recent record	Closest Record to Site	Total Number of Records	Conservation Status
Hedgehog	2017	0.3km SE	36	LBAP
Common Pipistrelle	2017	0.8km NNE	6	EPS LBAP
Soprano Pipistrelle	2016	0.8km to NNE	3	EPS LBAP
Otter	2017	1km SSW	2	EPS LBAP
Noctule	2016	1km ESE	4	EPS LBAP
Badger	2014	1.4km NNE	2	PBA ⁸
Weasel	2012	1.6km WSW	1	LBAP
Polecat	2012	1.6km WSW	2	LBAP
Myotis sp.	2016	1.6km S	1	EPS LBAP
Water Vole	2015	2.3km SE	1	LBAP
Reptile				
Common Lizard	2010	1.6km NNW	1	Protected from killing and injury ⁹ , LBAP
Grass snake	2018	1.8km S	3	Protected from killing and injury ¹⁰ LBAP
Adder	2011	2km S	1	Protected from killing and injury ¹¹ , LBAP
Birds				
Kestrel	2017	0.3km ESE	11	BoCC ¹² Amber LBAP
Peregrine	2016	0.4km SE	7	Sch1 ¹³ BoCC Green LBAP
Swift	2016	0.5km E	34	BoCC Amber
Cuckoo	2013	0.8km NNE	3	BoCC Red LBAP
Dipper	2018	1.1km SW	11	BoCC Amber LBAP
Lesser Redpoll	2016	1.2km SSE	9	LBAP BoCC Red
Hobby	2011	1.2km SSE	4	Sch1, BoCC Green
Barn Owl	2016	1.2km W	7	Sch1, BoCC Green WBA ¹⁴ LBAP
Skylark	2012	1.3km E	3	BoCC Red LBAP

⁸ Protection of Badgers Act 1992

⁹ Wildlife and Countryside Act 1981 (as amended)

¹⁰ Wildlife and Countryside Act 1981 (as amended)

¹¹ Wildlife and Countryside Act 1981 (as amended)

¹² Birds of Conservation Concern BoCC

¹³ Schedule 1 Wildlife and Countryside Act 1981 (as amended)

¹⁴ RSPB Welsh Birds Amber List

Species	Most Recent record	Closest Record to Site	Total Number of Records	Conservation Status
Lesser Spotted Woodpecker	2013	1.5km NE	2	BoCC Red

Full species records are available to view upon request.

4.2 Habitat Survey Results

The following section describes the habitats recorded on site at the time of the survey. Full habitat descriptions are provided after the table. For a Phase 1 plan refer to Appendix 1.

Table 8: Summary of weather conditions

Temperature	31°C
Wind speed	B1
Cloud cover	1/8cc
Precipitation	None

4.2.1 Broad-leaved Trees

The trees within the site were immature saplings comprising willow *Salix* sp. and silver birch *Betula pendula*.

4.2.2 Poor Semi-Improved Grassland

The majority of the site comprised poor semi-improved grassland. Species included smooth meadow grass *Poa pratensis*, perennial ryegrass *Lolium perenne*, cocks-foot *Dactylis glomerata*, red clover *Trifolium pratense*, ribwort plantain *Plantago lanceolata*, black medic *Medicago lupulina*, kidney vetch *Anthyllis vulneraria*, spear thistle *Cirsium vulgare*, broad leaved dock, purple toadflax *Linaria purpurea* and creeping cinquefoil *Potentilla reptans*.

4.2.3 Tall Ruderal Vegetation

Tall ruderal vegetation was recorded within the site boundary. Species included willow herb *Epilobium* sp., teasel *Dipsacus fullonum*, hogweed *Heracleum sphondylium* and weld *Reseda luteola*.

4.2.4 Buildings

A storage container and cabin were located towards the north west of the site within the grassland and bare ground.

Two buildings were recorded directly south west of the site at the time of the survey, both of which were in a dilapidated state. The buildings were of breeze block construction with wooden framed roof construct. The majority of the roof areas were missing with partial boarding remaining in places.

4.2.5 Bare Ground with Ephemeral/Short Perennial

Areas of bare ground were recorded within the site boundary with plant species starting to colonise these areas. Plant species included broad-leaved dock *Rumex obtusifolius*, broad-leaved plantain *Plantago major*, dandelion *Taraxacum*, cats ear *Hypochaeris radicata* and mugwort *Artemisia vulgaris*.

4.2.6 Hardstanding

Areas of tarmac and concrete hard standing were present within the site boundary.

4.2.7 Invasive Species

At the time of the survey *crocosima* was recorded on the embankment to the south west of the proposed development. Stands of buddleja *Buddleja davidii* and patches of horsetail *Equisetum arvense* were recorded across the area proposed for development at the time of the survey.

4.3 Preliminary Protected / Notable Species Assessment

4.3.1 GCN

No waterbodies were identified on site during the survey, with the habitats present considered to provide sub optimal terrestrial habitat for GCN. Two waterbodies were identified within 500m of the site with records for GCN returned in the desk study. A Rapid Risk Assessment (RRA) was used to assess the likelihood of an offence being committed as a result of the works (see Table 9 below). The RRA concluded that the likelihood of an offence being committed is **highly unlikely**.

Table 9: Rapid risk assessment

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

It should be noted that the presence of garden ponds cannot be ruled out.

4.3.2 Bats

4.3.3 Roosting

None of the buildings or trees on site were considered to offer suitable roosting potential for bats. The open nature and dilapidated condition of the buildings would suggest they are draughty and/or damp leading to unfavourable roosting conditions for bats. The buildings were therefore considered to provide **Negligible** roosting potential for bats. The majority of the trees recorded within the survey area were saplings and as such offer **Negligible** roosting potential for bats. No suitable roosting features such as limb fractures and trunk cavities were recorded at the time of the survey.

4.3.4 Foraging

The site was considered to provide **Low** foraging potential for local bat species due to the lack of suitable features such as hedgerows and developed treelines, with the site lacking connectivity to the wider landscape. Records for pipistrelle sp. and noctule *Nyctalus noctula* were returned in the desk study however none of the records were in close proximity to the site (closest record 800m).

4.3.5 Birds

The trees and shrubs within the survey area were considered to provide some limited nesting opportunities for birds, with the site providing some limited foraging opportunities. Under current proposals it is considered the works would require vegetation clearance, resulting in a loss of potential nesting and foraging habitat. A number of records for birds were returned in the desk study with records for peregrine falcon, a Schedule 1 bird species recorded within 400m of the site. Recommendations for the protection of birds during the development have been made in Section 5.3.3.

4.3.6 Badgers

No evidence of badger such as setts, latrines or snuffle holes were recorded during the survey with the nearest record for the species over 1km from the site. Due to the isolated nature of the site within urban development it is considered unlikely badgers would utilise the site for foraging and commuting purposes.

4.3.7 Reptiles

The habitats at the site were considered to provide some limited foraging and refuge potential for reptile species however given the limited habitats and the isolated nature of the site it is considered unlikely reptile be present at the site. In conjunction, records for reptiles were not returned within 1.5km of the site. It is considered unlikely reptile be present within the area proposed for development now or in the future, therefore no further mitigation is considered necessary.

4.3.8 Water Vole, Otter and White Clawed Crayfish

No suitable habitat for these species was recorded at the time of the survey with online resources showing the closest watercourse being over 300m from the surveys area. In conjunction, there are no suitable interlinking habitats between the site and the watercourse that could be utilised by these species. Records for otter and water vole were returned in the desk study however both records were 1km or more from the site. No records for White-Clawed crayfish were returned in the desk study.

It considered highly unlikely that the proposed development will negatively impact these species therefore they will not be discussed further in this report.

4.3.9 Other Notable Fauna Species

Due to a lack of suitable habitats and suitable commuting corridors, the site is not considered likely to support any other legally protected or notable species. Although the site is not considered to support any notable species, it recommended that precautionary methods should be adopted in order to prevent injury/entrapment of any animals during the works.

5 Discussion and Recommendations

5.1 Designated Conservation Sites (Statutory and Non-Statutory)

A single statutorily designated site, Gatewen Marsh SSSI, and six non-statutorily designated sites were identified within the search parameters outlined in Section 3.1. Of the sites identified, the closest was Gatewen Marsh SSSI located over 700m from the site boundary. It is considered the site is of sufficient distance from the SSSI to not pose any negative risks as a result of the proposed works.

Online resources show that the site does not fall within any SSSI impact zones, therefore there is no obligation for the local authority to consult with Natural England regarding the proposed works.

The closest NERC (2006) Habitat of Principal Importance is broad-leaved woodland, located over 800m from the survey area. Given the distance between the works and the intervening habitats, it is considered the development will not negatively impact the woodland. Efforts to suppress the production of excess dust/particulate should be implemented as part of the works in order to reduce the impact of the development on surrounding habitats.

5.2 Habitats and Botanical Value

The majority of the habitats on site (grassland, tall ruderal vegetation and bare ground) are not considered to be of importance to nature conservation. The immature trees within the site boundary are considered to provide low ecological value however if any mature trees are to be impacted efforts to retain the trees within the proposed development should be made. Where this is not possible, the trees should be replaced on a like for like basis upon the completion of works (see Section 5.4). Works should observe tree protection zones to ensure the root structures of trees are not impacted during the development.

Crocospia was recorded adjacent to the site at the time of the survey. One species of crocospia, *Monbretia* is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). As such, it is considered an offence under this act to allow, accidentally or otherwise, the plant to be release into the wild, further, any soils or materials containing propagules (seeds, bulbs, corms, etc.) would be classified as contaminated waste under current legislation. It is therefore recommended that a pre-commencement check be carried out before the works on site start in order to ensure the species has not encroached into the working area. In the event the species has spread into the working area, further advice will be provided to lawfully allow the works to be conducted. Where crocospia has not encroached the working area, it is recommended that fencing (heras or alike) be erected around the site with appropriate signage to avoid any accidental disturbance and/or spread of the plant.

Buddleja and horsetail were recorded in patches across the site. Whilst not listed on Schedule 9, both plant species grow vigorously, outcompeting other floral species and may cause damage to structures such as tarmac carparks, walls and buildings. It is therefore recommended that all buddlejia be removed from the site as part of the works. Currently there are no disposal constraints related to this species.

5.3 Protected and Notable Species

5.3.1 GCN

The habitats on site were considered to provide sub optimal terrestrial habitat for GCN due to the lack of suitable habitat features. In conjunction, the lack of connectivity between the site and suitable aquatic habitats means it is unlikely GCN would be present at the site during their terrestrial phase. Although records for GCN were returned in the desk study, these records were

over 1km from the site which is considered to be well outside their natural dispersal range¹⁵. The results of the RRA conducted conclude that the likelihood of an offence being committed as a result of the works is **'Highly unlikely'**. As such, no further mitigation for GCN is considered necessary. In the unlikely event GCN or other amphibians are encountered during the works, works on site must cease and RPS be contacted for further advice.

5.3.2 Bats

None of the buildings or trees on site were considered to provide suitable roosting opportunities for bats, with the habitats recorded on site considered to be of **'low'** value for foraging bats. Although the site is considered to be of low value, bats may still utilise the site for commuting purposes, therefore any proposed lighting plans should be sympathetic to foraging and commuting bats and aim to reduce obtrusive lighting. This can be achieved by implementing a number of strategies outlined below:

- avoid illumination of retained and newly planted trees;
- no direct illumination of any new roost entrances where bat boxes or features on new buildings;
- use light sources that emit minimal ultraviolet light and avoid white or blue wavelengths to avoid attracting lots of insects (attracting insects to lamps may reduce their abundance in darker foraging areas favoured by bats);
- individual lamps should be hooded and directed where needed to avoid unnecessary light spillage; and
- use motion detectors to activate security lamps rather than continual flood lighting and if any CCTV security system is proposed, Infra-Red lighting would be preferential.

The Wrexham Football Club directly to the west of the site has large lighting columns associated with the grounds that may result in light spillage onto the site however on discussion with the club it has been determined that the lights are rarely in use during peak bat season (May-August) and only used intermittently for short periods through the rest of the year. It is therefore recommended that where possible, the lighting scheme for the site be designed in such a way as to not increase the current levels of light spillage onto the embankment to the west of the site in order to maintain any existing commuting routes.

5.3.3 Birds

The habitats on site were considered to offer some limited nesting and foraging opportunities for birds. Under current proposals it is considered these habitats will be lost as a result of the works. As such, it is recommended that any vegetation clearance should be undertaken outside of the nesting bird season (March to September inclusively). Where this is not possible, any vegetation clearance should be preceded by a nesting bird check conducted by a suitably qualified ecologist prior to clearance.

Records for peregrine falcon were returned within 400m of the site. This species is known to nest on tall buildings in inner city areas therefore their presence in closer proximity to the site is possible. As peregrine hunt primarily in flight, it is considered the loss of habitats at the site would not negatively impact individuals on a local scale.

5.3.4 Other Notable Fauna Species

Although the site was considered unlikely to support notable faunal species, it is considered that precautionary methods should be implemented during the works to mitigate against unnecessary harm to any species as a result of the development.

¹⁵ The generally accepted maximum range for GCN dispersal is 500m, however this can be exceeded in exceptional circumstances.

During construction phase the presence of open excavations, pipes and site equipment has the potential to cause harm to animals in the local area. To that end, it is recommended that the following precautions are observed;

- mammal ladders (such as a plank) or earth ramps to be placed in any open excavations at the end of each day;
- any open pipework to be capped overnight to prevent larger mammals such as badger from accessing the pipe work and becoming stuck;
- night work should be avoided where possible, and any flood lighting should face away from the site boundaries; and
- any chemicals or machinery are to be stored in a secure compound.

5.4 Enhancements

The National Planning Policy Framework and local development plan encourages ecological enhancement of sites subject to development proposals. Where new landscape planting is proposed, commonly occurring tree species such as sycamore, horse chestnut and oak could be used. Other species such as silver birch *Betula pendula*, rowan *Sorbus aucuparia* and whitebeam would make attractive additions to the site. In particular rowan will provide a valuable source of berries late into the winter months and provide an important food source for native and migratory bird species. Ash and elm should be avoided due to the prevalence of 'Ash die-back' and 'Dutch elm disease', as stocks of these species cannot be guaranteed to be free from these afflictions. Where soft landscaping is proposed, native species should be preferred over non-native mixes.

Further enhancements that could easily be met with the incorporation of bat, bird and hedgehog boxes. Bird boxes could be placed on either the new buildings or retained trees within the site boundaries and hedgehog boxes placed within any ornamental planting and compost piles. Bat boxes should be placed on new buildings or retained trees, facing south or south-west at heights >2m. They should be away from direct light overspill from street or security lighting and preferably be adjacent to green areas and wildlife corridors.

6 References

British Standards Institution, 2013. BS 42020:2013 *Biodiversity. Code of practice for planning and development*. Milton Keynes: BSI.

Chartered Institute of Ecology and Environmental Management, 2017. *Guidelines for Preliminary Ecological Appraisal*. 2nd ed. Winchester: CIEEM.

Chartered Institute of Ecology and Environmental Management, 2013. *Competencies for Species Survey in Britain and Ireland*. Winchester: CIEEM.

Chartered Institute of Ecology and Environmental Management, 2017. *Guidelines for Ecological Report Writing*. Winchester: CIEEM.

Chartered Institute of Ecology and Environmental Management, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*. 2nd ed. Winchester: CIEEM.

Collins, J. (ed.), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.). London: The Bat Conservation Trust.

Department of Communities & Local Government, 2018. *National Planning Policy Framework*, London: DCLG.

English Nature , 2001. *Great Crested Newt Mitigation Guidelines*. Peterborough: English Nature.

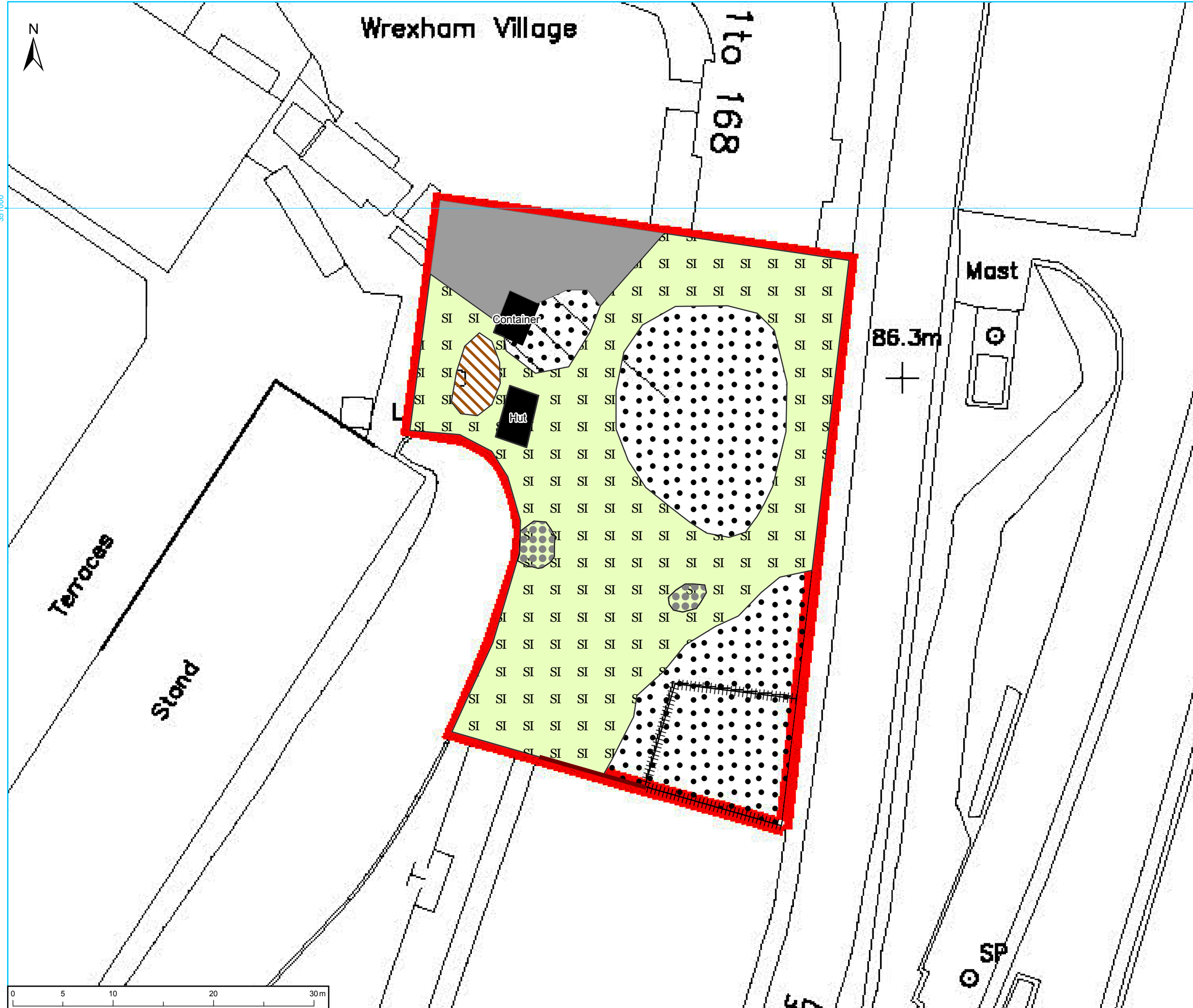
Joint Nature Conservancy Council , 2010. *Handbook for Phase 1 habitat survey*. Peterborough: JNCC.

Office of the Deputy Prime Minister, 06/2005. *Government Circular: Biodiversity and Geological Conservation - Statutory Obligations and their impact within the planning system*. London: ODPM.

Oldham, R.S., Keeble, J., Swan, M.J.S. & Jeffcote, M., 2000. *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10(4), 143-155.

Stace, C., 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press.

The Conservation of Habitats and Species Regulations 2017. Planning Act 2008, Regulation 110.



© 2018 RPS Group
Notes
1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.

Legend

- Site boundary
- Tall ruderal
- Poor semi-improved grassland
- Building
- Hard standing
- Bare ground
- Rubble pile
- Fence
- Wall

Rev	Description	Date	Initial	Checked



Willow Mere House, Compass Point Business Park
Stocks bridge Way, St. Ives, Cambs, PE27 5JL
T: 01480 466 335 E: rpscm@rpsgroup.com F: 01480 466 911

Client Narvo Asset Management

Project Glyndwr University, Wrexham
Additional Surveys

Title Phase 1 habitat map

Status	Drawn By	PM/Checked By
Draft	KM	PM
Job Ref	Scale @ A3	Date
ECO00246	1:384	NOV 18
Drawing Number		Rev
ECO00246-01		02



GENERAL NOTES: DAY Architectural Ltd accepts no responsibility for any costs, losses or claims whatsoever arising from these drawings, specifications and related documents unless there is full compliance with the Client or any unauthorised user of the following: - All boundaries, dimensions and levels are to be checked on site before construction and any discrepancies reported to the Architect / Designer. - Partial Service: Any discrepancies with site or other information is to be advised to the Architect / Designer and direction and / or approval is to be sought before the implementation of the detail. - Block and site plans are reproduced under license from the Ordnance Survey. - Do not scale this drawing. - For the purpose of coordination, all relevant parties must check this information prior to implementation and report any discrepancies to the Architect / Designer.			DRAWING NOTES:			CLIENT Wrexham Glyndwr University PROJECT Campus 2025			DRAWING Wrexham Student Village 2 Ground Floor Plan SCALE 1:200 DATE June 2018 DRAWING No. AL-101-004 DRAWING STATUS PLANNING			PAPER SIZE A1 DRAWN BY LB REVISION P1 PROJECT No. 531-17			DAY ARCHITECTURAL LTD DAY ARCHITECTURAL LTD 61 BURLINGTON STREET LIVERPOOL L3 6LG LIVERPOOL MANCHESTER 0151 203 9703, info@day-architectural.com, www.day-architectural.com		
STATUS			REVISION			DATE											