

PRE-DEMOLITION ECOLOGICAL ASSESSMENT

SITE 4, ACORNFIELD ROAD, KNOWSLEY

carried out by



commissioned by

HALE ARCHITECTURE

ON BEHALF OF

KNOWSLEY (IMAGE BUSINESS PARK)

MAY 2022



PRE-DEMOLITION ECOLOGICAL ASSESSMENT

SITE 4, ACORNFIELD ROAD, KNOWSLEY

CONTENTS

EXECUTIVE SUMMARY	2
1 INTRODUCTION.....	4
1.2 Report Aims.....	4
1.3 Site Description Summary.....	4
1.4 Development Proposals	4
1.5 Quality Assurance.....	4
2 BASELINE CONDITIONS	7
2.1 Introduction.....	7
2.2 Evaluation Methodology.....	7
2.3 Desk Study	7
2.4 Data Search – Designated Sites	8
2.5 Habitat Survey.....	8
2.6 Protected Species Survey and Species of Conservation Concern	12
2.7 Summary of Ecological Importance	18
3 ASSESSMENT OF EFFECTS	19
3.1 Methodology	19
3.2 Summary of Proposals	19
3.3 Designated Sites	19
3.4 Habitats	19
3.5 Protected Species and Species of Conservation Concern	20
4 CONCLUSIONS.....	23
APPENDIX A: WILDLIFE LEGISLATION & SPECIES INFORMATION	24
APPENDIX B: PHOTOGRAPHS OF SITE FEATURES.....	25

Project title:	Site 4, Acornfield Road, Knowsley		
Document title:	Pre-DEMOLITION Assessment	Project number:	7920
Client:	Hale Architecture / Knowsley (Image Bus. Park)	Author:	Charlie Durigan
Version 1	Final	Issued on:	31 st may 2022
Quality Assurance	Checked & Approved by:		
	P Luscombe		

The information, data and advice which has been prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report and its contents remain the property of Clarkson and Woods Ltd. until payment has been made in full.



EXECUTIVE SUMMARY

- Clarkson and Woods Ltd. was commissioned by Hale Architecture on behalf of Knowsley (Image Business Park) Ltd. to carry out an ecological survey of Site 4 at Acornfield Road, Knowsley Industrial Park, Liverpool to inform the demolition consent of the existing buildings.
- An 'Extended' Phase 1 Habitat Survey of the site was undertaken. The Site comprised a large industrial building in a poor state of repair. Main habitats were hardstanding with ephemeral / short perennial vegetation, an area of semi-improved grassland, dense bramble and a strip of semi-natural broadleaved woodland adjacent to the road to the east. The demolition of Building 82 is not anticipated to impact upon these habitats.
- A tree protection plan or Biodiversity Mitigation Plan should be drawn up for the Site to ensure the protection of the woodland strip and rough grassland throughout demolition works and any future construction activities.
- Building 82 was assessed to be of negligible suitability for roosting bats, which are not considered to be a constraint to the proposals. The wider site offers suitability for commuting / foraging bats and sensitive lighting principles have been outlined to avoid impacts on these and other light-sensitive species, which should be adhered to in the event that night-time lighting is required.
- The demolition of Building 82 can be undertaken without risk to reptiles, great crested newt and toad due to a lack of suitable terrestrial habitat for the species, which is restricted to the woodland and rough grassland. A single pool within the concrete footings of the building was considered to be unsuitable for amphibian species, although it is recommended that this feature is removed under RAMS, including a toolbox talk prior to demolition works due to historic presence of great crested newt in the wider area.
- In the event that the grassland is to be impacted, further survey for reptiles will be required and a RAMS is recommended pertaining to the clearance of habitat with potential to support widespread amphibian species.
- Badger and other widespread mammals have the potential to be present within the woodland and grassland in the east of the Site, although this will not be impacted during the demolition phase. A pre-works walkover survey for badger will be required in the event that the grassland / woodland habitat is to be impacted.
- The building demolition and removal of any dense scrub vegetation / trees (although this is not anticipated at this time) will be subject to a pre-works check by an experienced ecologist, and ideally undertaken outside of the main nesting bird season.



-
- It is recommended that future development of the Site seeks to retain and enhance the woodland strip and rough grassland within the east of the Site. Any soft landscaping will ideally incorporate fruiting and nectar-rich species of local provenance. Further enhancements for the Site may include the installation of bird and bat boxes, and creation of brash piles within the woodland strip.



1 INTRODUCTION

- 1.1.1 Clarkson and Woods Ltd. was commissioned by Hale Architecture on behalf of Knowsley (Image Business Park) Ltd. to carry out an ecological survey of Site 4 at Acornfield Road, Knowsley Industrial Estate, Liverpool, L33 7UF.
- 1.1.2 This report discusses the potential impacts resulting from the proposed demolition of the existing structures within the Site using information collected during an Extended Phase 1 Habitats Survey carried on behalf of Clarkson and Woods Ltd on 19th April 2022. Unless the client indicates to the contrary, information on the presence of species will be passed to the county biological records centre in order to augment their records for the area.
- 1.1.3 Survey data of neighbouring Plots 1-3 (Figure 1 refers) have been used to further inform this assessment.
- 1.1.4 This report has been prepared to support demolition consent.

1.2 Report Aims

- 1.2.1 The aims of this report are:
- To identify and describe all potentially significant ecological effects associated with demolition of the buildings; and
 - To outline mitigation measures that are needed to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects.

1.3 Site Description Summary

- 1.3.1 The Site is situated on the Knowsley Industrial Park, an extensive industrial area approximately 2 km east of Kirkby, Liverpool. The Site comprised a large derelict factory building (Building 82), which is attached, on the south side, to an active warehouse (also part of Building 82, but falls outside of the site boundary and is being retained).
- 1.3.2 The Site contains extensive areas of hardstanding which is interspersed with pioneer, ephemeral and short perennial vegetation. The eastern perimeter of the Site is bounded by an area of semi-natural broadleaved woodland and semi-improved neutral grassland, which appears tussocky and unmanaged. A single waterbody is present within the Site, comprising a pool of shallow standing water within the footings of the building.
- 1.3.3 The site is approximately 0.9 hectares (ha) in size, and the approximate centre of the site was at OS Grid Ref. SJ 43967 98647, as shown in Figures 1 and 2.

1.4 Development Proposals

- 1.4.1 Planned works on Site comprise the demolition of Building 82 prior to the redevelopment of the Site, which will be addressed under a separate planning application and is not yet known.

1.5 Quality Assurance

- 1.5.1 All ecologists employed by Clarkson and Woods are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's Code of Professional Conduct¹ when undertaking ecological work.
- 1.5.2 The competence of all field surveyors has been assessed by Clarkson and Woods with respect to the CIEEM Competencies for Species Survey (CSS)².

¹ CIEEM (2013). *Code of Professional Conduct*. www.cieem.net/professional-conduct.

² CIEEM (2013). *Competencies for Species Survey (CSS)*. www.cieem.net/competencies-for-species-survey-css.

1.5.3 This report has been prepared in accordance with the relevant British Standard: *BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development*³. It has been prepared by an experienced ecologist who is a member of CIEEM. The report has also been subject to a two-stage quality assurance review by appropriately experienced ecologists who are full members of CIEEM.



Figure 1: Image Business Park (Blue Line) with Sites 1-4 Shown

³ The British Standards Institution (2013). *BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development*. BSI Standards Ltd.

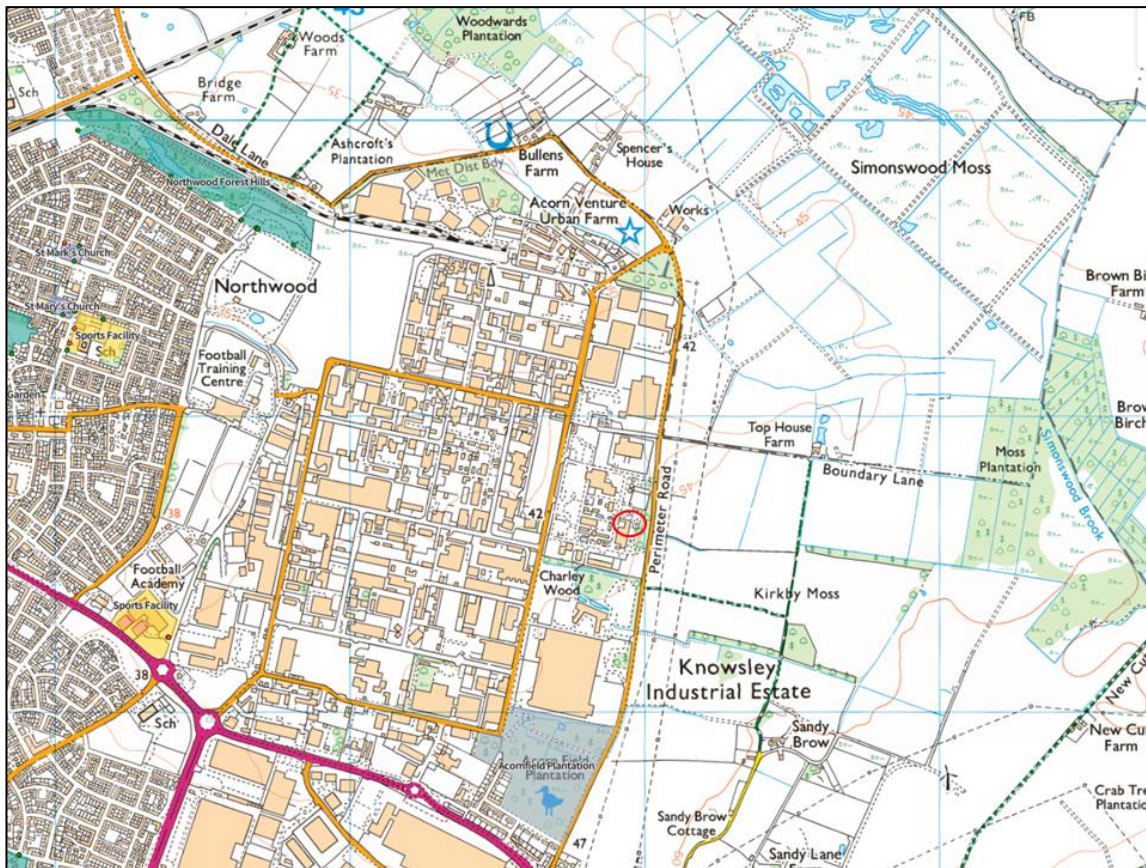


Figure 2: Ordnance Survey Map Showing Location of Site 4 (© 2022 Bing Maps)



Figure 3: Aerial photograph of Site boundary (©2022 Google)



2 BASELINE CONDITIONS

2.1 Introduction

- 2.1.1 This section sets out the results of the Desk Study and ecological field surveys along with an evaluation of their relative importance in order to inform the Impact Assessment. The methodologies associated with the baseline assessment are summarised with each ecological feature's subheading below.
- 2.1.2 Details of the legislative protection afforded to those protected species which have been identified as occurring or potentially occurring on the Site are given in Appendix A. Species of Conservation Concern are defined as those appearing in any of the following; Priority Habitats and Species under Section 41 of the Natural Environment and Rural Communities Act (2006); red or amber-listed birds within the British Trust for Ornithology's Birds of Conservation Concern (2015); and any specific local conservation priority species such as those listed in Red Data Books.

2.2 Evaluation Methodology

- 2.2.1 Each recorded ecological feature, whether it is a species, a habitat or a site designated for nature conservation, is described in turn in this section to provide the pre-development baseline conditions on Site. Subsequently, an evaluation of each feature's 'ecological importance' is made. The evaluation of ecological importance is informed by the criteria provided within the CIEEM Guidelines for Ecological Impact Assessment (2018)⁴.
- 2.2.2 With due consideration to the criteria, each feature is classified on a geographical scale of ascending importance as follows; Negligible, Site, Local, District, County, National and International. The chosen geographic level of importance is considered that which best represents the scale at which the loss of the Site's area or population of the feature would have the greatest impact. Where sufficient survey information not available to determine the importance of a species or habitat present on the Site, the importance of the receptor is marked as 'uncertain' and based upon the professional judgement of the author together with available relevant desk study information.
- 2.2.3 Once importance has been determined for each feature, those of Local importance or above will be considered to be Important Ecological Features (IEFs). Non-IEFs will typically not be considered further within the impact assessment. However, where a feature does not qualify as an IEF but is afforded specific legal protection or coverage under a particular legislation or planning policy it will also be assessed in order to ensure the scheme's legal and policy compliance.

2.3 Desk Study

Methodology

- 2.3.1 Statutory designated sites for nature conservation were identified using the Natural England/DEFRA web-based MAGIC map database (www.MAGIC.gov.uk). International-level sites such as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) within 5km from the Site were searched for. National-level sites such as National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs) within 2km of the Site were searched for.
- 2.3.2 The Merseyside Biobank (MB) and Lancashire Environmental Records Network (LERN) were consulted for records of protected species and species of conservation concern within 2km of the adjacent Site in 2018. Given that the proposals solely comprise the demolition of the existing building, it was not considered necessary to update the desk study at this time. However, it is recommended that any future development proposals for the Site be underpinned by an up-to-date data search.
- 2.3.3 Clarkson and Woods' own database of ecological records derived from past survey work was also consulted for further locally-relevant data.

⁴ CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management. www.cieem.net



- 2.3.4 The Natural England/DEFRA web-based MAGIC map database was also consulted for records of European Protected Species (EPS) licences issued for mitigation projects concerning EPS within 2km of the Site.
- 2.3.5 The Knowsley Local Plan (Core Strategy January 2016) was consulted for details of planning policies relevant to designated sites, protected species and habitats, and general ecological and environmental protection.
- 2.3.6 Ordnance Survey maps (1:25,000) and aerial images of the Site were examined online (bing.com/maps and maps.google.co.uk) to allow a better understanding of the context of the Site and its connections to potentially important habitats, known species records and protected sites.
- 2.3.7 The data presented within this report constitutes a summary of the data obtained from the local records centre. Should additional detail be required on any of the records described within this report Clarkson and Woods Ltd. should be contacted.

Desk Study Findings

Designated Sites

2.4 Data Search – Designated Sites

International Designations within 5km of the Site

- 2.4.1 There are no internationally designated sites within 5 km.

National Designations within 2km of the Site

- 2.4.2 There are no nationally designated sites within 2 km.

Local Designations within 1km of the Site

- 2.4.3 There is one Local Nature Reserve (LNR) within 1km; Acornfield Plantation, approximately 670m south of the Site. This is 11.6 hectares of mature broadleaf woodland with a unique basin mire, acid and neutral unimproved grassland and ponds, and 46 locally rare species of plants. The nature reserve also supports breeding water voles and great crested newts.
- 2.4.4 There is one Local Wildlife Site (LWS) within 1 km; Charley Wood, approximately 150m to the south of the Site. This is 7.7 hectares of broadleaf woodland on acid peat soil, with large glades and unimproved acid and neutral grassland. Invertebrate interest is high but un-surveyed.

2.5 Habitat Survey

Habitat Survey Methodology

- 2.5.1 A habitat survey was carried out based on standard field methodology set out in the *Handbook for Phase 1 Habitat Survey* (2010 edition)⁵. The ecological survey was undertaken by Eleanor Weir MCIEEM. Eleanor holds a Level 2 personal survey licence for bats in England (NE ref: 2015-12689-CLS-CLS) and has been assessed under the Clarkson and Woods QA processes as competent to complete the survey.
- 2.5.2 Botanical names follow Stace (1997)⁶ for higher plants and Edwards (1999)⁷ for bryophytes.
- 2.5.3 The results of the ecological survey are included in map form on Figure 4. Habitats are mapped following the codes and conventions described within the Phase 1 Habitat Survey Handbook and Target Notes (Table 1) are used to describe habitats not readily conforming to recognised types and evidence of or potential for protected species and species of conservation concern. Photographs of the Site are provided below.

⁵ Nature Conservancy Council. (1990 - 2010 edition). *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*, Joint Nature Conservation Committee

⁶ Stace, C. (1997). *New Flora of the British Isles Second Edition*. Cambridge University Press

⁷ Edwards, S.R. (1999). *English Names for British Bryophytes*. BBS, Cardiff



Habitat Survey Results

Building

Field Survey Results

- 2.5.4 Site 4 comprised a large, derelict factory building (Building 82 / TN1), which was attached, on the south side, to an active warehouse; this is part of Building 82, but lies outside of the red line boundary and is being retained.
- 2.5.5 The building was surrounded by hardstanding, which in areas had patchy vegetation typical of short perennial and ephemeral species, including bramble *Rubus* sp., ribwort plantain *Plantago lanceolata*, wild strawberry *Fragaria vesca*, field horsetail *Equisetum arvense*, red fescue *Festuca rubra*, common ragwort *Senecio jacobaea* and dandelion *Taraxacum officinale*. There was also scattered scrub around the edges of the building, including young silver birch *Betula pendula*, goat willow *Salix caprea* and buddleia *Buddleja davidii*.

Evaluation

- 2.5.6 Overall, the building and hardstanding offer little intrinsic value for wildlife and are considered to be of **Negligible** value.

Semi-natural Broadleaved Woodland

Desk Study Information

- 2.5.7 A Local Habitat Action Plan for Lowland mixed broad-leaf woodland is provided by Merseyside Biodiversity, which opposes the loss of habitat through development, or ensures the appropriate mitigation where loss is unavoidable.
- 2.5.8 Urban trees are listed on the North Merseyside Action Plan and are considered relevant to the Site.

Field Survey Results

- 2.5.9 There was a narrow strip of young, semi-natural broadleaved woodland (TN4) between the road and the grassland. Trees included frequent-to-occasional pedunculate oak *Quercus robur*, silver birch, rowan *Sorbus aucuparia*, field maple *Acer campestre* and several European larch *Larix decidua*. The canopy was quite open with trees fairly spread out.
- 2.5.10 The understorey comprised hazel *Corylus avellana*, young hawthorn *Crataegus monogyna* and field maple.
- 2.5.11 The ground flora was dominated by bramble with occasional cow parsley *Anthriscus sylvestris*, common hogweed *Heracleum sphondylium*, false oat-grass *Arrhenatherum elatius*, wood avens *Geum urbanum* and cleavers *Galium aparine*.

Evaluation

- 2.5.12 It is likely that this woodland provides foraging, sheltering and commuting habitat for a range of wildlife in the vicinity, as well as being included within the North Merseyside Biodiversity Action Plan as a habitat of conservation priority, and was therefore assessed as being **Local** importance.

Semi-improved Neutral Grassland

Desk Study Information

- 2.5.13 Neutral grassland is a Local BAP habitat in North Merseyside, which incorporates lowland meadows, but also, in North Merseyside, includes a lot of amenity grassland, and road verges etc.

Field Survey Results

- 2.5.14 The eastern half of the Site comprised an area of semi-improved grassland (TN3), which included abundant false oat-grass, frequent cock's-foot *Dactylis glomerata* and Yorkshire fog *Holcus lanatus*, occasional-to-locally abundant red fescue, occasional tall fescue *Festuca arundinacea*, abundant bramble (with some dense patches), frequent creeping cinquefoil *Potentilla reptans*, yarrow *Achillea millefolium*, ribwort plantain and field woodrush *Luzula campestris*, and occasional colt's-foot *Tussilago farfara*, meadow buttercup *Ranunculus acris*, weld *Reseda luteola*, creeping thistle *Cirsium arvense* and broad-leaved dock *Rumex obtusifolius*.



- 2.5.15 The grassland was unmanaged and had a long tussocky sward with scrub starting to succeed the grassland in many places.

Evaluation

- 2.5.16 This habitat was assessed as being of **Site** importance due to the potential for foraging by a range of species.

Open Standing Water

Field Survey Results

- 2.5.17 On the west side of Building 82, the concrete footings of the building held a shallow pool of water (TN2), which had a small amount of yellow flag iris, which had started to become established. The pool was approximately 2m x 15m in area and the level of water was around 10 – 15cm. There was occasional floating rubbish and dead leaves in the pool.

Evaluation

- 2.5.18 The potential for the pool to support wildlife, notably amphibians, is provided in detail within the appropriate section below, however, is considered to be of **Site** importance owing to the industrial nature of the Site and surrounding habitats.

Table 1: Target Notes (Relating to Figure 3)

No.	Description
TN1	Building 82 - large derelict two storey factory building. Found to have negligible potential for roosting bats. Supports nesting feral pigeon and possibly other species such as blackbird.
TN2	Concrete footings of building with area of shallow standing water, approx. 15m x 2m, and a small amount of emergent vegetation. "Poor" Habitat Suitability Index for great crested newts.
TN3	Area of moderately species-rich neutral grassland. Unmanaged, tussocky sward with scattered bramble scrub. Could support reptiles if populations occur on site.
TN4	Young broadleaved woodland which may support nesting birds and foraging by other widespread species.

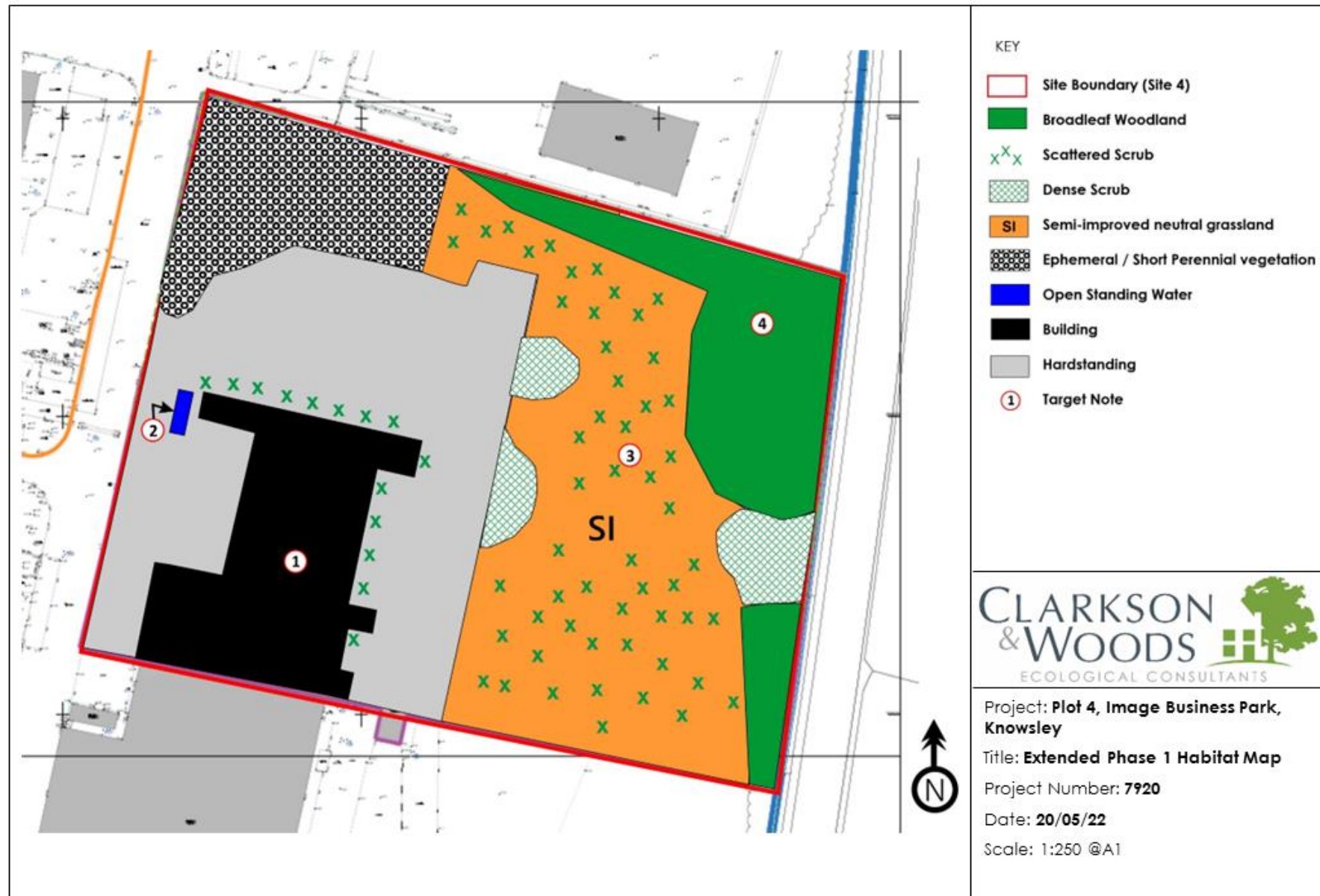


Figure 4: Extended Phase 1 Habitat Plan



2.6 Protected Species Survey and Species of Conservation Concern

Badgers

Methodology

- 2.6.1 A search was made for badger *Meles meles* setts, and any sett entrances found were checked for signs of use by badgers or other mammals. Where found, setts were classified, and entrances found were counted and mapped to record tunnel direction and their relative level of usage.
- 2.6.2 Field signs such as 'snuffle holes' (holes dug by badgers when searching for invertebrates), pathways through vegetation, 'latrines' (small pits in which badgers deposit their faeces) and 'day nests' (nests of bedding material made by badgers for sleeping above ground) were also mapped, if found.

Limitations

- 2.6.3 Badgers may dig new holes and create new setts in a very short space of time and, as such, it cannot be guaranteed that all the entrances were located.

Desk Study Information

- 2.6.4 No records of badger were returned within the data search. A two-entrance outlier badger sett (one partially-used and one disused entrance) was excluded under licence in winter 2020 (Tom Clarkson Class Licence ref: CL35/0015) prior the adjacent development of plot Imagination 01 Acornfield Road. Subsequent to the completion of the development of the plot, the entrances were re-opened in May 2021. The nearest of these entrances lies approximately 230m north of the Site boundary.

Field Survey Results

- 2.6.5 There were no signs of badger activity within the Site and no setts were discovered during the survey.
- 2.6.6 The semi-improved grassland and broadleaved woodland offer suitable habitat for foraging and commuting by badger.

Evaluation

- 2.6.7 Badger were considered to be of **Site** importance due to their historical presence within 200m of the Site and presence of suitable habitat for the species.

Bats

- 2.6.8 The assessment of the suitability of the site for foraging and roosting bats was based on current guidance set out by the Bat Conservation Trust⁸.
- 2.6.9 *Buildings*: the exteriors of the buildings were examined through the use torches and binoculars for potential roosting features (PRFs). Extra factors taken into consideration included the potential for noise disturbance to the potential roost feature, exposure to the elements, lighting levels, proximity/connectivity of vegetation and water and whether these PRFs led on to cavities further into the structure.
- 2.6.10 Internally, all accessible parts of the building were entered where safe to do so in order to describe their characteristics and to look for PRFs. A 1 million candle-power torch was used where necessary. Any signs of occupation, including urine staining, prey remains, fur rubbing marks and droppings were noted where found.
- 2.6.11 Following the inspections, each building was assigned a 'high', 'medium', 'low' or 'negligible' category as a guide to inform any necessary further survey effort as stipulated in the Bat Surveys Good Practice Guidelines (Bat Conservation Trust, 2016).
- 2.6.12 *Trees*: an inspection of trees on site was carried out from the ground, using binoculars, to record any signs of use of the tree by bat species. Features such as frost cracks, rot cavities, flush cuts, split or decaying limbs (including hazard beams), loose bark and dense plates of ivy were inspected and recorded. Any signs of

⁸ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.



staining (from urine or fur rubbing) and scratch marks below potential access points were noted, and a search was made for droppings underneath these features.

- 2.6.13 *Habitat*: the habitats within the site were appraised for their suitability for use by foraging and commuting bats. In particular, the connectivity of the habitats on site to those lying beyond was taken into account. Vegetated linear features are typically important for many species to navigate around the landscape, while the presence of woodland, scrub, gardens, grassland and wetland features increases a site's foraging resource value to bats. The potential for noise or lighting disturbance which may affect commuting links was also recorded.

Limitations

- 2.6.14 Not all features in trees suitable for use by bats are visible from the ground and there can be no external evidence of use of features by bats; consequently, it is only possible to make a best effort when carrying out such a survey.

Desk Study Information

- 2.6.15 Bats are listed as priority species within the North Merseyside Biodiversity Action Plan (BAP) and are Species of Principle Importance (SPI) in England under Section 41 of the the NERC Act.
- 2.6.16 The desk study returned multiple records of common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, *Myotis* sp. and Daubenton's bat *Myotis daubentonii*. LERN returned several records of common pipistrelle, Daubenton's and noctule. Many of these records originated from detector surveys with several older roost records, although none related to Image Business Park or immediate surrounds. The nearest records were from 2009, approximately 420m south of the Site.
- 2.6.17 Prior to demolition in 2020, the previous buildings on Site 3 (approx.. 130m to the east of the Site) were assessed as offering negligible to low potential for roosting bats. Further survey of one building (Building 33) was undertaken in 2018, wherein no bats were recorded to be roosting within the building.
- 2.6.18 Transect surveys undertaken by Clarkson & Woods in 2018 of plot Imagination 01 to the north of the Site, recorded common pipistrelle, pipistrelle sp. and noctule, while static detector surveys further identified a *Myotis* species. Activity was predominately in proximity to the woodland edges. The eastern woodland boundary of plot Imagination 01 was found to be an important commuting corridor connecting woodland to the south of the Site with the surrounding habitat north and east of the Site. This corridor connects directly with Site 4.

Field Survey Results

- 2.6.19 *Building 82*: a large two-storey factory (concrete and metal building), which had been derelict for over 15 years. It was possible to access the external roof, which was flat and supported an array of pipes, flues and other metal structures with negligible potential for roosting bats.
- 2.6.20 Internally, half of the building was divided into enclosed areas with concrete floors and walls, and enclosed offices with false ceilings and glazed windows. These areas were thoroughly inspected, and no evidence of bats was found; there were very few potential roost sites or access points found into the enclosed areas.
- 2.6.21 The other half of the building was open at the north end on each floor, which had allowed colonisation by feral pigeons. Each of these open floors was constructed from concrete with various metal structures and pipework throughout. No evidence of bats was found, and given the lack of potential roosting features, the building was assessed to be of 'negligible' potential for roosting bats overall.
- 2.6.22 *Trees*: None of the trees in the woodland or scattered within the Site had any features suitable for roosting bats. The trees were relatively young and in good condition, generally considered unlikely to develop potential roosting features in the near future.
- 2.6.23 The woodland, scrub and grassland are likely to provide potential foraging habitat for local populations of bats, although parts of the Site may be (or have been) illuminated to some extent at night given the industrial nature of the Site, which may deter some species of bat. Linear features, such the woodland along the eastern Site boundary, are likely to provide commuting habitat for populations of bats roosting elsewhere.



Evaluation

- 2.6.24 Roosting bats were considered to be of **Negligible** importance within the Site, while foraging bats were considered to be of **Site** importance.

Dormouse

Methodology

- 2.6.25 Any hedgerows, scrub and woodlands were assessed during the walkover for their suitability to support dormice *Muscardinus avellanarius*. Particular consideration was paid to the abundance of food sources within them, density for nesting and overnight shelter and the strength of connectivity to other suitable habitats leading off site. In addition, any direct sightings, nests or feeding signs during the site visit were also recorded. Where hazel *Corylus avellana* was recorded on site, a search for gnawed hazelnuts was conducted.

Desk Study Information

- 2.6.26 Dormouse are SPI in England under Section 41 of the NERC Act.
- 2.6.27 There were no records of dormouse within 2km of the site. No dormice, or signs of, were identified during any works associated with Plots 1 – 3 between 2018 and 2021. Dormice are largely absent from Merseyside.

Field Survey Results

- 2.6.28 The strip of woodland is likely to be sub-optimal for dormouse due to the lack of variety in age class of trees and small extent of dense scrub, low diversity of food sources, and lack of direct connectivity to a wider hedgerow network or larger areas of woodland. Furthermore, dormice are rare in Merseyside and Lancashire and it is therefore considered unlikely that the species is present on Site.

Evaluation

- 2.6.29 Dormice were considered to be of **Negligible** importance and are not considered further within this assessment.

Red Squirrel

Methodology

- 2.6.30 Any woodland habitats were assessed during the walkover for their suitability to support red squirrel *Sciurus vulgaris*. Particular consideration was paid to the abundance of food sources within them and the strength of connectivity to other suitable habitats leading off site. In addition, any direct sightings were also recorded.

Desk Study Information

- 2.6.31 Red squirrel are protected in the UK under the Wildlife and Countryside Act, 1981 (as amended) and are a Priority Species under the UK Post-2010 Biodiversity Framework.
- 2.6.32 BM returned multiple records of red squirrel approximately 1.9km to the northeast of the site, mainly associated with several large parcels of woodland in this area.
- 2.6.33 No red squirrel, or signs of, were identified within Sites 1 and 2, approx. 160m to the north, which are bounded by a small strip of woodland to the north and east.

Field Survey Results

- 2.6.34 The young woodland is likely to be sub-optimal for red squirrels due to the relatively small area, low foraging value and lack of connectivity to larger areas of conifer woodland, which are more suited to the species.
- 2.6.35 No red squirrel were recorded during the survey.

Evaluation

- 2.6.36 Red squirrel were considered to be of **Negligible** importance and are not considered further within this assessment.



Great Crested Newts and Toads

Methods

- 2.6.37 All waterbodies within 250m of the Site were identified using Ordnance Survey maps and aerial imagery. Waterbodies within the site ownership and on publicly accessible land were assessed during the field survey for their suitability to support amphibian species where access was possible.
- 2.6.38 Great crested newt eDNA surveys of waterbodies within 250m of the Site (with the exception of the on-site pool) were undertaken (most recently in 2021) within the optimal survey window to determine presence / likely absence of great crested newts. Surveys were carried out following best practice as outlined in the Defra Project WC1067 and samples were submitted for analysis to ADAS. The survey was carried out on the 14th June 2021 by Charlie Durigan BSc MSc ACIEEM (GCN class survey licence 2017-28064-CLS-CLS), who has been assessed under the Clarkson & Woods' QA process as competent to complete the survey.
- 2.6.39 Terrestrial habitats were also assessed for their suitability for foraging and sheltering amphibians. These species requires habitats such as grassland, scrub, woodland and hedgerows for dispersal and hibernation. Further hibernation features include buried rubble and logs, or mammal burrows.

Desk Study Information

- 2.6.40 Common toad and great crested newt are SPI under Section 41 of the NERC Act.
- 2.6.41 BM returned several records of great crested newt (GCN) *Triturus cristatus* in Aconfield Plantation, approximately 730 m to the south of the Site, the most recent record dating from 2014. Common toad *Bufo bufo* was also recorded in Aconfield Plantation. Froglife's Toad Crossing map showed there were no toad road crossings within 2km of the Site.
- 2.6.42 Two brick-lined pits associated with Plot 2 were subject to an eDNA survey for great crested newts in 2018 and 2021. In 2018, one pit tested positive and the other negative. They were tested as a single waterbody in 2021 as they were found to be connected via a channel near the base, and a negative result was returned. A series of similar brick-lined pits with Site 3, to the west of the Site, approximately 280m away from the Site. Two of these, which were holding sufficient water to survey, were also subject to GCN eDNA surveys in 2018 and in 2021, and were found to be negative for GCN on both occasions.

Field Survey Results

- 2.6.43 A shallow (<15cm deep) body of standing water was observed on Site, within the concrete footings of Building 82. The basin had seemingly been collecting rainwater to a shallow level, although some establishing flag iris was observed, indicating that the pool frequently holds water. The surrounding terrestrial habitat primarily comprised hardstanding and offered minimal shelter / foraging opportunity for amphibian species.
- 2.6.44 The water was very clear, and invertebrates (water shrimp) could be seen, however, no amphibians were seen in the pool, which was undertaken during the appropriate survey season for great crested newts.
- 2.6.45 The waterbody was subject to a Habitat Suitability Index assessment, which indicated that the pool was of "Poor" suitability for great crested newt (Table 2 refers).

Table 2: Pond 1 HSI Assessment

Suitability Indices (SI)	Location	Area	Drying	Water Quality	Shade	Fowl	Fish	Pond Density	Terrestrial Habitat	Macrophytes	Score
Results	1.0	0.05	1.0	0.67	1.0	1.0	1.0	2.22	0.01	0.3	0.39

- 2.6.46 Given the lack of any connecting or surrounding terrestrial habitat to the pool, the shallow water levels, lack of vegetation cover or egg laying media, lack of amphibians within the water (during an optimal time of year), and the negative eDNA tests for other similar pools nearby in 2021, it is considered unlikely that great crested newts would be using this feature.



- 2.6.47 The remaining habitats, including rough grassland and woodland to the east, offered suitability for foraging, shelter and commuting by amphibian species.

Evaluation

- 2.6.48 Although their presence is considered unlikely due to the unsuitability of the aquatic habitats and lack of recent records, great crested newt and toad cannot be ruled out and were considered to be of **Site** importance.

Reptiles

Methods

- 2.6.49 Features on site were assessed for their potential to provide suitable habitats for use by reptile species. Where present, suitable existing refugia were inspected for sheltering reptiles, and the ground was scanned whilst walking to look for basking species.

Desk Study Information

- 2.6.50 No recent records (i.e. within the past 10 years) were returned in the data search.

Field Survey Results

- 2.6.51 The area of rank, scrubby grassland was potentially suitable for reptiles. The previous data search in 2018 identified a few records of common lizard elsewhere on Knowsley Industrial Estate – however, these date to 1996 and are just over 2km away, with no direct connecting habitat to this site. Nevertheless, given the lack of recent management of the grassland, there is potential for a small population of widespread reptiles such as common lizard to be present.
- 2.6.52 No reptiles were recorded during the survey.

Evaluation

- 2.6.53 Reptiles were considered to be of **Site** importance, if present.

Birds

Methodology

- 2.6.54 Any buildings and vegetation was surveyed for signs of use by nesting birds and any birds seen or heard during the survey were noted. The Site's potential to support bird species of particular conservation concern (i.e. Schedule 1, NERC S41 and Red List species) was assessed, taking into consideration the bird species assemblage observed during the survey, the habitats present on and around the site, the context of the site in the wider landscape and the results of the desk study.

Desk Study Information

- 2.6.55 The following species are priority species under the North Merseyside BAP and are considered relevant to the Site: song thrush *Turdus philomelos*, starling *Sturnus vulgaris*, swift *Apus apus*.
- 2.6.56 BM and LERN returned numerous records of birds within 2km of Plot 1, although none appeared to relate to the Site or immediate surrounds. Species that may be relevant to the Site's habitats included barn owl *Tyto alba*, lesser redpoll *Acanthis cabaret*, kestrel *Falco tinnunculus* and song thrush *Turdus philomelos*.

Field Survey Results

- 2.6.57 Building 82 appeared to be used extensively by feral pigeons, with large amounts of droppings and occasional eggshells present, and dead carcasses found on the open floors. Two dead wood pigeon were noted in the open stairwell of the building, and a female blackbird was seen flying in the open mezzanine floor (situated between ground and first floor), as well as a male singing outside the ground floor.
- 2.6.58 No active nests were seen at the time of the survey, although given the evidence and presence of several birds at the time of the survey, it is likely that birds were nesting inside the building; feral pigeon can nest at any time, although the peak breeding period is March to July.
- 2.6.59 No nests were seen on the external roof.



- 2.6.60 No evidence of barn owl was present, despite reports of an individual barn owl on site in previous years (pers. comms.).

Evaluation

- 2.6.61 Birds were assessed as being of **Site** importance.

Other Protected Species and Species of Conservation Concern

Methods

- 2.6.62 Casual ad hoc records were made of occurrence or signs of any other protected species or SoCC on Site. The habitats present were also assessed for their suitability to support such species.

Desk Study Information

- 2.6.63 BM returned multiple records of hedgehog *Erinaceus europaeus* within 2km, although only a few of these records were within the past last 10 years.
- 2.6.64 BM returned numerous records of invertebrates within 2km, the majority of which were dragonfly records from Acornfield Plantation.
- 2.6.65 BM returned numerous records of flowering plants within 2km, which included large numbers of records of invasive species Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandiflora*, which are Schedule 9 species under the Wildlife & Countryside Act, 2010 (as amended). None of the records related to the Site or immediate surrounds.

Field Survey Results

- 2.6.66 The strip of woodland is likely to be sub-optimal for red squirrels, due to the relatively small area, low foraging value (occasional Scot's pine) and lack of connectivity to larger areas of conifer woodland.
- 2.6.67 The site has potential to support hedgehogs if populations occur in the area. No evidence of hedgehogs was found during the walkover, but the combination of the woodland habitat and rough grassland could support foraging hedgehogs.
- 2.6.68 Brownfield habitats can support a diverse range of invertebrates, however, the majority of the site was hardstanding or building, the grassland and woodland was reasonably diverse but not particularly extensive in size. The site is expected to support a typical range of widespread invertebrates.
- 2.6.69 No other invasive or protected species or species of conservation concern (SoCC) were recorded during the field survey.

Evaluation

- 2.6.70 Other protected species or SoCC were considered to be of **Site** importance, if present.



2.7 Summary of Ecological Importance

2.7.1 Table 3 gives all the identified ecological features on Site and their individual assessment of importance. Those coloured green are considered to be Important Ecological Features (IEFs) and will form the basis of the Assessment of Effects in Section 3. Those coloured yellow will be included on the basis of their specific legal protection or applicable planning policies.

Table 3: Ecological Importance

Feature	Importance
Designated Sites	
Acornfield Plantation LNR	Local
Charley Wood LWS	Local
Habitats	
Building, Hardstanding & Pioneer Vegetation	Negligible
Semi-natural Broadleaved Woodland	Local
Semi-improved Grassland	Site
Open Standing Water	Site
Species	
Badgers	Site
Roosting Bats	Negligible
Foraging / Commuting Bats	Site
Dormouse	Negligible
Red Squirrel	Negligible
Great Crested Newt / Toad	Site / Local
Reptiles	Site, if present
Birds	Site
Other SoCC	Site



3 ASSESSMENT OF EFFECTS

3.1 Methodology

- 3.1.1 Continuing from the valuation of Important Ecological Features (IEFs), this section lists each IEF in turn together with a characterisation of any potential impacts upon them likely to arise from the proposals. This takes into consideration any measures inherent to the designed scheme which seek to avoid such impacts altogether. Next, any agreed mitigation measures chosen to reduce likely impacts are then set out, along with the mechanism(s) through which these would be secured.
- 3.1.2 Residual effects, being those that would likely still arise despite any avoidance measures or agreed mitigation efforts, are subsequently discussed. Residual effects are determined to be either significant or not significant and any significant residual effects are given a geographical scale at which they might be felt. This assessment methodology is in accordance with that set out in the CIEEM Guidelines for Ecological Impact Assessment, 2018.
- 3.1.3 Where residual effects are identified compensatory measures may be proposed to make up for the loss or permanent damage to an IEF, as far as possible. Monitoring or management schemes which may be necessary to ensure the long-term achievement of all intended mitigation and compensation are discussed.
- 3.1.4 Ecological enhancement measures that will be incorporated into the development are given in line with the National Planning Policy Framework.

3.2 Summary of Proposals

- 3.2.1 The proposed development will comprise the demolition of a single industrial unit, which is currently in a poor state of repair within the industrial site. The proposals are not anticipated to impact any other habitats within the Site at this time, although future development of the Site is expected, which will be supported by a separate ecological impact assessment report.

3.3 Designated Sites

- 3.3.1 The Site is small and situated within a busy industrial estate. It is therefore considered unlikely that the proposed demolition will have any significant impacts, either directly or indirectly, on the designated sites identified during the desk study.

3.4 Habitats

- 3.4.1 The Site comprised hardstanding and industrial building, which offered generally of limited value to wildlife. The semi-natural broadleaved woodland and semi-improved rough grassland within the east of the Site offer the greatest value habitat to wildlife.

Potential Impacts

- 3.4.2 The proposed demolition will result in the loss of a single derelict industrial building, which is situated on an area of hardstanding. It is understood that the woodland and grassland to the east will not be impacted during the demolition process.
- 3.4.3 The demolition has the potential to damage retained habitats where contractors track over, or store materials outside of, the area of hardstanding.

Proposed Mitigation

- 3.4.4 It is recommended that a Biodiversity Mitigation Plan (BMP) including tree protection be provided for the Site, detailing protocols and good practice guidelines to ensure the protection of the woodland, including protection of tree root protection zones, and grassland throughout any on-site works.

Residual Effects

- 3.4.5 The building demolition will be restricted to areas of hardstanding and is not anticipated to result in any significant negative impacts.



- 3.4.6 A full planning application for Site 4, following the demolition of the building, will need to be BNG compliant; in the event that the demolition process results in the enhancement of the existing habitats on-site, this will provide the baseline for the BNG assessment.

3.5 Protected Species and Species of Conservation Concern

Badgers

- 3.5.1 Badgers are known to have been present within the woodland c.200m to the north of the Site, although likely in low numbers. The Site provides some suitable foraging habitat for the species. No setts are currently present on Site.

Potential Impacts

- 3.5.2 Badgers can excavate setts in a short space of time, although if this were to happen, it would likely occur within woodland or grassland habitats. The proposed demolition will be restricted to the area of hardstanding and existing Site access, and is therefore unlikely to impact upon badgers, if present.

Proposed Mitigation

- 3.5.3 The installation of a Biodiversity Protection Zone delineated by Heras fencing (or similar) is recommended to ensure that the demolition works are restricted to the area of hardstanding and the retained vegetation is not impacted.
- 3.5.4 In the event that the works extend into the existing areas of vegetation, i.e. in the event of future development, a pre-construction badger survey (no more than two months prior to works), undertaken by a suitably experienced ecologist, will be required in order to determine if any setts have been excavated. If sett entrances are found, these will need adequate no-works buffers or closure under licence from Natural England within the licensable period (July – November).
- 3.5.5 Retaining and enhancing the boundary habitat will ensure that this species can return to the Site following any future development.

Residual Effects

- 3.5.6 There is not likely to be a significant residual effect for badgers resulting from the demolition of the building, as long as the woodland and rough grassland areas are protected throughout works, which will ensure the animals are still able to move around the periphery of the Site.

Foraging / Commuting Bats

- 3.5.7 The woodland edge in the east of the Site was considered to offer suitable habitat for foraging / commuting bats and is not due to be impacted by demolition works.

Potential Impacts

- 3.5.8 There is potential for the degradation to the quality of the woodland habitat from impacts arising during the works, and an increase in light spill, although this is unlikely to exceed levels of the previously active site.

Proposed Mitigation

- 3.5.9 It is recommended that the woodland strip and grassland are protected throughout the demolition phase through the installation of a BPZ.
- 3.5.10 It is recommended that the woodland be retained as part of any future development and that a buffer of at least 2m be provided between the woodland and any new construction, which would comprise rough, unmanaged grassland to support invertebrate species to allow bats to forage.
- 3.5.11 It is not anticipated that the Site will be subject to any artificial lighting during the demolition phase, however, in the event that lighting is required, a sensitive lighting strategy is recommended. This would minimise



impacts on nocturnal species, including foraging bats. This will be based on best practice guidelines⁹ and will adhere to the following principles:

- The design will use only the minimum number of lamps / column required;
- Column height will be carefully considered to ensure minimal light spill is achieved;
- All lamps will be fitted with UV filters or lack UV elements when manufactured;
- Narrow spectrum light sources will be used where possible to lower the range of wildlife species affected;
- Low level illuminated and louvered bollard (to retain darkness above) will be used where appropriate;
- Where outside security lighting is required, they will be set on motion-sensors and timers to decrease the light pollution impacts. These lights will also be directed away from the woodland edge, hooded / cowled where necessary, and be of the lowest intensity / brightness necessary for their purpose; and
- No upward lighting will be used.

Residual Effects

- 3.5.12 There is not likely to be a significant residual effect for commuting / foraging bats as a result of the building demolition. Future development of the Site may require further survey of bat activity, while the retention of the existing woodland and rough grassland is recommended.

Great Crested Newt / Toad

- 3.5.13 The habitats within the vicinity of Building 82 were considered to be negligible for amphibian species, and the pool was considered highly unlikely to be used by the species.

Potential Impacts

- 3.5.14 The demolition is unlikely to result in the loss of habitat for amphibians and it is considered highly unlikely that clearance of the Site would result in killing / injury of individual great crested newt or toad. However, there is potential for incidental damage to retained habitats with suitability for amphibian species during the demolition process.

Proposed Mitigation

- 3.5.15 It is recommended that the waterbody be removed under a Risk Avoidance Method Statement (RAMS), which will include a toolbox talk at the outset of works to ensure that contractors are aware of the legal protection afforded to both great crested newt and common toad. The talk would highlight the importance of the BPZ and also detail the appropriate course of action to take in the highly unlikely event that a great crested newt is discovered during works, i.e. halting works and potentially obtaining a mitigation licence.

Residual Effects

- 3.5.16 Negligible residual impacts are anticipated on great crested newt and toad as a result of the demolition proposals. Any future development of the Site will likely require a Risk Avoidance Method Statement for amphibians where the proposals are anticipated to impact the more suitable terrestrial habitat (i.e. rough grassland and woodland).

Reptiles

- 3.5.17 The Site offers suitable habitat for widespread reptile species, although this is restricted to the rough grassland to outside of the demolition area.

Potential Impacts

- 3.5.18 The demolition has the potential to impact widespread reptiles, if present, should works extend beyond the area of hardstanding within the Site.

⁹ Bat Conservation Trust & Institute of Lighting Professionals (2018). Guidance Note 08/18; Bats and Artificial Lighting in the UK. Bats and the Built Environment Series.



Proposed Mitigation

- 3.5.19 It is recommended that the grassland habitat be protected from incidental damage during any building demolition through the delineation of a BPZ using Heras fencing or similar. In the event that the grassland is impacted by works, further survey for reptiles will be required.

Residual Effects

- 3.5.20 The demolition of the building is not anticipated to impact reptiles on Site, if present. Ideally, the grassland would be retained and managed in any future plans; if there is due to be loss or potential damage to this habitat, a reptile survey is recommended to inform appropriate mitigation.

Birds

- 3.5.21 The Site offers suitable habitat for nesting and foraging by widespread bird species, while Building 82 was found to be used by birds associated with urban environments, such as pigeons and blackbird

Potential Impacts

- 3.5.22 The proposals will result in the loss of a single industrial building, which provides opportunity for nesting birds. All birds and their nests are protected by law (Appendix A refers) and, as such, the proposals have the potential to be unlawful where nesting birds are directly impacted.

Proposed Mitigation

- 3.5.23 It is recommended that demolition is undertaken outside of the peak bird breeding season (i.e. between September and February, inclusive), with a check for active nests undertaken by a suitably experienced Ecological Clerk of Works (ECoW) within 48 hours of demolition.
- 3.5.24 Where required, it is recommended that the removal of other suitable nesting habitat, such as areas of dense bramble scrub, occur outside of nesting bird season or be preceded by an inspection for nesting birds by an ECoW.
- 3.5.25 If an active nest is found, a suitable exclusion zone (at least 5m, but to be confirmed by the attending ECoW) will be installed around the nest to protect it until all young have fledged. Depending on the location, protection fencing and marking may be appropriate. The ECoW will be able to advise on the anticipated date of fledging, based on species and the status of the nest.
- 3.5.26 Regular inspections of the nest site by an ECoW will be necessary to monitor the nest periodically and determine when the chicks have fledged so the exclusion zone can be removed. In the highly unlikely event that an active bird nest is identified during site clearance in the absence of an ecologist, activity must cease immediately, and advice sought from the ECoW.
- 3.5.27 It is recommended that a BMP detail protocol and good practice guidelines to ensure the protection of the woodland throughout works.
- 3.5.28 It is recommended that any future development of the Site seek to retain and protect the woodland and rough grassland, and provide enhancements for nesting birds through the inclusion of addition native planting and installation of nesting boxes.

Residual Effects

- 3.5.29 Minor negative residual impacts on birds are anticipated as a result of the demolition proposals due to the loss of suitable nesting habitat for widespread bird species.



4 CONCLUSIONS

- 4.1.1 The demolition of Building 82 was assessed as being of negligible value to roosting bats and immediately surrounding habitats are unlikely to be used by protected species. The building was being used by feral pigeon, and likely other nesting birds expected of urban environments.
- 4.1.2 As long as the demolition is preceded by an inspection by an Ecological Clerk of Works to ensure that no nesting birds are impacted, the demolition will not result in any significant adverse impacts upon the ecological features considered to be associated with the wider site.
- 4.1.3 Mitigation measures have been proposed to ensure that any potential adverse impacts are avoided, which include a Tree Protection Plan or Biodiversity Mitigation Plan detailing the Biodiversity Protection Zones.
- 4.1.4 Considerations for the future development of the Site will be detailed within a separate ecological impact assessment report, which will need to be compliant with the current Biodiversity Net Gain guidance.
- 4.1.5 Assuming the successful implementation of the measures described above the proposed demolition can be considered in line with planning policies CS8 and CS11 due to the provision of green infrastructure.



APPENDIX A: WILDLIFE LEGISLATION & SPECIES INFORMATION

BIRDS

All British birds, their nests and eggs (with certain exceptions) are protected under the Wildlife & Countryside Act 1981 (as amended) which makes it an offence to: intentionally kill, injure or take a wild bird; intentionally take, damage or destroy nests which are in use or being built; intentionally take or destroy birds' eggs; or possess live or dead wild birds or eggs. A number of species receive additional protection through inclusion on Schedule 1 of the Wildlife and Countryside Act; for these it is also an offence to intentionally or recklessly disturb birds while nest building, or at a nest containing eggs or young, or to disturb the dependant young of such a bird. Penalties for offences against bird species include fines of up to £5,000 and/or up to six months in prison.

General licences for control of some bird species are issued by Natural England and Natural Resources Wales in order to prevent damage or disease, or to preserve public health or public safety, but it is not possible to obtain a licence for control of birds or removal of eggs/nests for development purposes. Consequently if nesting birds are present on a development site when works are programmed to start it is usually necessary to delay works, at least in the areas supporting nests, until any chicks have fledged and left the nest. It is usually possible, once chicks have hatched, for an experienced ecologist to predict approximately when they are likely to fledge, in order to inform programming of works on site.

APPENDIX B: PHOTOGRAPHS OF SITE FEATURES



Photograph 1: External view of Building 82 (TN1) with tussocky semi-improved neutral grassland habitat (TN3)



Photograph 2: Area of semi-natural broadleaved woodland in east of the Site (TN4)



Photograph 3: Shallow pool in footing of Building 82 with “Poor” suitability for great crested newts (TN2)



Photograph 4: Area hardstanding to west of Building 82 with pioneer habitat and scattered scrub

Clarkson and Woods Ltd.

Overbrook Business Centre,
Poolbridge Road, Blackford,
Somerset BS28 4PA

t: 01934 712500

e: info@clarksonwoods.co.uk

www.clarksonwoods.co.uk



CLARKSON & WOODS