

PRELIMINARY ECOLOGICAL APPRAISAL & PRELIMINARY BAT SURVEY

June 2025

Knowsley Industrial Park
Woodward Road
L33 7uw

U R B A N
G R E E N



QUALITY MANAGEMENT

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1 Executive Summary

- 1.1.1.1 Applied Nutrition is proposing to develop brownfield land at Knowsley Industrial Park in Liverpool (hereafter referred to as ‘the site’). The proposal includes the construction of a 75,000 sqft distribution warehouse featuring a three-storey ancillary office block, associated parking and landscaping.
- 1.1.1.2 Urban Green has been appointed to complete a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of the site. The objectives of the assessment are to identify the main habitats on site and determine the suitability for any ‘protected and/or notable’ species that may occur on site, including an assessment of buildings on site to support roosting bats. Further ecological surveys and mitigation, where appropriate, are recommended which aim to minimise potential impacts on ecology, due to the proposed development.
- 1.1.1.3 The key results and recommendations from the PEA/PRA exercise are summarised in Table 1 (below):

Table 1. PEA/PRA summary results

Site Context	The site is located on the east of Knowsley Industrial Park and is bordered on all elevations by industrial development. Developed land-sealed surface (u1b6) and artificial unvegetated-unsealed (u1c) predominate the site, with two buildings (u1b5) also present. The wider northern and eastern landscape is rural but has poor ecological connectivity to the site.
Key Statutory Designated Sites	There are no sites of national importance within 5km of the site, and one statutory site within 2km of the site. There are also three non-statutory designated sites within 1km radius of the site. It is assessed that the proposed development will not adversely impact designated sites.
Habitats	The site comprised predominantly artificial unvegetated – unsealed surface, developed land, sealed surface – other developed land and buildings (u1b5). A total of 24 priority habitats are within 500m of the site, the closest located at 117m north-east. It is not anticipated that the proposed development will adversely impact priority habitats.
Key Ecological Results	The following potential ecological constraints were identified during the assessment: • Nesting bird (TN1); • Foraging or commuting bat potential; and • Common amphibian commuting and foraging potential

Recommendations	To comply with wildlife legislation, good practice guidelines and policy, we recommend the following: • Production of a precautionary working methods document covering nesting birds, bats, badger, common amphibians and detail the need of Ecological Clerk of Works (ECoW) during the construction phase of the development; • Production of a Construction and Environmental Management Plan (CEMP) detailing mitigation efforts for impacts to nearby habitats of value and Environmental Best Practice Guidelines; • Development of a sympathetic lighting strategy for bats; and • Vegetation clearance should be completed outside of the core breeding bird season (March to August, inclusive);
Ecological Enhancements	In line with the ecological objectives of the NPPF (2024) the following ecological enhancements have been recommended: • Provision of bat and bird boxes; • Retention creation of existing habitat onsite used by nesting birds; • Soft landscaping designed to increase ecological connectivity; • Planting of species of local provenance within the soft landscaping plan; • Enhancement of drainage ditch and installation of amphibian gully pot ladders; • Management of (native and non-native) invasive plant species; • Hedgehog highways; and • Creation of refugia/hibernacula where feasible.



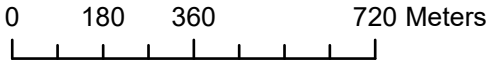
Legend: Red Line Boundary		1 Kilometers		N	
Client:	Ryder & Granite Estates Limited	Issue:	01	Figure:	01
Project:	Knowsley Industrial Park	Scale @ A4		1:12000	
Title:	Site Context	Approved by:	CL	Checked by:	JH
Drawing Ref:	UG_3078_SITE_CONTEXT	Author:	CL	Date:	22/05/2025
URBAN GREEN A: Ground Floor, The Tower, Deva City Office Park, Trinity Way, Manchester M3 7BF T: +44 (0) 161 312 3131 weareurbangreen.co.uk					



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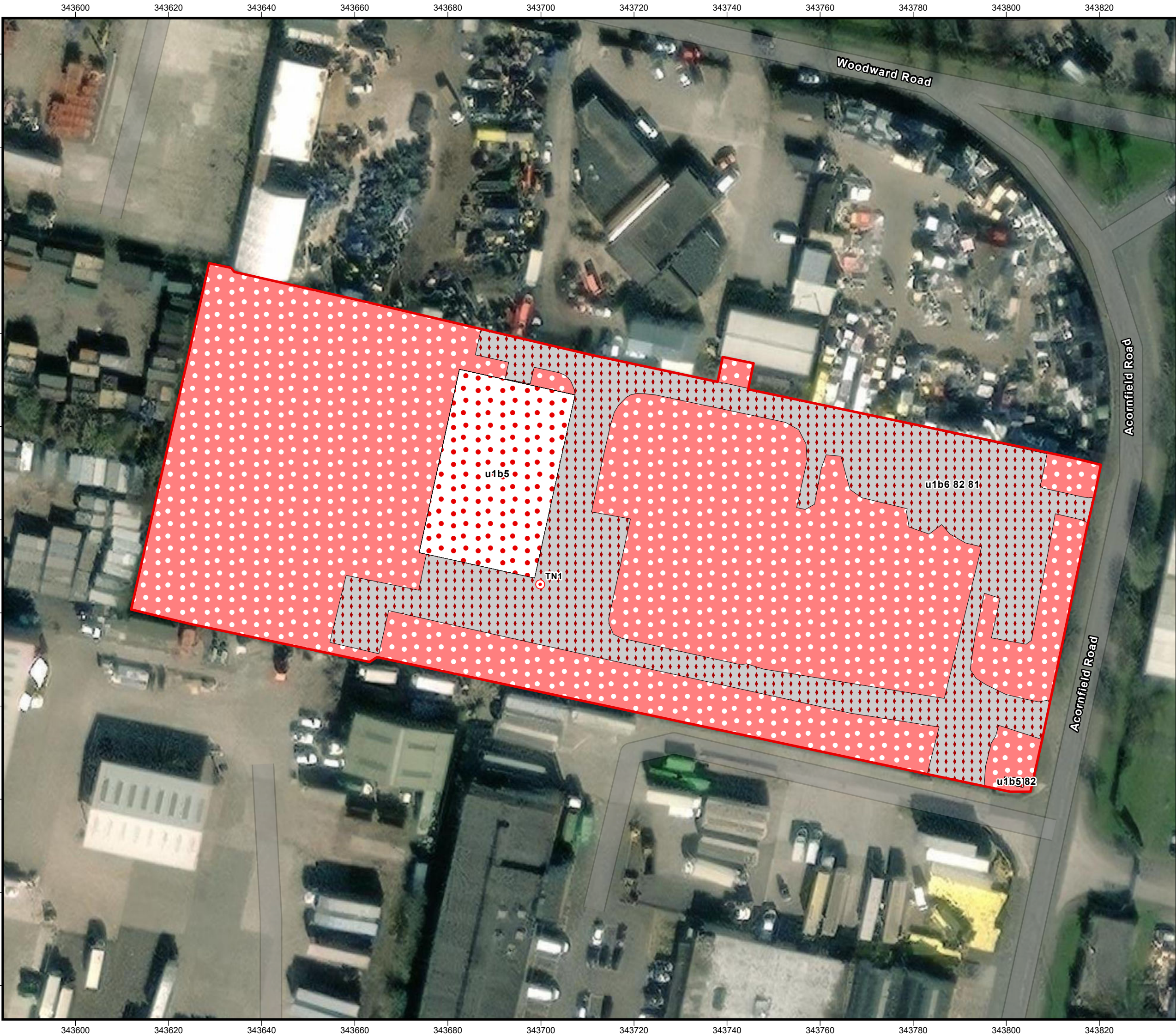
Legend

- Red Line Boundary
- 2km Buffer
- Local Nature Reserves (England) © Natural England



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Client: Ryder & Granite Estates Limited		
Project: Knowsley Industrial Park		
Title: Designated Sites Results		
Issue: 01	Figure: 00	
Drawn: CL	Checked: JH	Approved: JH
Project: UG3078	Scale @ A3: 1:15,000	Date: 22/05/2025
Dwg No: UG_3078_ECO_DS_01		Revision: 01



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Legend

- Red Line Boundary
- Artificial unvegetated - unsealed surface
- Buildings
- Other developed land
- Target Note
TN1 - Active Seagull nest with 3x eggs



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Client: Ryder & Granite Estates Limited		
Project: Knowsley Industrial Estate		
Title: UKHAB Habitat Map		
Issue: 01	Figure: 00	
Drawn: CL	Checked: GS	Approved: JH
Project: UG3078	Scale @ A3: 1:750	Date: 06/06/2025
Dwg No: UG_3078_ECO_HM_01		Revision: 01

Figure 4. Photographs of the Site



Photograph 1: Overview of the site and building B1 located near the centre of the site.



Photograph 2: Building B1 with u1c artificial, unsealed surface habitat to the west of the site.



Photograph 3: B1 - negligible roosting potential, bounded by u1b6 – developed land to the north, east and south.



Photograph 4: Internal structure of B1 displaying internal artificial light and negligible roosting potential.



Photograph 5: Structure of building B2 with negligible roosting potential in relation to u1b6 and u1c habitats on site.



Photograph 7: Example of ruderal and ephemeral species interspersed across u1b6 and u1c habitats.



Photograph 6: Internal space of B2 showing lack of potential roosting features.



Photograph 8: Example of ephemeral plant species scattered across the site, within u1c habitat parcels.



Photograph 9: u1b5 buildings in relation to predominant u1c habitat, west of the site.



Photograph 11: Combination of habitats onsite, including u1b5, u1b6, u1c and scattered ephemeral and ruderal stands.



Photograph 10: example of poor condition u1b6 habitat south-west of the site, and interspersed ruderal plant species.



Photograph 12: Active herring gull (*Larus argentatus*) nest TN1 with three eggs present at time of surveying.

2 Introduction

2.1 Scope

- 2.1.1.1 Urban Green has been instructed by Applied Nutrition to carry out a Preliminary Ecological Appraisal (PEA) to British Standard 42020:2013 guidelines and Preliminary Roost Assessment (PRA) at Knowsley Industrial Park, Liverpool and detail the findings in a technical report. Specifically, this PEA and PRA comprises a desk-based assessment (using purchased biological records), a UK Habitat Classification survey (UKHab), which is extended to include a search for protected species and a field survey of features of interest to assess the sites suitability to support roosting bats.
- 2.1.1.2 The development proposals (S4711-BDN-XX-XX-DR-A-(05)5002 P4) include the creation of a distribution warehouse on disused brownfield land, formerly used to hold hazardous waste. As part of the proposals, a three-storey office block, associated vehicular access, parking and landscaping will also be created. The development proposals will hereafter collectively be referred to as ‘the development’.

2.2 Site Context

- 2.2.1.1 The site is located at Knowsley Industrial Park, SJ 43708 993622 and comprises a total area of approximately 1.42ha (see Figure 1).
- 2.2.1.2 The site is located to the east of Kirkby and forms part of Knowsley Industrial Park. Historically the site has formed part of the Syntor Chemicals Plant and was subject to the storage of hazardous materials, undergoing remediation in 2015. On all aspects, the site is bounded by operational industrial development, which experiences a moderate level of vehicle and foot traffic. The site is isolated from the wider rural landscape which lies to the north and east of the site, by a network of main roads, urban development, and lack of interspersed natural habitats. Several water bodies are present within the wider landscape, namely Simonswood Brook and series of ponds, the closest of which is located within 440m of the site.

2.3 Ecology Background

- 2.3.1.1 The site has not been subject to previous ecological assessment.

2.4 Purpose of Report

- 2.4.1.1 This report has been produced to set out the methods, results and recommendations of the PEA and PRA assessment. The purpose of the PEA report is to identify the main habitats on site and determine the suitability of these habitats to support protected and/or notable fauna and flora, with the addition of potential impacts on designated sites. The purpose of the PRA is to classify bat roosting potential of the site and identify any features of interest, following guidance set out in Collins (2023). These surveys will inform the need for any further ecological assessment and/or mitigation to minimise the potential impacts on ecology on site and within the zone of influence.

- 2.4.1.2 Further information and details of UK legislation for those species which are formally protected is defined in Appendix 1, which are considered throughout the assessment.
- 2.4.1.3 The National Planning Policy Framework (NPPF) (2024) and other Local Planning Policies are considered within this report. Ecological enhancements are advised to be in line with relevant Planning Policies.

2.5 *Surveyors*

- 2.5.1.1 The UKHab surveys were undertaken by Georgia Selvey (Ecologist, BSc), and Jake Healy (Ecologist, MSc, ACIEEM). This report was authored by Georgia Selvey.

3 Methods

3.1 Overview

- 3.1.1.1 The PEA and PRA assessment and report follows the good practice methodology as detailed within the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2019) and (Collins, 2023).

3.2 Desk Study

3.2.1 Online Resources and Local Records Centre

- 3.2.1.1 Due to the size and scale of the development, combined with its geographical setting, a 1km ecological data search (including the purchase of third-party biological records) was undertaken as part of the desk study exercise. This is deemed an appropriate distance, based on the estimated Zone of Influence for the development.
- 3.2.1.2 Sources of information used in the desk study are presented in Table 2.

Table 2. Ecological desk study sources

Source	Date Consulted	Information Sought
The MAGIC Website	10/06/2025	Locations of statutory designated sites within 5km of the site boundary. Locations of National Site Network sites (Ramsar, Special Area of Conservation (SAC) and Special Protection Area (SPA)) within 5km of the site boundary. Locations of European Protected Species Licences (EPSL) and Class Licences within 1km.
Natural England	06/06/2025	Relevant statutory designated site citations.
JNCC	09/06/2025	Information on former 'European' wildlife sites. Details of relevant Section 41 species and habitats.
Merseyside BioBank	10/06/2025	Information on statutory and non-statutory designated sites within 1km of site boundary. Protected and notable species records within 1km of the site boundary.
Lancashire Environmental Records Network (LERN)	10/06/2025	Information on statutory and non-statutory designated sites within 1km of site boundary. Records of protected and notable species within 1km of the site boundary.

<i>Source</i>	<i>Date Consulted</i>	<i>Information Sought</i>
The North Merseyside Biodiversity Action Plans	10/06/2025	Species and habitats which are given special conservation status at the local level.

3.3 **UK Habitat Classification Survey**

3.3.1 **PEA Habitat Survey**

3.3.1.1 The 4th June 2025 was selected to undertake the UKHab survey.

3.3.1.2 The survey methods were based on the standard methodology as detailed by The UK Habitat Classification User Manual (UKHab Ltd. 2023). The survey methodology was ‘extended’ to include a high-level search for signs of protected species (described in more detail below). A UKHab results figure has been produced to display the main habitats recorded within the site boundary (see Figure 3). The mapping techniques are based on The UK Habitat Classification User Manual (Butcher et al, 2020) guidance.

3.3.1.3 Plant species abundance is described using the DAFOR scale as shown in Table 3. Percentages are an approximate indication rather than a quantitative measure. Results are presented in Appendix 2.

Table 3. Key to species abundance

<i>Code</i>	<i>Category</i>	<i>Description</i>	<i>Indicative Percentage Ranges</i>
D	Dominant	Covers most of an area	50% or greater
A	Abundant	Very common throughout the area.	30 – 50%
F	Frequent	Common or with many individuals stands	15 – 30%
O	Occasional	Occurs in several places but not throughout; populations are not large.	5 – 15%
R	Rare	Occurs in low numbers in relation to size of area.	Less than 5%
“L” will be used to indicate abundance in a localised area, e.g. LA = Locally abundant			

3.3.1.4 Any invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were noted during the UKHab survey visit.

3.4 Extended Protected Species Surveys

3.4.1 PEA Habitat Survey

- 3.4.1.1 During the UKHab survey, the search was extended to include a high-level search for protected and/or notable species. In addition, habitats on site were assessed for the potential to support key protected species.
- 3.4.1.2 These assessments do not constitute dedicated phase II protected species surveys, rather, they provide an indication of what phase II surveys may be required in the context of the development.

3.5 Preliminary Roost Assessment

3.5.1 PRA Site Survey

- 3.5.1.1 The 4th June 2025 was selected to undertake the internal and external components of the PRA.
- 3.5.1.2 The GLTA methodology is based on information contained within the Bat Conservation Trust (BCT) guidelines, 4th edition (Collins, 2023). The categorisation within this report is based on that set out in Tables 4 and 5, which is used as a basis for determining the requirement for further surveys.
- 3.5.1.3 The survey involves a detailed inspection of all buildings within the site, from the ground, to compile information about PRFs (or lack of), and any evidence of bats.
- 3.5.1.4 At the time of surveying, no trees were present within the site boundary, therefore a Ground Level Tree Assessment (GLTA) was not conducted. Due to the lack of suitable habitat features, GLTAs will not be included further within this report.
- 3.5.1.5 The external inspections of all buildings on site were conducted using binoculars and all details regarding Potential Roosting Features (PRFs) were plotted using ArcGIS’ mobile application, Fieldmaps.
- 3.5.1.6 The internal inspection was conducted systematically, using binoculars and torchlight to inspect all aspects of each building, searching for evidence of roosting bats(s), i.e. droppings, live bats, and/or dead bats.

Table 4. Suitability of Buildings for Roosting Bats (adapted from Collins, 2023).

Category of Suitability	Typical Characteristics	Further Survey Requirements
High	A structure 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.	A minimum of three separate survey visits. Surveys can be undertaken between May and September, with at least two surveys between May and August.

Category of Suitability	Typical Characteristics	Further Survey Requirements
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but are unlikely to support a roost of high conservation status.	A minimum of two separate survey visits. Surveys can be undertaken between May and September with at least one survey 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 condition and/or suitable surrounding habitat to be used on a regular basis by larger numbers of bats.	A minimum of one emergence survey between May and August.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further work required.

3.5.2 *Commuting and Foraging*

3.5.2.1 The site was assessed for its suitability for use by commuting and foraging bats.

3.5.2.2 The commuting and foraging assessment methodology is based on information contained within the Bat Conservation Trust guidelines 4th edition (Collins, 2023). The categorisation within this report is based on that set out in Tables 4 and 5, which is used as a basis for determining the requirement for further surveys.

Table 5. Suitability of site for foraging and commuting bats

Category of Suitability	Habitat Characteristics
High Suitability	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting or foraging bats such as; river valleys, streams, hedgerows, lines of trees or woodland edge. Site is close to or connected to known roosts.
Moderate Suitability	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees, scrub or linked back gardens. Habitat connected to wider landscape that could be used for bats for foraging such as; trees, scrub, grassland or water.

Category of Suitability	Habitat Characteristics
Low Suitability	Habitat that could be used by small number of commuting bats such as; defunct hedgerow, isolated features not well connected to surrounding habitat or Isolated habitat that could be used by a small number of foraging bats such as a lone tree or patch of scrub.
Negligible Suitability	No features on site suitable for use by commuting and foraging bats.

3.6 **Ecological Constraints**

- 3.6.1.1 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.
- 3.6.1.2 This PEA does not constitute a comprehensive botanical survey, however, is sufficient to inform the assessment.
- 3.6.1.3 The high-level protected species assessment provides a likelihood of protected species occurring on or near the site based on the known distribution of species and the suitability of the habitat.
- 3.6.1.4 The conclusions and recommendations detailed in this report are based upon the redline site boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the redline boundary or proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.
- 3.6.1.5 Access to the roof of all buildings on site was not possible due to unsuitability for load bearing. This is not considered to be a major constraint to ecological assessment of roof conditions could be inspected from the ground via binoculars.
- 3.6.1.6 The findings of this report represent the professional opinion of qualified ecologists but does not constitute legal advice. The client may wish to seek professional legal interpretation of any wildlife legislation or corresponding recommendations cited within this report.

3.7 **Report Validity**

- 3.7.1.1 In accordance with CIEEMs Advice Note on the Lifespan of Ecological Reports and Surveys (CIEEM, 2019), the details of this report will remain valid for a minimum period of 18 months from the date of the survey (i.e. until December 2026). After this date, this assessment should be reviewed by an ecologist to determine whether any updates are required.

3.8 *Protected Species Definitions*

3.8.1.1 For the purposes of this report, the term ‘protected’ and ‘notable’ species relates to:

- Species included on Schedules 2 and 4 of The Conservation of Habitats and Species Regulations 2017 (as amended);
- Species included on Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended), excluding species that are only protected in relation to ‘sale’ (see Section 9[5] and Section 13[2]);
- Invasive non-native species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended);
- Species of Principal Importance as defined under Section 41 of the Natural Environment and Rural Communities Act 2006 (England), Section 7 of the Environment (Wales) Act 2016, Section 2[4] of the Nature Conservation (Scotland) Act 2004;
- Species specifically listed on relevant biodiversity action plans or similar; and
- Badger and their setts; protected under the Protection of Badgers Act 1992.

4 Results

4.1 Desk Study Exercise

4.1.1 Designated Sites

4.1.1.1 There are no sites of national importance within 5km of the site boundary, the closest is Ravenhead Brickworks Site of Special Scientific Interest (SSSI), located 8.9km north-east to the site. There is one statutory site within 2km of the site, namely Acorn Plantation Local Nature Reserve (LNR), located 1.3km to the south of the site.

4.1.1.2 There were three non-statutory designated sites within 1km radius of the site.

4.1.1.3 Details of the relevant statutory and non-statutory sites can be found within Table 6.

Table 6. Designated sites returned during the desk study

Designated Site	Distance from Site	Site Description
Statutory Designated Sites		
Acornfield Plantation Local Nature Reserve (LNR)	1.3km south	This site is designated for its lowland basin mire and mature broadleaf woodland which supports key flora and fauna.
Ravenhead Brickworks Site of Special Scientific Interest (SSSI)	8.9km north-east	The geology of this site holds national importance for the understanding of the environment and deposition of productive coal formation, not only in the Pennine Basine but also across the entirety of the UK.
Non-Statutory Designated Sites		
Northwood Forest Hills Local Wildlife Site (LWS)	739mm west	No information provided
Charley Wood LWS	856m south	No information provided.
Kirkby Brook, Northwood LWS	900m south-east	No information provided.

4.1.1.4 The site also sits within the peripheries of the Impact Risk Zone (IRZ) of the Sefton Coast SAC and SSSI. This designated site lies 12.5km west of the proposed development. The site is designated due to its rare coastal habitats and the presence of protected species such as great crested newt (GCN) (*Triturus cristatus*) and petalwort (*Petalophyllum ralfsii*). Upon review of the notification criteria on MAGIC, the proposed development does not meet these criteria and therefore notification of Natural England is not required in relation to this IRZ.

4.1.1.5 There is one pond located 440m north-west of the site and one watercourse, Simonswood brook, which sits within 235m north of the site. Both waterbodies have poor connectivity to the site; urban development, road infrastructure and sub-optimal/negligible habitats represent ecological barriers between the waterbodies and the proposed development site.

4.1.2 Protected Species

- 4.1.2.1 Data was supplied by Merseyside Bio Bank and Lancashire Environmental Records Network (LERN) information record centre for the closest and most relevant records. Some notable bird species listed in Table 7 may utilise urban habitats on site for nesting. The wider rural landscapes to the north and east of the site are known to support breeding and nesting notable species including a confirmed pink-footed goose (*Anser brachyrhynchus*) main roost. Species records over 10 years old have been omitted. Only bird species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) or red or amber species on the Birds of Conservation Concern (BoCC) list are included. Only invertebrate species that are legally protected are included below.
- 4.1.2.2 Several records lack precise grid references or are missing spatial data entirely. All data detailed below represents species recorded within 1km of the site boundary. Records relating to certain protected species, including badger sett locations, is sensitive information, and due to the risk of public interference, remain confidential.

Table 7. Desk study records for protected species within 1km of the site

Common Name	Scientific Name	Key Legal Protection / Policy Consideration	Total Number of Records	Closest Record to Site Boundary	
				Distance (m)	Year
Birds					
Barn Owl	<i>Tyto alba</i>	WCA 1981 Schedule 1	1	300	2021
Black Tern	<i>Chlidonias niger</i>	WCA 1981, BoCC5 Amber	2	<1000	2022
Black-tailed Godwit	<i>Limosa limosa</i>	WCA 1981, Sch 41 NERC, BoCC5 Red	17	<1000	2022
Brambling	<i>Fringilla montifringilla</i>	WCA 1981 Schedule 1	1	<1000	2021
Bullfinch	<i>Pyrrhula pyrrhula</i>	Sch 41 NERC, BoCC5 Amber	3	<1000	2022
Curlew	<i>Numenius arquata</i>	Sch 41 NERC, BoCC5 Red	1	<1000	2018
Dunnock	<i>Prunella modularis</i>	Sch 41 NERC, BoCC5 Amber	1	<1000	2020
Fieldfare	<i>Turdus pilaris</i>	WCA 1981 Schedule 1	1	<1000	2021
House Martin	<i>Delichon urbicum</i>	BoCC5 Red	2	<1000	2019
House Sparrow	<i>Passer domesticus</i>	Sch 41 NERC, BoCC5 Red	4	<1000	2022

Common Name	Scientific Name	Key Legal Protection / Policy Consideration	Total Number of Records	Closest Record to Site Boundary	
				Distance (m)	Year
Kingfisher	<i>Alcedo atthis</i>	WCA 1981 Schedule 1	3	<1000	2021
Linnet	<i>Linaria cannabina</i>	Sch 41 NERC; BoCC5 Red	3	<1000	2021
Long-tailed Duck	<i>Clangula hyemalis</i>	WCA 1981 Schedule 1; BoCC5 Red	4	<1000	2020
Peregrine	<i>Falco peregrinus</i>	WCA 1981 Schedule 1	1	<1000	2020
Red Kite	<i>Milvus milvus</i>	WCA 1981 Schedule 1	1	<1000	2020
Redwing	<i>Turdus iliacus</i>	WCA 1981 Schedule 1; BoCC5 Amber	4	<1000	2021
Skylark	<i>Alauda arvensis</i>	BoCC5 Red	2	<1000	2021
Song Thrush	<i>Turdus philomelos</i>	Sch 41 NERC; BoCC5 Amber	2	<1000	2017
Starling	<i>Sturnus vulgaris</i>	Sch 41 NERC; BoCC5 Red	3	<1000	2022
Swift	<i>Apus apus</i>	BoCC5 Red	1	<1000	2022
Tree Pipit	<i>Anthus trivialis</i>	Sch 41 NERC; BoCC5 Red	1	<1000	2021
Yellowhammer	<i>Emberiza citrinella</i>	Sch 41 NERC; BoCC5 Red	2	<1000	2021
Bats					
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	WCA 1981 Schedule 5; Hab Regs 2017, Schedule 2	2	458	2018
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	WCA 1981 Schedule 5; Hab Regs 2017, Schedule 2	2	458	2018
Myotis species	<i>Myotis spp.</i>	WCA 1981 Schedule 5; Hab Regs 2017, Schedule 2	2	458	2018
Noctule	<i>Nyctalus noctula</i>	WCA 1981 Schedule 5; Hab Regs 2017, Schedule 2	2	458	2018
Terrestrial Mammals					

Common Name	Scientific Name	Key Legal Protection / Policy Consideration	Total Number of Records	Closest Record to Site Boundary	
				Distance (m)	Year
Badger	<i>Meles meles</i>	Badger Protection Act 1992	4	<1000	2022
Brown hare	<i>Lepus europaeus</i>	WCA 1981, Schedule 5	4	<1000	2021
Hedgehog	<i>Erinaceus europaeus</i>	Wild Mammals Act 1996; NERC Act 2006	9	384	2020
Invertebrates					
Cinnabar	<i>Tyria jacobaeae</i>	S41 NERC	2	493	2019
Amphibians					
Common frog	<i>Rana temporaria</i>	WCA 1981 Schedule 5 (sale only); S41 NERC	6	<1000	2020
Common toad	<i>Bufo bufo</i>	WCA 1981 Schedule 5 (sale only); S41 NERC	1	<1000	2019
Great crested newt	<i>Triturus cristatus</i>	WCA 1981, Schedule 2 & 5	4	450	2018

4.1.3 Granted EPSL within 5km

- 4.1.3.1 Following consultation with MAGIC, it was found that there are no European Protected Species Licences (EPSL) within the survey area. The closest licence is located 5.26km south-east and relates to the destruction of a common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) resting place (2018-33067-EPS-MIT-1).

4.1.4 Local Biological Records: Bat roosts

- 4.1.4.1 Over the past ten years no bat roost data was recorded within 1km of the site. The most recent record of a bat roost was recorded in 2010, relating to three records of a 'potential bat roost' associated with unidentified species (*Chiroptera* spp.). These records are located 846m west of the site.

4.1.5 Priority Habitats

- 4.1.5.1 A search for priority habitats within 500m of the site, using purchased biological records from North Merseyside Bio Bank, LERN and open-source data from MAGIC, highlighted several areas of priority habitat within 500m of the site. This includes:

- Thirteen small parcels of deciduous and other priority woodland – the closest located 117m north-east;
- Four parcels of neutral grassland, located at the closest point, 492m west;
- One pond approximately 440m north-west;
- One parcel of lowland dry acidic grassland, 143m to the north of the site;
- Three small parcels of lowland meadow, 315m north; and
- Two parcels of lowland fens, located 300m at the closest point, east of the site.

4.1.6 Ancient Woodland

- 4.1.6.1 No stands of ancient woodland were recorded within 500m of the site boundary and therefore will not be discussed further in this report.

4.2 Extended UK Habitat Classification Survey Results

4.2.1 Habitats

- 4.2.1.1 The broad habitat types recorded during the PEA (see Figure 3) are detailed below. Supporting target notes are provided in Appendix 4, with photographs of the site shown on Figure 4.
- 4.2.1.2 The UKHab types recorded during the site visit were:
- Artificial unvegetated – unsealed surface (u1c);
 - Developed land, sealed surface – other developed land (u1b6); and

- Buildings (u1b5)

Artificial unvegetated – unsealed surface (81, 82, 517)

- 4.2.1.3 The site predominantly comprised recently disturbed unsealed surface of rubble, gravel and rock. A large section to the western aspect of the site was formerly mixed scrub but has been converted to (u1c) over three years ago. Signs of felling activity are present in the west, south and east of the site, the form of small tree limbs and dead plant matter. Interspersed ephemeral and ruderal species are present across this habitat parcel. Examples of such species are presented in Appendix 2. Artificial earth banks border the boundary fence line and are populated by larger interspersed stands of ruderal and ephemeral species. To the south-west of the site, a small stand of common reeds (*Phragmites australis*) is present - suggestive of a small drainage ditch.

Developed land, sealed surface – other developed land (81, 82)

- 4.2.1.4 Developed land sealed surface is the second most common habitat type present with the site boundary. Two large sections are present, one surrounding a warehouse building at the centre of the site, and the other located west of the site – serving as a temporary carpark. Both parcels of this habitat are in poor condition with signs of degradation such as cracking and splitting being widespread. This habitat has been left effectively unmanaged, resulting in the growth of ruderal and ephemeral species such as those listed within Appendix 2.

Buildings

- 4.2.1.5 The site is currently decommissioned and largely unmanaged. Two buildings are located within the site boundary, including Building 1 (B1) – a large, empty warehouse located central of the site, within developed land- sealed surface. And Building 2 (B2) - a small, inactive utilities building located within artificial unvegetated – unsealed surface habitat to the south-east of the site.

4.2.2 Protected Species

Amphibians (including GCN)

- 4.2.2.1 No evidence or observations of notable or protected amphibians were made on site during the field survey. Habitats present on site such as developed land, artificial unvegetated land and buildings are considered unsuitable to support highly protected species such as GCN. Evidence of common reed along the south-western boundary of the site suggests the presence of a sub-optimal drainage ditch that has potential to support common or notable species such as common toad (*Bufo bufo*) or common frog (*Rana temporaria*).
- 4.2.2.2 One pond site within 500m of the site, located 440m to the north-west. Simonswood Brook and associated drainage channels are located approximately 235m to the north and north-east of the site. Connectivity to these waterbodies is constrained as barriers to ecological dispersal exist in the form of active, urban development and a network of main roads such as Depot Road and Acornfield Road.

Aquatic species

- 4.2.2.3 Desk study results returned two species listed under both the OSPAR and IUCN Red List within the survey area. However, the habitats on site are considered unsuitable to support aquatic species, therefore this taxon will not be considered further in this report.

Badger

- 4.2.2.4 No evidence of badger (*Meles meles*) was recorded during the field survey. The site is largely dominated by developed land and artificial unvegetated habitats, with negligible suitability for this species. The surrounding roads and urban development which encapsulates the survey area limits ecological connectivity to more suitable habitats east of the site, in the wider rural landscape.

Bats

- 4.2.2.5 No evidence or signs indicative of bats utilising the site were found during the field survey. Both B1 and B2 offer Negligible roosting potential (Table 4). The site offers low suitability for foraging and commuting bats (Table 5) due to isolated peripheral features bordering the site.

Birds

- 4.2.2.6 A significant number of Schedule 1 and Red/Amber-listed bird species are present across North Merseyside. The habitats within the site boundary represent wider urban environments that are known to support species adapted to such settings, for example, house sparrows (*Passer domesticus*), house martins (*Delichon urbicum*), swifts (*Apus apus*), and starlings (*Sturnus vulgaris*).
- 4.2.2.7 During the field survey, four foraging and commuting BOCC amber listed oyster catchers (*Haematopus ostralegus*) and three BOCC red list herring gulls (*Larus argentatus*), including a nesting pair (TN1), were observed on site. Evidence of historic nesting bird activity was found within B1 in the form of an old swift (*Hirundo rustica*) nest and scattered bird droppings.

Brown Hare

- 4.2.2.8 Despite desk study data returning records of brown hare (*Lepus europaeus*) within the survey area, no evidence of foraging, commuting or sheltering individuals were found on site. Habitats on site are negligible to support this species, and ecological connectivity to wider suitable habitats is poor. The likelihood for this species to occur on site is considered negligible, therefore this species shall not be considered further in this report.

Flora

- 4.2.2.9 No floral species listed within the WAC Schedule 8 was recorded on site during the field survey. The urban nature of the site is unsuitable to support priority species, with floral vegetation limited to interspersed, small stands within the developed land sealed surface, and artificial unvegetated - unsealed surface habitat parcels. Species recorded during the site visit are noted within Appendix 2. Further consideration of priority flora species has been excluded from this report, due to the absence of suitable habitat within the survey area and the lack of supporting field evidence.

Other mammals (including hedgehog)

- 4.2.2.10 No evidence of mammals was found during the survey. Habitats on site offer poor sheltering or foraging opportunities for a range of protected and notable mammals. The site also offers sub-optimal commuting opportunities for transient species such as hedgehog (*Erinaceus europaeus*), due to poor ecological connectivity. It is considered unlikely for mammals to utilise the site or pose an ecological constraint to the proposed development. Due to the unsuitability of the site, and the poor ecological connectivity of the site, mammal species will not be considered further in this report.

Invasive species

- 4.2.2.11 Invasive Non-Native Species (INNS) listed within the WAC 1981 Schedule 9 were not present on site at the time of surveying. Invasive, non-scheduled species were recorded within the artificial unvegetated – unsealed surface habitat to the west and south-west of the site, including buddleia (*Buddleja davidii*) and horsetail (*Equisetum arvense*). Owing to their absence, INNS will not be considered further in this report.

Invertebrate

- 4.2.2.12 No notable or legally protected invertebrate species were recorded during the field survey. The site's urban character, dominated by fragmented and disturbed habitats, provides limited ecological value for invertebrates. The available vegetation—primarily small, scattered ruderal and ephemeral plant communities—offers only marginal foraging and sheltering opportunities suitable to support small populations of common species. Therefore, invertebrates shall not be considered further in this report.

4.3 Preliminary Roost Assessment

- 4.3.1.1 In terms of the two buildings on site, both B1 and B2 are (structurally) of moderate condition and hold negligible potential to support roosting bats (Table 8). B1 is deemed to hold negligible potential for roosting bats due to high light pollution levels, an unstable internal thermal climate owing to its floating walls and corrugated metal construction, and a lack of potential roosting features. B2 is assessed to have negligible roosting potential due to its lack of potential roosting features.

Table 8. Summary of PRA Assessment

Building Reference	PRA Assessment Results
B1 (Warehouse)	Negligible roosting potential
B1 (Utilities building)	Negligible roosting potential

4.3.2 **Building 1 (B1) – Warehouse**

The redundant warehouse within the remediated brownfield is the main feature of the site. The building has been onsite since at least 2000, though it is currently standing empty, with no signs of recent use.

External

- 4.3.2.1 The building measures approximately 10962 sqft and comprises a large, two-storey warehouse on a steel frame with a skillion lean-to roof. No PRFs were found during the survey.
- 4.3.2.2 The walls of the structure are of corrugated metal construction and feature a running gap along the full perimeter of B1 – adopting a floating wall design. Exterior walls are in moderate condition, with only minor levels of damage/ageing.
- 4.3.2.3 The skillion lean-to roof was inspected via ground level and appears to be in good condition with no signs of damage present. The building access points at the northern and southern elevations of the building were secured at the time of the survey – offering no external access.

Internal

- 4.3.2.4 Internally the building was completely bare. No signs or evidence indicative of bat activity within the structure were present. Bird droppings were found underneath a central steel support beam and associated with a defunct swift nest.
- 4.3.2.5 The internal walls comprise bare corrugated metal sheeting fixed directly to the exposed steel frame of the building. The floating wall design allows wind to travel through B1.
- 4.3.2.6 Seven rows of translucent roof sheeting, in addition to corrugated metal sheeting comprise the roof, which results in high levels of internal light pollution. No loft void was present within the structure, instead bare corrugated metal roofing was exposed.
- 4.3.2.7 No external light spill, beyond that from the translucent roof sheeting, was observed to penetrate the internal space of the structure. No signs of suitable access points were present.
- 4.3.2.8 Signs of the structure ageing, in the form of rusting and general wear and tear, were present however the overall internal condition of this building was moderate. No PRFs were found within B1.

4.3.3 **Building 2 (B2) – Utilities building**

A disused utility building located south-east of the site, estimated to have been present since 2005 and measuring approximately 69 sqft.

External

- 4.3.3.1 This building comprises redbrick, single storey construction with a bitumen lined flat roof. Much of the building is in good condition with minimal signs of damage or defect present, however one man-made hole in the brickwork, leading directly into the internal space of the structure is located on the western elevation. Therefore, the external features of the building were classified to be in moderate condition overall. No PRFs were present on B2 at the time of the survey.

Internal

- 4.3.3.2 Internally the structure features a disused pipe with associated fittings. No signs of recent human or animal presence were found during the survey and the access door was left open, allowing lights spill into the internal space.
- 4.3.3.3 Beside the open doorway allowing in light pollution, no additional signs of light spill were present within the internal space. An absence of PRFs was found, in addition to a lack of evidence suggestive that bats may utilise B2. The structural condition of B2 internally was classified as moderate – signs of ageing such as rusting pipes and chipping paint were present.

Ecological Assessment and Recommendations

4.4 General Recommendations

- 4.4.1.1 The following ecological recommendations apply at a sitewide basis; species, habitat and/or designated site-specific recommendations are provided in Table 9 (below).
- 4.4.1.2 Should the scope of works change significantly, it is recommended that an ecologist is consulted to review this report and assess if the recommendations remain fit for purpose.
- 4.4.1.3 Should the development not commence within one year of this report, any bat surveys undertaken as part of the works should be repeated. Should the works not commence within 18 months of this report, all ecology surveys will likely require repeating.
- 4.4.1.4 An Ecological Clerk of Works (ECoW) following a precautionary method of works document should be implemented for the full construction phase of the site. The precautionary method of works document will be specific to the site and will detail the methods the ECoW and operatives must follow during the clearance works. Specifically, this document will cover amphibians, bats, and nesting birds. These measures can be used to directly inform a Construction and Environmental Management Plan (CEMP) if required for the development.
- 4.4.1.5 A sympathetic lighting plan and detailed soft landscaping design should be produced and adhered to and will be specific to protected species that have the potential to be impacted by the development.

4.5 Designated Sites, Habitats & Protected Species

- 4.5.1.1 Designated sites, protected habitats, species, and INNS will be considered in the context of 1) the results of the UKHab Survey and desk study 2) the development proposals, and 3) the legislation or policy that applies to each. Recommendations to overcome these ecological constraints in the form of further surveys, mitigation and (optional) enhancement measures are systematically detailed for each in Table 9 (below).

Designated Sites

- 4.5.1.2 The development is located within an established industrial area and involves the regeneration of brownfield land. Given the contained scale of the development and its alignment with the existing land use character, in the absence of mitigation, it is considered unlikely that the development will have an adverse effect on designated sites within the survey area. The proposed operational use is consistent with the surrounding context and does not extend beyond the original site footprint.

Habitats

- 4.5.1.3 Habitats on site are non-priority and of poor ecological value. Within 500m of the site, 24 priority habitats were identified. In the absence of mitigation, priority habitats will not be adversely impacted by the proposed development due to the confined nature of the proposed works, poor ecological connectivity to priority sites and Environmental Best Practice Guidelines that will be adhered to during the construction phase of the site.

Amphibians (Including GCN)

- 4.5.1.4 The site was assessed as providing negligible suitability to support resident populations and transient populations of GCN owing to unsuitable habitats on site and the presence of ecological barriers. Examples of such barriers include urban infrastructure and main roads which are likely to inhibit GCN dispersal, limiting the likelihood of their presence on site. GCN are afforded protection under the Conservation of Habitats and Species Regulations 2017 (as amended), and the Wildlife and Countryside Act 1981 (as amended). Occurrence of this species on site is unlikely, therefore in the absence of mitigation, no adverse impacts to GCN are anticipated.
- 4.5.1.5 Common frogs and common toads are only protected from trade and sale under the Wildlife and Countryside Act 1981; however, they are afforded protection from cruelty under the Animal Welfare Act 2006. The site is considered to have low suitability for common and notable amphibian species. The presence of common reed to the south-west of the site, and artificial unvegetated – unsealed surface indicates the availability of sub-optimal habitat that common species are more tolerant of. However, the likelihood of their presence remains low due to limited ecological connectivity to higher-quality habitats in the wider landscape. Failure to mitigate for amphibians' unlikely presence on site may result in the death or injury to individuals.

Badger

- 4.5.1.6 Badger and their setts are protected under the Wildlife and Countryside Act (1992), however no evidence or signs indicative of badger were found during the field survey. Habitats on site hold negligible potential to support this species and ecological connectivity to wider, suitable habitats is sub-optimal. It is considered unlikely this species would utilise the site, and therefore in the absence of mitigation, no adverse impacts to badger are anticipated in relation to the proposed development.

Bats

- 4.5.1.7 The site was assessed to have low foraging and commuting value for bats and negligible roosting potential (Table 8). Bats and their roosts are protected under the Habitats and Species Regulations (2017) and the Wildlife and Countryside act (1981). The proposed development does not have the potential to impact roosting bats directly, as both buildings are negligible and there are not other roosting opportunities for bats on site.
- 4.5.1.8 In the absence of mitigation, the proposed works, do however, have the potential to indirectly displace bats whilst foraging or commuting on site. Moreover, site and immediate adjacent habitat has low foraging and commuting suitability, with poor connectivity to interspersed urban trees and small parcels of grassland –that connect to wider suitable habitats such as Acorn Plantation LNR. Therefore, impacts related to artificial lighting could further reduce habitat connectivity in the landscape.

Breeding Birds

- 4.5.1.9 The site is considered suitable to support a range of amber/red list BOCC foraging, commuting and nesting species, such as herring gull - which was observed to be actively nesting on site during the survey. There is also potential for Schedule 1 species to utilise the site for foraging and commuting. It is an offence to damage or disturb Schedule 1-listed bird species and their nests, and a sufficient population of amber/red-listed birds species may warrant county-level importance, a material consideration for the LPA under the NERC Act 2006. In the absence of mitigation, the proposed works have the potential to damage or disturb protected bird species and their nests.

Table 9. Summary of ecological constraints, survey, mitigation and enhancements

Ecological Constraint	Further Survey Recommendations	Recommendations for Mitigation	Enhancement Opportunities
Designated Sites	No further survey or assessment required.	n/a	n/a
Habitats	No further survey or assessment required.	Adhering to Environmental Best Practice Guidelines that will be detailed within a Construction and Environmental Management Plan (CEMP)	n/a
Badger	No further survey or assessment required.	n/a	n/a
Bats	No further survey or assessment required.	Precautionary working methods to be followed during the construction phase of the proposed development to avoid displacing commuting and foraging bats. A sympathetic lighting strategy should be developed in line with current guidance (BCT and ILP, 2018). These measures could be used to directly inform a CEMP detailing mitigation efforts regarding foraging and commuting bats.	The provision of bat boxes (such as Schwegler 2FN Bat Box) as part of the detailed design will provide roosting opportunities for local bat species such as common pipistrelle and soprano pipistrelle. Bat boxes should be orientated in a south-west aspect and ideally placed high enough to avoid collision risk (e.g. 3-5m in height). Proposed landscaping should seek to increase connectivity to the wider landscape for foraging and commuting bats.
Birds	No further survey or assessment required.	Production of a Precautionary Method of Works (PMoW) or CEMP detailing mitigation efforts regarding nesting birds.	Retention and enhancement of existing habitats on Site, such as buildings would maintain nesting provision for breeding birds.

<i>Ecological Constraint</i>	<i>Further Survey Recommendations</i>	<i>Recommendations for Mitigation</i>	<i>Enhancement Opportunities</i>
		Precautionary working methods to be followed during the construction phase of the proposed development. Site and vegetation clearance within the site boundary should be undertaken outside of the core bird breeding season which is March-August, inclusive. Particularly because an active bird nest was recorded on site at the time of the survey. Should clearance of nesting habitat be unavoidable during core bird nesting season, precautionary working methods should be implemented, and a nesting bird check (including Schedule 1 species) should be conducted by a suitably experienced ecologist or Ecological Clerk of Works (ECoW) a maximum 48 hours prior to the commencement of works.	The provision of nest boxes, such as Schwegler Nest Box 1B, should be incorporated as part of the soft landscaping to increase nesting opportunities available for breeding birds.
Amphibians (including GCN)	No further survey or assessment required.	A precautionary working methods should be implemented for the construction phase of the proposed development. This could be formalized within a PMoW document or a CEMP.	Proposed soft landscaping at the Site should aim to incorporate or enhance habitats suitable for amphibian species, such as the improvement of drainage ditches with suitable aquatic planting and areas of log piles to create refugia/hibernacula where possible. Amphibian gully pot ladders to be installed, as practicable, to provide amphibians, reptiles and small mammals with a means of escape should they become trapped.

Ecological Constraint	Further Survey Recommendations	Recommendations for Mitigation	Enhancement Opportunities
Other mammals (including hedgehog)	No further survey or assessment required.	n/a	Proposed soft landscaping at the site should aim to incorporate a planting plan suitable for notable species such as hedgehog that may utilise the area. In addition, the implementation of ‘hedgehog highways’ within fencing should maintain and increase connectivity to the wider landscape. Arisings from vegetation clearance should be used to create suitable hibernaculum on site for hedgehog.
Invertebrates	No further survey or assessment required.	n/a	Soft landscaping should include the planting of native species of local provenance where feasible, to provide opportunities for local invertebrates. To enhance habitat opportunities for local invertebrate populations, the detailed design plan should incorporate the installation of insect hotels or blocks, such as the Woodstone Insect Block.
INNS	No further survey or assessment required.	It is recommended that a specialist INNS contractor is consulted on the treatment and/or removal of INNS plant species on site, such that they do not spread during the construction phase of the works.	n/a

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Appendix 1 – Relevant Legislation

Legislation Relating to Protected Species

European Protected Species (EPS) and their resting places (e.g. bat roosts) are protected under:

- The Wildlife and Countryside Act 1981 (as amended)
- The Countryside and Rights of Way (CROW) Act 2000
- The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 transposes the European Union’s ‘Habitats Directive’ (Council Directive 92/43/EEC) into UK law. The Regulations provide for the designation and protection of ‘European Sites’, the protection of EPS, and the adaptation of planning and other controls for their conservation. EPS are listed on Schedule 2 of these Regulations.

Under the Wildlife and Countryside Act 1981 (as amended), it is an offence to:

- Intentionally kill, injure or take certain animals listed in Schedule 5;
- Intentionally or recklessly damage or destroy any structure or place used for shelter or protection by an animal listed in Schedule 5;
- Intentionally or recklessly disturb any such animal while it is occupying such a structure or place; or
- Intentionally or recklessly obstruct access to any such structure or place.

The Conservation of Habitats and Species Regulations 2017 makes it an offence to:

- Deliberately capture, injure or kill any EPS;
- Deliberately disturb EPS in a way that affects their ability to survive, breed, rear young, hibernate, migrate, or significantly affect their local distribution;
- Deliberately take or destroy the eggs of EPS; or
- Damage or destroy a breeding site or resting place of EPS.

Several EPS, including great crested newt, otter (*Lutra lutra*), and various bat species, are also listed as Species of Principal Importance (SoPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

- Legislation for White-Clawed Crayfish (*Austropotamobius pallipes*)

White-clawed crayfish are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), making it an offence to:

- Intentionally take white-clawed crayfish from the wild.

The species is also listed under Annex II and V of the Habitats Directive and included in Section 41 of the NERC Act 2006.

- Legislation for Amphibians (excluding Great Crested Newt)

Under the Wildlife and Countryside Act 1981 (as amended), four widespread amphibians (smooth newt (*Lissotriton vulgaris*), palmate newt (*Lissotriton helveticus*), common toad, and common frog) receive limited protection under Section 9(5).

Common toad is also listed as a SoPI under Section 41 of the NERC Act 2006.

- Legislation Relating to Reptiles

All native reptile species receive some protection under the Wildlife and Countryside Act 1981 (as amended).

- Full Protection:
 - Sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) are fully protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981.
 - Offences include intentional killing, injuring, capturing, disturbing, or damaging breeding/resting places.
- Partial Protection (against killing and injuring):
 - Common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), grass snake (*Natrix helvetica*), and adder (*Vipera berus*) receive limited protection against killing and injuring.
 - Grass snake, slow-worm, and adder are listed as SoPI under Section 41 of the NERC Act 2006.
- Legislation Relating to Breeding Birds

All wild birds, their nests, and eggs are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- Intentionally kill, injure, or take any wild bird;
- Intentionally take, damage, or destroy a wild bird's nest while in use or being built;
- Intentionally take or destroy a wild bird's egg;
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while nesting, or its dependent young.

Schedule 1 species (e.g., peregrine falcon (*Falco peregrinus*), barn owl (*Tyto alba*), black redstart (*Phoenicurus ochruros*)) receive additional protection against disturbance.

A number of bird species are SoPI under Section 41 of the NERC Act 2006.

- Legislation Relating to Badgers

Badgers are protected under the Protection of Badgers Act 1992 (as amended), making it an offence to:

- Wilfully kill, injure, or take a badger;
- Intentionally or recklessly damage, destroy, or obstruct access to a badger sett;
- Disturb a badger while it is occupying a sett.
- Legislation Relating to Water Vole (*Arvicola amphibius*)

Water voles are fully protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- Intentionally kill, injure, or capture a water vole;
- Damage or destroy their habitat;
- Disturb them in their habitat.

Water voles are SoPI under Section 41 of the NERC Act 2006.

- Legislation Relating to Invasive Plant Species

Several invasive plant species (e.g. Himalayan balsam (*Impatiens glandulifera*), Japanese knotweed (*Reynoutria japonica*)) are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), making it an offence to plant or cause these species to grow in the wild.

Regulations covering invasive species also include:

- The Environmental Protection Act 1990 (covers disposal of controlled waste, including Japanese knotweed contaminated material).
- The Hazardous Waste Regulations 2005 (regulates hazardous waste disposal when herbicides have been applied).

Appendix 2 – Plant Species List

Common Name	Scientific Name	DAFOR Classification
Artificial unvegetated- unsealed surface		
Bindweed	<i>Convolvulus arvensis</i>	D
Spear thistle	<i>Cirsium vulgare</i>	A
Common reed	<i>Phragmites australis</i>	R
Nettle	<i>Urtica dioica</i>	O
Bramble	<i>Rubus fruticosus</i>	R
Cinquefoil	<i>Potentilla spp.</i>	R
Oldman's beard	<i>Clematis vitalba</i>	O
Cock's foot	<i>Dactylis glomerata</i>	D
Common sedge	<i>Carex nigra</i>	F
Rosebay willow herb	<i>Chamerion angustifolium</i>	R
Ribwort plantain	<i>Plantago lanceolata</i>	F
Horsetail	<i>Equisetum arvense</i>	R
Broad-leaved dock	<i>Rumex obtusifolius</i>	O
Common vetch	<i>Vicia sativa</i>	F
Bush vetch	<i>Vicia sepium</i>	A
Common hogweed	<i>Heracleum sphondylium</i>	O
Buddleia	<i>Buddleja davidii</i>	R
Developed land, sealed surface – other developed land		
Cocks-foot	<i>Dactylis glomerata</i>	R
Spear thistle	<i>Cirsium vulgare</i>	A
Creeping buttercup	<i>Ranunculus repens</i>	O
Ribwort plantain	<i>Plantago lanceolata</i>	D
Buildings		
n/a	n/a	n/a

Appendix 3 – UK Habitat Classification Codes

<i>Hierarchical code</i>	<i>Code</i>	<i>Meaning</i>
Primary Code	u1c	Artificial unvegetated-unsealed surface
	u1b6	Developed land, sealed surface- other developed land
	u1b5	buildings
Secondary Code	81	Ruderal or ephemeral
	81	Vacant derelict land
	517	Recent management

Appendix 4 - Target notes

Target note number	Description
TN1	Active herring gull (<i>Larus argentatus</i>) nest