



Cedar Lodge • Wilcott Marsh • Shrewsbury • SY4 1AR
Tel: 01743 741 421 • 07811 113 250
Email: info@pearce-environment.co.uk
Web: www.pearce-environment.co.uk

Registered in England and Wales: 5175771

Ecological Assessments

Project: Building to the Rear of 20 Market Street, Rhosllanerchrugog,
Wrexham. LL14 1AF.

On behalf of: Michael Clark

Date: July 2016

N.B. The contents of this report contains information regarding protected species of a sensitive nature.

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Author	P Roberts
2 nd Read	T Pearce
Proof	J.Molesworth
Date	28/07/2016

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Executive Summary

The content of this report details the findings of an Extended Phase 1 survey and detailed Phase 2 Bat Activity Surveys undertaken to inform a planning application for the demolition of an existing building and construction of a new building at the rear of 20 Market Street, Rhosllanerchrugog, Wrexham. The site is centred on approximate Ordnance Survey Grid Reference SJ 29124 46428.

An Extended Phase 1 survey and Preliminary Roost Assessment (PRA) identified that the building provides opportunities for roosting bats by virtue of its construction materials, age and condition. The results from the survey was used to inform that Phase 2 Bat Activity and Roost Characterisation Surveys are required.

A small stand of Japanese knotweed (*Fallopia japonica*) was identified at the rear of the snooker club which is adjacent to the proposed building. A strategy of management/control to prevent the spread of this species should be implemented.

Based on the evidence from the bat activity and roost characterisation surveys no bats were seen to emerging from the building therefore, bats are not considered a constraint to the proposals.

The findings of the assessment support the conclusions that the development will not be detrimental to bats or other protected species.

Section 1

Introduction

- 1.1 Pearce Environment Ltd were commissioned by Michael Clark to undertake an Extended Phase 1 and a detailed Bat Activity and Roost Characterisation Surveys. The findings have been used to inform a planning application for the demolition and construction of a new building at the rear of 20 Market Street, Rhosllanerchrugog, Wrexham. The site is centred on approximate Ordnance Survey Grid Reference SJ 29124 46428.
- 1.2 This report sets out the results of a desk study, Phase 1 habitat survey, Preliminary Roost Assessment and Emergence bat surveys undertaken by Pearce Environment Ltd.
- 1.3 These studies were undertaken between June and July 2016. The findings of this report have been used to inform a planning application for the demolition on existing building and the construction of a new building to the rear of 20 Market Street, Rhosllanerchrugog.
- 1.4 The aims of this report are to:
 - Identify both habitats and species constraints pertinent to the development proposals with specific focus on Bats and Birds.
 - Detail EPS licensing requirements, reasonable avoidance measures, mitigation and compensation measures where necessary; and
 - Identify opportunities for the proposed development to provide enhancements and add to the biodiversity resource within the site.

Section 2 Methodology

- 2.1 This section summarises the methodologies used during the ecological studies, undertaken to inform the proposed development of the site, in line with the aims set out in **Section 1** of this report.

Desk Study

- 2.2 The desk study is an important part of the ecological assessment, it provides contextual information, such as the sites proximity to designated sites and known records of protected/notable species. This information is used to supplement the findings of the Detailed Phase 2 surveys and supports the recommendations and conclusions in Section 3 & 4 of this report.

Table 2.1: Summary of resources and information requested during the desk study (April 2016)

Organisation/Resource	Information Assessed (search distance from site boundary)
NBN/Magic Website	• Statutory designations (2km) • Non-statutory designations (2km) • Protected/UK BAP species records (2km)
MAGIC website ¹	• International statutory designations (1km) • National statutory designations (1km)

- 2.3 The search areas described above and resources used are considered to be sufficient to assess the potential for the proposal to affect protected species and designations of conservation concern. All pertinent information obtained during the desk study is referenced within Section 3 of this report.

Extended Phase 1 Survey

- 2.4 This level of survey does not aim to provide a complete floral and faunal inventory present on site but to identify field signs of/habitats with the potential to support protected species, thereby determining the need for detailed Phase 2 survey(s).
- 2.5 The main habitat types and dominant plant species present per habitat type were identified and mapped in Plan 1, summarised in Section 2 and illustrated using photographs included within this report.

¹ Multi-Agency Geographic Information for the Countryside website (www.magic.gov.uk/)

- 2.6 The Extended Phase 1 survey of the site was undertaken on the 1st June 2016 in clear and dry conditions. The survey was performed by Paul Roberts, an experienced ecologist who holds an UCert in Biological Recording, protected species licences for both bats and great crested newts.

Species Surveys

Bats

Phase 2 Bat Activity and Roost Characterisation assessments

- 2.7 Surveys were undertaken of the building to establish the presence/likely absence of the species. The survey visits were undertaken in June/July 2016 by licensed surveyors in accordance with best practice guidelines summarised below;

Preliminary Bat roost Assessment: Buildings

- 2.8 A daytime external assessment of all structures on site was undertaken to determine their potential to support roosting bats. All external features considered potentially suitable for bats were identified and assessed. Signs of bat activity such as droppings, feeding remains and urine staining were also searched for within all accessible areas. The potential suitability of the structures assessed was assigned a rating of low to high in accordance Table 8.2 of *"Bat Conservation Trust's Good Practice Guidelines"*. The need/scope of Phase 2 surveys were assessed on this basis.
- 2.9 An internal assessment of all accessible loft voids was undertaken by a Natural Resources Wales licensed bat worker for evidence of roosting bats such as droppings, feeding remains and staining.

Bat Activity Surveys

- 2.10 Following the findings of the initial assessment, numerous potential accessess were identified into the former residential property and potential for crevice dwelling bats was identified within the structure, emergence surveys were undertaken between May - September in accordance with Table 8.5 of *"Bat Conservation Trust's Good Practice Guidelines"*. The surveys were undertaken in suitable conditions detailed in **Table 2.2** below.

Date	Start/Finish Time	Sunset/Sunrise	Cloud coverage (%)	Wind (Mph)	Temperature °C
30/06/16	21.00-23.00	2134	95 (overcast)	3	13-11.5
12/07/16	21.15-23.00	2133	10	1	13.5

21/07/16	21.00-22.45	2121	5	1	14
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- 2.11 A minimum of two Natural Resources Wales licensed ecologists were present during each survey with the aid of experienced ecological surveyors to ensure complete visual coverage of those features identified as having bat roost potential.
- 2.12 Surveyors were equipped with Batbox Duet bat detectors and recorded observations of the time, location, and activity of all bats seen or heard. A single Anabat SD2 bat detector was used to provide digital recordings to further aid with the identification and documentation of recordings using (AnalookW version 3.8v).
- 2.13 Bats were identified on the basis of their characteristic echolocation calls using the relevant computer sonogram analysis software with reference to published bat call parameter data².

Limitations

- 2.14 The identification of calls and species using computer sonogram analysis software is dependent upon the clarity of the sonogram/recording. The quality is subject to weather conditions, distance of bats from the detector, the presence of physical obstructions and level of background noise.

Great Crested Newts

Habitat Suitability Index (HSI)

- 2.15 A desk based study was undertaken using OS maps and online mapping resources to identify those waterbodies within 250m of the site boundaries.
- 2.16 Where access to ponds was possible and permissible a Habitat Suitability Index (HSI) developed by Oldham et al. (2000)³ was undertaken where the proposed works is considered likely to effect suitable terrestrial/aquatic habitat for great crested newt. This assessment uses a scoring system of several criteria such as water quality, fish/waterfowl presence and surrounding terrestrial habitat from which a suitability score is derived. Water bodies with higher scores are considered more likely to support great crested newts compared to those with low scores.
- 2.17 This tool has been developed to provide a quantitative measure between ponds of their suitability to support great crested newts and should not be used as a substitute for presence/absence survey where deemed required.

² Russ, J. (2012). *British Bat Calls: A Guide to Species Identification*. Pelagic Publishing, Exeter

³Oldham 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.

- 2.18 The assessment was performed during the Extended Phase 1 survey by a Natural England great crested newt licence holder. HSI scores relating to the suitability of the ponds assessed to support great crested newts are described within Table 2.1 below.

Table 2.1: Pond suitability for great crested newts determined using HSI scoring system

HSI Score	Pond suitability to support great crested newts
<0.5	Poor suitability
0.5 – 0.59	Below average suitability
0.6 – 0.69	Average suitability
0.7 – 0.79	Good suitability
> 0.8	Excellent suitability

- 2.19 A terrestrial search was undertaken during the Extended Phase 1 survey for herptiles seeking refuge beneath debris, including log piles and where present piles of existing refugia. The hand search was undertaken by a great crested newt licence holder.

Nesting birds

- 2.20 An assessment from the ground of all trees/boundary vegetation located on or immediately adjacent to the site boundaries was undertaken, to identify the presence of habitat/features suitable for nesting birds.

Badgers

- 2.21 A site walkover was undertaken to determine the presence of badgers. Field signs such as setts, scrapings produced during foraging behaviour, hairs, latrines, paths and prints were searched for. Where present, an assessment of excavations were made taking into account the shape of the entrance, quantity of spoil and presence of badger hair/debris or bedding material.

Reptiles

- 2.22 A terrestrial search was undertaken during the Extended Phase 1 survey for reptiles seeking refuge beneath debris, including logs/stones and rubble where these features were present.

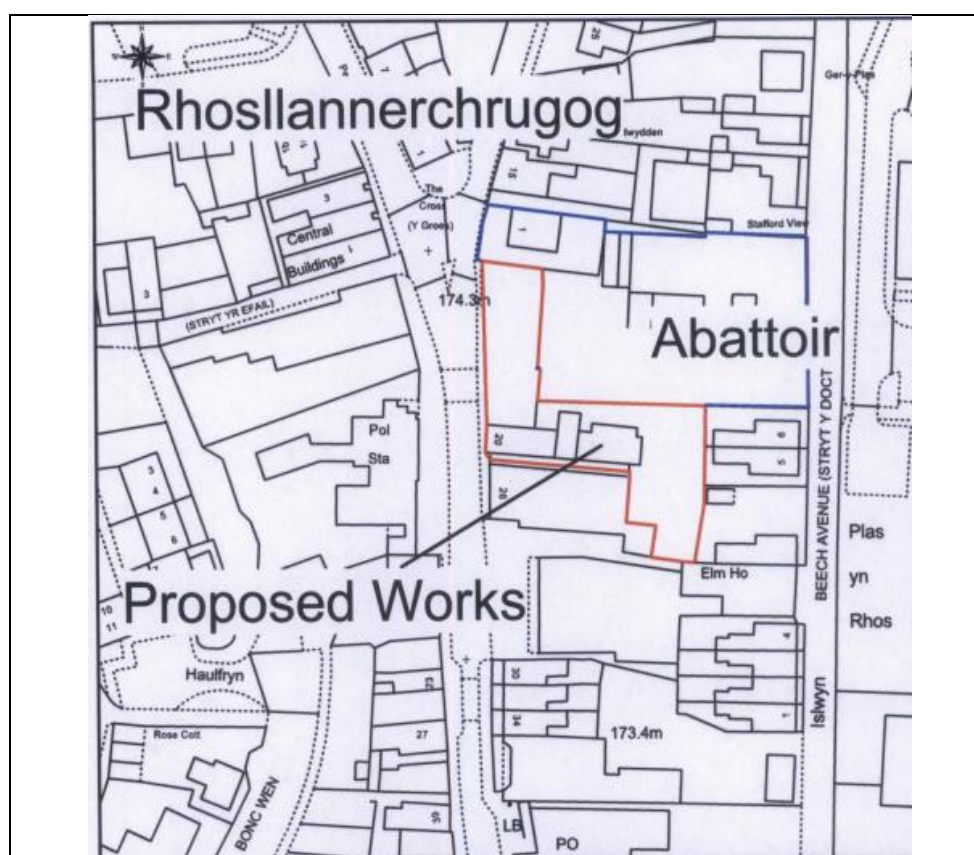
Section 3

Results and Recommendations

Site Description

- 3.1 The site consists of a former dwelling and attached garage, set within hardstanding, adjoining to the rear of a butcher shop. The boundaries to the proposals are predominantly a stone wall which surround the parking areas associated with the abattoir which is situated north east of the proposed site.
- 3.2 The surrounding area mainly comprises of residential dwellings, shops and access roads. The site location is depicted in **Figure 3.1** below.

Figure 3.1: Site location provided by Michael Clark



The buildings

- 3.3 The former two storey dwelling is attached to the rear of the butcher's shop, constructed of brick with only one side gable present. There are two separated roofs with no voids, slate tiled containing small fascia's and lead flashing in some sections. Other External features include ridges, two chimneys, soffits and gutters.

- 3.4 An internal inspection identified there to be no roof voids.

Image 3.2 An internal view of the building



Image 3.3 North eastern aspect of the building. The full building depicted in red.



- 3.5 The roof is generally in good condition with a few crevices underneath tiles, raised lead flashing and some gaps along the ridge. The chimney on the eastern aspect is leaning westwards, causing bricks to raise on the main building creating gaps and mortar loss.

Image 3.2 Eastern aspect of the building showing the raised bricks depicted by the red arrow.



- 3.6 The adjoining garages are predominantly intact with no crevices visible.
- 3.7 The building is set within hardstanding consisting of concrete and gravelled areas surrounding the building.

Desk Study - Designated Sites/Habitats of Importance

Statutory Designations

- 3.8 A desk based study was undertaken to identify the presence of statutory designations which include;

International recognised statutory designations

- Special Protection Areas (SPAs)
- Special Areas of Conservation (SACs)
- Ramsar Sites.

National recognised statutory designations

- Sites of Special Scientific Interest (SSSIs)
- National Nature Reserves (NNRs),

Local level statutory designations

- Local Nature Reserves (LNRs)

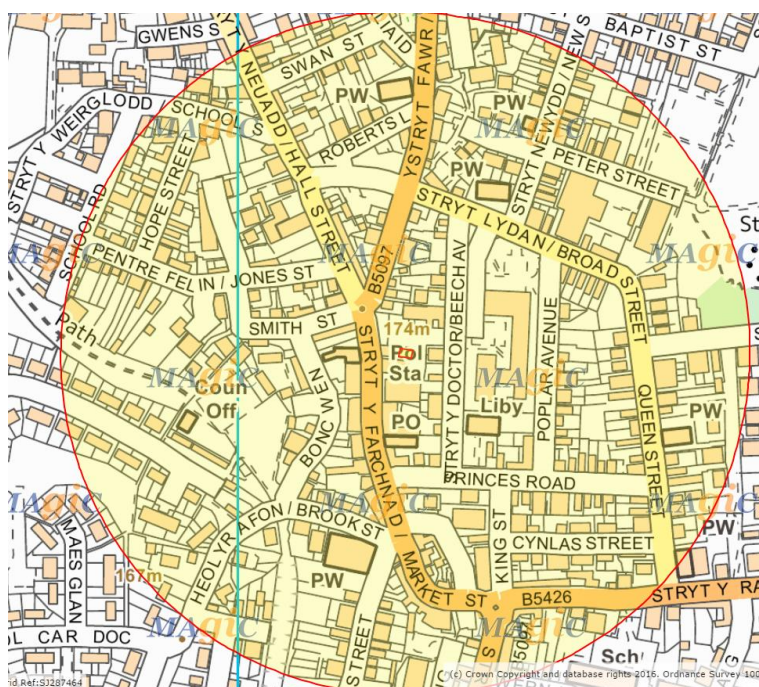
- 3.9 The desk study found that the proposed site is situated approximately 670m from Johnstown Newt Site a Special Area of Conservation (SAC).

- 3.10 The development is restricted to the portion of the curtilage of the building highlighted in **Image 3.1** therefore, there are no anticipated effects upon any of those designations, detailed above or the species they support, given the scale and nature of the re-development

Habitats of Importance

- 3.11 An assessment of the surrounding habitats using OS maps and online mapping resources identified no ponds illustrated in **Image 3.8**.
- 3.12 No other habitats of conservation concern were identified during the desk study.

Image 3.8 Desk based search for water bodies within 250m of the study area.



Extended Phase 1 survey and Preliminary Roost Assessment.

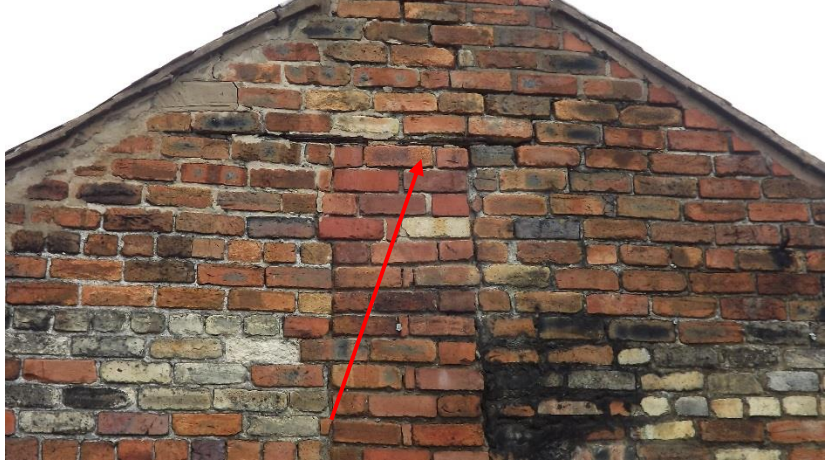
- 3.13 An initial site visit was undertaken on the 1st June 2016 to assess the buildings potential to support roosting bats and nesting birds. A full description of those features considered suitable for roosting bats are described and illustrated using site photographs provided below (**image 3.19**).

Building

- 3.14 The building is currently vacant, whilst the exterior of the property is generally in good condition for its age, crevices were identified under ridge tiles, loose flashing, under slipped tiles and under raised bricks caused by the leaning of the chimney. The roof of the garage is generally in good condition and has been recently re roofed.

- 3.15 An internal inspection of the property identified no void to be present therefore, no evidence of roosting bats.

Image 3.9 Potential features suitable for roosting bats.

	Gaps between the bricks caused by the leaning of the chimney
	Ridge tiles slightly warped causing a raising effect. Flashing against the chimney is loose causing a gap. A raised tile adjacent to the gutter

- 3.16 A small stand of Japanese knotweed (*Fallopia japonica*) was identified at the rear of the snooker club which is situated adjacent to the proposed building. A strategy of Management/control to prevent the spread of the plant should be implemented.

Phase 2 detailed bat surveys

- 3.17 Detailed Phase 2 bat surveys were undertaken in June and July 2016 to determine the presence/absence and status of any roosting bat within the building.

30th June 2016– Emergence Survey

- 3.18 The findings of this survey revealed no visual or recordings of bats throughout the surveys session. It was noted that the northern and eastern aspects of the building were heavily light up by security lighting from the abattoir.

- 3.19 Full coverage of the buildings was attained by surveyors during the emergence survey.

12th July 2016-Emergence Survey

- 3.20 A noctule was seen and recorded at 21:46, 13 minutes after sunset. It commuted east towards trees located across the road.
- 3.21 At 22:02 a single common pipistrelle (*Pipistrellus pipistrellus*) bat was noted as commuting from the west to the east through the alley way. It was not observed emerging from the building.
- 3.22 No other bats were recorded during the survey session.
- 3.23 Full coverage of the buildings was attained by surveyors during the emergence survey.

21st July 2016– Emergence Survey

- 3.24 The only bat recorded during the survey was at 22.11, approximately 50 mins after sunset. It was observed foraging in the garden to the east of the building. It was identified as a common pipistrelle (*Pipistrellus pipistrellus*) bat.
- 3.25 Full coverage of the buildings was attained by surveyors during the emergence survey.

Legislation

- 3.26 *All species of British bat are listed as a European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive). This affords them strict protection under the Conservation of Habitats and Species (Amendment) Regulations 2010, making it an offence to:*

- *Deliberately capture, injure or kill a wild animal of an EPS;*
- *Deliberately disturb wild animals of an EPS wherever they are occurring, in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or in the case of hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong;*
- *Deliberately take or destroy the eggs of a wild animal of an EPS; or*

- *Damage or destroy a breeding site or resting place of a wild animal of an EPS.*

Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.

In addition, seven of the eighteen species of bat resident in the UK (greater horseshoe, lesser horseshoe, barbastelle, bechstein's, soprano pipistrelle, brown long-eared and noctule) are also listed as Priority Species within the UK Biodiversity Action Plan (BAP),

Recommendations –

- 3.27 The findings of the survey showed that no bats had emerged from the building. Therefore, no impacts are expected from the proposals and may proceed without any licensing measures.
- 3.28 A minimum of two Schwegler 1FR bat boxes are to be integrated into the fabric of the new buildings (**Image 3.18**). The exact location of these boxes is to be agreed with an appointed ecologist.

Image 3.18 An example of a Schwegler 1FR bat box



Dormouse

- 3.29 No records of dormice (*Muscardinus avellanarius*) were retrieved during the course of the desk study nor are those habitats on site considered extensive enough to support a viable population given lack of connectivity to surrounding woodland and past management.

Water Vole and Otter

- 3.30 No records of water vole (*Arvicola amphibius*) were retrieved during the course of the desk study, the site does not fall within close proximity of any water course which could be used by Otter recorded in the local area. Neither species are a constraint to development on this basis.

Badger

- 3.31 The site and its surrounds is built up with hardstanding and does not provide suitable habitat. No evidence of badgers were found. These species are not deemed a constraint to development.

Amphibians

- 3.32 A desk based assessment using OS maps, online mapping resources and search during the Extended Phase 1 survey identified no water bodies within 250m of the site. illustrated in Image 3.8. These species are not deemed a constraint to development.

Reptiles

- 3.33 The site and its surrounds does not support suitable habitat. These species are not deemed a constraint to development.

Birds

- 3.34 No birds were noted to be nesting in the building therefore, birds are not deemed a constraint to development.

Plant species

- 3.35 No legally protected plant species were noted on site. There was however Japanese Knotweed (an invasive non-native species) which was identified at the rear of the snooker club which is adjacent to the proposed building. A strategy of Management/control to prevent the spread of the plant should be implemented.

Section 4

Conclusions

Summary of the Site's Ecological Significance

- 4.1 An assessment of the proposed site layout (**Appendix 1**) provided by Michael Clark identified that the foot print of development is restricted to a former dwelling and its immediate surrounds, which is predominately hardstanding. Due to the lack of habitats which are considered of ecological importance, survey effort was concentrated on the building and its potential to support bats or birds.
- 4.2 A preliminary roost assessment and detailed Phase 2 bat activity surveys found no evidence of roosting bats or nesting birds.
- 4.3 A small stand of Japanese knotweed (*Fallopia japonica*) was identified at the rear of the snooker club which is adjacent to the proposed building. A strategy of Management/control to prevent the spread of the plant should be implemented.
- 4.4 No evidence of other protected species are noted during the course of the ecological appraisal.

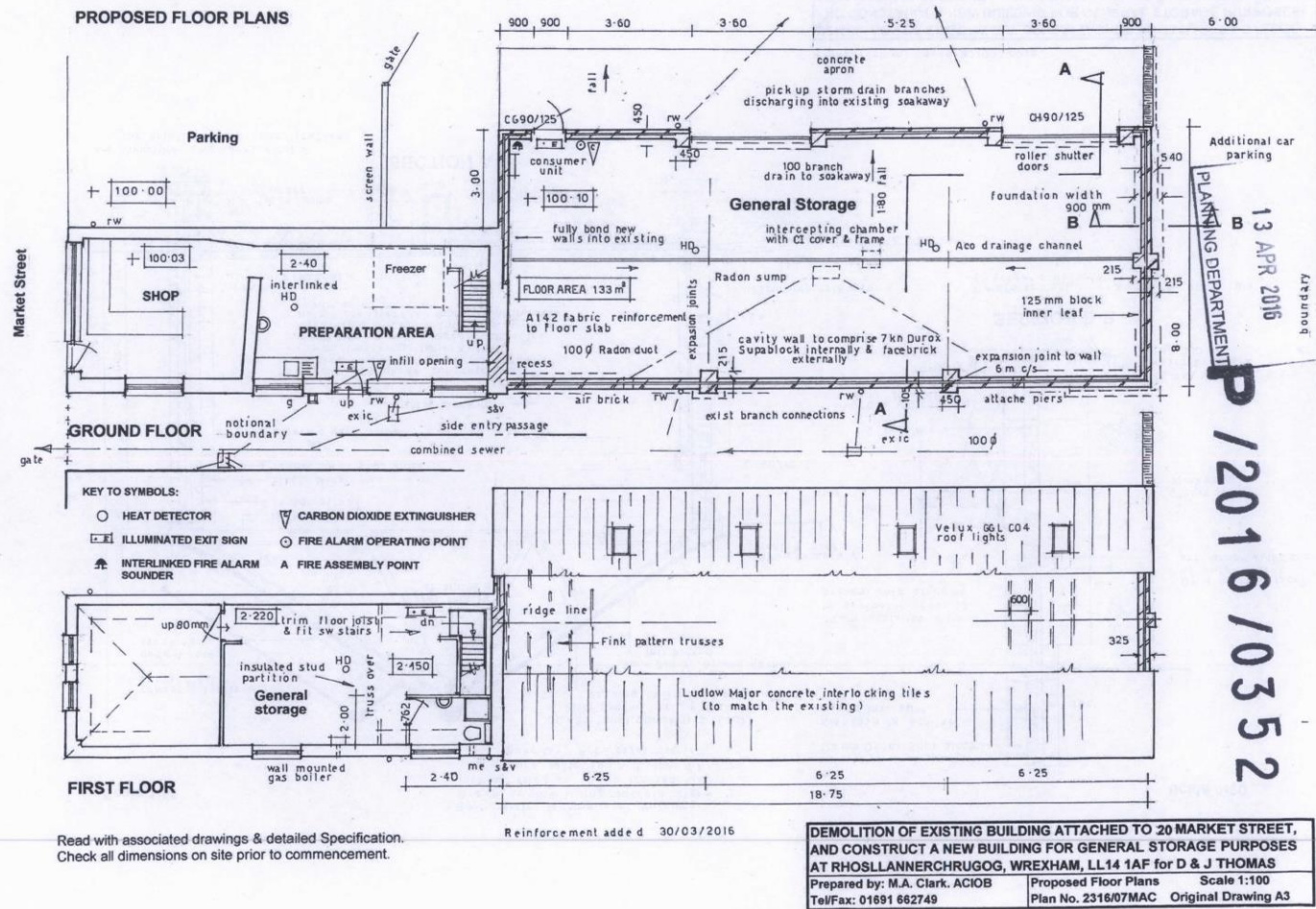
Table 4.1: Summary of status of protected / non-native species on site with recommendations.

Group	Status on site	Additional survey requirements	Recommendations
Amphibians	It is considered poor terrestrial habitat on site for great crested newts.	No further surveys required	No action required
Birds	No trees or hedgerows present on site. No evidence of nesting birds was found utilising the building.	No further surveys required.	No action required
Habitats	A former dwelling surrounded by hardstanding	No further surveys required.	No action required
Bats	No evidence of roosting bats on site.	No further surveys required.	No action required

Group	Status on site	Additional survey requirements	Recommendations
Badgers	No habitat which is considered suitable to the species on site. No evidence found during the surveys.	No further surveys required.	No action required
Reptiles	No local records. None found on site during Extended Phase 1.	No further surveys required.	No action required.
Otters/Water Vole	No records found. Unsuitable habitat on site.	No further surveys required.	No action required
Dormice	No evidence or records found. Unsuitable habitat.	No further surveys required.	No action required
Crayfish	No evidence or records found. Unsuitable habitat.	No further surveys required.	No action required
Invasive species	A small stand was identified within 10m of the proposed work area.	No further surveys are required	A strategy of management/control to prevent the spread of the plant should be implemented.

- 5.4 Subject to the implementation of those recommendations set out within **Section 3** and **4** of this report, no significant impacts upon protected/notable species present on site are considered likely to arise.
- 5.5 The proposal is not considered to contravene any planning policy or statutory legislation relating to protected species subject to EPS being obtained following full planning consent.
- 5.6 The findings of this report are valid for up to one year from the date of this report, Pearce Environment Ltd retain the right to re-publish data obtained and submit those species records produced during all ecological studies to the local recording centre.
- 5.7 Should the development proposals be altered significantly, such that changes to the working area and/or duration of the works arise, then a re-assessment of the likely impacts arising by a suitably experienced ecologist will be required.

Appendix 1 Proposed site layout



Appendix 2

