

WARWICK MILL, OLDHAM

PRELIMINARY ECOLOGICAL APPRAISAL - UPDATE



ECO03146
Final
25 July 2023

REPORT

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
Final	Final	Benjamin Draper	Stephen Lockwood	Stephen Lockwood	25.07.23

Approval for issue

Stephen Lockwood



25 July 2023

© Copyright R P S Group Limited. All rights reserved.

The report has been prepared for the exclusive use of our client and unless otherwise agreed in writing by R P S Group Limited no other party may use, make use of or rely on the contents of this report.

The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by R P S Group Limited for any use of this report, other than the purpose for which it was prepared.

R P S Group Limited accepts no responsibility for any documents or information supplied to R P S Group Limited by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made.

R P S Group Limited has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy.

No part of this report may be copied or reproduced, by any means, without the written permission of R P S Group Limited.

Prepared for:

Kam Lei Fong (UK) Ltd

Contents

1	INTRODUCTION	1
1.1	Purpose and Scope of this Report	1
1.2	Study Area.....	1
1.3	Development Proposals	1
1.4	Legislation and Policy	2
2	METHODS.....	3
2.1	Ecological Appraisal	3
2.2	Habitat Condition Assessment.....	3
2.3	Limitations	4
	Survey	4
	Accurate Lifespan of Ecological Data	4
3	RESULTS.....	5
3.1	UKHab Survey.....	5
	Buildings (u1b5)	5
	Developed Land; Sealed Surface (u1b).....	5
	Developed Land; Sealed Surface – Ruderal/ephemeral (u1b-17).....	5
	Urban and Developed Area – Ruderal/ephemeral (u1-17).....	6
	Other Neutral Grassland (g3c).....	6
	Mixed Scrub (h3h)	6
	Bramble Scrub (h3d)	6
	Running Water (r2; Wince Brook)	7
	Individual Trees (11)	7
	Built Linear Features (u1e).....	7
3.2	Ecological Scoping Survey.....	7
	Plants	7
	Invertebrates	8
	White Clawed Crayfish.....	8
	Amphibians.....	8
	Reptiles	8
	Birds	8
	Bats	8
	Badger.....	8
	Water Vole.....	9
	Otter	9
	Other Mammals.....	9
4	EVALUATION AND POTENTIAL IMPACTS	10
4.1	Habitats	10
4.2	Species.....	10
5	RECOMMENDATIONS.....	11
5.1	Wince Brook and Pollution Prevention.....	11
5.2	Habitats	11
5.3	Protected Species	11
	Bats	11
	Birds	12
5.4	Invasive Species	12
6	REFERENCES.....	13

Tables

Table 1: Habitats on Site5

Table 2: Target Notes7

Appendices

Appendix A Ecology Resources PEA (2021)

Appendix B Survey Area and Red Line Boundary

Appendix C Proposed Site Plans

Appendix D Relevant Legislation

Appendix E UKHab Map (2023)

Appendix F Photographs

1 INTRODUCTION

1.1 Purpose and Scope of this Report

- 1.1.1 A Preliminary Ecological Appraisal (PEA) was produced in August 2021 to support the application for the development of the restoration of Warwick Mill and the immediate surrounding area for residential and commercial purposes (Ecology Resources, 2021). The PEA is approaching its expiration date as planning permission is sought for the development. This document is intended as an update to the 2021 PEA to identify whether habitats or suitability for protected species have changed significantly within the development Site, and therefore whether there is any change to the expected impacts, required mitigation, or if further surveys are necessary. The 2021 PEA is provided in Appendix A.
- 1.1.2 It should be noted that this report does not include the desk study component of the PEA. Updated ecological records have not been requested from Greater Manchester Ecological Unit and the status of designated sites within 2 km has not been reconfirmed.
- 1.1.3 This PEA update aims to:
- map and assess the habitats present on Site;
 - assess the Site for its potential to support protected species or other species that could present a constraint, and make appropriate recommendations for further survey work if necessary;
 - provide the habitat designations, areas and conditions required for Biodiversity Net Gain (BNG) calculations;
 - provide outline options for mitigation measures as appropriate; and
 - make recommendations for appropriate biodiversity enhancements in line with national and local planning policy.
- 1.1.4 This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RPS. The surveys and desk-based assessments undertaken as part of this review and subsequent report including the Ecological Appraisal Notes are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).

1.2 Study Area

- 1.2.1 The Site is located at Warwick Mill, Middleton, Greater Manchester. The National Grid coordinates for the centre of the Site are SD871056. The site is approximately 1.23 ha in size.
- 1.2.2 The same area has been surveyed as in 2021 however this area has been slightly extended in the southeastern corner to include an area which is included on the most recent landscaping proposals. The red line boundary of the survey area is shown in Figure 1 in Appendix B.

1.3 Development Proposals

- 1.3.1 The proposals involve the internal renovation of Warwick Mill for commercial and residential uses, whilst retaining the historic, external aesthetic. The smaller building in the northeast will be converted into a restaurant. The large, abandoned office (called "London House") in the west and the small storage/electrical generator building adjacent to it will be demolished.
- 1.3.2 A large, residential building referred to as 'The Loom' will be constructed in the west of the Site, connected to Warwick Mill by a bridge. Car parking and other facilities such as bin stores and

recreational areas are being created. Landscaping includes green roofs, wildflower meadows and planted trees.

- 1.3.3 The currently proposed ground floor and upper ground Site Plans are provided in Appendix C.

1.4 Legislation and Policy

- 1.4.1 Relevant legislation, policy guidance and both Local and National Biodiversity Action Plans (BAPs) are referred to throughout this report where appropriate. Their context and application is explained in the relevant sections of this report.

- 1.4.2 The relevant articles of legislation are:

- The National Planning Policy Framework (NPPF, 2021);
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2017);
- Local planning policies (Oldham Local Plan);
- Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- The Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Countryside and Rights of Way Act 2000;
- The Hedgerow Regulations 1997;
- The Natural Environment and Rural Communities Act 2006;
- National / Local Biodiversity Action Plan for Oldham.

- 1.4.3 A summary of legislation relevant to protected or other species identified as potential constraints in this report is provided in Appendix D.

2 METHODS

2.1 Ecological Appraisal

- 2.1.1 The ecological appraisal was carried out on 12th July 2023 by Benjamin Draper an Ecologist at RPS. The area surveyed is shown within the red line boundary in Figure 1 in Appendix B.
- 2.1.2 The UK Habitat (UKHab) survey was undertaken in accordance with the 'UK Habitat Classification User Manual' (Butcher et al., 2020) and followed the standard methodology as described in the Guidelines for Preliminary Ecological Assessment (CIEEM, 2017). In summary, this comprised walking over the survey area and recording the habitat types and boundary features present.
- 2.1.3 A UKHab survey was performed in contrast to the JNCC Phase 1 Habitat survey performed in the PEA (Ecology Resources, 2021). This is because UKHab aligns better with the habitat codes used in BNG calculations and can be assessed for their condition.
- 2.1.4 A protected species scoping survey was carried out in conjunction with the UKHab survey. The Site was assessed for its suitability to support protected species, in particular Great Crested Newts (GCN; *Triturus cristatus*), reptiles, birds, badgers (*Meles meles*), bats, and other species of conservation importance that could pose a planning constraint.
- 2.1.5 The surveyor looked for evidence of use including signs such as burrows, droppings, footprints, paths, hairs, refugia and particular habitat types known to be used by certain groups such as ponds. Any mammal paths were also noted down and where possible followed. Fence boundaries were walked to establish any entry points or animals signs such as latrines. Areas of bare earth were inspected for mammal prints. Areas of habitat considered suitable for protected species or those of conservation interest were recorded.

2.2 Habitat Condition Assessment

- 2.2.1 Habitat condition assessments were carried out where applicable during the Site visit, which have been used for the BNG assessment.
- 2.2.2 The appropriate 'Condition Sheet' was first selected using the Technical Annex 1 – Condition Assessment Sheets provided by Natural England (2023).
- 2.2.3 The condition sheet was then used to assess the individual habitats by comparing how they scored against pre-set condition assessment criteria. The criteria describe what components are needed for the habitat to be of good, moderate or poor value.
- 2.2.4 Each habitat was scored the following:
- 1 – Poor;
 - 2 – Moderate; and
 - 3 – Good.
- 2.2.5 The calculator allows these to be further divided and provides categories for fairly good and fairly poor. The ecologist undertaking the assessment used their professional judgement, considering the habitat condition assessment criteria, to decide when it was suitable to use these categories.
- 2.2.6 It should be noted that some habitats are given a fixed score and do not need assessing.

2.3 Limitations

Survey

- 2.3.1 It should be noted that whilst every effort has been made to provide a comprehensive description of the Site, no investigation can ensure the complete characterisation and prediction of the natural environment.
- 2.3.2 The protected/notable species assessment provides a preliminary view of the likelihood of these species occurring on the Site, based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries and any direct evidence on the Site. It should not be taken as providing a full and definitive survey of any protected/notable species group.

Accurate Lifespan of Ecological Data

- 2.3.3 The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for two years, assuming no significant considerable changes to the Site conditions.

3 RESULTS

3.1 UKHab Survey

- 3.1.1 The survey results are presented in as a map in Figure 2 with the habitat types and boundary features marked, this is available in Appendix E. Descriptions of the habitat types and boundary features are detailed below.
- 3.1.2 The Phase 1 habitat figure produced for the 2021 PEA is available in Appendix A.
- 3.1.3 Photos of each habitat are provided in Appendix F.

Table 1: Habitats on Site

Habitat	UKHab code	Area (ha)	Condition	Conservation Status
Buildings	u1b5	0.51	N/A	None.
Developed land; Sealed surface	u1b	0.23	N/A	None.
Developed land; Sealed surface – Ruderal/Ephemeral	u1b – 17	0.27	Poor	None.
Urban and developed area – Ruderal/ephemeral	u1-17	0.08	Moderate	None.
Other neutral grassland	g3c	0.08	Poor	None.
Other neutral grassland	g3c	0.01	Moderate	None.
Mixed scrub	h3h	0.05	Poor	None.
Bramble scrub	h3d	0.03	N/A	None.
Wince Brook	r2	0.24 (km)	N/A	UK BAP
Individual tree	11	N/A	Moderate	None.
Built linear features	u1e	0.50 (km)	N/A	None.

UKBAP: UK Biodiversity Action Plan. The length of Wince Brook refers to the section which bounds the Site. Individual trees have an area calculated for the purposes of BNG which is not considered to be part of the Site's actual area, the separate BNG assessment report will detail this.

Buildings (u1b5)

- 3.1.4 This is the dominant habitat on Site. Warwick Mill itself is a large, five-storey brick building (Photo 01). Two one-storey brick buildings are present in the east of the Site (Photo 02). A six-storey, flat-roofed office building ("London House") is present in the west of the Site (Photo 03). Adjacent to this apartment building is a small, one-storey storage/electricity generator building with a flat roof (Photo 04).
- 3.1.5 This habitat does not receive a condition assessment.

Developed Land; Sealed Surface (u1b)

- 3.1.6 Hardstanding covers a large portion of the Site and the area in the southeast of the Site has notably little vegetation cover (Photo 05).
- 3.1.7 This habitat does not receive a condition assessment.

Developed Land; Sealed Surface – Ruderal/ephemeral (u1b-17)

- 3.1.8 The hardstanding in the west of the Site has been assigned the secondary category of ruderal/ephemeral as a notable amount of buddleia (*Buddleja davidii*) and other ruderal species are growing from cracks in the margins and in the centre of these areas, though overall constituting <15% of the habitat's surface area (Photo 06).

- 3.1.9 This habitat will be considered “Vacant or derelict land” in the BNG assessment and therefore does receive a condition assessment. It fails criterion A as vegetation structure is considered unvaried and criterion B as besides the buddleia it features few plants of notable benefit to wildlife. It passes criterion C as invasive non-native species (listed on Schedule 9 of the Wildlife & Countryside Act) cover <5%. Therefore, one point is scored and the habitat is considered to be “Poor” condition.

Urban and Developed Area – Ruderal/ephemeral (u1-17)

- 3.1.10 Two areas of derelict land were noted. The larger area in the east of the Site is comprised of a large pile of tires upon which many ruderal species are growing densely (photo 07). Red campion (*Silene dioica*) is the dominant species and Himalayan balsam (*Impatiens glandulifera*) is present.
- 3.1.11 This habitat will also be considered “Vacant or derelict land” in the BNG assessment and therefore receives a condition assessment. It passes all three of the criteria. However, to achieve “Good” condition would require the complete absence of invasive species and therefore it is considered to be of “Moderate” condition.

Other Neutral Grassland (g3c)

- 3.1.12 This habitat is present in two small areas in the northeast in which grass is growing between the gaps in cobblestones and bryophyte species are growing over the cobblestones themselves.
- 3.1.13 This habitat is also present in two areas in the west of the Site in which cobblestones are not present and the grass has almost total coverage (Photo 08).
- 3.1.14 Other neutral grassland is also present adjacent to Wince Brook with a mix of grass, ruderal vegetation, invasives, aquatic marginal vegetation and individual trees. Himalayan balsam and Japanese knotweed (*Fallopia japonica*) are growing along the brook (Photo 09; TN1).
- 3.1.15 Most of these habitats failed essential criterion A (6-8 vascular plant species per m²) and are therefore of “Poor” condition. The grassland adjacent to Wince Brook passed this criterion, has less than 20% cover of bracken (*Pteridium aquilinum*) and bramble (*Rubus fruticosus*), and had a varied sward height. However, it lacks any bare ground and features invasive non-native species. Therefore, three of the five criteria were passed, and it is rated “Moderate” condition.

Mixed Scrub (h3h)

- 3.1.16 This habitat is comprised of a mix of scrub and shrub species (Photo 10), buddleia and downy birch (*Betula pubescens*) are the most common with bramble and Himalayan balsam present.
- 3.1.17 This habitat fails criterion A because <80% of the scrub is native, fails criterion C because an invasive non-native species is present, fails Criterion D because it lacks a well-developed edge, and fails criterion E because it lacks open areas within the scrub. Criterion B is passed as there is a mix of scrub maturity and height. Overall, this scores one point and the habitat is rated as “Poor” condition.

Bramble Scrub (h3d)

- 3.1.18 This habitat is present along the south of Warwick Mill (Photo 11). It is growing extremely densely and reaching up to eight feet high. Bramble comprises >95% of the species composition of this habitat.
- 3.1.19 Bramble scrub habitat is automatically considered to be of “Poor” condition.

Running Water (r2; Wince Brook)

- 3.1.20 Wince Brook bounds the Site to the south, it has sloped, concrete banks on either side (Photo 12). Dense vegetation is growing to either side where the concrete ends and this includes grass and numerous individual trees.
- 3.1.21 Wince Brook lies adjacent to the Site's red line boundary and is an ecologically important habitat within the development's impact zone. However, it is not going to be developed upon or directly impacted and therefore a river morph survey has not been conducted to assess its condition and it will not be factored into BNG calculations.

Individual Trees (11)

- 3.1.22 Individual trees are present in the east and west of the Site and usually associated with another habitat or along a boundary feature, see Figure 2 in Appendix E. Forty-six trees are present across the Site, the majority adjacent to Wince Brook, and only eight are considered to be of medium size with the remainder being small. Almost all of the trees are considered to be semi-mature with downy birch being the most common species. Most of the trees failed two of the criteria for individual trees: They are not mature and they lack ecological niches (such as cavities). Therefore, they are of "Moderate" condition because they scored four out of six.
- 3.1.23 Two copper beech (*Fagus sylvatica f. purpurea*) trees growing adjacent to each other in the northwest are mature. However, they are not a native species, which fails a different criterion, and therefore they are still considered to be "Moderate" condition.

Built Linear Features (u1e)

- 3.1.24 Wooden sheet fencing is present around much of the Site, metal-wire fencing is present between the Site and Wince Brook, and an old brick wall (potentially as old as Warwick Mill) is present along the eastern boundary of the Site.
- 3.1.25 This habitat does not receive a condition assessment.

3.2 Ecological Scoping Survey

- 3.2.1 Table 2 shows the target notes taken during the ecological scoping survey.

Table 2: Target Notes

Target Note No.	Grid reference	Description
1	SD 87166 05642	Himalayan balsam and Japanese knotweed present. Himalayan balsam is present in all ruderal habitats across the Site so further target notes were not made for this species. See Photo 09.
2	SD 87215 05613	A medium sized tree with a shallow burn wound leading upwards into trunk. Low bat roost potential. See Photo 13.
3	SD 87136 05667	Pigeons nesting in Warwick Mill. See Photo 14.

Plants

- 3.2.2 Common spotted orchid (*Dactylorhiza fuchsia*) is present in the other neutral grassland in the northwest of the Site. No other notable plant species are present. Floral coverage across the whole of the Site is relatively low and the vegetated areas are dominated by ruderal species and common species of little conservation value.
- 3.2.3 Individual trees are scattered across the Site with concentrations to the east and west of Warwick Mill. They are semi-mature and almost exclusively small. They are of minor conservation value.

Invertebrates

- 3.2.4 Wince Brook offers good potential for a number of aquatic invertebrate species. The small amount of grassland on Site and ruderal species present across the Site offer limited potential for pollinator species. The old brickwork present in Warwick Mill, and the two other brick buildings in the east, may offer nesting potential to Hymenoptera species such as honeybees, mining bees and wasps.

White Clawed Crayfish

- 3.2.5 Wince Brook is highly disturbed, has artificial banks and is within a heavily urbanised area. It is considered to be unsuitable for white clawed crayfish (*Austropotamobius pallipes*).

Amphibians

- 3.2.6 No waterbodies are present on Site or other habitats suitable for amphibians. The only waterbody within 500 m of the red line boundary is approximately 300 m to the west and separated from the Site by the A664 which would present a major barrier to amphibian species.

Reptiles

- 3.2.7 The scrub, ruderal and grassland habitats offer limited potential for reptile species on Site.

Birds

- 3.2.8 Wince Brook offers minor foraging potential for waterfowl species.
- 3.2.9 The buildings on Site offer nesting potential for breeding birds, especially Warwick Mill. Pigeons were observed nesting in Warwick Mill during the survey (Photo 14). The dense scrub habitats, especially the bramble scrub, offer nesting and foraging opportunities for many passerine species such as sparrows (*Passer domesticus*).
- 3.2.10 The habitats on Site are considered unsuitable for ground nesting bird species.

Bats

- 3.2.11 Warwick Mill remains suitable for roosting bat species with shattered windows, gaps and crumbling brickwork providing feature on all aspects. Given the previous recording of a pipistrelle bat roost and foraging along Wince Brook (Arup, 2015) Warwick Mill is considered to be of high bat roost potential.
- 3.2.12 The other buildings on Site are considered to have negligible roost potential for bat species.
- 3.2.13 The brick wall in the east is also considered to have negligible roost potential for bat species.
- 3.2.14 A single semi-mature tree possessed low bat roost potential and is located in the southeast corner (TN2) which was not surveyed in 2021. A burn wound provides an access point into the trunk however an inspection showed it is shallow (Photo 13).
- 3.2.15 The grassland habitats around the Site offer minor foraging potential for bat species. Wince Brook offers good foraging and commuting potential for bat species.

Badger

- 3.2.16 The Site offered no potential for badger sett establishment, commuting or foraging.

Water Vole

- 3.2.17 Due to the concrete banks Wince Brook has no burrowing potential for water voles. However, it has moderate commuting potential and minor foraging potential due to the vegetated areas to the sides of Wince Brook.

Otter

- 3.2.18 Due to the concrete banks Wince Brook has no holt-building potential for otters. However, it has moderate commuting potential. There did not appear to be fish present in Wince Brook and therefore the foraging potential for otters is considered to be negligible.

Other Mammals

- 3.2.19 The Site has limited foraging and commuting opportunities for hedgehogs (*Erinaceus europaeus*), however the temporary fencing erected for Site security is likely to prevent them accessing the Site.

4 EVALUATION AND POTENTIAL IMPACTS

4.1 Habitats

- 4.1.1 The habitats on Site are typical of an abandoned built-up area with ruderal and invasive species dominating and overall low vegetation coverage. None of the habitats present are priority habitats or of high-conservation concern with the exception of the adjacent Wince Brook.
- 4.1.2 The grassland habitats have remained virtually unchanged since the PEA was produced, as has the dense scrub along the south of Warwick Mill and Wince Brook (including bankside vegetation).
- 4.1.3 The scattered scrub has become denser in the east of the Site and some of the scrub has matured into semi-mature trees which are now more common across the Site. An area in the east previously considered hardstanding is now dense ruderal/ephemeral vegetation.
- 4.1.4 Japanese knotweed is still present in Wince Brook but does not appear to have increased its coverage. Himalayan balsam is still present in the ruderal vegetation north of Warwick Mill however it is now present across all ruderal habitats on Site and along the banks of Wince Brook too.
- 4.1.5 Almost all semi-natural habitats are considered to be lost to the footprint of the development including scrub, grassland and ruderal/ephemeral habitats. The two areas of grassland in the west are being transitioned into significantly different grassland habitats (lawn and wildflower meadow) and so will be considered to be lost for the purposes of the BNG calculations. Exactly half of the individual trees are being retained with the remaining twenty-three being removed, this loss will however be compensated for by the planting of new trees.
- 4.1.6 The BNG assessment report (RPS, 2023) details the baseline habitat units, how many are lost, and the amount gained through post-construction soft landscaping.

4.2 Species

- 4.2.1 The potential for nesting birds remains unchanged compared to 2021, a breeding bird survey is not required however the continued presence of feral pigeons will require mitigation as the species breeds all year round and are at risk due to the works.
- 4.2.2 The buildings on Site all appear to be in the same condition as recorded in August 2021, consequently their bat roost potential remains negligible. The one exception is Warwick Mill which was stated to have moderate potential but the previous recording of a roost (Arup, 2015) necessitates that this is increased to high potential. Moreover, it is considered that the roost potential of Warwick Mill should not be limited to the rear of the building (i.e. canal facing side) as was stated in the PEA (page 21, Ecology Resources 2021). A bat could enter or exit from any aspect of Warwick Mill. The proposed development poses a risk to bat species and their roosts.
- 4.2.3 Otter and water vole surveys of Wince Brook are still not recommended. The watercourse is impossible for them to burrow into and offers only minor commuting/foraging potential. The PEA reported no ecological records of either species and no impact upon them is expected.
- 4.2.4 Whilst the Site possesses limited potential for reptile species the context of the Site is a highly urbanised environment with many barriers such as watercourses and major roads. Consequently, it is considered extremely unlikely reptiles are present on Site or that there would be an impact upon them. No further surveys or mitigation are recommended for reptiles.
- 4.2.5 The potential of the Site has remained negligible for the following species groups: amphibians, white clawed crayfish, and terrestrial mammals (such as badger and hedgehog). No impact is expected upon any of these species.

5 RECOMMENDATIONS

5.1 Wince Brook and Pollution Prevention

- 5.1.1 Because Alkington Woods Local Nature Reserve and Site of Botanical Importance is connected to the Site via Wince Brook, and because Wince Brook has ecological value itself, it was recommended in the PEA that:

“...due to the proximity of works to a water course, effects could occur from disturbed sediments or water contamination. Good working principles must therefore be followed at all times during construction, in accordance with all relevant “good practice guidance” including the Guidance for Pollution Prevention – Works and maintenance in or near water: GPP-17 [Guidance for Pollution Prevention – Article 17] in order to minimise the risk of disturbance or pollution of the brook corridor or neighbouring habitats.”

- 5.1.2 Guidance regarding pollution prevention in England has been updated (Defra & Environment Agency, 2023) and is available at: [Pollution prevention for businesses – GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/pollution-prevention-for-businesses).
- 5.1.3 A more detailed Guidance for Pollution Prevention (GPP) exists for Northern Ireland and Scotland (Netregs, 2022); this provides useful advice that is also recommended to be followed and is available at: [Guidance for Pollution Prevention \(GPP\) documents | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland](#).
- 5.1.4 This includes no refuelling near to water habitats, storing fuel in bunded tanks on an impervious base, and silty water to be properly disposed of. GPP-5 is especially relevant and useful.

5.2 Habitats

- 5.2.1 As was stated in the PEA, it remains the case that the Site lacks notable habitats, that they are valued at the site level only, and that Wince Brook should not be impacted provided the guidance regarding pollution prevention is followed (as discussed above). The loss of nearly all semi-natural habitats on Site means the impact is near total.
- 5.2.2 Since the PEA was produced it has now become common practice for a BNG of 10% to be achieved and that is the case with this development. The BNG assessment produced by RPS goes into detail regarding this (RPS, 2023).

5.3 Protected Species

Bats

- 5.3.1 The PEA's mitigation recommendations remain appropriate regarding bat species however the recommendation for two bat emergence surveys of Warwick Mill is insufficient. The previous recording of a roost (Arup, 2015) requires, as per the guidance, that three bat emergence surveys occur including a dusk or a dawn (BCT, 2016). A dawn survey could potentially be avoided if infrared goggles/cameras are in use throughout all three of the surveys.
- 5.3.2 Moreover, an internal survey of Warwick Mill is recommended to gain the best information possible regarding bats' use of the building and to minimise the risk of an impact on a bat population.
- 5.3.3 The tree possessing low bat roost potential requires no further surveys and appears to be retained in the landscaping proposals.

Birds

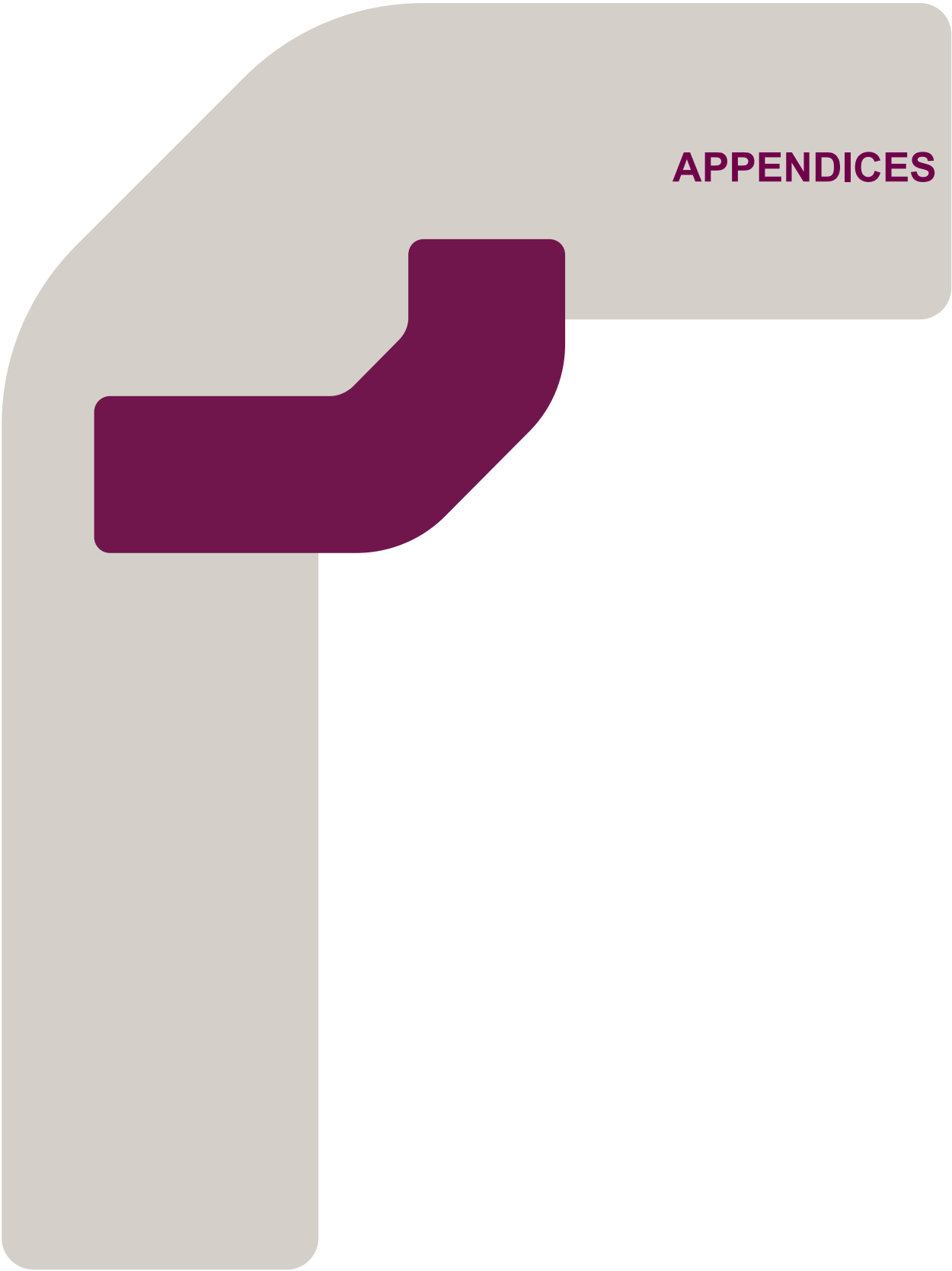
- 5.3.4 As stated in the PEA, it is advisable that woody vegetation is cleared outside the nesting season (March – August inclusive) and where not possible a pre-clearance check for nesting birds should be performed by a qualified ecologist.
- 5.3.5 Feral pigeons continue to roost in Warwick Mill and the internal survey for bats will provide further information on the scale of the population present. It is still recommended that a specialist is consulted with a General Licence to remove feral pigeon.

5.4 Invasive Species

- 5.4.1 The recommendations for dealing with the Japanese knotweed, as stated in the PEA, are still advisable and do not require an update.
- 5.4.2 The Himalayan balsam is now prevalent across the Site and along Wince Brook and there is a risk of increasing its coverage across the banks and further downstream. The Himalayan balsam on Site will be destroyed along with the habitats it exists in when the clearance occurs for later construction and landscaping operations. It would be preferable that this occur outside August to October as this is when it is seeding and could inadvertently be spread around including to habitats downstream or off-Site. If vegetation clearance must occur during this period, then it is recommended that appropriate precautions are implemented to reduce the risk of the spread of the species.

6 REFERENCES

- Arup (2015) Warwick Mill. Bat Survey Report – Issue 2 A3. Manchester.
- Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). London.
- British Standards Institution (2013) Biodiversity – code of practice for planning and development. BS 42020:2013.
- Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). *The UK Habitat Classification User Manual Version 1.1* at <http://www.ukhab.org/>.
- CIEEM (2017). Guidelines for Preliminary Ecological Assessment. Chartered Institute of Ecology and Environmental Management, Winchester.
- Defra & Environment Agency (2023) Guidance: Pollution Prevention for Businesses. [Pollution prevention for businesses – GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/pollution-prevention-for-businesses).
- Ecology Resources (2021) Warwick Mill, Middleton, Greater Manchester – Preliminary Ecological Appraisal. Oakham.
- Natural England (2023) Technical Annex 1 – Condition Assessment Sheets.
- Netregs (2022) Guidance for Pollution Prevention: [Guidance for Pollution Prevention \(GPP\) documents | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland \(netregs.org.uk\)](https://netregs.org.uk/guidance-for-pollution-prevention).
- RPS (2023) Warwick Mill – Biodiversity Net Gain Assessment. Leeds.



APPENDICES

Appendix A

Ecology Resources PEA (2021)

Preliminary Ecological Appraisal

RPS Consulting Services Ltd

**Warwick Mill, Middleton, Greater
Manchester**

August 2021



Ecological Consultancy

—

Rev	Issue Status	Prepared / Date	Approved / Date
01	Draft 1	MC /18.08.2021	GM / 20.08.21
02	Final	MC / 22.08.21	GM / 23.08.21

Citation: Miranda Cowan (2021): Warwick Mill, Middleton, Greater Manchester Preliminary Ecological Appraisal. Ecology Resources Ltd, Oakham.

Ecology Resources Limited has prepared this report for the sole use of the named client or their agent(s) in accordance with our Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Ecology Resources Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties.

21152 Warwick Mil

Contents

Executive summary.....	4
1.0 Introduction	5
2.0 Methodology	5
3.0 Results.....	17
4.0 Discussion and Conclusions	23

FIGURES

Figure 1: Site Location

Figure 2: Phase 1 Habitats Plan

APPENDICES

Appendix A: Plant Species List

Appendix B: Location of Sites of Biological Interest

Appendix C: Phase 1 Habitat Plan

EXECUTIVE SUMMARY

- Ecology Resources Ltd undertook a Preliminary Ecological Assessment (PEA) at Warwick Mill, Middleton, Greater Manchester in August 2021.
- The aim of the survey was to assess the ecological value of habitats and species present, identify any potential constraints to the proposed works and where necessary, provide details of further ecological works required including surveys, potential mitigation, compensation and enhancement measures.
- Proposals for the site include the redevelopment of the mill to create multiple apartment by reconfiguring the internals of the mill, the façade of the mill will remain.
- The site was identified as being of low ecological importance, characterised by self-seeded shrubs and trees, tall ruderal and small areas of neutral grassland. Japanese knotweed *Fallopia japonica* is present on site, located on the banks of Wince Brook bounding the site to the south. Eradication of Japanese knotweed will be required, and bio-security measures put in place to protect Wince Brook riparian corridor.
- The survey extents include Warrick Mill, a part dilapidated five-story brick built Victorian mill. The windows to the mill are broken and offer moderate potential for bats to access and egress, particularly to the south, where the Mill faces onto Wince Brook. The riparian corridor of Wince Brook offers moderate commuting and foraging potential for bats. To establish the current use of the site by bats it is recommended that 2 emergence surveys are completed between April and September with one being in the optimum survey window May-August in line with best practice guidelines. to accurately inform any required mitigation.
- Scattered scrub and the defunct features of Warrick Mill offer potential for birds to establish nests between March and August, inclusive. Feral pigeon *Columba livia* was observed flying in and out of the mill via broken windows and a pair of pied wagtails *Motacilla alba* were active at the rear of the Mill, possibly nesting in broken stonework or behind external drainage pipes.
- A general licence for the removal of feral pigeon will be required and for all other breeding birds, it is recommended that vegetation clearance is undertaken during the winter. Where any demolition / building refurbishment is undertaken between March and August, inclusive, pre-nesting checks for pied wagtail and other potential nesting birds will be required.

21152 Warwick Mil

1.0 INTRODUCTION

- 1.1 This report has been prepared by Ecology Resources Ltd on behalf of RPS Consulting Service Ltd and provides details of an Extended Phase 1 Habitat and protected species surveys undertaken on land at Warrwick Mill, Middleton, Greater Manchester central grid reference SD871056 (Fig 1. Site Location).
- 1.2 The proposed development site is located in the centre of Middleton, within an urban environment, surrounded by road infrastructure, a shopping centre and residential areas. The site is bounded to the south by Wince Brook, which is a riparian corridor of shrubs and trees and forms a hydrological and terrestrial corridor to semi-natural habitats on the western fringes of Middleton.
- 1.3 The site is c.29.5 ha in total size, comprising of Warrick Mill, surrounding hardstanding, fly tipping, naturalised scattered scrub and young trees, tall ruderal and two small localised areas of neutral grassland formed over hard standing. Wince Brook bounds the site to the south and flows west.

2.0 METHODOLOGY

Desktop Study

- 2.1 Relevant ecological information was obtained from the following sources:
 - Multi Agency Geographic Information for the Countryside (MAGIC) website.¹
 - Greater Manchester Local Records Centre (GMLRC) was consulted for protected and notable species records up to 2km radius from the site.
- 2.2 Inspection of colour 1:25000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk) was undertaken to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 2.3 The search area for biodiversity information related to the significance of sites and species and potential zones of influence, as follows:
 - A minimum of 2km around the application area for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites).
 - 2km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs))

¹ www.magic.gov.uk

21152 Warwick Mil

- 2km around the application site for sites of County Importance (e.g. local nature reserves (LNR) / Local Wildlife Sites (LWS)) and species records (e.g.: protected, Species of Principal Importance, Local Biodiversity Action Plan (LBAP) species and other notable species).

Flora

Phase 1 Habitat Survey

- 2.4 The survey technique adopted for the habitat assessment was based upon the Extended Phase 1 habitat survey technique, as recommended by Natural England (JNCC, 2010)² and was carried out on 2nd August 2021. This comprised a walkover of the site, mapping and broadly describing the principal habitat types and identifying the dominant plant species present within each habitat type.

Hedgerows

- 2.5 Hedgerows were surveyed using the Hedgerow Evaluation and Grading System (HEGS). The aim of the assessment is to allow the rapid recording and ecological appraisal of any given site in the UK, and to allow the grading of the individual hedgerows present, in order to identify those which are likely to be of greatest significance for wildlife. This method of assessment includes noting down: canopy species composition, associated ground flora and climbers; structure of the hedgerow including height, width and gaps and associated features including number and species of mature tree and the presence of banks, ditches and grass verges.
- 2.6 Using the HEGS methodology each hedgerow is given a grade. These grades are used to assign a nature conservation value to each hedgerow as follows:
- Grade -1, 1, 1+ High to Very High Value
 - Grade -2, 2, 2+ Moderately High to High Value
 - Grade -3, 3, 3+ Moderate Value
 - Grade -4, 4, 4+ Low Value
- 2.7 Hedgerows graded -2 or above are suggested as being a nature conservation priority.
- 2.8 The hedgerows were also assessed for their potential ecological value under the Hedgerow Regulations (1997) (Statutory Instrument No: 1160). Briefly, each hedgerow is evaluated by determining both the average number of woody native species present per 100m and the number of hedgerow associated features. These results were compared against the nature conservation criteria of the Hedgerow Regulations to ascertain whether a hedgerow is classed as 'Important' under these regulations. An assessment of archaeological importance as defined under the Hedgerow Regulations 1997 was beyond the scope of this assessment.
- 2.9 All hedgerows were also assessed as to whether they qualified as Habitats of Principal Importance (Priority Habitats) under the Natural Environment and Rural Communities (NERC) Act, i.e. they consisted of 80% or more native woody species.

² Clements, D.K. and Toft, R.J. 1992. A Methodology for the Ecological Survey, Evaluation and Grading of Hedgerows. Test Draft. Countryside Planning and Management.

21152 Warwick Mil

Invasive Species

- 2.10 During the initial phase 1 survey, if identified the extent of any invasive plant species listed under Schedule 9 Wildlife and Countryside Act 1981 (as amended)³ was recorded.

Fauna

- 2.11 During the survey visual inspection, or observations of signs indicating the presence of any species protected under the following list of Acts and Regulations, were noted:
- Part 1 of the Wildlife and Countryside Act 1981 (as amended);
 - Protection of Badgers Act 1992⁴;
 - Conservation of Habitats and Species Regulations 2010 (as amended)⁵;
 - (NERC) Act (2006) S41 species of principal importance for the conservation of biodiversity; and,
 - Local BAP or Red Data Book (RDB) species.

Badger

- 2.12 The survey area was assessed by an experienced ecologist during the initial survey visit, to determine the presence/absence of setts, latrines, pathways and other evidence of badger *Meles meles* activity within the site and where accessible up to 30m.
- 2.13 The standard methodology as recommended by Harris, Creswell and Jefferies⁶ was followed to complete a thorough search for evidence which would indicate the presence of badgers both on the site and locally. Evidence of badger occupation and activity sought included:
- Setts: including earth mounds, evidence of bedding and runways between setts;
 - Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
 - Prints and paths or trackways; and,
 - Hairs caught on rough wood or fencing.
- 2.14 Where setts are found, their status and level of activity is noted. Sett status is broadly categorised as follows:
- *Main sett* – usually continuously used with many signs of activity around, a large number of holes and conspicuous spoil mounds;
 - *Annexe sett* – usually located close to a main sett and connected to it by well used paths. Annexe's may not be continuously occupied;

³ The Wildlife and Countryside Act 1981 (as amended). London: HMSO <https://www.legislation.gov.uk/ukpga/1981/69>

⁴ The Protection of Badgers Act 1992 (as amended). London: HMSO <https://www.legislation.gov.uk/ukpga/1992/51/contents>

⁵ The Conservation of Habitats and Species Regulations 2010 – Statutory Instrument 2010 No.490. London: HMSO: <https://www.legislation.gov.uk/uksi/2010/490/introduction/made>

⁶ Surveying Badgers, Harris, Cresswell & Jefferies (1989)

21152 Warwick Mil

- *Subsidiary sett* – lesser used setts comprising a few holes and without associated well-used paths. Subsidiary setts are not continuously occupied;
- *Outlier sett* – one or two holes without obvious paths. These are used sporadically.

2.15 Level of activity is described as:

- *Well used* – clear of debris, trampled soil mounds and obviously active, with signs of activity such as presence of prints, dislodged guard hairs around the entrances;
- *Partially used* – some associated debris or plants at the entrance. Could be used with minimal excavation and usually with signs of activity within the vicinity, for example, badger pathways;
- *Disused* – partially or completely blocked entrances.

Great Crested Newts

Terrestrial Habitat

- 2.16 An assessment of the suitability of the terrestrial habitats to support great crested newt *Triturus cristatus* (GCN) was completed within the site. Suitable terrestrial habitat includes shelter habitat such as scrub and rank vegetation and habitat that could provide suitable hibernation sites such as rubble piles, tussock grassland and compost heaps.

Habitat Suitability Index

- 2.17 Subject to the presence of waterbodies a Habitat Suitability Index (HSI) assessment was undertaken on accessible waterbodies within the site and up to 500m from its boundaries. This assessment provides a measure of the likely suitability that a waterbody has for supporting great crested newt (GCN)^{7,8}. Whilst not a direct indication of whether or not a waterbody will support GCN, generally, those with a higher score are more likely to support the species than those with a lower score and there is a positive correlation between HSI scores and ponds in which GCN are recorded. Ten separate attributes are assessed for each pond to calculate the suitability of the ponds to support GCN:

- | | |
|-----------------------|--------------------------|
| • Geographic location | • Presence of water-fowl |
| • Pond area | • Macrophytic coverage |
| • Pond drying | • Presence of fish |
| • Water quality | • Number of linked ponds |
| • Shade | • Terrestrial habitat |

- 2.18 A score is assigned according to the most appropriate criteria level set within each attribute and a total score calculated of between 0 and 1. Pond suitability is then determined according to the scale set out in Table 1 below. Using the index score the predicted presence of GCN being

⁷ Oldham, R.S., Keeble, J. Swan, M.J.S. and Jeffcote, M. 2000. *Evaluating the Suitability of Habitats for the Great Crested Newt (Triturus cristatus)*, *Herpetological Journal* 10:143-155.

⁸ ARG UK 2010. ARG UK Advice Note 5: *Great Crested Newt Habitat Suitability Index*.

21152 Warwick Mil

found within a pond can be made, based on the proportion of ponds typically occupied at that suitability level.

Table 1: HSI Scores as a Measure of Pond Suitability

HSI score	Pond Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Bats

Tree assessment

2.19 Trees were examined from ground level on 2nd August 2021 by a licenced bat ecologist (WML – CL17-2021-52426) for features that could provide suitable roosting opportunities including cracks, cavities, woodpecker / rot holes, fissures or missing limbs, and for evidence of use by roosting bats such as staining or the presence of bat droppings. Presence of dense ivy cover was also noted as this can provide opportunities for roosting bats when the stems are mature and overlap creating small cavities. The number, size and condition of these features were then used to give a quantified assessment of potential for bat occupation (Table 2).

- Natural holes (e.g. knot holes) arising from naturally shed branches or branches previously pruned back to a branch collar.
- Man-made holes (e.g. cavities that have developed from flush cuts or cavities created by branches tearing out from parent stems).
- Woodpecker holes.
- Cracks/splits in stems or branches (horizontal and vertical).
- Partially detached, loose or bark plates.
- Cankers (caused by localised bark death) in which cavities have developed.
- Other hollows or cavities, including butt rots.
- Compression of forks with included bark, forming potential cavities.
- Crossing stems or branches with suitable roosting space between.
- Ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk).
- Bat or bird boxes.

21152 Warwick Mil

- Other suitable places of rest or shelter.

- 2.20 Certain factors such as orientation of the feature, its height from the ground, the direct surroundings and its location in respect to other features may enhance or reduce the potential value.
- 2.21 Trees were classified into general bat roost potential groups based upon the presence of these features. Table 2 (below) broadly classifies the potential categories as accurately as possible as well as discussing the relevance of the features. This table is based upon Table 4.1 and Chapter 6 in Bat Surveys for Professional Ecologists⁹.
- 2.22 Although the British Standard Document¹⁰ groups trees with moderate and high potential, these have been separated below (as per Table 4.1 in The Bat Conservation Trust Guidelines) to allow more specific survey criteria to be applied.

Table 2: Classification and Survey Requirements for Bats in Trees

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
Confirmed Roost	Evidence of roosting bats in the form of live / dead bats, droppings, urine staining, mammalian fur oil staining, etc.	A Natural England derogation licence application will be required if the tree or roost site is affected by the development or proposed arboricultural works. This will require a combination of aerial assessment by roped access bat workers (where possible, health and safety constraints allowing) and nocturnal survey during appropriate periods (e.g. nocturnal survey - May to August) to inform on the licence. Works to tree undertaken under supervision in accordance with the approved good practice method statement provided within the licence. However, where confirmed roost site(s) are not affected by works, work under a precautionary good practice method statement may be possible.

⁹ Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

¹⁰ British Standard, (2015), BS 8596:2015 *Surveying for bats in trees and woodland – Guide*, October 2015.

21152 Warwick Mil

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
High Potential	A tree with one or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	Aerial assessment by roped access bat workers (if appropriate) and / or nocturnal survey during appropriate period (May to August). Following additional assessments, tree may be upgraded or downgraded based on findings. If roost sites are confirmed and the roost site is affected by proposals a licence from Natural England will be required. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate.
Moderate Potential	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch socket cavities, etc.	A combination of aerial assessment by roped access bat workers and / or nocturnal survey during appropriate period (May to August). Following additional assessments, tree may be upgraded or downgraded based on findings. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate. If a roost site/s is confirmed and affected by the works a licence from Natural England will be required.
Low Potential	A tree of sufficient size and age to contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey required but a precautionary working method statement may be appropriate.

21152 Warwick Mil

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
Negligible/No potential	Negligible/no habitat features likely to be used by roosting bats	None.

** The Conservation of Habitats & Species Regulations 2017 affords protection to “breeding sites” and “resting places” of bats. The EU Commission’s Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, February 2007 states that these are places “where there is a reasonably high probability that the species concerned will return”.*

Foraging/Commuting Habitat

- 2.23 The surveyor systematically surveyed the trees, the site and the immediate surrounds for the potential to support roosting, feeding and commuting bats. Particular regard was given to the presence of any continuous tree-lines watercourses potentially providing good connectivity in the landscape, and the presence of varied habitat such as scrub, woodland, grassland and open water near known bat roost sites (identified through the consultation process and from field survey).
- 2.24 All survey features on site were categorised according to the likelihood of bats being present, in line with best practice guidelines Collins 2016. Roost suitability is classified as high, moderate, low and negligible.

Table 3: Guidelines for assessing potential suitability of development sites for bats (Collins, 2016)

Suitability	Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ¹¹ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitats.

¹¹ For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

21152 Warwick Mil

	suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts

Common Reptiles

- 2.25 A habitat suitability assessment for reptiles was made, based upon standard methodologies^{12,13}. Suitable habitats include areas of shelter (e.g. scrub, woodpiles, well-developed varied structure grassland) and basking areas (e.g. open areas next to vegetation, rocks, wood piles).

Water Vole

- 2.26 An assessment and point inspection of Wince Brook (where accessible) for water vole *Arvicola amphibius* following standard methodology as outlined by The Water Vole Mitigation Handbook¹⁴ was carried out on 2nd August 2021; Methods involved searching the banks/margins of the drains and ditches for evidence of:

Latrines - distinct piles of water vole droppings found near nest sites, at the ranges of territorial boundaries and where the animals enter and leave the water;

Burrows - burrow entrances are typically wider than high with a diameter between 4-8cm. Generally, these burrow entrances are located at the water's edge;

Feeding Stations - areas with distinct neat piles of chewed lengths of vegetation cut at 45 degrees along pathways or haul out platforms along the water's edge;

Footprints - identifiable prints in soft margins of the watercourse;

Runways - low tunnels that are pushed through the vegetation and often leading to burrows or feeding stations.

- 2.27 Descriptions of the watercourse were also made to aid any enhancement or mitigation recommendations required.

Otter

- 2.28 An assessment and point inspections of Wince Brook (where accessible) for otter *Lutra lutra* was carried out on 2nd August 2021.
- 2.29 Survey methodology attempted to determine the status of otter *Lutra lutra* followed that of the full survey detailed in the New Rivers and Wildlife Handbook (RSPB/NRA, 1995).
- 2.30 Due to the unlikely event of actual observation, the survey concentrated on locating field signs indicating otter presence or use. Such field signs include:
- *Spraints* – characteristic sweet-smelling, black tar-like (where fresh/relatively recent i.e. within a few weeks) or grey crumbly (when old) faecal deposits usually containing fish scales, bones and occasionally invertebrate exoskeleton and bird feathers.

¹² Herptofauna Workers Manual (Gent and Gibson, 1998)

¹³ Froglife Advice Sheet 10 – Reptile Survey (Froglife, 1998)

¹⁴ Dean, M., Strachan, R., Gow, D. and Andrews, R. 2016. *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

21152 Warwick Mil

- *Footprints* – In good substrate typically asymmetrical and showing five toes arched around a large pad and depending on substrate, webbing and claw marks. Poorer, generally coarser substrates do not often enable the identification of otter footprints.

2.31 Additional signs of otter presence may occur, although without additional evidence are usually not conclusive proof of current otter presence:

- *Feeding remains* – Remains of fish
- *Slides/haul-outs* – Routes into and out of the water, which are usually associated with terrestrial routes such as short cuts around meanders or along traditionally, used otter paths/routes.
- *Couches/hovers* – above ground resting place. Usually associated with cover such as dense scrub, rushes or reed, flood debris or fallen trees. Many couches are rarely used whilst others more so. Difficult to prove use without radio tracking.
- *Holts* – below ground resting site usually associated with sprinting. Sometimes used with greater frequency than couches and can be important for breeding (natal holts) where other signs are usually absent. Notoriously difficult to find or prove without radio tracking.

2.32 Descriptions of the watercourse were also made to aid any enhancement or mitigation recommendations required.

White-clawed crayfish

2.33 A assessment for white-clawed crayfish *Austropotamobius pallipes* was carried out by a suitably experienced ecologists on 2nd August 2021 using the methodology outlined in Common Standards Monitoring Guidance for Freshwater fauna (2015)¹⁵. Survey methods comprised of:

2.34 Manually searching under suitably large cobbles, boulders and woody debris on the stream bed.

2.35 The survey comprised a manual search. This involved facing upstream and gently lifting/sliding/turning and returning 100 suitable refugia, if five or more white-clawed crayfish *Austropotamobius pallipes* (WCC) are found this is sufficient; if not, searching should continue until 250 refuges have been searched. The entire length of the brook running along the western boundary was walked where the brook was accessible and suitable for the species.

2.36 Smith et al. (1996)¹⁶ identified the key bankside habitat features that determine success of white-clawed crayfish populations (aside from water chemistry) as being:

- Presence of vertical banks;
- Canopy overhanging the channel over 0.5m from the water surface; and
- Tree roots projecting into the water.

¹⁵ Common Standards Monitoring Guidance for Freshwater fauna (2015). CSM Monitoring Protocol 2. Common Standards Protocol for population monitoring of White-Clawed Crayfish. Bradley, P., Hall, R. & Peay, S. JNCC, ISSN 1743-8160.

¹⁶ Smith GRT, Learner MA, Slater FM & Foster J (1996) *Habitat features important for the conservation of the native crayfish Austropotamobius pallipes in Britain*. Biological Conservation 75, pp 239-246,

21152 Warwick Mil

2.37 Descriptions of the watercourse were also made to aid any enhancement or mitigation recommendations required.

Other species

2.38 Any sightings, evidence of or suitable habitats for other protected species and notable fauna such as local BAP species and breeding birds were recorded during the site visit.

3.0 RESULTS

Desktop Study

Statutory & Non-Statutory Designated Sites

- 3.1 Rochdale Canal Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) is located 1.8km directly east. The primary designation feature of the SAC is the presence of Annex II nationally scarce floating water-plantain *Luronium natans*. The SAC is also a SSSI for its submerged aquatic plants and emergent vegetation.
- 3.2 Seven locally designated Sites of Biological Interest (SBI) are located within the 2km search area, see Table 4. The most significant is Alkington Woods and Rhodes Lodges, located 0.4km directly west and hydrologically connected via Wince Brook.

Table 4: Designated sites summary within search radius

Site	Status	Brief Description	Approx. Distance from site
Rochdale Canal	SAC /SSSI	Centred on SD 893 038 and equating to 2.37 ha the SAC's (UK0030266) primary designation feature is the presence of Annex II nationally scarce floating water-plantain <i>Luronium natans</i> . The SAC is also a SSSI for its submerged aquatic plants and emergent vegetation. The condition of the SSSI is currently unfavourable recovering.	c.1.8km east
Alkington Woods and Rhodes Lodges	LNR/SBI	120 acres of mature woodland, meadows and five fishing lodges. The River Irk flows along the lower reaches of the reserve, which is fed by Wince Brook. The site supports diverse bird communities with abundant records for kingfisher <i>Alcedo atthis</i> .	0.4km west
Boardman Brook	SBI	The SBI forms direct habitat and hydrological links to Alkington Woods and Rhodes Lodges LNR / SBI. It is an area of open water within the River Irk catchment, which constitutes a network of river corridor and wetland habitats.	0.5km west
Rochdale Canal Lock at Scrowcroft Farm to Stott's Lane	SBI	Wince Brook feeds into Rochdale Canal where there is a record of floating water-plantain. There is a record of floating water-plantain associated with the SBI.	1.9km east
River Irk Marsh	SBI	Part of the River Irk catchment with surrounding wetland habitats.	1.8km east
Scowcroft Reservoir	SBI	A reservoir surrounded by semi-natural broadleaved woodland with a network of accessible paths for recreational activity.	1.6km east
Higher Boarshaw Clough	SBI	Area of native trees and small river system lodge with a network of paths for recreational activity.	1.6km east
Hopwood Woodland	LNR/SBI	An area of 7.38ha of broadleaved woodland blocks around the grounds of Hopwood Hall, including a small area of ancient woodland. The woodland supports a diverse woodland bird assemblage.	1.8km north

Protected and notable species

21152 Warwick Mil

3.3 Records of protected and notable species recorded within 2km are summarised in Table 5.

Table 5: Summary of protected species within 2km of the site

Species	Status	Distance from site and Comments
Bats <i>Chiroptera</i>	WCA, SPI, LBAP, HR	There is a single record for common pipistrelle <i>Pipistrellus pipistrellus</i> specific to the site. The wider 2km search area has ?? records for bats, mostly common pipistrelle, 3 soprano pipistrelle <i>Pipistrellus pygmaeus</i>, 1 daubenton and 1 <i>Myotis</i> species. EPSL (EPSM2010-2397) for destruction of breeding place for common pipistrelle at SD 870 485. Licence period 2011 to 2013. Located 1.1km north. EPSL 2014-2836-EPS-DDX for destruction of breeding place for common pipistrelle at SD 8704 3920 Licence period was in 2014.
Badgers <i>Meles meles</i>	WCA	No records specific to the site and wider records no relevant due to distance and barriers in the landscape, i.e. road infrastructure.
Great Crested Newt <i>Triturus cristatus</i>	WCA, SPI, LBAP, HR	No desk study records.
Water vole <i>Arvicola amphibius</i>	WCA, SPI, LBAP	No desk study records.
Otter <i>Lutra lutra</i>	WCA, SPI, LBAP	No desk study records.
White Clawed Crayfish <i>Austropotamobius pallipes</i>	WCA, SPI, LBAP	No desk study records.
Invasive Plant Species	Schedule 9	No desk study records.
Birds	WCA, SPI	Bird data included records of kingfisher, dunnock, bullfinch, house sparrow, reed bunting, song thrush, grasshopper warble and peregrine falcon. The closest record to site was a kingfisher, located on Wince Brook directly to the south of the site.
Other fauna	WCA, LBAP	Hedgehog records associated at varying locations within Middleton and also at Alkington Woods and Rhodes Lodges LNR / SBI.

Key:

Species: WCA – Part 1 of the Wildlife & Countryside Act 1981 (as amended); SPI - Species of Principal Importance in England listed on S41 of the NERC Act 2006; LBAP – Greater Manchester Local Biodiversity Action Plan, HR - The Conservation of Habitats and Species Regulations 2017.

Field Survey

Flora

Trees and Shrubs

3.4 Within the concrete grounds of Warwick Mill there are frequent self-seeded early mature goat willow *Salix caprea*, silver birch *Betula pendula*, elder *Sambucus nigra* and butterfly bush *buddleja*. These species have colonised around the base of the mill and through areas of

21152 Warwick Mil

cracked concrete. Along Wince Brook the trees and shrubs are more established and include wide-spreading goat willow, sycamore *Acer pseudoplatanus*, pedunculate oak *Quercus robur*, common ash *Fraxinus excelsior*, crack willow *Salix fragilis* and alder *Alnus glutinosa*.

Neutral grassland

- 3.5 There are two small areas of neutral grassland developed over hardstanding. The vegetative structure is loose and supports Yorkshire fog *Holcus lanatus*, perennial rye-grass *Lolium perenne* other occasional grass species included false oat-grass *Arrhenatherum elatius*, cock's-foot *Dactylis glomerata*. Forb species present included common ragwort *Senecio jacobaea*, common daisy *Bellis perennis*, dandelion *Taraxacum officinale*, broad-leaved dock *Rumex obtusifolius*, creeping thistle *Cirsium arvense*, common nettle *Urtica dioica*.

Wince Brook

- 3.6 The section of Wince Brook bordering the site to the south is deeply canalised by bricks by a depth of approximately 5m. There are no natural riparian embankments, with shrubs and trees established at the top of the brickwork. The brickwork is defunct in some areas and self-seeded shrubs emerge from the cracks. The water channel is approximately 5m wide with a moderate to fast flow (at time of survey), with riffles to indicate shallower areas and deeper slower flowing sections.

Invasive Species

- 3.7 Target Note TN1 refers to a stand (6 x 6 m) of Japanese knotweed on the north embankment of Wince Brook, which falls within the boundary of Warwick Mill. TN2 is Japanese knotweed (6 x 6 m) the south embankment of Wince Brook. TN3 refers to an area of Himalayan balsam *Impatiens glandulifera* located to the north of Warrick Mill, within an area of low-lying ground.
- 3.8 Within the site is an area of tipped waste, extending approximately 10 x 20m. This area could potentially give rise to a wider extent of invasive species such as Japanese knotweed.

21152 Warwick Mil

Photograph 1: Overview of shrubs and trees on site 	Photograph 2: Overview of grassland site 
Photograph 3: Japanese knotweed on site boundary 	Photograph 4: Tipped waste on site 

Fauna

Badger

- 3.9 The site offered no potential for badger sett establishment, commuting or foraging.

Great Crested Newt

There are no desk study records for great crested newts and no ponds within 500m of Warwick Mill. The site comprises of hard standing within an urban context and is unsuitable for great crested newts.

Bats

Habitat assessment

- 3.10 Four buildings have been recorded on site:

21152 Warwick Mil

- B1: Warwick Mill is a five-story red brick building with a large number of open windows due to the glass having been smashed. The building is becoming increasingly defunct with vegetation starting to grow out from broken brick work and internally the ceilings are falling away to give rise to open cavities in the cement supporting beams. The rear of the building faces onto Wince Brook and offers a suitable flight path to the Wince Brook riparian corridor. Given the features of the building and a record for common pipistrelle, the rear of the build is valued as **moderate potential for roosting bats**.
- B2: a small red brick building, which has well-sealed brickwork externally. The only access point to the building is via a door that has been left open, which extends into a defunct internal building features; ripped walls, broken furniture, tipped waste. The building has negligible potential for roosting bats.
- B3: small red brick building to the south of the site, with well-sealed external brick work and no obvious gaps that could be used by bats. The building is assessed as having negligible potential for roosting bats.
- B4: a defunct office block, possibly constructed in the 1990's, with smashed windows. Internally the walls and ceilings are well-sealed and offer negligible potential for roosting bats.

Photograph 5: Rear view of Warwick Mill



Tree assessment

- 3.11 There are no trees within or adjacent to the site with bat roost potential. The trees are young to semi mature and have not developed aging features. The riparian corridor of Wince Brook offers potential for bat commuting and foraging.

Reptiles

- 3.12 Due to the urban context for the proposal site, there was no potential for reptiles.

21152 Warwick Mil

White clawed crayfish

- 3.13 There are no desk study records for white clawed crayfish and Wince Brook is not likely to support this species due to the urban context and levels of disturbance to the Brook, including the likely presence of American signal crayfish.

Birds

- 3.14 Feral pigeon was observed flying in and of the mill via broken windows and a pair of pied wagtails were active at the rear of the Mill, possibly nesting in broken stonework or behind external drainage pipework. All trees and shrubs, including low-growing bramble have potential to accommodate nesting birds between March and August, inclusive.

Other Species

- 3.15 No evidence or potentially suitable habitats for any other protected, rare or notable species were recorded.

4.0 DISCUSSION AND CONCLUSIONS

Proposals

- 4.1 The development proposals for the site consist of creating multiple residential apartments within the building through the changing internal fabric of the building to providing individual units whilst maintaining the exterior façade of the building.

Statutory Designated Sites

- 4.2 Rochdale Canal SAC and SSSI is located 1.8km directly east. There are no direct hydrological links to between the proposal site and the designation, which is upstream of Wince Brook.

Non-Statutory Designated Sites

- 4.3 Alkrington Woods LNR and SBI located 0.4km directly west is connected to the site via Wince Brook. There will be no direct impacts relating to habitat loss, although due to the proximity of works to a water course, effects could occur from disturbed sediments or water contamination. Good working principles must therefore be followed at all times during construction, in accordance with all relevant “good practice guidance” including the Guidance for Pollution Prevention - Works and maintenance in or near water: GPP ¹⁷ in order to minimise the risk of disturbance or pollution of the brook corridor or neighbouring habitats. All personnel will be familiar with the content of these guidelines prior to commencing work within the site.
- 4.4 It is considered the development construction activities will not directly or indirectly impact any other sites of ecological interest within 2km due to the distance and lack of connectivity across the intervening landscape.

Habitats

- 4.5 The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:
- Inclusion within specific policy (e.g. veteran trees, ancient woodland and linear habitats in the National Planning Policy Framework (NPPF), or non-statutory site designation),
 - Identification as a Habitat of Principal Importance (HPI) for biodiversity under the NERC Act 2006 and consequently identification as a Priority Habitat within the local Biodiversity Action Plan (LBAP) and a Priority Habitat for England under Biodiversity 2020.
- 4.6 Under the NPPF opportunities to incorporate biodiversity improvements in and around developments should be encouraged.
- 4.7 The application site does not consist of any notable habitats and are of value at the site level only. Wince Brook is the most notable habitat feature and should not be impacted by the works. The proposal should provide habitat enhancement as a measure for biodiversity enhancement. This could include integrating areas of grassland and shrubs within the development design.

¹⁷ Natural Resources Wales, the Northern Ireland Environment Agency and the Scottish Environment Protection Agency. January 2017. *Guidance for Pollution Prevention - Works and maintenance in or near water: GPP 5.*

Fauna

Bats

- 4.8 All UK species of bat are listed on the Conservation of Habitats and Species Regulations 2017 making it illegal to deliberately disturb any such animal or damage / destroy a breeding site or roosting place of any such animal. Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection. Some bat species, including soprano pipistrelle, are Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC).

Bat Survey

- 4.9 Due to the moderate bat roost potential of Warwick Mill, a bat survey in accordance with the Bat Conservation Trust guidelines (Collins, 2016) will be required. This shall comprise of two dusk surveys between April and September, three surveyors will be required to observe the rear of the mill for where bats could egress after sunset. The surveys will need to be completed during favourable weather conditions.

Mitigation & Enhancement for the Local Bat Population

- 4.10 Any habitat creation of native species across the site can provide foraging and commuting habitat for bats. With native species scrub planting strategically planted to improve connectivity with Wince Brook. Preference will be given to planting species of local provenance that will be nectar and fruit-producing species to provide foraging for insects, birds and mammals.
- 4.11 The inclusion of a variety of bat boxes such as Schwegler 2F, 2F with double front panel and 1FF bat boxes around the development site on suitable trees particularly along Wince Brook will provide new potential roosting sites for bats within, the local area. Boxes (to be installed upon trees) will be located in sheltered spots and placed at a height of at least 3 metres from the ground. Boxes will also be arranged around the site so that a number of different aspects are covered.

Lighting

- 4.12 To minimise potential disturbance to both retained and newly-planted habitats the external lighting scheme will be designed to ensure that light spill onto vegetated areas and Wince Brook is avoided where possible. Where lighting is absolutely necessary this should be low wattage, directional, low level and/or shaded to minimise light spill. The lighting scheme will be designed with regard to guidance such as those provided by the Institution of Lighting Professionals in

21152 Warwick Mil

conjunction with BCT¹⁸, and Eurobats guidance on bats and artificial light¹⁹, to minimise disturbance to bats and other wildlife due to artificial lighting.

4.13 Other lighting considerations should also be implemented during construction and incorporated into the development in order to ensure minimal light spill from the site. It is recommended that;

- During the construction period no lighting is present at night.
- Lighting is directed to where it is needed, to avoid light spillage, particularly along Wince Brook.
- Buffer zones are not to be illuminated.
- Lighting that is incorporated into the development design should be low pressure sodium lights as light is emitted at one wavelength and as such has a low attraction to insects.
- Any upward lighting should be avoided.
- The implementation of all of the above will ensure habitat connectivity across the site and into the wider area for foraging and commuting bats. Overall as a consequence of the proposed design the quality of habitat and amount of resources available for bats across the site will be improved.

Birds

4.14 To ensure compliance with the requirements of the Wildlife & Countryside Act 1981 (as amended) it is recommended that any clearance of woody vegetation is completed outside of the nesting season (March – August inclusive). Where it is not possible to time clearance works within this period, such works will only commence following a pre-clearance nesting bird check by a qualified ecologist. Should this survey identify any active nests these will be retained and suitably buffered from disturbance until the young birds have fledged.

4.15 It is recommended that a specialist is consulted with a General Licence to remove feral pigeon, which nests all year round, although at a lower frequency in the winter.

Other Species

4.16 No other evidence or potentially suitable habitats for protected, rare or notable species were recorded.

Biodiversity Enhancements

4.17 In order for the scheme to result in an overall enhancement of biodiversity, preference should be given within the planting scheme for the use of locally-native woody species, with an emphasis on species bearing nectar, berries, fruit and nuts, as these enhance the foraging opportunities for local wild fauna including birds and invertebrates. Suitable small tree species for inclusion in garden planting schemes include field maple *Acer campestre*, silver birch *Betula*

¹⁸Institution of Lighting Professionals Guidance Notes; Bats and artificial lighting in the UK . 2018

¹⁹Eurobats guidance on bats and artificial light. 2018

21152 Warwick Mil

pendula, wild cherry *Prunus avium*, bird cherry *P. padus*, holly *Ilex aquifolium*, crab apple *Malus sylvestris* and rowan *Sorbus aucuparia*. Other shrub species suitable for inclusion within the soft landscaping design include hawthorn, hazel *Corylus avellana*, blackthorn *Prunus spinosa*, dog-rose *Rosa canina*, honeysuckle *Lonicera periclymenum* and wild privet *Ligustrum vulgare*.

- 4.18 It is recommended that a number of bat and bird boxes are provided on retained mature trees or the new residential units to provide enhancements for local bats and bird populations.

Invasive Species

- 4.19 It is recommended that a 7m buffer exclusion zone is established around the area of JKW to prevent any unintentional spread within and outside of the site boundary. To enable and de-risk the future redevelopment of the site it is recommended that any JKW present undergo an immediate treatment programme to increase eradication from site.

Year 1	August	October
	Demarcate infested area, apply glyphosate by spraying.	Monitor response to treatment, re-apply glyphosate if/where necessary.
Year 2	April/May	September/October
	Assess re-growth; apply glyphosate over new growth.	Monitor response to treatment, re-apply glyphosate if necessary.
Year 3	April/May	September/October
	Monitor for regrowth. If found, follow schedule outlined for year 2.	Monitor for regrowth.
Year 4/5	April	May
	Monitor for re-growth and follow schedule for year 3 if fresh growth occurs.	

- 4.20 Through discussions with the client the footprint of the works will be determined and the best method for treatment / removal from site will be determined and a full management plan can be implemented.

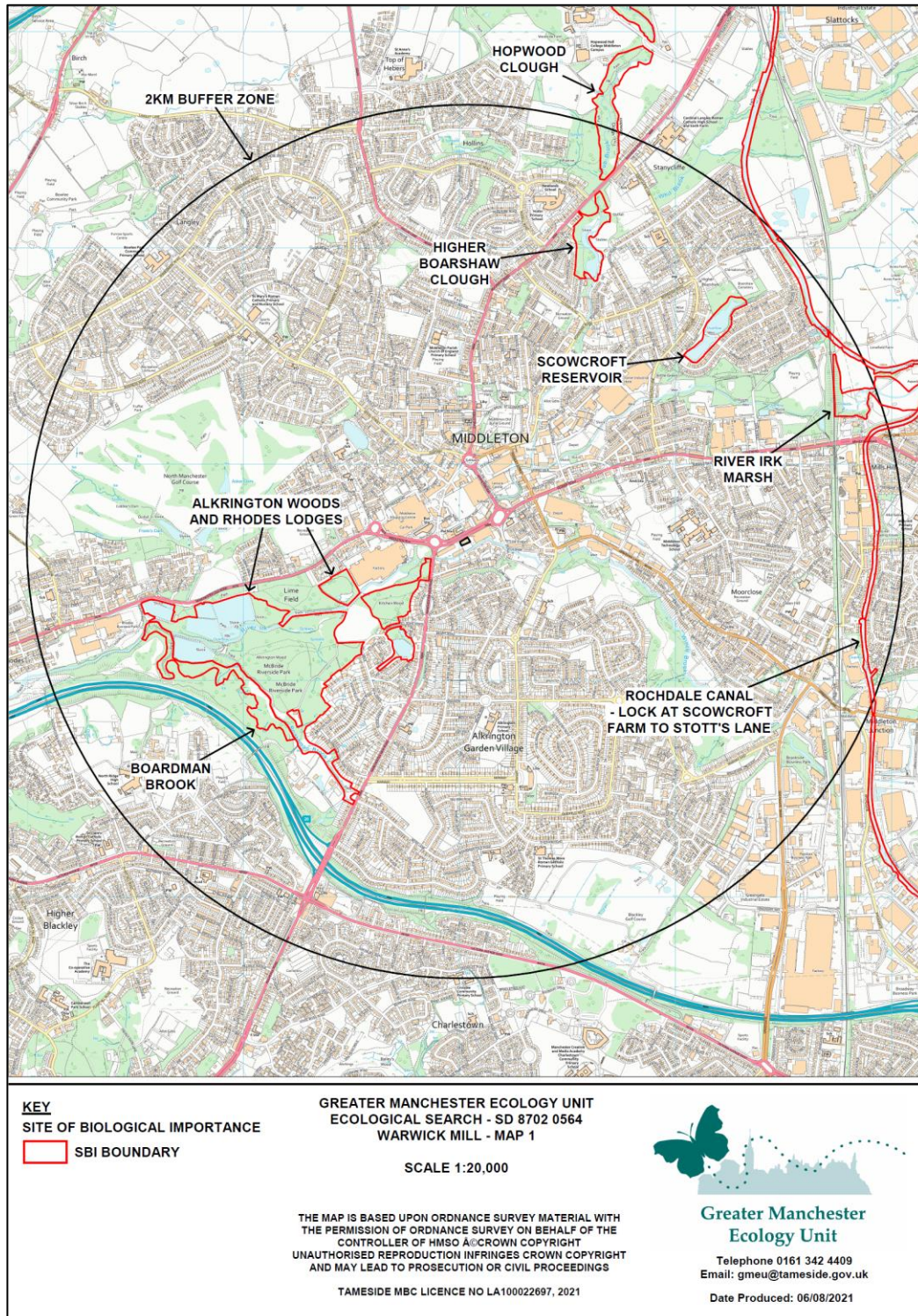
21152 Warwick Mil

APPENDIX A – PLANT SPECIES LIST

Common name	Scientific name	DAFOR (D = dominant, A= abundant, F =frequent, O =occasional, R = rare)
Alder	<i>Alnus glutinosa</i>	LF
Bramble	<i>Rubus fruticosus</i>	D/A
Broad-leaved dock	<i>Rumex obtusifolius</i>	O
Broad-leaved dock	<i>Rumex obtusifolius</i>	R
Butterfly bush	<i>Buddleia davidi</i>	F
Cleavers	<i>Galium aparine</i>	D/A
Cocksfoot	<i>Dactylis glomerata</i>	O
Common ash	<i>Fraxinus excelsior</i>	O
Common daisy	<i>Bellis perennis</i>	O/F
Common nettle	<i>Urtica dioica</i>	O
Crack willow	<i>Salix fragilis</i>	O/F
Creeping thistle	<i>Cirsium arvense</i>	R
Dandelion	<i>Taraxacum officinale</i> ,	F
Elder	<i>Sambucus nigra</i>	O/F
False oat-grass	<i>Arrhenatherum elatius</i>	A
Goat willow	<i>Salix caprea</i>	F
Hard rush	<i>Juncus inflexus</i>	R
Himalayan balsam	<i>Impatiens glandulifera</i>	LF
Japanese knotweed	<i>Fallopia japonica</i>	LD
Pedunculate oak	<i>Quercus robur</i>	R
Perennial rye-grass	<i>Lolium perenne</i>	O
Ragwort	<i>Senecio jacobaea</i>	F-D
Ribwort plantain	<i>Plantago lanceolata</i>	O
Rosebay willowherb	<i>Chamerion angustifolium</i>	O/F
Silver birch	<i>Betula pendula</i>	O
Soft rush	<i>Juncus effusus</i>	R
Sycamore	<i>Acer pseudoplatanus</i>	O
White clover	<i>Trifolium repens</i>	O/F
Yorkshire-fog	<i>Holcus lanatus</i>	O

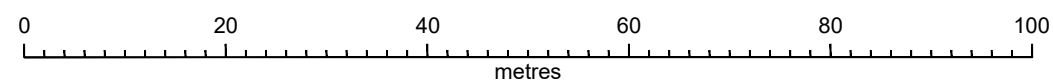
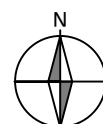
21152 Warwick Mil

APPENDIX B – LOCATION OF SITES OF BIOLOGICAL INTEREST



21152 Warwick Mil

APPENDIX C – PHASE 1 HABITAT PLAN



LEGEND

- | | |
|-------------------|------------------|
| TN# Target Note | Standard Tree |
| Scattered Scrub | Continuous Scrub |
| Neutral Grassland | Hard Standing |
| Running Water | B1 Building |
| Wall | |

TITLE: PHASE 1 HABITAT SURVEY
 PROJECT: WARWICK MILL
 DATE: AUGUST 2021
 DRAWN BY: AM
 APPROVED BY: GM
 SCALE: 1:750@A3
 DWG Number: 21152-01



ECOLOGY
 RESOURCES
www.ecologyresources.co.uk

Appendix B

Survey Area and Red Line Boundary

Document: C:\Users\Oliver.Wayne\OneDrive - RPS Group PLC\Documents\projects\ECO03146 Warwick Mill\Drawings\Arc Pro RPS Template\ECO03146.aprx



© 2023 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.

2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.

Legend

Study_area

Rev	Description	By	CB	Date

rps MAKING COMPLEX EASY

A TETRA TECH COMPANY

20 Western Avenue, Milton Park, Abingdon, Oxfordshire, OX14 4SH
T: +44(0)1235 821 888 E: rps@rpsgroup.com

Client Client

Project Warwick Mill

Title Study site survey satellite map

Status Drawn By PM/Checked By
Draft OW BD

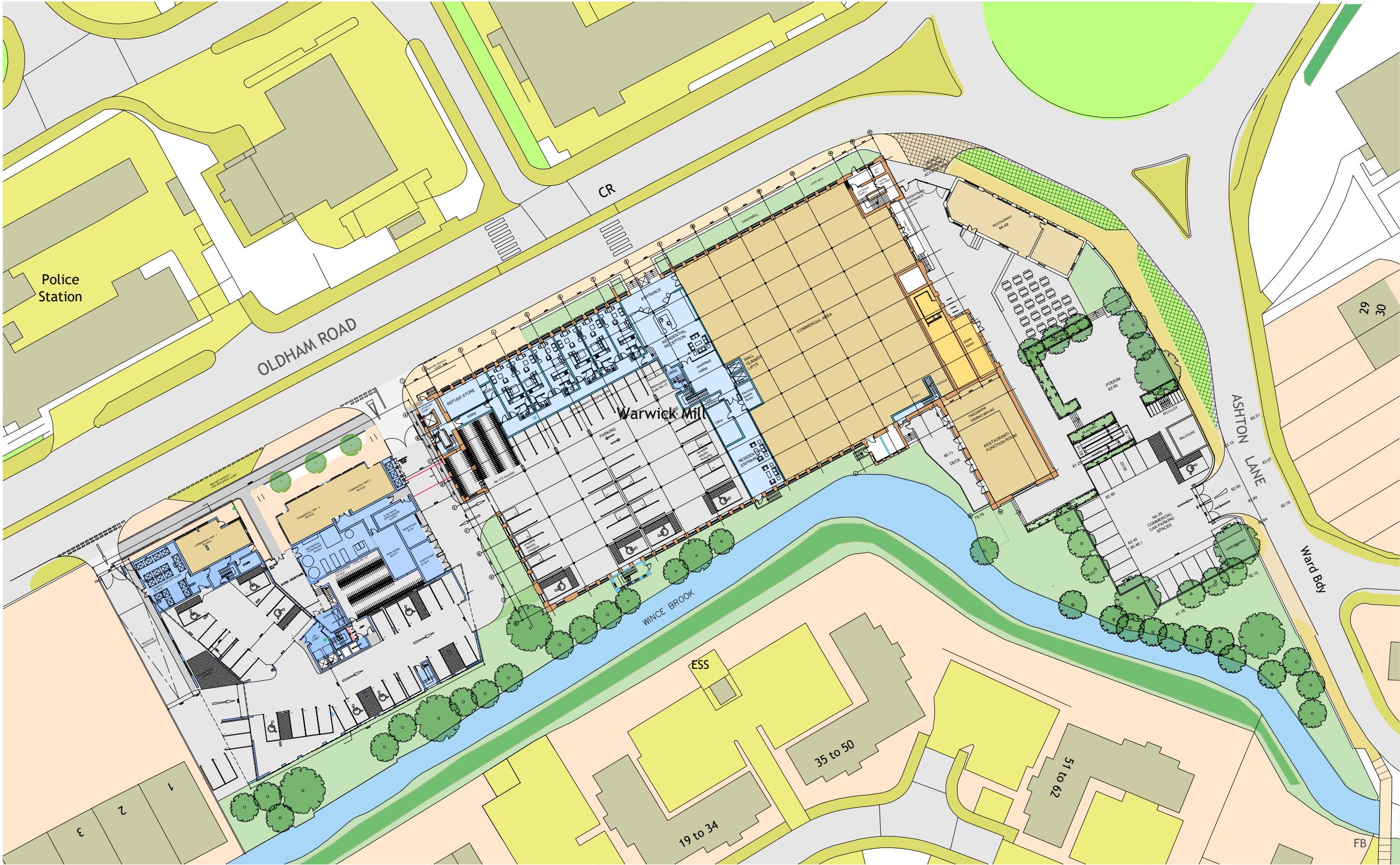
Project Number Scale @ A3 Date Created
ECO03146 1:1,000 11/07/23

Figure Number Rev
1 -

rpsgroup.com

Appendix C

Proposed Site Plans



SCALE 1:500 0 10 20 30 40 50

Notes :

- Dimensions are to be checked on site before fabrication and construction
- Any discrepancies are to be immediately notified to the architects
- Structural measurements are to be taken from the structural engineers drawings
- Do not scale
- Copyright reserved by GMA

GMA ARCHITECTURE
Architects and Designers

UK House 82 Heath Road Twickenham TW1 4BA
Telephone 020 8891 5959 Fax 020 8607 9933
Email enquiries@gmaarchitecture.co.uk

DRAWING ISSUE STATUS

PLANNING

Project
WARWICK MILL
MIDDLETON
MANCHESTER

Client

KAM LEI FONG LTD

Drawing

Warwick Mill Development
Site Plan Lower Ground Floor

Scale

1:500@A2

Type

01

Date

June 23

Client

277/01

Drawn

SJS

WM EH 010

Checked

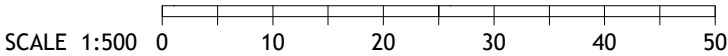
IL

REV	DESCRIPTION	DATE
-----	-------------	------



COMMERCIAL SPACE

RESIDENTIAL SPACE



- Notes :
- Dimensions are to be checked on site before fabrication and construction
 - Any discrepancies are to be immediately notified to the architects
 - Structural measurements are to be taken from the structural engineers drawings
 - Do not scale
 - Copyright reserved by GMA

GMA ARCHITECTURE
Architects and Designers

UK House 82 Heath Road Twickenham TW1 4BA
Telephone 020 8891 5959 Fax 020 8607 9933
Email enquiries@gmaarchitecture.co.uk

DRAWING ISSUE STATUS
PLANNING

Project
**WARWICK MILL
MIDDLETON
MANCHESTER**

Client
KAM LEI FONG LTD

Drawing
**Warwick Mill Development
Site Plan Upper Ground Floor**

Scale	Date	Drawn	Checked
1:500@A2	Sep '21	SJS	IL
Type	Client		
01	277/01	WM EH 011	

REV	DESCRIPTION	DATE
-----	-------------	------

Appendix D

Relevant Legislation

Birds

All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. It is an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
- intentionally take or destroy the egg of any wild bird.

Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Licences can be issued to visit the nests of such birds for conservation, scientific or photographic purposes but not to allow disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

Bats

All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 as European Protected Species. It is an offence to:

- intentionally or recklessly kill, injure or capture bats;
- deliberately or recklessly disturb bats (whether in a roost or not); and
- damage, destroy or obstruct access to bat roosts.

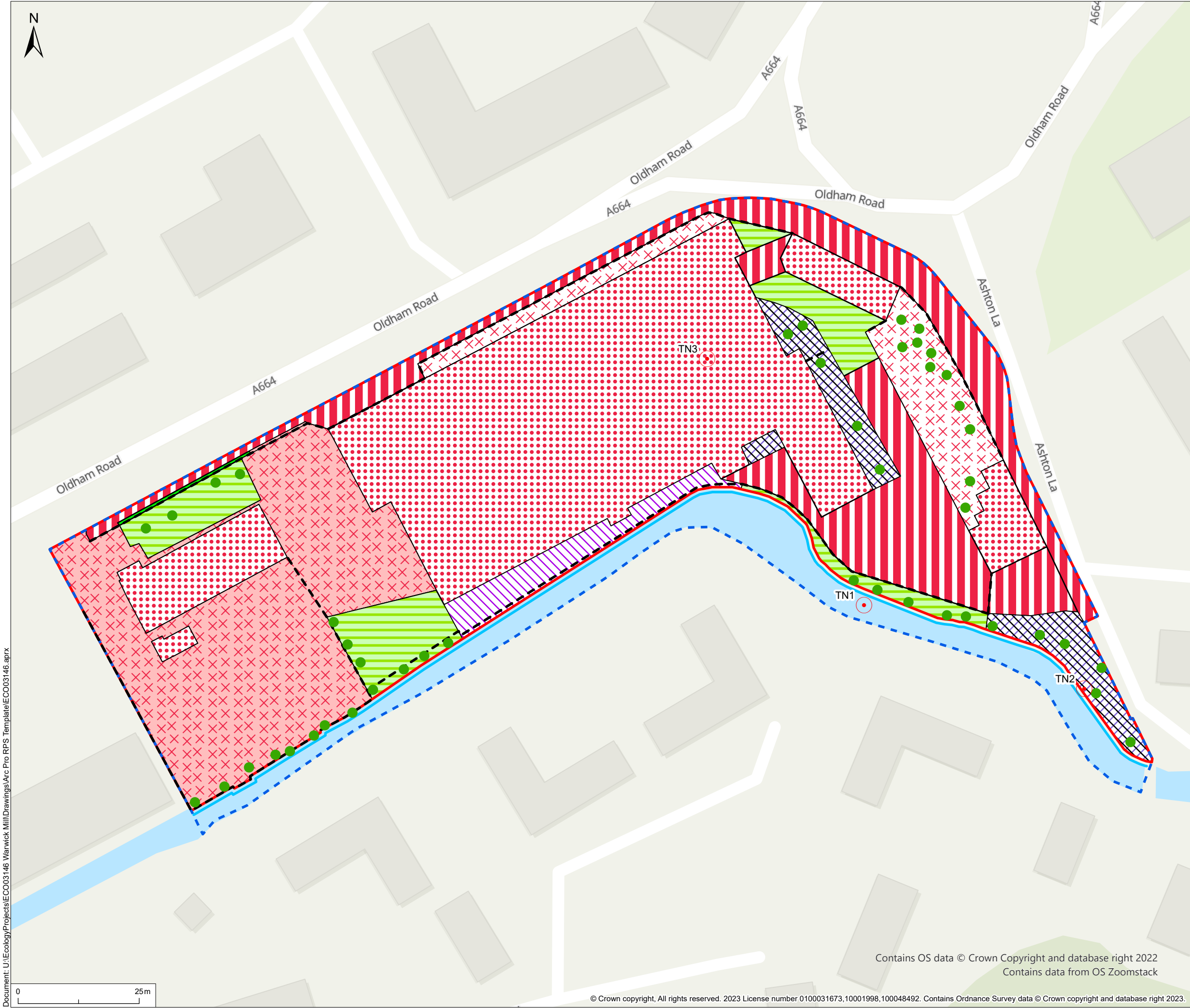
A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of survey.

A licence will therefore be required by those who carry out any operation that would otherwise result in offences being committed.

The following bat species are listed as being of principal importance for the conservation of biodiversity in England, (commonly referred to as UKBAP Priority species): Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe, and Lesser Horseshoe.

Appendix E

UKHab Map (2023)



© 2023 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.

2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.

- Legend**
- Site boundary
 - Survey area
 - Target note
 - 11 - individual trees
 - g3c - other neutral grassland
 - g4 - modified grassland
 - u1b - developed land, sealed surface
 - u1b5 - buildings
 - u-17 - urban, ruderal/ephemeral
 - u1b-17 - developed land, sealed surface / ruderal/ephemeral
 - h3d - bramble scrub
 - h3h - mixed scrub
 - u1e - built linear features
 - r2 - running water (Wince Brook)

Rev	Description	By	CB	Date
-----	-------------	----	----	------



A TETRA TECH COMPANY
Lakesbury House, Hiltigbury Road, Chandlers Ford,
Hampshire. SO53 5SS
T: +44(0)2380 810 440 E: rpsso@rpsgroup.com

Client -

Project Warwick Mill

Title UKHab Classification Map

Status Draft	Drawn By LP	PM/Checked By BD
Project Number ECO03146	Scale @ A3 1:750	Date Created 19/07/23

Figure Number 2	Rev 01
---------------------------	------------------

rpsgroup.com

Contains OS data © Crown Copyright and database right 2022
Contains data from OS Zoomstack

© Crown copyright, All rights reserved. 2023 License number 0100031673,10001998,100048492. Contains Ordnance Survey data © Crown copyright and database right 2023.



Appendix F

Photographs

Photo 01. Warwick Mill (u1b5)



Photo 02. Small brick building east of Warwick Mill (u1b5)



Photo 03. Abandoned apartment (u1b5)



Photo 04. Small Shed/electricity generator building (u1b5)



Photo 05. Developed land; Sealed surface (u1b)



Photo 06. Developed land; Sealed surface – Ruderal/ephemeral (u1d-17)



Photo 07. Urban and developed area - Ruderal/ephemeral (u1-17)



Photo 08. Other neutral grassland (g3c)



Photo 09. Japanese knotweed and Himalayan balsam by Wince Brook

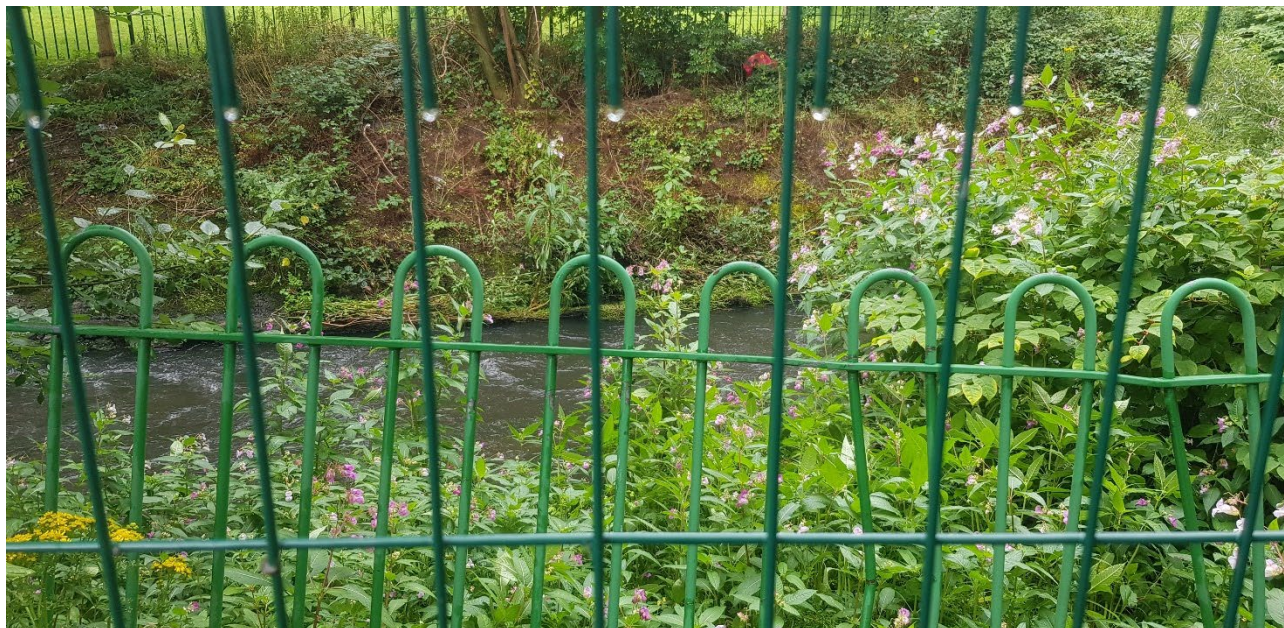


Photo 10. Mixed scrub (h3h)



Photo 11. Bramble scrub (h3d)



Photo 12. Wince Brook / Running water (r2)



Photo 13. Tree with low bat roost potential



Photo 14. Pigeons nesting in Warwick Mill

