



Pyramid Park/Townfields

Bury

Ecological Impact Assessment

Prepared For: Campbell Reith

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TEP
401 Faraday Street,
Birchwood Park,
Warrington,
WA3 6GA

Tel: 01925 844004
Email: tep@tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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The conclusions and recommendations contained in this document are based upon information gathered by TEP and provided by third parties. Information provided by third parties and referred to herein has not been independently verified by TEP, unless otherwise expressly stated in the document.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

Executive Summary

Site Details	The Scheme is located in Bury Town centre. The approximate central grid reference of the site is SD 80511 10312. The habitats present on site include a large area of marshy grassland, woodland and scrub habitats, as well as two lines of mature trees.
Proposals	The site application boundary measures approximately 3ha. The current application is for the remediation of the site, required due to the presence of three pyramids on site. Overall proposals for the site are for residential development, however no final site proposals have been confirmed for this development. Therefore, a precautionary approach has been adopted when carrying out this Ecological Assessment.
Designated wildlife sites	There are no international, national or regional statutorily designated sites within influencing distance of the site. The Townside Site of Biological Importance (SBI), however, is within the site boundary and will be directly affected as a result of the proposed development.
Important Ecological Features present within or adjacent to the site	▶ Invasive species Japanese knotweed was observed on site. ▶ The majority of the marshy grassland on site has been classified as swamp, although some areas were particularly diverse, the match to recognised NVC communities was low. ▶ The Market Street arches on site have high suitability to support roosting bats, as well as one tree on site which has been classified as PRF-I. ▶ The habitats on site have some suitability to support nesting birds, hedgehogs, amphibians, badgers, as well as foraging and commuting bats.

Recommendations	The following recommendations are made to ensure that delivery of the project remains compliant with relevant legislation and policy: ▶ An invasive species management plan will be required to ensure that the Japanese knotweed is controlled and treated in line with an invasive species management plan prior to site development. ▶ A Precautionary Working Method Statement (PWMS) is recommended for notable mammals including badger and hedgehog which needs to be adhered to throughout the duration of works to avoid impacts on such species should they range onto site during construction operations. ▶ A pre-commencement badger survey is required ahead of construction to ensure that badgers have not ranged into the site. ▶ In order to facilitate the removal of T1, a further pre-commencement inspection will be required to confirm that no roosting bats are present. ▶ Bat boxes should be installed on new buildings and new or retained trees to mitigate for any lost roosting habitat. ▶ Invertebrate hotels and brash piles should be installed to provide suitable habitats for invertebrates and hedgehogs on site post-development. ▶ A sensitive lighting strategy will be required during construction to minimise the effects of lighting on any commuting or foraging bats. ▶ Works should be completed outside of the nesting bird period (typically March to August), or vegetation should be removed following a nesting bird check undertaken by an ecologist no more than 24 hours before removal. Bird boxes should also be installed on new buildings and new or retained trees as mitigation for any lost nesting habitat.
Conclusions	Overall, the impacts on ecological features on site are anticipated to be minimal, and can be mitigated for. Currently, to deliver site remediation, no further protected species surveys are required and appropriate avoidance and mitigation measures have been provided, following the mitigation hierarchy and proposals are able to accord with all relevant wildlife policy and legislation.

This Executive Summary is not a substitute for the full report. Refer to the full text of this report for further detail.

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- Drawing 1: Phase 1 Habitat Survey (G9302.02.006)

1.0 Introduction

- 1.1 The Environment Partnership (TEP) was commissioned by Campbell Reith in October 2023 to undertake an Ecological Impact Assessment (EclA) to support of a planning application for remediation of a site, in the first instance, and subsequent application for residential development at Pyramid Park/Townfields, Bury (hereafter referred to as ‘the Scheme’).
- 1.2 Previously an Ecological Constraints and Opportunities Report has been produced in 2022 (TEP Ref: 9302.003) and a Preliminary Ecological Assessment (TEP REF: 9302.02.001) in October 2023 by TEP.
- 1.3 An Ecological Desk Study has been produced to support this EclA, reported under separate cover (TEP Ref: 9302.001). This EclA report should read in conjunction with the Desk Study.
- 1.4 This EclA report includes details of the methods employed and any limitations of the surveys undertaken. Results are provided with supporting maps, together with an evaluation of the ecological features within the Scheme, an assessment of the potential impacts associated with the development proposals and requirements for mitigation. The assessment has been undertaken with due consideration for current best practice guidelines (CIEEM 2017a¹, 2018²).

Scheme Location

- 1.5 The site is located in Bury town centre, with railway lines running along both the western and southern boundaries of the site, and is situated south of the A58, and to the south and west of Bury College. The site is intersected in it’s eastern half by the B6218 (Market Street). The location of the site is depicted by the red line shown in Figure 1. The approximate central grid reference of the site is SD 80511 10312.
- 1.6 The wider area comprises residential, business and industrial properties to the north, west and east, with Bury College and sports grounds to the south.

¹ CIEEM (2017a) Guidelines for Ecological Report Writing, 2nd Edition. Chartered Institute of Ecology & Environmental Management

² CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester



Figure 1: Scheme location

Proposals

- 1.7 No final Scheme proposals have been confirmed for the proposed redevelopment. Therefore, a precautionary approach has been adopted when carrying out this Ecological Impact Assessment.

Planning Context

- 1.8 Relevant information regarding local planning policy is provided in the Ecological Desk Study (TEP Ref 9302.001).
- 1.9 The following policies within the Bury Unitary Development Plan (UDP) Local Plan are of relevance to ecology and biodiversity:
- Policy EN6 Conservation of the Natural Environment
 - Policy EN8 Woodland and Trees
 - Policy EN9: Landscape; and
 - Policy EN10: Environmental Improvement.

1.10 The Bury Local Plan and Places for Everyone (PfE) joint development plan was adopted in 2022 and replaced the UDP. The following policies within the Bury Local Plan and Places for Everyone joint development plan relate to biodiversity and nature conservation:

- Policy JP-G 1: Valuing important Landscapes
- Policy JP-G 2: Green Infrastructure Network
- Policy JP-G 3: River Valleys and Waterways
- Policy JP-G 4: Lowland Wetlands and Mosslands
- Policy JP-G 5: Uplands
- Policy JP-G 6: Urban Green Space
- Policy JP-G 7: Trees and Woodland
- Policy JP-G 8: Standards for Greener Spaces
- Policy JP-G 9: A Net Enhancement of Biodiversity and Geodiversity
- Policy JP-G 10: The Green Belt

1.11 Under the National Planning Policy Framework 2023³ (NPPF), opportunities to achieve biodiversity net gain within developments should be pursued.

Scope

1.12 This ecological assessment considers potential ecological effects upon any notable habitats or species which may be present or adjacent to the Scheme.

1.13 This report provides baseline information on the habitats and protected species present within the Scheme, gathered during a desktop study, undertaken in March 2022, and Phase 1 habitat survey, updated in May 2024. Further subsequent surveys were also undertaken to inform this report, including:

- National Vegetation Classification (NVC) survey;
- Bat Activity Surveys including Night-time Bat Walkover (NBW) and static monitoring; and
- Ground Level Bat Roost Assessment of trees and structures present on site.

1.14 This report presents the findings of the EclA, the objectives of which are to:

- Detail the methods and results of the aforementioned surveys;

³ National Planning Policy Framework (2023). Department for Levelling Up, Housing and Communities. *National Planning Policy Framework* (publishing.service.gov.uk)

- Identify features of ecological value within the Scheme, such as legally protected species or habitats of importance to biodiversity;
- Identify any non-native invasive species within the Scheme and provide advice regarding removal or management;
- Advise on avoidance or mitigation requirements that may be needed prior to development commencing; and
- Provide outline recommendations for biodiversity enhancement within Scheme proposals in accordance with the National Planning Policy Framework (NPPF).

2.0 Methods

Desk Study

- 2.1 In line with current best practice (CIEEM, 2016⁴, 2017b⁵), information regarding designated sites, notable habitats and existing protected and notable species records of the past decade, within a 1km minimum radius of the Scheme was collated and reviewed to inform this ecological assessment. Further detail regarding ecological zones of influence (EZOI) applied for different ecological features and the sources of information included are presented in the Ecological Desk Study (TEP Ref 9331.003).
- 2.2 In brief, key data sources included Natural England (open source data), Environment Agency (open source data); Bury Metropolitan Council Environment Viewer, Bury Unitary Development Plan (UDP) and other relevant planning documentation such as the Bury Local Plan and Places for Everyone joint development plan, Greater Manchester Ecology Unit Records Centre (GMEU) and Greater Manchester Biodiversity Action Plan (GM BAP) and a review of relevant (within the past ten years) species records.
- 2.3 Statutory designated wildlife sites were searched for as follows (EZOI applied for each is indicated in brackets):
 - Ramsar sites (10km);
 - National Sites Network (10km), includes Special Areas of Conservation (SAC) and Special Protection Areas (SPA);
 - Site of Special Scientific Interest (SSSI) (5km);
 - National Nature Reserve (NNR) (5km); and
 - Local Nature Reserves (LNR) (2km).
- 2.4 Non-statutory designated wildlife sites were searched for within 1km of the Scheme and these may include:
 - County Wildlife Sites (CWS); and
 - Sites of Biological Interest (SBI).

⁴ CIEEM (2016) Guidelines for Accessing and Using Biodiversity Data. Chartered Institute of Ecology & Environmental Management

⁵ CIEEM (2017b) Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology & Environmental Management

- 2.5 Regionally Important Geological Sites (RIGS) are also identified in the search results provided by GMEU, but assessment of RIGS and other geological features do not fall within the scope of this EclA and are not discussed further.
- 2.6 Notable habitats were searched for within 2km of the Scheme. Notable habitats may include those listed under any of the following:
- Ancient woodland;
 - Main rivers;
 - Habitats of principal importance (HPI) as listed by the requirements of Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006⁶; and
 - Local Biodiversity Action Plan Habitats (LBAP).
- 2.7 Pre-existing records for notable species were reviewed from the combined data sources, where found from within approximately 2km of the Scheme. Notable species include those listed under any of the following:
- Protected animal species under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (EPS);
 - Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
 - Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
 - Protected plant species under Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
 - Invasive non-native plant species under Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
 - Invasive non-native species under the Invasive Alien Species (Enforcement and Permitting) Order 2019 (IAS);
 - Species of principal importance (SPI) as listed by the requirements of S41 of NERC;
 - Protection of Badgers Act 1992 (PBA);
 - Red and Amber listed Birds of Conservation Concern (BRd/BAm); and
 - Greater Manchester Biodiversity Action Plan Species (GM BAP).

⁶ Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

Limitations

- 2.8 Species records can provide a useful indication of the species present within the search area, although the absence of a given species from the dataset cannot be taken to represent actual absence.

Habitats and Flora

Habitat Survey

- 2.9 An extended Phase 1 habitat survey was originally completed by TEP in March 2022 and then updated in 2023. TEP ecologists, certified to Level 4 under the Field Identification Skills Certification, then undertook an updated survey in May 2024. The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC, 2010) and Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017b). The method records the habitat types present, based on the JNCC/UKHab descriptions. Plant species were identified in accordance with the New Flora of the British Isles (Stace, 2019) and recorded as target notes using the DAFOR scale, where relevant.
- 2.10 The survey was expanded to include off-site habitats adjacent to the Scheme in order to provide context, where applicable. Adjacent habitats were viewed from accessible locations within the Scheme boundary. Habitats are displayed with the Scheme boundary on Drawing G9302.02.006.

Limitations

- 2.11 The survey was undertaken within the optimum survey period of mid-April to mid-October and so there are no limitations with regards to survey timing.
- 2.12 Any ecological survey represents a snapshot of ecological conditions at the time of survey; ecological conditions may change over time. Efforts to identify dominant plant species for the purposes of characterising broad habitat types do not constitute a detailed botanical survey.

Fauna

- 2.13 Ordnance Survey maps and aerials were reviewed to identify potentially suitable habitats offsite within influence (e.g. dispersal distances for mobile species) of the Scheme. The Ecological Desk Study identified any pre-existing records for protected and notable species within at least 1km of the Scheme.

- 2.14 The habitat survey included an extended assessment of the habitats present for their potential to support notable or protected wildlife species, as described at paragraph **Error! Reference source not found.**. Any signs indicating the presence of these species were recorded.
- 2.15 In combination, this data informed the ecological evaluation of the Scheme and impact assessment for the proposed development.
- 2.16 Table 1 confirms those species to be scoped out of the ecological baseline.

Table 1: Species scoped out of the baseline surveys

Species / Group	Reason for scoping out
Hazel dormouse	The Desk Study returned no records within 2km of the site. While the site contains potentially suitable habitats, the site is isolated with limited connectivity in the wider landscape with capacity for supporting hazel dormouse.
Water vole	The Desk Study returned no records within 2km of the site. The site contains no suitable habitat to support water vole and limited connectivity with any suitable habitat in the wider area.

Limitations

- 2.17 The most up to date ecological surveys have been carried out over the period of May 2024 to September 2024. All surveys were completed within appropriate seasons over appropriate periods in accordance with industry standards for the specific survey. Nevertheless, the surveys will only identify habitats present within the Scheme at the time of surveys. Additionally, the species investigated are mobile and will move into and out of areas over time. For these reasons a precautionary approach has been taken in the prediction of impacts. Where there is any doubt, except where specifically noted, species are assumed to be present, and the impact assessment assumes a higher level of significance (within the spectrum of possible significance).
- 2.18 Constraints or limitations upon survey methods or interpretation of survey findings are discussed in the relevant Ecological Technical Report.

Ecological Assessment Process

- 2.19 This EcIA follows the published guidelines (CIEEM, 2018) and accepted best practice approach (BS42020:2013⁷) of the mitigation hierarchy whereby impacts are first avoided or, where this is not possible, reduced or mitigated or, as a last resort, compensated.
- 2.20 In summary, the following procedure was undertaken during this EcIA:
- Describe the baseline and identify important ecological features;
 - Describe important ecological features and identify those which may potentially be affected by the Scheme;
 - Identify potential impacts upon important ecological features and characterise the effect of such impacts (in respect of biophysical changes and taking account of relevant aspects of ecosystem structure or function);
 - Incorporate measures to avoid or reduce these effects;
 - Determine whether residual ecological effects are considered significant after avoidance or mitigation;
 - Identify appropriate compensation measures to offset significant residual effects; and
 - Identify opportunities for ecological enhancement.
- 2.21 Important ecological features are identified and valued, ecological impacts are characterised and assessed, and recommendations for appropriate mitigation, compensation and enhancement are made, in accordance with CIEEM guidance.
- 2.22 BS42020:2013 defines a significant effect as one “which is important, notable, or of consequence, having regard to its context”. CIEEM describes significance as “a concept related to the weight that should be attached to effects when decisions are made”. CIEEM defines an ecological effect as significant if it is “sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project”.
- 2.23 BS42020:2013 sets out a practical approach to determining the significance of an ecological effect, applicable at all levels of decision making in legal and policy terms, as follows:
- will the effect on biodiversity influence the balance of planning considerations and therefore the decision as to whether planning permission is likely to be refused or granted; and

⁷ British Standards Institution (2013) BS 42020:2013: Biodiversity — Code of practice for planning and development. BSI Standards Limited, London

- if planning permission is granted, is the effect important enough to warrant the use of planning conditions and/or obligations to guarantee proposed measures or to impose restrictions, or to seek further requirements (e.g. for mitigation, compensation, enhancement, monitoring or management).

2.24 Significance is therefore assessed on a case-specific basis according to the importance of the ecological feature (wildlife site, habitat or species) within the conservation hierarchy, and the effect upon it.

Assumptions

- 2.25 Information provided by third parties, including publicly available information, is assumed to be correct at the time of publication.
- 2.26 No final site proposals have been confirmed for the proposed redevelopment. Therefore, a precautionary worst-case approach has been adopted when carrying out this Ecological Impact Assessment.

3.0 Results

Planning Context

- 3.1 The NPPF at Chapter 15: Conserving and Enhancing the Natural Environment requires that development delivers net gains in biodiversity in addition to minimising the impacts on biodiversity. The chapter highlights the need to protect and enhance valued landscapes, geological conservation interests and soils, as well as recognising the wider benefits of ecosystems.
- 3.2 The Bury Unitary Development Plan (UDP) was adopted by Bury Council on 29th August 1997. The UDP was replaced by the Bury Local Plan and Places for Everyone Joint Development Plan in 2022. The site is allocated in both policies as a Site of Biological Importance. Relevant extracts of the local planning policies are provided in the Ecological Desk Study (TEP Ref 9302.001). The following policies relate to biodiversity and nature conservation:
- ▶ Policy EN6 Conservation of the Natural Environment
 - ▶ Policy EN8 Woodland and Trees
 - ▶ Policy EN9: Landscape; and
 - ▶ Policy EN10: Environmental Improvement
 - ▶ Policy JP-G 1: Valuing important Landscapes
 - ▶ Policy JP-G 2: Green Infrastructure Network
 - ▶ Policy JP-G 3: River Valleys and Waterways
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 - ▶ Policy JP-G 8: Standards for Greener Spaces
 - ▶ Policy JP-G 9: A Net Enhancement of Biodiversity and Geodiversity
 - ▶ Policy JP-G 10: The Green Belt

Wildlife Sites

National Sites Network and Statutory Wildlife Sites

- 3.3 Full details regarding designated sites are provided within the Ecological Desk Study (TEP Ref 9302.001).
- 3.4 There is one statutory designated site of international importance within 10km of the Scheme, none of national importance within 5km and two of regional or local importance within 2km. These are:
- Rochdale Canal Special Area of Conservation (SAC), located 8km to the east of the site, which is designated for its population of *Luronium natans*;
 - Chesham Woods Local Nature Reserve (LNR), located 1.8km to the northeast of the site, which is designated for its woodland habitats and bird and butterfly assemblages; and
 - Hollins Vale LNR, located 1.9km to the southeast of the site, which is designated for its woodland and wetland habitats and associated plant and animal assemblages.
- 3.5 SSSI Impact Risk Zones (IRZ) highlight the potential for effects on a SSSI if certain types of development are planned within a specified radius of it. The Scheme falls within a single Impact Risk Zone (IRZ). The proposals do not meet any of the risk parameters identified for this IRZ.

Local Wildlife Sites

- 3.6 There are ten non-statutory wildlife sites identified within 2km of the Scheme. Details are presented in the Ecological Desk Study. Of most relevance are the following:
- Townside Site of Biological Interest (SBI), located within the site boundary, which is designated for its swamp and marsh habitats, along with an exceptional population of smooth newts found in 2012.
- 3.7 Other non-statutory wildlife sites identified by the Ecological Desk Study (TEP Ref 9302.001) are located at least 1.2km from the proposed works and have no impact pathways relevant to the site or the proposed nature of the works. Given this and the small scale and nature of the proposals and distances concerned, no significant effect

would be anticipated to arise upon these other non-statutory wildlife sites and they are therefore scoped out from further assessment.

Habitats and Flora

Pre-existing Data

- 3.8 The Desk Study identified no notable habitats on, adjacent to or connected with the Scheme.
- 3.9 No records of protected and notable or non-native invasive flora species were returned within 2km of the site.
- 3.10 Habitats of ecological value present in and around the site are described below and illustrated in Drawing G9302.02.006. Target notes (TN) and photographs illustrative of the habitat/feature described are provided in Appendix A.

Woodland, Trees and Scrub

Semi-natural broadleaved woodland

- 3.11 In the southeastern and southwestern corners of the site are two small areas of semi-natural broadleaved woodland (TN2 and TN8). These areas both lie on the embankment that borders the railway line to the south of the site. Willow species dominate these areas with occasional alder *Alnus glutinosa* and some elder *Sambucus nigra*. The understorey is sparse, dominated mostly by leaf litter and very little vegetation other than dandelion *Taraxacum officinale* agg. and cleavers *Galium aparine*.

Dense continuous scrub

- 3.12 In the north of the site is a large embankment of dense continuous scrub dominated by bramble with occasional scattered silver birch trees and grey willow scrub, rose species *Rosa* sp. are also present. (TN5) There are occasional more open areas of fragmented grassland dominated by Yorkshire fog *Holcus lanatus* with rough meadow grass *Poa trivialis* and false oat-grass also present.

Scattered trees and scrub

- 3.13 Around the site are areas of self-seeding regeneration of trees and scrub such as silver birch and willow. On the northern boundary embankment there are more mature trees of silver birch as well as cherry laurel *Prunus laurocerasus*. An area of mature hybrid poplar trees (TN3) is present in the south of the site near to the railway embankment.

Grasslands

Marsh/marshy grassland

- 3.14 The main ecological feature within the site is a historical pond turned marsh/marshy grassland. This makes up the central and eastern areas of the site (TN1 and TN4). These areas were previously mapped as swamp and marsh (Great Manchester Biodiversity Priority Habitat) in 2016, as part of the designation for Townfield SBI. The Phase 1 survey found that the habitat on site was of poor quality and has been overrun with bramble *Rubus fruticosus agg* as well as willow *Salix sp.* and silver birch *Betula pendula* scrub. Soft rush *Juncus effusus*, horsetail *Equisetum sp.*, rough meadow grass *Poa trivialis* and willowherb species *Epilobium sp.* were also present. There was a stand of Japanese knotweed *Reynoutria japonica* near the road overpass in this area (TN1).

Semi-improved neutral grassland

- 3.15 The western area and a large section of the southern boundary comprised species-poor semi-improved neutral grassland (TN7). Three pyramid grass mounds make up the majority of this area with species such as false oat grass *Arrhenatherum elatius* and red fescue *Festuca rubra* abundant. Species such as sweet vernal grass *Anthoxanthum odoratum* and meadow buttercup *Ranunculus acris* are also present.

Hardstanding

- 3.16 The site was previously accessed from the west, with two hardstanding pathways running into the site, these entrances were found to be blocked by the metro-way bordering the site. The pathway runs around the site, turning into gravel/stone rather than tarmac in the southeast corner of the site where it meets Market Street. The site is below street level and so runs underneath the road way. Four large stone archways allow access between the east of the site and the west.

Notable or Invasive Flora

- 3.17 Japanese knotweed *Fallopia japonica* was historically recorded on site and was recorded on site during the Phase 1 survey within the marshy grassland at TN1.

Habitat Connectivity

- 3.18 The site had limited connectivity to the wider area due to the main roads (A58 and A56) to the north and west of the site, railway lines to the west and south, and the residential developments to the south and east.

NVC Survey

- 3.19 Full details of the NVC survey are provided at Appendix B, including methods and results.
- 3.20 A detailed survey of the Townside SBI grassland habitats, for which it is designated, was conducted on site in June 2024. The survey found that although some areas, classified as swamp and tall-herb fen, were particularly diverse, the match to recognised swamp NVC communities was 'very poor'.
- 3.21 This goodness of fit result could provide evidence that the habitats the SBI were originally designated for have since degraded. This is likely due to areas within this vegetative community beginning to dry out and successional scrub and neutral grassland taking over within the site.

Fauna

Amphibians

- 3.22 The desk study returned the following amphibian records within 2km of the site:
- Great crested newt *Triturus cristatus* (EPS, WCA5, S41, LBAP); and
 - Common toad *Bufo bufo* (S41).
- 3.23 There are no habitats, in the form of standing water, within the site or within 500m of the site that offer potential for breeding amphibians. The woodland, marshy grassland and scrub habitats within the site were suitable for foraging, commuting and hibernating amphibians. However, as there was no breeding habitat within 500m of the site, the likelihood of foraging, commuting and hibernating amphibians being present on site is considered to be low.

Badger

- 3.24

The desk study returned results of badger *Meles meles* (PBA) within 2km of the site.
- 3.25

In the previous surveys in 2022 and 2023, signs of foraging and commuting badgers in the forms of snuffle holes, mammal tracks and obvious mammal entry to the site were observed. No signs of setts or sett construction were found within or adjacent to the site.
- 3.26

During the 2024 survey, no signs or setts were recorded. However, during all surveys the dense scrub in the north of the site made it difficult to access and survey, therefore there are limitations to the survey. There is suitable sett building and foraging habitat within the site and there are connective habitat corridors from the site to other suitable badger habitat in the wider area.



Figure 2: Mammal entry into the site from railway in the south (2022/2023)



Figure 3: Mammal trails in semi-improved grassland (2022/2023)

Bats

- 3.27

The desk study returned the following bats records within 2km of the site:
- Bats (EPS, WCA5, LBAP);
 - Common Pipistrelle *Pipistrellus pipistrellus* (EPS, WCA5, LBAP);
 - Pipistrelle sp. *Pipistrellus sp.* (EPS, WCA5, LBAP);
 - Brown Long-eared bat *Plecotus auritus* (EPS, WCA5, S41, LBAP);

- Daubenton's Bat *Myotis daubentonii* (EPS, WCA5, S41, LBAP);
- Nathusius' Pipistrelle *Pipistrellus nathusii* (EPS, WCA5, S41, LBAP);
- Noctule *Nyctalus noctula* (EPS, WCA5, S41, LBAP);
- Soprano Pipistrelle *Pipistrellus pygmaeus* (EPS, WCA5, S41, LBAP);
- Whiskered Bat *Myotis mystacinus* (EPS, WCA5, S41, LBAP); and
- Whiskered/Brandt's Bat *Myotis mystacinus/Myotis brandti* (EPS, WCA5, S41, LBAP).

Roosting

- 3.28 The majority of the trees within the site were young in age and are unsuitable for roosting bats.
- 3.29 One tree on site (T1) was found to have low potential (PRF-I under the 2023 Bat Conservation Trust Guidelines) for roosting bats during the Phase 1 habitat survey. A subsequent endoscope survey was then undertaken by a licenced bat ecologist on the 25th June 2024.
- 3.30 The endoscope was inserted to a level of approx 1.5m from the top of the trunk fold. The cavity narrowed to the diameter of the endoscope. No bats were found during the endoscope inspection. No bat droppings were found during an examination of the detritus at the bottom of the fold.
- 3.31 The fold/crevice has potential for a day roost of single bats but at the time of survey there was no evidence that it has been in use.



Figure 4: T1 - Tree on site with bat roosting potential

- 3.32 There are no buildings within or adjacent to the site that have any features suitable for roosting bats. However, the Market Street archways were found to have potential to support roosting bats and during the Phase 1 survey some holes, cracks in mortars and crevices suitable for roosting bats were observed.
- 3.33 A licensed bat ecologist undertook a further ground based assessment survey on the 25th June of the four arches present at the eastern end of the site. Full details of this survey are provided in Appendix C. In summary, this assessment found no evidence of roosting bats, however the survey did reveal that there are multiple potential roosting features

within all of the archways present on site and given the size of the structures and the number of features these have been classified as 'High' potential for roosting bats.



Figure 5: Market Street Arches

Foraging and Commuting

- 3.34 The site also offers suitable foraging habitat for bats, especially the scrub and woodland areas on site. The site predominantly consists of marshy grassland, with areas of woodland/scrub edge and tall ruderal habitat around the boundary. There are also scattered mature trees present on site.
- 3.35 The site has low-moderate connectivity with the railway to the south of the site and tramline in the west linking the site to suitable bat commuting and foraging habitat in the wider landscape such as the River Irwell and surrounding habitats in the west and the River Roch and surrounding habitats in the east and so activity surveys were undertaken between Spring and Autumn 2024.
- 3.36 Seasonal surveys, one each in Spring (April/May), Summer (June-August) and Autumn (September/October), were undertaken and consisted of a night-time bat walkover (NBW) and static monitoring. Full details of these surveys are provided in Appendix D.
- 3.37 The site was found to support foraging and commuting common pipstrelle, soprano pipistrelle, noctule bats and myotis bats. The marshy grassland area and the Market Street arches provided the highest concentration of bat activity on the site, showing that these areas are utilised by foraging bats in the local area. The highest peak activity levels

were in the spring, when bats have just emerged from hibernation. In the spring bats are hungry and active and will move between roost sites feeding, regaining energy from their winter torpor.

- 3.38 This peak in activity, which subsided in the following summer and autumn surveys, shows that the site is used mainly as foraging grounds rather than for commuting. This highlights the importance of the habitats on site for bats, particularly the marshy grassland on site, which is likely to support a variety of invertebrates for bats to feed on.

Birds

- 3.39 The desk study returned the following bird records within 2km of the site:

- Barn Owl *Tyto alba* (WCA1, LBAP);
- Bittern *Botaurus stellaris* (WCA1, S41, BAm);
- Black Redstart *Phoenicurus ochruros* (WCA1, BAm, LBAP);
- Common Scoter *Melanitta nigra* (WCA1, S41, BRd);
- Grey Heron (heronry) *Ardea cinerea* (S41);
- Hobby *Falco subbuteo* (WCA1);
- Kingfisher *Alcedo atthis* (WCA1, BAm);
- Little Ringed Plover *Charadrius dubius* (WCA1);
- Peregrine *Falco peregrinus* (WCA1);
- Scaup *Aythya affinis* (WCA1, S41, BRd);
- Black-tailed Godwit *Limosa limosa* (WCA1, S41, BRd);
- Bullfinch *Pyrrhula pyrrhula* (S41, BAm);
- Common Redpoll *Acanthis flammea* (S41, BAm);
- Cuckoo *Cuculus canorus* (S41, BRd);
- Curlew *Numenius arquata* (S41, BRd);
- Dunnock *Prunella modularis* (S41, BAm);
- Grasshopper Warbler *Locustella naevia* (S41, BRd);
- Hawfinch *Coccothraustes coccothraustes* (S41, BRd);
- Herring Gull *Larus argentatus* (S41, BRd);
- House Sparrow *Passer domesticus* (S41, BRd);
- Lapwing *Vanellus vanellus* (S41, BRd, LBAP);

- Lesser Redpoll *Acanthis cabaret* (S41, BRd);
- Linnet *Linaria cannabina* (S41, BRd, LBAP);
- Reed Bunting *Emberiza schoeniclus* (S41, BAm, LBAP);
- Skylark *Alauda arvensis* (S41, BRd, LBAP);
- Song Thrush *Turdus philomelos* (S41, BAm);
- Spotted Flycatcher *Muscicapa striata* (S41, BRd);
- Starling *Sturnus vulgaris* (S41, BRd, LBAP);
- Tree Pipit *Anthus trivialis* (S41, BRd);
- Tree Sparrow *Passer montanus* (S41, BRd, LBAP);
- Twite *Linaria flavirostris* (S41, BRd, LBAP);
- Willow Tit *Poecile montanus* (S41, BRd, LBAP);
- Wood Warbler *Phylloscopus sibilatrix* (S41, BRd); and
- Yellow Wagtail *Motacilla flava* (S41, BRd, LBAP).

- 3.40 Suitable habitat within site was found to support a wide range of common breeding bird species. The woodland, dense scrub and grassland offered potential for nesting and foraging birds.
- 3.41 The site is unsuitable for wintering birds, as no large waterbodies are present and the site is surrounded by dense scrub and banks, with no open sight lines which wintering birds prefer, in order to avoid predation. In addition, there are no suitable features on site to support any Schedule 1 bird species.

Invertebrates

- 3.42 The desk study returned the following invertebrate records within 2km of the site:
- Cinnabar moth *Tyria jacobaeae* (S41);
 - Moth species (S41); and
 - White-letter hairstreak *Satyrrium w-album* (S41).
- 3.43 Dead standing and fallen wood within the woodland area and parts of the marshy grassland and dense scrub habitat could support a varied invertebrate population

including protected S41 species such as cinnabar moth, and other species of moth and butterflies.

- 3.44 The NVC survey conducted in June 2024 found that the marshy grassland habitat, in particular, supports a diverse range of flora which are suitable to therefore provide opportunities for a range of invertebrate species.

Reptiles

- 3.45 The desk study returned no results of reptile within 2km of the site.
- 3.46 There was no habitat within the site likely to support reptiles. Reptiles favour a range of habitat types and varying topography to provide a combination of necessary conditions required for shelter, foraging and basking. The scrub offers some suitability for shelter and foraging reptiles, however, is isolated from other suitable reptile habitats in the wider landscape.

Otter

- 3.47 The desk study returned results of otter *Lutra lutra* (EPS, WCA5) within 2km of the site.
- 3.48 Otters require primarily riparian habitats for foraging and commuting with otters also requiring wetlands or woodland in close proximity for shelter. There were no suitable habitats within or adjacent to the site that would support otter at any of its life stages.

Other Relevant Species

- 3.49 Records of brown hare *Lepus europaeus* (WCA5, LBAP), hedgehog *Erinaceus europaeus* (S41) and brown trout *Salmo trutta* (S41) were returned within 2km of the site.
- 3.50 The habitats on site did not contain the features such as hedgerows, open grassland or watercourses to support brown hare and brown trout.
- 3.51 The scrub and woodland habitats within the site boundary were suitable to support foraging and hibernating hedgehogs.

4.0 Assessment of Potential Impacts

- 4.1 This section assesses the potential impacts on ecological features associated with the Scheme described in Section 1.0.
- 4.2 Consideration is given to the 'mitigation hierarchy', i.e. that impacts are first avoided or where this is not practicable, mitigated and as a final resort, compensated (off-set).

Wildlife Sites

Statutory Designated Sites

- 4.3 Given the distance and barriers to dispersal such as main roads and railway lines between the site and any statutory-designated sites, it is not considered likely that there will be any impacts on any designations as a result of the proposals. Therefore, they will not be discussed further in this report.

Non-statutory Designated Sites

- 4.4 The Townside SBI within the site boundary will be negatively impacted as a result of the proposed development. Mitigation for these impacts will be discussed in section 5.0 of this report.
- 4.5 All other non-statutory designated sites are a considerable distance from the site and behind significant barriers such as main roads, so it is considered unlikely that they will be affected as a result of the proposed development.

Habitats and Flora

Notable Habitats

- 4.6 No notable habitats are found within the site or adjacent to the site, and it is considered unlikely that any protected habitats will be affected as a result of the proposed development.

Other Habitats

- 4.7 No detailed masterplans have been produced to show the plans for the development proposals, so it has been assumed that the only post-development habitats present on site will be hardstanding/buildings and residential gardens. All other habitats present on site will be lost and therefore negatively impacted. Mitigation for this will be discussed in Section 5.0 of this report.

Notable or Invasive Flora

- 4.8 A stand of invasive species Japanese knotweed was recorded within the marshy grassland habitat on site. This area is assumed to be lost as a result of the development. Mitigation measures for its removal will be discussed in Section 5.0 of this report.

Fauna

Amphibians

- 4.9 The lack of suitable breeding habitat for amphibians within the site boundary and within 500m of the site mean that it is considered unlikely that there will be any amphibians present on site. It is not considered likely that amphibians will be impacted as a result of the proposed development and therefore they will not be discussed further in this report.

Badger

- 4.10 Signs of badger activity have been noted on site during the site visit and habitats present on site could be used by badger for foraging. The overgrown scrub habitat present on site could contain further signs of activity which were not recorded during the site survey. Therefore, there is potential for badgers to be present on site and for them to be negatively impacted as a result of the proposed development.

Bats

- 4.11 The one tree found on site with bat potential (T1) will likely be lost as part of the proposed development. This will have negative impacts on any roosting bats using the site.
- 4.12 The Market Street archways also have potential to support roosting bats, and if the proposed development will affect this structure, then there will be further impacts on roosting bats on site.
- 4.13 The marshy and neutral grassland, scrub, woodland and scattered tree habitats present on site will be lost as part of the proposals, which would negatively impact any commuting or foraging bats in the area. Mitigation for these impacts will be discussed in Section 5.0 of this report.

Birds

- 4.14 There is a risk of damage or destroying a nest if tree felling or lopping or vegetation clearance is carried out in the nesting period (generally considered to be between March

to August inclusive, although geographical position of the Scheme will influence this period and some species nest also commonly nest outside this period).

- 4.15 The loss of the scrub and woodland habitat on site will impact foraging and nesting birds on site. Mitigation for these impacts will be discussed in Section 5.0 of this report.

Invertebrates

- 4.16 The deadwood, scrub and marshy grassland present on site could support a small population of invertebrates, and the loss of these habitats will have a negative impact on these populations. Mitigation for this impact will be discussed in Section 5.0 of this report.

Otter

- 4.17 There is a lack of suitable habitat present within the site and connected to the site which would support otter at any stage of its lifecycle. It is therefore considered unlikely that otter will be present on site, and this species will not be impacted as a result of the proposed development. Therefore, this species will not be discussed further in this report.

Reptiles

- 4.18 There is no suitable basking habitat present on site and the suitable foraging and sheltering habitats present within the scrub present on site is isolated from any suitable habitat in the wider area. It is considered unlikely that reptiles will be present on site and therefore they will not be impacted as a result of the proposed development. This species will not be discussed further in this report.

Brown hare

- 4.19 There is no habitat present on site to support brown hare and no connectivity to habitats in the wider landscape which support the species. It is considered unlikely that there will be brown hare present on site and they will not be impacted as a result of the proposed development. This species will not be discussed further in this report.

Hedgehog

- 4.20 The loss of the scrub and woodland habitats present on site will impact any hedgehog present on site. Mitigation for these impacts will be discussed in Section 5.0 of this report.

5.0 Mitigation and Enhancement

- 5.1 This section describes appropriate and proportionate measures for impact avoidance, mitigation and enhancement required or recommended to address the potential ecological effects described in Section 4.0.

Wildlife Sites

Local Wildlife Sites

- 5.2 SBIs are non-statutory designations made by local authorities under the Town and Country Planning system and are a material consideration when planning applications are being determined.
- 5.3 Townside SBI was designated in 2005 for its open water and marshland habitats. In further surveys in 2012, it was confirmed that the open water habitat had been lost, but that marsh and swamp habitats were still present and the site could still support a population of smooth newts in some seasonal pools within the marsh.
- 5.4 Following our surveys in between 2022 and 2024, it appears that the marsh and swamp habitats have been further degraded and now do not seem suitable for supporting populations of breeding amphibians.
- 5.5 An NVC survey was undertaken on the marshy grassland habitats present on site to determine the NVC classification of the habitats present. The NVC survey found that the dominating habitat was priority *Eleocharis palustris* swamp habitat, however this had a 'very poor' goodness of fit which shows that the present habitat is a poor example of this habitat type. Although there was a good diversity of species, the successional scrub and dominance of non-swamp grassland species and scrub ensure that the goodness of fit was poor and management of these habitats would be required in order to restore it. The encroaching scrub and grassland is likely due to the drying out of the previous pond on site.

Mitigation and Enhancements

- 5.6 It is likely that areas of this habitat are to be lost to development and should be mitigated for. The marshy grassland on site provides important habitat for a range of flora and fauna and should be retained and restored within sensitive landscaping designs where the scheme allows. Landscaping designs should also include the addition of further areas of grassland and wetland, such as ponds, which will aim to mitigate for the loss of the swamp/wetland features on site.

Habitats and Flora

Notable Habitats

- 5.7 There are several mature trees on site. Appropriate tree protection measures, in line with BS5837:2012, will need to be put in place to ensure an adequate habitat buffer from any retained trees is maintained from the proposed development during construction of the site. Adequate replacement planting will be required for trees lost to the development.

Other Habitats

- 5.8 The loss of the woodland, marsh and scrub habitat on site should be mitigated for. Planting within the scheme design should take place in order to ensure there is no net loss of biodiversity, in line with the National Planning Policy Framework. Any trees lost should be replaced on a minimum one-for-one basis to ensure there is no net loss of trees and native species should ideally be used in replacement planting.

Invasive Flora

Avoidance and Mitigation Required

- 5.9 Japanese knotweed present on site should be controlled and treated in line with an invasive species management plan.

Fauna

Badger

- 5.10 Badgers are protected under the Protection of Badgers Act 1992⁸ from killing, injury and certain acts of cruelty. Their setts are also protected from damage, obstruction or destruction.

Avoidance and Mitigation Required

- 5.11 It is recommended that a pre-commencement badger survey is undertaken on site and the surrounding 30m (where possible), to ensure badgers have not ranged into the site. The pre-commencement survey should take place no earlier than 3 months prior to commencement of development.

⁸ Protection of Badgers Act 1992 c. 51 <https://www.legislation.gov.uk/ukpga/1992/51/>

- 5.12 A Precautionary Working Method Statement (PWMS) is recommended for notable mammals including badger to set out the working methods that will need to be adhered to throughout the duration of works to avoid impacts on such species should they range into the site during construction operations.

Bats

- 5.13 All British bats are European protected species, afforded full protection under the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended). Bats are protected from killing or injury, and from disturbance at the place of rest. Bat roosts are also protected from obstruction, damage or destruction (whether or not a bat is in occupation at the time). All bats are listed as priority under the Greater Manchester BAP also.

Avoidance and Mitigation Required

- 5.14 Ahead of the clearance of vegetation on site including the removal of T1, pre-commencement inspections of the potential roost features will be required in order to confirm whether or not roosting bats are present prior to felling.
- 5.15 If the Market Street arches are to be affected as a result of the proposals (either directly via construction, or indirectly via lighting schemes), further surveys of the potential roost features present in the walls and arches of this structure will be required, and potentially further nocturnal bat roost surveys. Currently under the proposals for remediation, these structures are not to be affected.
- 5.16 During construction of the proposed residential development, a sensitive lighting strategy will be required to minimise the effects of lighting on any commuting or foraging bats in the area.
- 5.17 Where possible, habitats should be retained and enhanced to strengthen the commuting and foraging habitat on site, in particular the green corridors to the south and west of the site, and the marshy grassland and woodland areas on site. Where possible, habitats such as wetlands (ponds) and grassland should be included within the landscape design also to enhance the site and mitigate for the loss of suitable foraging habitats.

Additional Measures or Enhancement Recommended

- 5.18 Bat boxes should be installed on new buildings and retained trees as mitigation for any potential tree roost sites that will be lost as a result of the development.

Birds

- 5.19 Native nesting birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981 (as amended) from damage and destruction, from the time of nest construction to fledging of the young. Many are also SPI.

Avoidance and Mitigation Required

- 5.20 Works should be completed outside of the nesting period (typically taken to be March to August inclusive). Where avoidance of the nesting period is not practicable, a nesting bird check must be carried out by an ecologist no more than 24 hours prior to the works, to confirm that no active nests are present. In the event that an active nest is identified, works within the surrounding area must halt until the chicks have fledged. The required radius of the exclusion area will depend on the species found nesting and the context of the nesting location. Given the extent of suitable nesting habitat in and around the Scheme, and the associated risk of encountering nests which restrict construction across a large portion of the the Scheme, it is strongly recommended that sensitive programming of works be considered.

Additional Measures or Enhancement Recommended

- 5.21 Consideration for bird boxes should be given on new buildings and new or retained trees as mitigation for any potential nesting sites that will be lost as a result of the development.

Invertebrates

- 5.22 The invertebrates historically recorded on site are S41 species of principal importance. The site provides habitats suitable for a variety of invertebrates including priority species such as cinnabar moths and other species of moth and butterfly.

Avoidance and Mitigation Required

- 5.23 The loss of the dead wood, scrub and marshy grassland present on site could negatively impact any populations of protected invertebrates present on site. Habitats such be retained and enhanced where possible and a landscape design should include the addition of suitable habitats for a wide range of invertebrates such as wetland, ponds and grassland.

Additional Measures or Enhancement Recommended

- 5.24 A bug hotel should be added to the design proposals to mitigate for the loss of any potential habitat for invertebrates as a result of the development.

Hedgehog

- 5.25 Hedgehog is a S41 species of principal importance.

Avoidance and Mitigation Required

- 5.26 PWMS for notable mammals to include hedgehog is recommended to set out the working methods that will need to be adhered to throughout the duration of works to avoid impacts on these species that may be encountered during the construction stage.

Additional Measures or Enhancement Recommended

- 5.27 Brash piles should be formed and retained on site, providing sheltering and hibernation opportunities for hedgehogs locally. These can be created from the trees and scrub on site which will require removal.

6.0 Conclusions

- 6.1 The site is considered to be of moderate ecological value. The project footprint is small and located entirely within the operational extent of the site. Clearance of the site will be required to facilitate the proposals.
- 6.2 The majority footprint of the project comprises marshy grassland, dense scrub, and woodland. The assumed design of the project will result in a loss of habitat and biodiversity which should be mitigated for. This is subject to change as the design proposals are finalised.
- 6.3 Townside SBI, a locally designated site within the site boundary, is likely to be directly impacted as a result of the development proposals and plans for the site should be considered in order to retain and restore areas of this SBI where possible. Mitigation and enhancement in the way of a detailed landscape design with the inclusion of wetland and grassland habitats, in particular, will be required in order to replace those habitats likely to be lost as part of the development.
- 6.4 Impacts upon protected or notable species that may utilise the habitats will be avoidable by the implementation of precautionary measures (as described in Section 5.0) including timing vegetation removal to avoid sensitive periods and adopting sensitive construction methods.
- 6.5 An invasive species management plan will be required to ensure the correct clearance methods for the Japanese knotweed that is present on site.
- 6.6 One tree has been identified which have low suitability for bat roosting (PRF-I). If trees are to be removed the trees can be soft felled under supervision of a licenced ecologist prior to felling. In the unlikely event that bats are discovered to be roosting within the tree, then a licence from Natural England will be required before any felling works can take place.
- 6.7 PWMS for badger, birds and hedgehog, should be produced and implemented during vegetation clearance and development works to ensure that no species are killed or harmed during clearance works.
- 6.8 A Sensitive Lighting Strategy to be incorporated within proposals to avoid impacts on commuting bats by creating dark corridors.
- 6.9 Roosting habitat for bats should be enhanced within the site with the provision of bat boxes incorporated into the new buildings and/or trees. Plans should also include the provision of invertebrate hotels and brash piles.

- 6.10 Overall, the impacts on ecological features on site are anticipated to be minimal, and can be mitigated for. Currently, to deliver site remediation no further protected species surveys are required and appropriate avoidance and mitigation measures have been provided, following the mitigation hierarchy and proposals are able to accord with all relevant wildlife policy and legislation.

Annex A: Target Notes

Target Notes

KEY to DAFOR Scale of Abundance

Value	Cover	Notes
D = Dominant	>75%	Rarely used in practice
A = Abundant	51-75%	Very common in many parts of the target note area
F = Frequent	26%-50%	Several plants in several locations across target note area
O = Occasional	11-25%	Several plants in a few locations, or vice versa
R = Rare	1-10%	Small number of individuals, scattered or clustered within target note area/ site

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KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note TN1

Area of marshy grassland in location of historical drained pond. This area is dropped and bordered by a small brick wall. The marsh is invaded by encroaching regeneration scrub and trees such as birch and willow and some areas are overrun by bramble. Japanese Knotweed present

<i>Carex leporina</i>	Oval Sedge	A
<i>Carex otrubae</i>	False Fox-sedge	A
<i>Eleocharis palustris</i>	Common Spike-rush	A
<i>Betula pendula</i>	Silver Birch	F
<i>Cardamine pratensis</i>	Cuckooflower	F
<i>Carex hirta</i>	Hairy Sedge	F
<i>Carex pendula</i>	Pendulous Sedge	F
<i>Ranunculus acris</i>	Meadow Buttercup	F
<i>Rumex crispus</i>	Curled Dock	F
<i>Salix caprea</i>	Goat Willow	F
<i>Agrostis capillaris</i>	Common Bent	O
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	O
<i>Cynosurus cristatus</i>	Crested Dog's-tail	O
<i>Epilobium ciliatum</i>	American Willowherb	O
<i>Eupatorium cannabinum</i>	Hemp-agrimony	O
<i>Holcus lanatus</i>	Yorkshire-fog	O
<i>Juncus effusus</i>	Soft Rush	O
<i>Myosotis laxa</i>	Tufted Forget-me-not	O
<i>Phalaris arundinacea</i>	Reed Canary-grass	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Poa trivialis</i>	Rough Meadow-grass	O
<i>Ranunculus repens</i>	Creeping Buttercup	O
<i>Salix cinerea</i>	Grey Willow	O
<i>Sparganium erectum</i>	Branched Bur-reed	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Dactylorhiza sp.</i>	Marsh-orchid	R
<i>Epilobium parviflorum</i>	Hoary Willowherb	R
<i>Equisetum arvense</i>	Field Horsetail	R
<i>Ervilla hirsuta</i>	Hairy Tare	R
<i>Geum urbanum</i>	Wood Avens	R
<i>Jacobaea vulgaris</i>	Common Ragwort	R
<i>Juncus inflexus</i>	Hard Rush	R
<i>Lamiastrum galeobdolon argentatum</i>	Variegated Archangel	R
<i>Phragmites australis</i>	Reed	R
Reynoutria japonica	Japanese Knotweed	R
<i>Rosa canina</i> agg.	Dog Rose	R
<i>Rubus fruticosus</i> agg.	Bramble	R
<i>Rumex acetosa</i>	Common Sorrel	R
<i>Taraxacum officinale</i> agg.	Dandelion	R
<i>Trifolium pratense</i>	Red Clover	R
<i>Urtica dioica</i>	Nettle	R



Target Note TN2

Area of semi-natural broadleaved woodland. This bank of woodland sits next to the pathway on entrance to the site from Townfield's Close and extends to the railway line in the south.

<i>Salix species</i>	Willow species	A
<i>Betula pendula</i>	Silver Birch	F
<i>Galium aparine</i>	Cleavers	F
<i>Ranunculus repens</i>	Creeping buttercup	F
<i>Rubus fruticosus agg.</i>	Bramble	F
<i>Taraxacum officinale agg.</i>	Dandelion	F
<i>Acer campestre</i>	Field Maple	O
<i>Alnus glutinosa</i>	Alder	O
<i>Equisetum arvense</i>	Horsetail	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Sambucus nigra</i>	Elder	R



Target Note TN3

Planted corridor of poplar trees. These mature trees link to the railway embankment which acts as a wildlife

corridor.

Populus sp.



Poplar species



D

Target Note TN4

Large area of marsh/marshy grassland within the centre of the site, the location of the historical pond. Situated at the base of the northern embankment and borders the poplar corridor. Mostly birch and willow regeneration, likely to dry out in the summer.

<i>Eleocharis palustris</i>	Common Spike-rush	A
<i>Betula pendula</i>	Silver Birch	F
<i>Cardamine pratensis</i>	Cuckooflower	F
<i>Carex hirta</i>	Hairy Sedge	F
<i>Carex leporina</i>	Oval Sedge	F
<i>Salix cinerea</i>	Grey Willow	F
<i>Agrostis stolonifera</i>	Creeping Bent	O
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	O
<i>Carex otrubae</i>	False Fox-sedge	O

<i>Carex pendula</i>	Pendulous Sedge	O
<i>Carex pseudocyperus</i>	Cyperus Sedge	O
<i>Cynosurus cristatus</i>	Crested Dog's-tail	O
<i>Dactylorhiza sp.</i>	Marsh-orchid	O
<i>Epilobium ciliatum</i>	American Willowherb	O
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Eriophorum angustifolium</i>	Common Cottongrass	O
<i>Eupatorium cannabinum</i>	Hemp-agrimony	O
<i>Festuca rubra</i>	Red Fescue	O
<i>Holcus lanatus</i>	Yorkshire-fog	O
<i>Juncus effusus</i>	Soft Rush	O
<i>Moss sp.</i>	Moss species	O
<i>Phalaris arundinacea</i>	Reed Canary-grass	O
<i>Phragmites australis</i>	Reed	O
<i>Poa trivialis</i>	Rough Meadow-grass	O
<i>Ranunculus flammula</i>	Lesser Spearwort	O
<i>Ranunculus sceleratus</i>	Celery-leaved Buttercup	O
<i>Rumex crispus</i>	Curled Dock	O
<i>Sparganium erectum</i>	Branched Bur-reed	O
<i>Agrostis capillaris</i>	Common Bent	R
<i>Alopecurus pratensis</i>	Meadow Foxtail	R
<i>Arrhenatherum elatius</i>	False Oat-grass	R
<i>Dryopteris filix-mas</i>	Male-fern	R
<i>Epilobium montanum</i>	Broad-leaved Willowherb	R
<i>Epilobium parviflorum</i>	Hoary Willowherb	R
<i>Epilobium tetragonum</i>	Square-stalked Willowherb	R
<i>Equisetum arvense</i>	Field Horsetail	R
<i>Jacobaea vulgaris</i>	Common Ragwort	R
<i>Juncus conglomeratus</i>	Compact Rush	R
<i>Lycopus europaeus</i>	Gypsywort	R
<i>Plantago lanceolata</i>	Ribwort Plantain	R
<i>Quercus robur</i>	English Oak	R
<i>Rubus fruticosus agg.</i>	Bramble	R
<i>Salix caprea</i>	Goat Willow	R
<i>Scorzoneroide autumnalis</i>	Autumn Hawkbit	R
<i>Trifolium pratense</i>	Red Clover	R
<i>Trifolium repens</i>	White Clover	R



Target Note TN5

Northern embankment of the site dominated by dense continuous bramble. Mature trees lie at the top of

the embankment on the border of the site

<i>Rosa sp.</i>	Rose species	F
<i>Acer pseudoplatanus</i>	Sycamore	O
<i>Betula pendula</i>	Silver Birch	O
<i>Holcus lanatus</i>	Yorkshire-fog	O
<i>Poa trivialis</i>	Rough Meadow-grass	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Fraxinus excelsior</i>	Ash	R
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	R
<i>Arrhenatherum elatius</i>	False Oat-grass	R
<i>Hedera helix</i>	Ivy	R
<i>Prunus laurocerasus</i>	Cherry Laurel	R
<i>Salix cinerea</i>	Grey Willow	R
<i>Sorbus aucuparia</i>	Rowan	R



Target Note TN6

Area of hardstanding path leading down under railway/tramway. Brick and concrete embankment on the southern side.

<i>Rubus fruticosus agg.</i>	Bramble	A
<i>Alnus glutinosa</i>	Alder	O
<i>Prunus laurocerasus</i>	Cherry Laurel	R



Target Note TN7

Modified neutral grassland (MG) dominates the rest of the site in the form of three pyramid shaped grassland mounds and the southern embankment that borders the railway line. Scattered trees and scrub are also present.

<i>Arrhenatherum elatius</i>	False Oat-grass	A
<i>Festuca rubra</i>	Red Fescue	A
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	O
<i>Ranunculus acris</i>	Meadow Buttercup	O
<i>Taraxacum officinale</i> agg.	Dandelion	O
<i>Alnus glutinosa</i>	Alder	R
<i>Betula pendula</i>	Silver Birch	R
<i>Crataegus monogyna</i>	Hawthorn	R
<i>Cynosurus cristatus</i>	Crested Dog's-tail	R



Target Note TN8

Woodland in southwestern corner of the site bordering tramway and railway line.

<i>Alnus glutinosa</i>	Alder	F
<i>Betula pendula</i>	Silver Birch	F
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Fraxinus excelsior</i>	Ash	O
<i>Hedera helix</i>	Ivy	O
<i>Ilex aquifolium</i>	Holly	O
<i>Salix</i> sp	Willow sp.	O
<i>Urtica dioica</i>	Nettle	O
<i>Corylus avellana</i>	Hazel	R
<i>Fagus sylvatica</i>	Beech	R
<i>Ficaria verna</i>	Lesser celandine	R
<i>Prunus</i> sp.	Cherry species	R



Annex B: NVC Survey Report

Annex C: Bat Roost Assessment Report

Pyramid Park, Bury

Bat Assessment 25th June 2024

1. Building survey of the 4 arches near the access to pyramid park from Town Fields Close, Bury

Construction:

4 arches are present at eastern end of the site known as Pyramid Park, Bury



The arches run north –south under Market Street. The arches have been numbered 1-4 for these notes starting with no1 at the northern end of the road.

All 4 arches are a brick construction with a stone lintel approx. 2m high inside arches no 1, 2 and 3.



The east and west fronts to the arches are brick. With decorative brickwork over the front of the arches.



Arch 1

- The western face was inspected as far as it was visible. Mortar is missing along the front of the arch above the decorative brick work. It was not possible from the ground to determine how deep these crevices are but they have potential as **PRFs**



Mortar missing in this area.



- The western face was inspected as far as it was visible. Mortar is missing and the brickwork is crumbling round the support brickwork and on the pillar at the northern end of the arch. Again it was not possible to determine how deep the crevices are in this area but they are **potential PRFs**



- Missing mortar along the front of the arch above the decorative brick work. It was not possible from the ground to determine how deep these crevices are. **potential PRFs**



- Internally the ceiling of the arch is in good condition, well mortared (in some areas the mortar looks to have been replaced recently). The brick work near the western entrance is showing some deterioration but no deep crevices were identified in the ceiling.
- At the north western corner of the arch the brickwork below the stone lintel is also deteriorating due to weathering and rain damage. There were no deep crevices below the stone lintel but it was difficult to assess how deep the crevices are above the stone lintel. **Possible PRF**



- On the north and south walls above the stone lintel is an arrangement of half bricks. On the south side there are gaps around these bricks but there was no evidence that these were deep crevices.



- The south wall shows evidence of having been burnt and has water running down. There is mortar missing at the eastern end but no evidence of deep crevices.

Arch 2

- Similar construction to arch 1
- The western face is damp and has missing mortar over the arch and gaps around the water pipe **Possible PRF**



- The north west corner of the western face and northern wall is running water and brick work is deteriorating. With gaps between the brickwork at the top of this wall inside the arch on this corner. **Possible PRF**





- On the eastern face there is a large gap on the north end. Mortar is missing over the centre brickwork and around the stonework at either side of the arch **Possible PRF**



- Within the arch the centre of the ceiling is well mortared but there is some deterioration in the bricks at both the east and west ends. No depth to any gaps.
- Gaps are present on the north and south wall above the stone lintel, best gap is above the third lintel from the western end but depth is difficult to assess. At eastern end there is a gap in the brickwork above the stone lintel **Possible PRF**



South wall

Arch 3

- On the western side the front of the arch is in better condition than arch 1 and 2. There are gaps under the stone on the south end of the arch. **Possible PRF.** Vegetation present making visibility difficult



- On the eastern side there are broken bricks but this area was very difficult to assess due to the vegetation present. **Possible PRF.**
- Internal walls. On south side there were gaps around the brick work above the stone lintel **Possible PRF.**





Arch 4

- Arch 4 is not a full arch. There is no stone lintel on southern internal wall. The southern wall is covered by an earth bank up to the start of the curve on the western side.
- The brickwork is in good condition and no suitable crevices were identified in the centre
- On the southern wall above the earth bank there is an area of missing bricks. This was inspected, no evidence of bats or use by bats was found.



No evidence of bat activity was found in association with the features identified during the survey (no droppings were found, no signs of fur rubbing, urine staining or scratch marks)

Options:

- Physical assessment from a platform or MWEP
- Evening emergence/activity surveys
- NVA/Static surveys if a platform can be erected above the stone lintel and out of reach of people

Constraint:

The assessment of both the east and western fronts to the arches was limited by the presence of vegetation in full foliage adjacent to both sides of the arch





The stone lintels limited assessment of gaps between the lintel/brick work as it was not possible to determine depth of gaps

It was not possible to determine the internal construction of the arches

Annex D: Bat Survey Report

Drawings

Drawing 1: Phase 1 Habitat Survey (G9302.02.006)

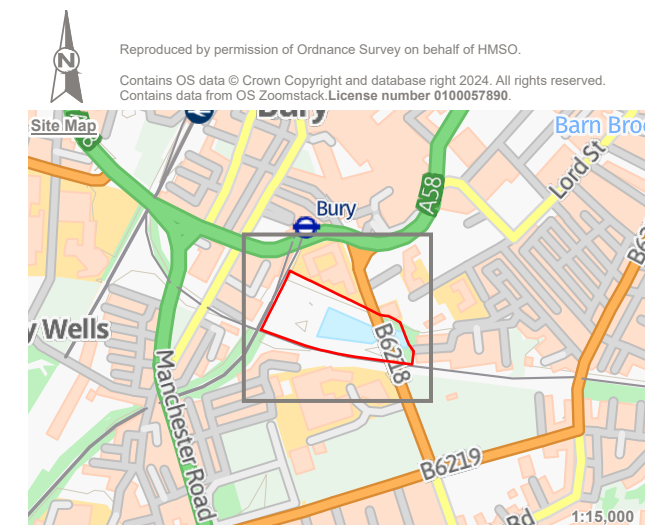


KEY

- Site boundary
- ⊙ Target note
- ▲ Mammal entry point
- JK Japanese knotweed
- × Scattered scrub
- Scattered broad-leaved tree
- PRF-I: Tree with potential roost feature suitable for individual bats
- Semi-natural broad-leaved woodland
- Continuous bramble scrub
- Modified neutral grassland
- Marsh/marshy grassland
- Hardstanding

Note:

The locations of habitats and habitat features are indicative.



Rev	Description	Drawn	Approved	Date



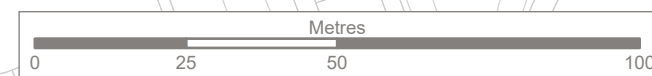
401 Faraday Street, Risley, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Pyramid Park, Bury

Title
Phase 1 Habitat Survey

Drawing Number
G9302.02.006

Drawn	Checked	Approved	Scale	Date
CW	BJ	EH	1:1,250 @ A3	12/06/2024



HEAD OFFICE
WARRINGTON

01925 844004
tep@tep.uk.com

MARKET HARBOROUGH

01858 383120
mh@tep.uk.com

GATESHEAD

0191 605 3340
gateshead@tep.uk.com

LONDON

020 3096 6050
london@tep.uk.com

CORNWALL

01326 240081
cornwall@tep.uk.com
