AtkinsRéalis

Volume 2, Chapter 8 - Biodiversity

Manchester City Council

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FORMER CENTRAL RETAIL PARK – THE PARK

AtkinsRéalis - Sensitive / Sensible

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8. Biodiversity

8.1 Executive summary

The potential ecological impacts of the Proposed Development have been assessed following appropriate methodologies. Impacts to any important ecological features within the study areas have been characterised and appropriate mitigation outlined.

During construction of the Proposed Development, there would be minor adverse impacts on a small number of biodiversity features including Rochdale Canal, Ashton Canal SBI, New Islington Marina, and Cotton Field Park (managed urban greenspace). This includes impacts from potential ground and water pollution incidents as well as habitat clearance within Cotton Field Park (an area of managed urban greenspace).

Embedded mitigation measures have been incorporated into the Proposed Development to avoid and prevent effects including environmental working practices to ensure adequate pollution control measures are implemented and use of precautionary methods of working (PMW) during construction. The Proposed Development would result in an increase in habitats in terms of area and quality (through grassland, shrub, and tree planting) to ensure that sufficient and increased habitat is provided. This is supported by a Biodiversity Net Gain assessment which shows for area habitats, the post-development scenario results in a total net % change of 199.72%, meeting the requirement for a 10% uplift in biodiversity units. For watercourse habitats, whilst there is no net loss, the requirement for a 10% uplift in biodiversity units has not been met. Therefore, the Proposed Development is required to deliver 0.002 watercourse biodiversity units. This could be achieved through on-site enhancement, off-site enhancement, or purchasing biodiversity credits (either through a biodiversity banking scheme or statutory biodiversity credits).

No significant adverse residual effects have been predicated as a result of the Proposed Development.

8.2 Introduction

This chapter of the ES assesses the likely ecological effects of the Proposed Development. The chapter also describes the assessment methodology, the existing baseline conditions, potential impacts, assessment of effects, the mitigation measures required to prevent, reduce, or offset any significant adverse effects, the likely residual effects after these measures have been employed, and the 'inter-project cumulative effects associated with the Proposed Development in combination with other developments within 250 m of the Site.

Intra-project cumulative effects, which are the combined effects of individual topic impacts on a particular sensitive receptor, are considered in ES (Volume 2) Chapter 20: Cumulative Effects.

This chapter is supported by the two appendices:

- Volume 3, Appendix 8.1 - Target Notes and Photographs
- Volume 3, Appendix 8.2 - Biodiversity Net Gain Assessment

8.3 Competent expert evidence

This ecological assessment has been undertaken and reviewed by:

- An Associate Ecologist who is a Chartered Ecologist (CEcol) and who holds full professional membership with the Chartered Institute of Ecological and Environmental Management (CIEEM). They have over ten years of knowledge and experience in undertaking ecological assessments and have used their knowledge and professional judgement to undertake this assessment.
- An Associate Ecologist who holds full professional membership with CIEEM. They have over 20 years of knowledge and experience in ecological assessments and have used their knowledge and professional judgement to undertake a technical review of this assessment.

8.4 Relevant legislation and guidance

8.4.1 National policies

National Planning Policy Framework (NPPF)[1] December 2023

The NPPF sets out the Government's planning policies for England and provides a framework within which the appropriate local authority can produce local and neighbourhood plans; the NPPF is a material consideration in making planning decisions. Key guidance on biodiversity is in Chapter 15 (Conserving and enhancing the natural environment). Paragraph 180 states that "Planning policies and decisions should contribute to and enhance the natural and local environment by":

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Paragraph 185 builds on this by stating that plans should protect and enhance biodiversity through the identification, mapping and safeguarding of "components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation". Furthermore, plans should "promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity".

Paragraph 186 provides the following principles that local planning authorities should follow when determining planning applications:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.
- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely

[1] Department for Levelling Up, Housing & Communities. National Planning Policy Framework. DLUHC, December 2023. Available at: National Planning Policy Framework - Guidance - GOV.UK (www.gov.uk)

impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest.

- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons[2] and a suitable compensation strategy exists.
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

8.4.2 Legislation

The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations)

The Habitats Regulations transpose into UK law the Habitats Directive (Council Directive 92/43/EEC) and the Wild Birds Directive (Directive 2009/147/EC), i.e. the Nature Directives).

The Habitats Regulations offer protection to a number of plant and animal species via the designation of Special Areas of Conservation (SAC) and Special Protection Areas (SPA). The Regulations also offer protection to a number of 'European Protected Species' (EPS).

The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 in light of the UK's withdrawal from the European Union. The amendment does not make any substantive changes to the protection of SACs, SPAs or species classed as EPS as protected under the Habitats Regulations. It does however change the nomenclature of the protected sites network within the UK. The Natura 2000 site network, comprising SPAs, SACs and Ramsar sites is now titled the National Sites Network within the UK. The National Sites Network does not include Ramsar sites; however, it is noted that many Ramsar sites overlap with SAC and SPA sites and all Ramsar sites continue to be protected in the same way as SACs and SPAs.

Wildlife & Countryside Act (WCA) 1981 (as amended)

The Act consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and the Wild Birds Directive in Great Britain.

The Act gives protection to:

- Wild birds (including special protection from disturbance for birds listed on Schedule 1 of the Act);
- Wild animals listed on Schedule 5 of the Act; and
- Wild plants listed on Schedule 8 of the Act.

The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act.

The Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) – these sites are identified for their flora, fauna, geological or physiographical features. The Act also contains measures for the protection and management of SSSIs.

The Act provides for the declaration of National Nature Reserves (NNRs) by the statutory country conservation agencies. NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them.

Natural Environment & Rural Communities (NERC) Act 2006 (as amended)

Section 40 of the NERC Act 2006 places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

Under Section 41 of the Act, the Secretary of State must, in consultation with Natural England, must publish a list of the living organisms and types of habitat which, in the Secretary of State's opinion, are of principal importance for the purpose of conserving biodiversity in England, i.e. the S.41 list.

All planning decisions must be made with regard for the conservation of Habitats of Principal Importance (HoPI) and Species of Principal Importance (SoPI).

Protection of Badgers Act (1992)

This Act lists activities and behaviours which constitute an offence in relation to badgers in order to support the conservation and welfare of this historically persecuted species. The Act consolidates the Badgers Act 1973, the Badgers Act 1991 and the Badgers (Further Protection) Act 1991.

National Parks and Access to the Countryside Act 1949

Under this Act, Local Nature Reserves (LNRs) may be declared by local authorities after consultation with the relevant statutory nature conservation agency. LNRs are declared and managed for nature conservation, and provide opportunities for research and education, or simply enjoying and having contact with nature.

The Act (in addition to the WCA 1981 (as amended)) provides for the declaration of NNRs by the statutory country conservation agencies.

The Invasive Alien Species (Enforcement and Permitting) Order 2019

The Enforcement Order requires management measures to be put in place for 14 widespread invasive alien species. These management measures seek to minimise the effect these species have on biodiversity, related ecosystem services, human health and the economy.

Environment Act 2021

The Act creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The key tool to calculate this will be the Defra Statutory Biodiversity Metric. Works to deliver biodiversity net gain can be carried out either onsite or offsite or through the purchase of 'statutory biodiversity credits' from the Secretary of State. Both onsite and offsite mitigation must be maintained for at least 30 years after development.

[2] For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

8.4.3 Regional and local policies

Manchester's Core Strategy 2012 – 2027[3]

Policy EN 15 Biodiversity and Geological Conservation states:

"The Council will seek to maintain or enhance sites of biodiversity and geological value throughout the City. Particular consideration will be given to:

- sites with international or national designations for their biodiversity value. Manchester contains one Site of Special Scientific Interest (SSSI) (Cotteril Clough); there is a Special Area of Conservation (SAC) and an SSSI just over the border in Oldham (both on the Rochdale Canal within Oldham);
- other sites of biodiversity value, including Sites of Biological Importance (SBIs) and Local Nature Reserves (LNRs); Manchester currently has 35 SBIs (including the Rochdale and Ashton Canals) and 7 LNRs; priority habitats found within Manchester, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);
- protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);
- sites that are recognised for their geological importance;
- the Council's objective to protect and conserve the City's existing trees and woodlands and the aim for a net increase in trees across the City.

Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate, with reference to:

- the Manchester Biodiversity Strategy, which provides further details of priority habitats within Manchester and opportunities for biodiversity enhancement including corridors such as the Mersey, Medlock and Irk river valleys, the canals and disused railway lines and areas of managed greenspace particularly in parks;
- the Green Infrastructure Framework for Greater Manchester, which encompasses an ecological framework that seeks to guide and inform habitat creation and repair including identifying large 'biodiversity opportunity areas' including the Moston Brook Corridor and Nutsford Vale;
- the Open Space, Sport & Recreation Study, which identifies areas where there is a deficit of natural and semi-natural greenspace, opportunities for green corridors and other linkages;
- Manchester's Climate Change Action Plan;
- the Strategic Flood Risk Assessment (SFRA) for Manchester;
- the Habitats Regulations Assessment (HRA) for Manchester, which gives detailed consideration to Special Areas of Conservation (SACs), including the Rochdale Canal SAC just outside the district boundary;
- the River Basin Management Plan for the North West;
- the Manchester Tree Strategy.

Any adverse impacts on biodiversity will need to be justified against the wider benefits of the proposal, assessed against other LDF policies. Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation."

The Greater Manchester Biodiversity Action Plan (GM BAP)[4]

The overall aim of the GM BAP is "To promote the conservation, protection and enhancement of biological diversity in Greater Manchester for current and future generations". Habitat Action Plans included in the GM BAP are:

- Grasslands;
- Hedgerows;
- Lowland mosslands;
- Reedbeds and bittern;
- Ponds and lodges;
- Canals;
- Native woodlands;
- Uplands; and
- Urban managed greenspace.

Species Action Plans included in the GM BAP are:

- Bats;
- Black redstart;
- Farmland birds;
- Great crested newts;
- Hares;
- Native black popular;
- Twite;
- Water vole; and
- Willow tit.

The 'Biodiversity Strategy 2022 – 2030: The City of Manchester's Nature Recovery' [5]

Highlights the ambition to improve nature in Manchester by the following:

- Increase the scale of practical action to protect and recover habitats throughout the city;
- Make smarter, evidence-based decisions on practical and policy actions to protect and recover nature in Manchester; and
- Increase our understanding of the ecology and species diversity in our city.

The sections below summarise the technical standards and guidance applicable to biodiversity.

Places for Everyone Joint Development Plan[6]

The Places for Everyone (PfE) plan provides objectives and guidance policies to help create inclusive and sustainable economic growth across nine boroughs. It reinforces the ambition to bring forward development on brownfield land and provide greater protection of environmental assets whilst also supporting wider strategies around clean air, walking and cycling and underpins the ambition to be a carbon neutral city region by 2038. Specifically, the plan includes policies on Urban green spaces (JP-G6) and A net enhancement of biodiversity (JP-G8).

[3] Core Strategy 2012-2027 | Core Strategy 2012-2027 | Manchester City Council
[4] GMLRC Projects - Greater Manchester Biodiversity Action Plan
[5] Biodiversity Strategy 2022-2030 The City of Manchester's Nature Recovery
[6] Places for Everyone Joint Development Plan Document (greatermanchester-ca.gov.uk)

8.5 Assessment methodology

8.5.1 Zone of Influence

The Zone of Influence (ZoI) is defined as the area over which ecological features may be affected by biophysical changes as a result of the Proposed Development and associated activities. The size and shape of the ZoI will depend on the ecological features present at the Site and the nature of the proposals and predicted impacts. The ZoI typically extends beyond a project's boundaries (for example where there are ecological or hydrological links beyond site boundaries), and takes into account both on-site impacts, and impacts that may occur to adjacent and/or more distant ecological features. In order to determine the ZoI, the size, location, and nature of a project needs to be considered alongside the likely impacts, sensitivities of ecological features, and potential for in combination effects.

8.5.2 Survey/Study Area

The 'Survey Area' includes all land within the Site and land up to 50 m from the Site where access was allowed. An additional 'Study Area' is also included from the Site which varies according to the target feature, species, or species group being surveyed.

The geographical area for obtaining ecological data through desk studies has been determined using professional judgement. The Study Areas used are outlined within Table 8-1.

Table 8-1 - Study Area buffers

Data type	Study area – distance from the Site
Statutory designated sites for nature conservation[7]	2 km
Irreplaceable habitats[8] and priority habitats[9]	2 km
Non-statutory designated sites for nature conservation (in Manchester these are referred to as Sites of Biological Importance SBI))	1 km
Protected and priority species[9]	1 km (extended to 2 km for bats)

8.5.3 Data collection

Desk study and consultation

Baseline data have been gathered from a range of sources through data requests and using online resources as outlined below. This included data gathering in relation to statutory and non-statutory designated sites for nature conservation, priority habitats[9], and protected and priority species[9]. The Study Areas used for the data gathering are detailed in Table 8-1 above. Greater Manchester Local Records Centre (GMLRC) data was received on 23 July 2023 in order to inform early design for the Proposed Development; this provided desk study data, including details of protected and priority species and non-statutory designated sites for nature conservation to inform the early design. The desk study was then undertaken on 24 January 2024 for this assessment.

For species records collected, only those within ten years of the data collection date have been considered within the assessment.

The following online resources were accessed:

- Magic Map[10]; and
- The Woodland Trust's Ancient Tree Inventory[11].

Ordnance Survey maps and the Grid Reference Finder website[12] were used to identify the presence of waterbodies within 500 m of the Site, in order to establish if the land within and immediately surrounding the Site could be used as terrestrial habitat for great crested newts. This species typically uses suitable terrestrial habitat up to 500 m from a breeding pond. However, there is a notable decrease in great crested newt abundance beyond a distance of 250 m from a breeding pond[13].

Ecological field surveys

The geographical area for undertaking ecological field surveys has been determined using current survey guidance, professional judgement, and the ZoI, which have been determined based on the nature of the impacts arising from the Proposed Development.

Field surveyor competencies

All the field surveys were led by surveyors who have been assessed[14] to be at least of capable experience following the CIEEM competency framework[15]. Surveys were led by surveyors with a Field Identification Skills Certificate (FISC) Level 4[16]. As set out in the FISC Botanical Field Skills Pyramid[17], a Level 4 certified surveyor has sufficient plant

[7] This includes Special Protection Areas (SPA), Special Areas of Conservation (SAC), Ramsar sites, National Nature Reserves (NNR), and Local Nature Reserves (LNR). In addition potential SPAs, candidate SACs/SPAs, and proposed Ramsar sites are included.

[8] As defined within the NPPF (2023) "Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."

[9] As set out in Box 1 on page 4 of the CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of
Ecology and Environmental Management, Winchester, priority habitats and species include those listed as a national priority for conservation (i.e. a Habitat of Principle Importance (HoPI) or Species of Principle Importance (SoPI) in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (as amended) and/or local priority for conservation (e.g. in the local Biodiversity Action Plan (BAP)), International Union for the Conservation of Nature (IUCN) Red List or Amber List, Nationally Rare or Nationally Scarce, or endemic to a country or geographic location.

[10] https://magic.defra.gov.uk/magicmap.aspx [Accessed: 24/01/2024]

[11] https://ati.woodlandtrust.org.uk/ [Accessed: 24/01/2024]

[12] https://gridreferencefinder.com [Accessed: 24/01/2024]

[13] Natural England (2004) An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt (ENRR576). http://publications.naturalengland.org.uk/publication/134002

[14] Assessment undertaken by Atkins ecological technical leadership team in accordance with CIEEM competency criteria.

[15] https://www.cieem.net/competency-framework

[16] https://bsbi.org/wp-content/uploads/dlm_uploads/2023/07/FISC-Information-Booklet-2023-Final-updated-7-July-2023-marking-tables.pdf

[17] Available at: https://bsbi.org/wp-content/uploads/dlm_uploads/2021/05/FISC-booklet-2021.pdf [Accessed 15/05/2024]

identification skills to survey a site for vascular plants, grasses, sedges, and ferns and is competent to undertake National Vegetation Classification surveys.

Walkover survey

An ecological walkover survey of areas within and adjacent to the Site, including land up to 50 m from the Site where access was allowed (the Survey Area), was undertaken on 13 July 2023 and updated on 10 April 2024.

Habitats were mapped using the UK Habitat Classification (UKHab) v2.0 system[18]. UKHab is a comprehensive and hierarchical habitat classification system for the UK that has been developed to benefit from recent changes in habitat categorisation, recording and analysis, and is suitable for digitally recording in the field using GIS. It is fully compatible with other major existing classifications, including priority habitat types and Habitats Directive Annex I habitat types[19].

All habitats were recorded to at least Level 3 of the UKHab hierarchy, i.e. broad habitats such as neutral grassland or dense scrub. Any Level 4 habitats and Level 5 habitats have also been recorded. In addition, 'Essential Secondary Codes' have been recorded to describe habitat mosaics, complexes and their origins. All habitat features have been digitally mapped, using QGIS, as either polygons, lines, or points and assigned to a UKHab Primary Habitat Code.

Vascular plant names recorded during the survey followed Stace[20].

Target Notes (TN) were used to record specific details on the plant species composition of the habitats, current management, and quality within the Survey Area. TNs were also used to record features of ecological importance (e.g. any ponds, veteran trees, and complex habitat mosaics etc.).

In addition to mapping the habitats within the Survey Area, the survey also included an assessment of the possible presence of protected or priority species[9]. This included recording any incidental sightings or field signs from such species.

The survey comprised assessing the suitability of the habitats present for, and recording any evidence of, the following species (in line with good practice guidance available at the time of the survey):

- Badgers[21];
- Bats[22];
- Otters[23],[24];
- Water voles[25];
- Breeding birds[26];
- Reptiles[27];
- Amphibians (terrestrial and aquatic habitats), including an assessment of aquatic habitat for its suitability to support great crested newts using the Habitat Suitability Index (HSI) assessment[28];
- White-clawed crayfish[29];
- Freshwater pearl mussel[30];
- Priority invertebrates[31],[32];
- Priority plants[33] and fungi [34].

The presence of invasive species was recorded where seen, including but not limited to the following:

- Evidence of animal species as listed on the Invasive Alien Species (Enforcement and Permitting) Order 2019; Chinese mitten crab, red swamp crayfish, signal crayfish, spiny-cheek crayfish, muntjac deer, ruddy duck, Egyptian goose and grey squirrel;
- Evidence of the presence of the following invasive species: Japanese knotweed, giant knotweed, hybrid knotweed[35], giant hogweed, Himalayan balsam, rhododendron[36], New Zealand pigmy weed, Virginia creeper[37], variegated yellow archangel, cotoneaster species[38], yellow azalea, few-flowered leak, montbretia, giant rhubarb, Japanese rose, three-cornered garlic, fanwort, floating pennywort, curly waterweed, water hyacinth, floating water primrose, parrot's feather and waterweeds (all species of the genus Elodea). These are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA) and subject to strict legal control.

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[18] UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://ukhab.org/)
[19] Council Directive 92/43/EEC (1992) on the conservation of natural habitats and of wild fauna and flora (known as the 'Habitats Directive').
[20] Stace (2019) New Flora of the British Isles 4th edition.
[21] Harris S., Cresswell P. and Jefferies D. (1989) *Surveying badgers*. Mammal Society – No9.
[22] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.
[23] Chanin and Smith (2003). *Monitoring the otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. Peterborough, English Nature.
[24] Liles G. (2003). *Otter Breeding Sites. Conservation and Management*. Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough.
[25] Dean, M. et al (2016) *The Water Vole Mitigation Handbook*. Mammal Society.
[26] Bird Survey & Assessment Steering Group. (2022). *Bird Survey Guidelines for assessing ecological impacts, v.0.1.7*. Available at: https://birdsurveyguidelines.org [Accessed: 24/01/2024]
[27] Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife advice sheet 10.
[28] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000) *Evaluating the suitability of habitat for the Great Crested Newt* (*Triturus cristatus*) Herpetological Journal 10 (4), 143-155 (2000).
[29] Peay S. (2003) *Monitoring the White-clawed Crayfish Austropotamobius pallipes.* Conserving Nature 2000 Rivers Monitoring Series No. 1. English Nature, Peterborough.
[30] NatureScot (2018) *Freshwater pearl mussel survey protocol - for use in site-specific projects*. Available at: https://www.nature.scot/doc/freshwater-pearl-mussel-survey-protocol-use-site-specific-projects [Accessed: 24/01/2024]
[31] Buglife, Good planning practice for invertebrates: Surveys. Available at: https://cdn.buglife.org.uk/2019/07/Good-practice-planning-surveys.pdf [Accessed: Accessed: 29/01/2024]
[32] English Nature, Organising surveys to determine site quality for invertebrates. Available at: https://publications.naturalengland.org.uk/publication/69045 [Accessed: 24/01/2024]
[33] Hill, D.A. ed., 2005. Handbook of biodiversity methods: survey, evaluation and monitoring. Cambridge University Press.
[34] At the present time there is no current survey guidance for fungi. However, the SSSI selection guidelines for non-licenced fungi provide some survey methodologies for some groups. Available at: https://hub.jncc.gov.uk/assets/d1fcb171-8086-4f5b-ade5-a34c5edc78c5. [Accessed: 24/01/2024]
[35] Hybrid knotweed species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) include *Fallopia japonica* x *Fallopia sachalinensis*
[36] Although there are approximately 1,200 species of rhododendron, just one species and one of its hybrids are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): *Rhododendron ponticum* and *Rhododendron ponticum x Rhododendron maximum*.
[37] Virginia creeper species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) include *Parthenocissus quinquefolia* and *Parthenocissus inserta*
[38] There are approximately 100 species of cotoneaster found in the UK, but only five are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): *Cotoneaster horizontalis*, *Cotoneaster integrifolius*, *Cotoneaster simonsii*, *Cotoneaster bullatus* and *Cotoneaster microphyllus*.

8.5.4 Identifying important ecological features

The nature conservation importance or potential importance of an ecological feature has been determined within the following geographic context (adapted from the framework for assessing, mitigating and reporting the impact on biodiversity resources in Design Manual for Roads and Bridges LA 108 Biodiversity[39]) as set out in Table 8-2.

Table 8-2 - Criteria for determining the value of biodiversity receptors

Importance level	Sites	Habitats	Species
International or European	Internationally designated sites for nature conservation, including: • Special Protection Areas (SPA) • potential SPA (pSPA) • Special Areas Conservation (SAC) • Candidate or possible SACs (cSAC/pSAC) • Wetlands of International Importance (Ramsar sites).	N/A	Resident, or regularly occurring, populations of species which can be considered at an international or European level.
UK or National	Internationally designated sites for nature conservation, including: • Sites of Special Scientific Interest (SSSI) • National Nature Reserves (NNR) • Marine Protected Areas (MPA) including Marine Conservation Zones (MCZ)	• Areas of UK Biodiversity Action Plan (BAP) priority habitats • Areas of habitat which meet the definition for habitats listed above but which are not themselves designated or listed as such.	Resident, or regularly occurring, populations of species which can be considered at UK or national level.
Regional	Designated sites (non-statutory) including heritage coasts.	Areas of habitats identified (including for restoration) in regional plans or strategies (where applicable).	Resident, or regularly occurring, populations of species which can be considered at a regional level.
County or equivalent authority	Non-statutory designated sites for nature conservation (such as Sites of Biological Importance).	Areas of habitats identified in county or equivalent authority plans or strategies (where applicable).	Resident, or regularly occurring, populations of species which can be considered at county level.
Local	Wildlife or nature conservation sites designated at a local level.	Areas of habitat considered to appreciably enrich the habitat resource within the local context including features of importance for migration, dispersal, or genetic exchange.	Populations or communities of species considered to appreciably enrich the habitat resource within the local context including features of importance for migration, dispersal or genetic exchange.

[39] LA 108 - Biodiversity (standardsforhighways.co.uk)

A number of resources have been used to determine importance and these are referenced, where relevant, within the baseline results.

This ES chapter has undertaken a detailed assessment of ecological features considered to be 'important' (known as Important Ecological Features (IEFs)). The baseline information and nature conservation evaluation have been used to identify IEFs which can be designated sites for nature conservation, habitats, species, ecosystems, and/or their functions/processes considered to be important and potentially affected by the Proposed Development.

Ecological features that have been identified to be of less than local importance are not considered to be IEFs and as such, have not been considered within the impact assessment. Where mitigation is required for these features for legal reasons this is detailed within the mitigation section.

8.5.5 Impact assessment

The assessment of the potential impacts of the Proposed Development takes into account both on-site impacts and those that may occur to adjacent and more distant ecological features.

Where impacts have been identified, details are provided within the assessment to characterise these in terms or their extent and magnitude, duration, frequency and timing, and reversibility. Both adverse and beneficial impacts are discussed. Impacts were also characterised in terms of how they occur, i.e. direct, indirect secondary or cumulative. Impacts can be permanent or temporary and can include:

- Direct loss and degradation of wildlife habitats;
- Fragmentation and isolation of habitats;
- Mortality and injury to species;
- Disturbance to species from noise, light or other visual stimuli;
- Changes to key habitat features; and
- Changes to the local hydrology, water quality and/or air quality.

For designated sites for nature conservation, effects are considered significant when a project and associated activities are likely to either undermine or support the conservation objectives or condition of the site(s) and its features of interest.

For habitats, effects are considered significant when a project and associated activities are likely to result in a change in habitat structure and function.

Consideration is given to whether:

- Any processes or key characteristics will be removed or changed;
- There will be an effect on the nature, extent, structure and function of component habitats;
- There is an effect on the average population size and viability of component species; and
- Functions and processes acting outside the formal boundary of a designated site has also been considered, particularly where a site falls within a wider ecosystem e.g. wetland sites.

Some habitats can tolerate a degree of minor changes, such as localised or temporary disturbance or changes in physical conditions, without such changes harming their function or importance. For this ES chapter, ecological effects

have been considered in the light of any information available about the capacity of habitats to accommodate change. Significant effects have been determined as being either adverse or beneficial.

The conservation importance of undesignated habitats and species within a defined geographical area (International to Local) has been used in this assessment to determine whether the effects of the proposals are likely to be significant:

- For habitats, conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area; and,
- For species, conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

When assessing potential impacts on conservation importance, the known or likely background trends and variations in status have been taken into account. The level of ecological resilience or likely level of ecological conditions, that would allow the population of a species or area of habitat to continue to exist at a given level or continue to increase along an existing trend or reduce a decreasing trend, has been estimated where appropriate to do so.

The avoidance, mitigation, compensation and/or enhancement measures described within this ES chapter have been incorporated into the design and operational phasing programme and taken into account in the assessment of the significance of effects. These mitigation measures include those required to achieve the minimum standard of established good practice together with additional measures to further reduce any adverse effects of the Proposed Development. The mitigation measures include those required to reduce or avoid the risk of committing legal offences.

The principles of the mitigation hierarchy[40,41] have been adopted and used when considering impacts and subsequent effects on IEFs within the ZoI. The principles of the mitigation hierarchy are that, in order of preference, impacts on biodiversity should be subject to:

- Avoidance: Seek options that avoid harm to ecological features (for example, by locating on an alternative site);
- Mitigation: Adverse effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation; and
- Compensation: Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Additionally, projects should seek to provide enhancements which are net benefits for biodiversity over and above the requirements for avoidance, mitigation, or compensation.

The criteria for defining impact magnitude are set out in Table 8-3 (adapted from DMRB LA 108[39]).

Table 8-3 - Criteria for determining impact magnitude

Magnitude	Criteria	
Major	Adverse	Permanent/irreversible damage to a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact negatively affects the integrity or key characteristics of the resource
	Beneficial	Permanent addition of, improvement to, or restoration of a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact positively affects the integrity or key characteristics of the resource.
Moderate	Adverse	Temporary/reversible damage to a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact negatively affects the integrity or key characteristics of the resource.
	Beneficial	Temporary addition of, improvement to, or restoration of a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact positively affects the integrity or key characteristics of the resource
Minor	Adverse	Permanent and irreversible damage to a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
	Beneficial	Permanent addition of, improvement to, or restoration of a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
Negligible	Adverse	Temporary and reversible damage to a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
	Beneficial	Temporary addition of, improvement to, or restoration of a biodiversity resource. The extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource

Impacts have been assessed and described within the setting of their assigned value and will be described and reported using the following terms relating to significance applied: Major, Moderate, Minor, Negligible, or No Change. The approach to the derivation of significance is as detailed within Table 8-4 (adapted from DMRB LA 108[39]).

For the purposes of the assessment and in accordance with good practice, where more than one significance level is shown in Table 8-4, professional judgement has been used to clarify the differentiation and conclude the effect.

Very large, Large, and Moderate effects are considered 'significant'. Slight and Neutral effects are considered 'not significant'. The effects can be either adverse or beneficial.

Table 8-4 - Significance of effect matrix

		Impact magnitude				
		Major	**Moderate**	**Minor**	**Negligible**	**No Change**
Resource Importance	International or European importance	Very large	Large or very large	Moderate or large	Slight	Neutral
	UK or National importance	Large of very large	Moderate or large	Slight or moderate	Slight	Neutral
	Regional importance	Moderate or large	Moderate	Slight	Neutral or slight	Neutral
	County or equivalent authority importance	Slight or moderate	Slight	Neutral or slight	Neutral or slight	Neutral

[40] Department for Communities and Local Development (2023) National Planning Policy Framework, https://www.gov.uk/government/publications/national-planning-policy-framework--2

[41] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, Paragraph 1.19. Chartered Institute of Ecology and Environmental Management, Winchester.

	Impact magnitude				
	Major	**Moderate**	**Minor**	**Negligible**	**No Change**
Local	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

8.5.6 Assumptions and limitations

Access was not possible to all areas within 50 m of the Site (the Survey Area), predominantly to the north-west of the Site due to it being under private ownership with no public access. However, this is not considered a significant limitation due to the highly urban nature of the Site and wider Survey Area, which consists predominantly of hardstanding, buildings, and small areas of modified and other neutral grassland. Habitats not accessed during the survey could be viewed from within the Site and mapped accordingly. The predominance of built development is not considered to support suitable habitats for significant assemblages of protected/priority species and therefore, this is not considered to be a significant limitation to the assessment on biodiversity.

The methodology used for surveying for bats used the most up-to-date guidance at the time of survey (July 2023)[42]. However, since this time, the good practice bat survey guidance has been updated[43]. Due to the limited suitability for bats within the Site, the updated guidance is unlikely to have any significant difference on the results of the assessment. Therefore, this is not considered to be a significant limitation.

Several trees were covered by dense ivy which may mean that PRFs were obscured. A precautionary approach was therefore taken whereby assuming roosting features are present when assessing suitability, and as such, this is not considered a significant limitation.

The desk study reviewed the Woodland Trust's Ancient Trees Inventory. This provides records of ancient/veteran trees, but is not an exhaustive list, and other ancient/veteran trees may be present in the area. The preliminary ecological walkover survey aimed to identify such features and as such this is not considered a constraint.

The search for waterbodies within 500 m of the Site was undertaken by using Ordnance Survey plans and aerial photographs only. These sources may not show all ponds and or waterbodies within 500 m of the Site and therefore some waterbodies may not have been identified. However, due to the very urban nature of the Site and wider Survey Area (predominantly comprising built development), which offers poor habitat suitability and connectivity for amphibian species, this is not considered to be a significant limitation.

The records from Greater Manchester Local Records Centre are not exhaustive, and the absence of records does not necessarily demonstrate the absence of a species. Where likely absence of a species cannot be confidently discounted, a precautionary approach has been undertaken whereby the species is assumed to be present unless the results from the field survey and desk study can evidence they are unlikely to be present.

Many cryptic taxa, particularly including apomictic species of plant, invertebrates and fungi, could not be adequately surveyed at the time of the survey. These groups require specialist survey and survey windows are generally highly restrictive, particularly for plants across the genera Taraxacum, Rubus, and Hieracium. However, attributable to the urban nature of the habitats present at the Site and wider Survey Area, this is not considered to be a significant limitation.

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The ecological surveys undertaken to support this ES chapter have not therefore produced a complete list of plants and animals, and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. Where likely absence of a species cannot be confidently discounted, a precautionary approach has been undertaken whereby any species are assumed to be present unless the results from the field survey and desk study can evidence they are unlikely to be present.

8.6 Baseline conditions

This section provides details of the ecological baseline relevant to the Proposed Development recorded during the desk study and field surveys undertaken. A baseline UKHab Map of the Survey Area, along with TNs, is provided on Figure 8.1.

8.6.1 Statutory and non-statutory designated sites

No statutory designated sites for nature conservation are located within 2 km of the Site.

Table 8-5 below details the non-statutory designated sites for nature conservation, identified though the desk study, within 1 km of the Site.

Table 8-5 - Non-statutory designated sites for nature conservation within 1 km of the Site

Site name	Designation	Location of designated site[44]	Features of interest	Importance level
Ashton Canal	Site of Biological Importance (SBI): Ashton Canal (west) SBI	70 m east (hydrologically connected via New Islington Marina which is adjacent to the Site)	Fw3 – Large Areas of Standing Open Water Aquatic plants. Floating water-plantain.	County
Rochdale Canal	SBI: Rochdale Canal Stott's Lane – Ducie Street Basin SBI	114 m west (likely hydrologically connected via New Islington Marina which is adjacent to the Site)	Fw3 – Large Areas of Standing Open Water Aquatic plants. Floating water-plantain (*Luronium natans*). Nine species of pondweed (*Potamogeton* sp.)	County

The two identified SBIs are of county importance due to containing nutrient poor standing water over 1 ha and populations of floating water-plantain as outlined within Greater Manchester Sites Of Biological Importance Selection

[42] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London

[43] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London

[44] Where designated sites are situated outside of the Site boundary, the distance and direction is given to the closest point that the designated site is from the Site.

Guidelines (ref: Fw3)[45]. The two SBIs also contain county level important populations of the plant: floating water-plantain.

The ZoI for non-statutory designated sites for nature conservation is the Site plus 50 m (for impacts such as noise/vibration, pollution, and lighting), extending to 1 km where there is hydrological connectivity (for consideration of impacts to water quality).

As the Site is located adjacent to New Islington Marina, which is connected hydrologically to Rochdale Canal Stott's Lane – Ducie Street Basin SBI (over a distance of approximately 190 m hydrologically), and Ashton Canal (West) SBI, these non-statutory designated sites for nature conservation have been taken forward within this assessment.

8.6.2 Irreplaceable habitats

No irreplaceable habitats (including ancient woodland or ancient or veteran trees) were identified within 2 km of the Site. In addition, no irreplaceable habitats were recorded during the field visit within the Survey Area.

Therefore, irreplaceable habitats are not considered further within this assessment.

8.6.3 Priority habitats

Several blocks of deciduous woodland are located within 2 km of the Site. The closest is located approximately 700 m east of the Site.

The ZoI for priority habitats is the Site plus 50 m (for impacts such as noise/vibration, pollution, and lighting). Therefore, as the woodlands are located more than 50 m from the Site, they are not considered further in the assessment.

8.6.4 Habitats

Habitats are mapped on the UKHab survey plan on Figure 8-1 with specific features highlighted by TNs on the figure. TN descriptions and photographs are provided in Appendix 8.1.

The Site includes vacant hardstanding areas with scattered ephemeral vegetation associated with derelict hardstanding areas (such as butterfly-bush, ragwort spp., thistle spp., and willowherb spp.) (TN01 and TN02) as well as artificial unvegetated, unsealed surface following clearance of the area under the adjacent Phase 1 planning application.

The northern aspect of the Site protrudes into Cotton Field Park (TN03), which is a managed amenity greenspace area consisting of modified, other neutral grassland, and urban trees. This area is also directly adjacent to New Islington Marina (TN04). Urban managed greenspaces are a local Biodiversity Action Plan (BAP) habitat within Greater Manchester which includes amenity (modified) grassland (intensively managed and regularly mown grassland) and town parks[46]. Therefore, the modified, other neutral grassland, and associated urban trees (which are part of Cotton Field Park) can be considered to be of county importance within Greater Manchester.

In addition, New Islington Marina (located adjacent to the Site and which leads directly into Rochdale Canal Stott's Lane – Ducie Street Basin SBI and likely into Ashton Canal (West) SBI) is located immediately north of the Site.

Canals are a local BAP habitat within Greater Manchester[47], and therefore, the adjacent canal is also considered to be of county importance.

The wider Survey Area consists mostly of buildings and roads from all directions from the Site, with further areas of modified grassland, other neutral grassland, and urban trees within the wider area of Cotton Field Park adjacent to the Site.

Planted around the Site (i.e. around the boundary of the former retail park) are a range of native and non-native scattered broadleaved trees (mostly rowan and false-acacia), ranging from young to mature in age and structure. These are trees planted as part of the previous retail development and are located within bricked planters with dense introduced shrub (including Wilson's honeysuckle, snowberry, wall cotoneaster, and butterfly-bush).

Broadleaved woodland (in the form of a line of trees) is present on the northern boundary of the Site (TN05). This mainly comprises small-leaved limes with ash, false-acacia, rowan, sycamore, hawthorn, and willow spp.

Table 8-6 below provides a summary description of each habitat within the Survey Area, identifies those habitats which are listed on Annex 1[48] and/or listed as priority habitats[9], and provides a nature conservation importance for each habitat. The table also provides details of the area of each habitat within the Site and the proportion of the Sites this makes up.

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[45] Greater Manchester Sites Of Biological Importance Selection Guidelines (2016) Version 2.0. Available at: https://www.tameside.gov.uk/ecologyunit/sbi/guidelines.pdf [Accessed: 24/01/2024]
[46] https://gmlrc.org/resources/downloads/gm_bap/urban_managed_greenspace_2003.pdf [Accessed: 24/01/2024]
[47] https://gmlrc.org/resources/downloads/gm_bap/canals_2003.pdf [Accessed: 24/01/2024]
[48] http://jncc.defra.gov.uk/page-1523 [Accessed: 24/01/2024]

385000 385100 385200 385300 385400

398500 398400 398300 398200

N

526 - Accessible Greenspace

33 - Line of Trees

TN04

TN03

TN05

TN12

TN13

TN06

TN01

TN02

TN10

524 - Invasive Non-Native Species

New Islington Free School

Redhill St

Great Ancoats Street

Ancoats

Pigeon St

Dudley St

Store St

Lockyard La

Vesta St

Old Mill St

Great Ancoats Street

AtkinsRéalis

- Site Boundary
- Survey Area
- Target Notes
- XX - Secondary Codes

Baseline Linear UKHab

- g3c - Other Neutral Grassland
- g4 - Modified Grassland
- h3h - Mixed Scrub
- r1e - Canals
- u1b - Developed Land; Sealed Surface

Baseline Linear UKHab

- w1g - Other Broadleaved Woodland

Baseline habitat classification and mapping undertaken for this assessment has used the UK Habitat Classification v2.0 system under licence (© UKHAB LTD, under licence. No onward licence implied or provided. All rights reserved [https://ukhab.org/register/]).

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Tel: +44(0)1454 662000
Fax: +44(0)1454 663333
www.atkinsrealis.com

Client
Manchester City Council

Project
Former Central Retail Park: The Park

Title
UKHab Baseline Plan

Sheet Size	Original Scale	Designed / Drawn	Checked	Authorised
A3	1:1,500	BT Date 02/08/24	RS Date 02/08/24	LR Date 02/08/24

Drawing Number
Figure 8-1

Rev
03

Table 8-6 – Habitat types within the Survey Area

Habitat type (and UKHab code and secondary codes)	Location of habitat[49]	Area of habitat/distance of linear feature ha/m	Annex 1 habitat Y/N	Priority habitat Y/N	Importance level	Rationale for valuation
u1c – Artificial unvegetated, unsealed surface	Within Site	0.52	N	N	N/A - not an IEF	Recently cleared land as part of the Phase 1 Developmeny. Considered to be of negligible ecological importance.
u1b - Developed land; sealed surface	Within Site and Survey Area	3.50 ha	N	N	N/A - not an IEF	Predominantly a hardstanding car park. Considered to be of negligible ecological importance.
h3h - Mixed scrub (Introduced shrub) *525 - Non native* *524 - Invasive non-native species* *32 - Scattered trees*	Within Site	0.02 ha	N	N	N/A - not an IEF	Comprised mostly of non-native species (such as wall cotoneaster and Wilson's honeysuckle) which have limited ecological value.
w1g - Other broadleaved woodland *521 - Unmanaged* *33 - Line of trees*	Within Site and Survey Area	84.8 m	N	N	N/A - not an IEF	Comprised of non-native and native species and is a common habitat which is considered to be of limited ecological value.
g4 - Modified grassland *32 - Scattered trees* *526 - Accessible greenspace*	With Cotton Field Park (an urban managed greenspace) at the northern extent of the Site.	0.45 ha	N	Y	County	Comprised of modified and other neutral grassland associated with Cotton Field Park. Urban managed greenspaces are a BAP habitat within Greater Manchester[50].
g3c - Other neutral grassland *32 - Scattered trees* *526 - Accessible greenspace*	With Cotton Field Park (an urban managed greenspace) at the northern extent of the Site.	0.17 ha	N	Y	County	Comprised of modified and other neutral grassland associated with Cotton Field Park. Urban managed greenspaces are a BAP habitat within Greater Manchester[51].
r1e - Canals	Marina leading to Rochdale Canal. Located immediately north of the Site	0.22 ha	N	Y	County	Canals are a BAP habitat within Greater Manchester.

[49] Where habitats are situated outside of the Site boundary, the distance and direction is given to the closest point that the habitat from is the Site.
[50] https://gmlrc.org/resources/downloads/gm_bap/urban_managed_greenspace_2003.pdf [Accessed: 24/01/2024]
[51] https://gmlrc.org/resources/downloads/gm_bap/urban_managed_greenspace_2003.pdf [Accessed: 24/01/2024]

The majority of the Site is developed land; sealed surface (hardstanding) and artificial unmanaged, unsealed surface, which has limited nature conservation importance; therefore it has not been taken forward within the impact assessment.

As urban managed greenspaces are a BAP habitat within Greater Manchester, and the Site contains managed modified grassland, other neutral grassland, and urban trees (as part of Cotton Field Park), these habitats are considered to be of county importance and have therefore, been taken forward for further consideration within the Impact Assessment.

The remaining vegetated habitats within the Site are considered to be less than Local level importance; they are not priority habitats and are unlikely to regularly support any assemblage or population of priority species.

Canals are a BAP habitat within Greater Manchester[52]. The ZoI for habitats is the Site plus 50 m (for impacts such as pollution). As the canal habitat is located within the ZoI and valued at county importance, this habitat has been taken forward for further consideration within the Impact Assessment.

8.6.5 Protected and priority species

This section provides details of the results of the desk study and walkover survey, along with the nature conservation importance for each species or species group.

Badgers

GMBRC provided 14 badger setts records within 1 km of the Site; however, no badger setts or field signs were recorded in, or within 50 m, of the Site.

The Survey Area does not provide suitable habitat for sett building due to it predominantly consisting of a hardstanding car park and unsealed surface lacking areas of loose earth suitable to excavate setts. The surrounding dense urban area and several waterbodies (including canals) surrounding the Site would indicate that badger presence is extremely unlikely due to unsuitable habitat and poor connectivity to potentially suitable habitat in the wider area.

As no suitable habitat for badger is present within the Survey Area, badgers are not considered further within this assessment.

Amphibians

GMBRC provided no records of amphibians within 1 km of the Site.

No ponds were identified within 500 m of the Site. Furthermore, habitat connectivity for this species group is considered to be poor due to the Site being bounded by an active canal (with sheer concrete edges) along the northern boundary, as well as dense urban areas surrounding the Site (including major roads).

As no suitable habitat for amphibians has been identified within the Site, and due to no desk study records being reported, amphibians are not considered further within this assessment.

Bats

GMBRC provided 70 bat records within 2 km of the Site, including 28 bat roost records. The closest record was a pipistrelle species record, located approximately 75 m north of the Site. The closest bat roost record was for a single common pipistrelle, non-breeding summer roost, located approximately 120 m south of the Site.

The habitats within the Site predominantly comprise hardstanding and unsealed surface, with a line of broadleaved woodland and modified/other neutral grassland which provide limited suitable habitat for foraging and commuting due to the high amount of artificial lighting of the surroundings. The waterbodies (such as New Islington Marina) and line of broadleaved woodland on the northern boundary of the Site would likely form part of a foraging area for bat species that may be roosting in the local area and may provide important commuting corridors to the wider landscape. There is suitable foraging, commuting, and potential roosting habitat in the wider surroundings including the canal networks and River Medlock located approximately 500 m east of the Site.

Overall, the Site is assessed as providing 'low' habitat suitability[53] for bats as whilst suitable habitat is present, it is limited in extent, and situated within an urban setting with significant artificial lighting reducing the overall suitability for foraging/commuting bats.

Trees are present within the Site and Survey Area (TN06 and TN10). No clear signs of bat roosting suitability were recorded within the trees on Site; however, two were covered in dense ivy (shown collectively on TN06), which may obscure suitable roosting features. Due to the size and age of the trees, these are considered to offer only very limited roosting potential and therefore, on a precautionary basis, have been assigned 'low' bat roosting suitability. Additionally, due to location of the Site within a heavily urbanised city centre location, the high levels of disturbance (e.g. noise and light), it is considered reasonably unlikely that roosting bats are present on the Site or the wider Survey Area.

No bat roosts have been recorded within the Site, and only five trees are present with precautionary 'low' bat roosting suitability likely suitable for widespread bat species only; therefore, roosting bats are considered to be of importance at the Site level only[54]. Therefore, roosting bats are less than Local level importance and not considered to be an IEF.

Due to the presence of existing lighting and ambient disturbance within the Site and poor surrounding habitat, the only bat species anticipated to be regularly present within the locality are those that are widespread, and tolerant of the urban environment such as common pipistrelle. The habitats within the Site (such as the urban trees and line of broadleaved woodland) are likely to be used by only small numbers of bats as flight paths, and they are generally not very well connected to the surrounding landscape. Due to the limited suitable foraging and commuting habitat within the Site, it is considered that foraging/commuting habitat within the Site is of importance at the Site level only. Therefore, foraging and commuting bats are less than Local level importance and not considered to be an IEF.

As bats within the Site are considered to be less than Local level importance at, they are not considered further within this assessment.

Birds

Sixty-five priority bird species records were provided by GMBRC within 1 km of the Site. This included three species listed on Schedule 1 of the WCA 1981 (as amended): black redstart, little ringed plover, and peregrine. No records of nesting birds were provided from within the Site.

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[52] https://gmlrc.org/resources/downloads/gm_bap/canals_2003.pdf [Accessed: 24/01/2024]

[53] The survey was undertaken in July 2023; therefore, the suitability score has been undertaken in accordance with Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London

[54] In accordance with Table 3.2 of Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

There was limited vegetation within the Site which was constricted to predominantly areas of hardstanding with smaller areas of introduced shrub, scattered urban trees, modified grassland, other neutral grassland, and a line of broadleaved woodland. The scattered urban trees and line of broadleaved woodland on the southern and northern boundary may provide suitable nesting opportunities for several species of common and widespread bird species associated with urban habitats. No active nests were identified during the walkover survey; however, nests may have been obscured by dense vegetation.

There was a lack of loose or bare earth, gravel, significant areas of ephemeral vegetation, freshwater habitats (such as ponds), or buildings, that could support specialist bird species, such as little ringed plover or black redstart.

Overall, the Site is not considered suitable to regularly support a species assemblage of birds, notable for their protected or conservation concern status (including those listed on Schedule 1 of the WCA 1981 (as amended)). It is, therefore, considered that the Site is of less than Local level importance for breeding birds. Therefore, they are not considered further within this assessment.

Widespread species of reptiles

GMBRC provided no records of reptiles within 1 km of the Site.

The habitats within the Site predominantly comprises hardstanding and closely mown modified and other neutral grassland with limited habitat features suitable for reptiles (such as log or rubble piles). Furthermore, the Site is poorly connected to potentially suitable reptile habitat in the wider area due to being surrounded by a canal on the northern boundary and dense urban environment on the south, east, and western boundaries. Furthermore, the Site has been subject to previous disturbance through previously being a retail park and car park (and subsequent demolition), and recently, a large car park. Due to this, it is considered highly unlikely that reptiles would be present within the Site.

As no suitable habitat for reptiles has been identified within the Site, and due to no desk study records being reported, reptiles are not considered further within this assessment.

Otter and water vole

GMBRC provided no records of otter or water vole within 1 km of the Site.

Rochdale Canal is located 113 m west of the Site, and the Ashton Canal is approximately 70 m east of the Site. New Islington Marina (hydrologically connected to Rochdale Canal) is located immediately north of the Site. These waterbodies were not considered to provide suitable breeding and resting opportunities for otter and water vole due to their sheer concrete bank edges and lack of bankside vegetation. It is considered unlikely that both species would use this waterbody for commuting and foraging purposes as New Islington Marina is an active marina with limited areas of vegetation and prey availability.

Habitat connectivity, for these species, between both the Rochdale Canal and Ashton Canal and the Site is poor due to the presence of walled and fenced boundaries surrounding the Site on the northern boundary. Furthermore, the Site itself does not contain suitable aquatic habitat for otters and water vole.

Due to the lack of any suitable habitat for otters and water voles recorded within the Site, and the poor connectivity from the Site (including brick walls) to suitable habitat in the wider, otters and water voles are not considered further within this assessment.

White-clawed crayfish and freshwater pearl mussel

GMBRC provided no records of white-clawed crayfish and freshwater pearl mussel within 1 km of the Site.

The Site is approximately 114 m east of the Rochdale Canal and the Ashton Canal is approximately 70 m east of the Site. The waterbodies were considered to provide unsuitable habitat for white-clawed crayfish and freshwater pearl mussel. Both species require clean, flowing, watercourses with pebble/gravel substrate. The canals have limited flow, are turbid, and generally unsuitable for these species. The Site itself offers no suitable habitat for white-clawed crayfish or freshwater pearl mussel.

As no suitable habitat is present within the Site or Survey Area, they are not considered further within this assessment.

Priority invertebrates

GMBRC provided nine records of priority invertebrates including cinnabar moth and white-letter hairstreak (a butterfly) records within 1 km of the Site.

The Site predominantly comprises hardstanding, unsealed surface, and managed modified/other neutral grasslands with very limited areas of vegetation or habitat suitable to regularly support a significant species assemblage of invertebrates, notable for their protected or conservation concern status.

As very limited suitable habitat for priority invertebrates is present within the Site or Survey Area, priority invertebrates are of less than Local level importance, and therefore, they have not been considered further within this assessment.

Priority plants/fungi

GMBRC provided no records of priority plants within 1 km of the Site.

The Site predominantly comprises hardstanding and managed modified/other neutral grasslands with very limited areas of vegetation or habitats that would provide suitability for priority plant and fungi species.

As no suitable habitat for priority plants/fungi is present within the Site, they are not considered further within the assessment.

Other priority mammal species

GMBRC provided two records of hedgehog within 1 km of the Site. No other records of priority mammal species were returned.

The walkover survey found there to be limited suitable habitat for priority mammal species (including hedgehog) within the Survey Area. Connectivity between the Site and surrounding area is poor for ground based terrestrial mammals due to the presence of walled boundaries and several major roads.

Due to the lack of any suitable habitat for priority mammal species (including hedgehog) recorded within the Survey Area, and the poor connectivity from the Site (including brick walls) to suitable habitat that may be present in the wider area, priority mammal species are not considered further within the assessment.

8.6.6 Non-native invasive plant species

No records of invasive non-native plant species (INNPS) within 1 km of the Site were provided by GMBRC.

During the walkover survey, wall cotoneaster[55] was recorded extensively within the ornamental planters on the southern boundary of the Site (TN12 and TN13).

Butterfly-bush was recorded throughout the Survey Area. Whilst this species is not listed[56] as an INNPS, it is a species that spreads quickly and may damage or weaken masonry.

8.6.7 Summary of Important Ecological Features

Table 8-7 below provides a summary of the features of nature conservation importance (IEFs) which are considered within the impact assessment. The table also provides details of the ZoI for the IEFs.

Table 8-7 - Determination of importance of ecological features and details of their zone of influence

Important ecological feature	Summary of baseline	Maximum zone of influence[57]	Importance level	Rationale for valuation
Rochdale Canal	Rochdale Canal Stott's Lane – Ducie Street Basin is a non-statutory designated site for nature conservation connected hydrologically via New Islington Marina (which is located directly adjacent to the Site).	50 m (for impacts such as noise/vibration, pollution, and lighting), extending to 1 km where there is hydrological connectivity (for consideration of impacts to water quality)	County	Non-statutory designated site for nature conservation for aquatic plants floating water-plantain (*Luronium natans*) and nine species of pondweed (*Potamogeton* sp.).
Ashton Canal	Ashton Canal (West) SBI is a non-statutory designated site for nature conservation connected hydrologically via New Islington Marina (which is located directly adjacent to the Site).	50 m (for impacts such as noise/vibration, pollution, and lighting), extending to 1 km where there is hydrological connectivity (for consideration of impacts to water quality)	County	Non-statutory designated site for nature conservation for aquatic plants floating water-plantain (*Luronium natans*) and nine species of pondweed (*Potamogeton* sp.).
New Islington Marina	Canal.	50 m (for impacts such as noise/vibration, pollution, and lighting), extending to 1 km where there is hydrological connectivity (for consideration of impacts to water quality)	County	Canals are included as a local BAP habitat within Greater Manchester.
Cotton Field Park)	Managed urban greenspace (modified/other neutral grassland and urban trees forming part of Cotton Field Park.	50 m – due to potential impacts from ground pollution.	County	Managed urban greenspaces (including modified grassland/urban trees) are included as a local BAP habitat within Greater Manchester.

The following features that have been valued at less than Local importance are not considered to be IEFs and as such are not discussed within the impact assessment. However, due to legal considerations, mitigation is required. Mitigation has therefore been developed for legal reasons for:

- Breeding birds
- Bats

The following features are not considered further within this impact assessment, the rational for which is discussed in the relevant sections above:

- Habitats (including developed land; sealed surface, urban trees, line of broadleaved woodland, and mixed shrub.)
- Otters
- Water voles
- Priority plants
- Badgers
- Amphibians
- Reptiles
- Other priority mammal species (such as hedgehog)
- Priority invertebrates (including white-clawed crayfish and freshwater pearl mussel)

[55] Listed upon Schedule 9 of the Wildlife and Countryside Act 1981 (As amended)
[56] Upon Schedule 9 of the Wildlife and Countryside Act 1981 (As amended)

[57] The zone of influence may be different for the construction and operational phases. The maximum zone of influence is given here. Where there are differences between the construction and operational zones of influence these are discussed within the impact assessment.

8.7 Assessment of effects

Table 8-8 Construction phase impact assessment

Receptor	Sensitivity	Impact	Mitigation	Residual impact magnitude	Residual effect	Residual effect significance
New Islington Marina	County	Accidental spillage and release of hydrocarbons and oils from construction vehicles, plant, and equipment	Best practice pollution prevention measures	Negligible	No direct effects (permanent or temporary) on this local priority habitat are anticipated during the construction phase of the Proposed Development, as works will be confined to the Site, which is adjacent to, but does not encroach into the local priority habitat. The proximity of the local priority habitat to the construction works means that some temporary minor indirect effects could occur during the construction process such as water pollution events. The implementation of best practice mitigation measures should ensure that impacts are negligible resulting in neutral effects.	Neutral adverse effect Not significant
		Fugitive dust emissions generated by construction activities.	Implementation of the mitigation measures specified in the IAQM guidance for all construction activities.	Negligible	No direct effects (permanent or temporary) on this local priority habitat are anticipated during the construction phase of the Proposed Development, as works will be confined to the Site, which is adjacent to, but does not encroach into the local priority habitat. The proximity of the local priority habitat to the construction works means that some temporary minor indirect effects could occur during the construction process such as dust pollution. The implementation of best practice mitigation measures will ensure that impacts are negligible resulting in neutral effects.	Neutral adverse effect Not significant
			Implementation of the mitigation measures specified in the IAQM guidance for low risk demolition activities.			
			Implementation of the mitigation measures specified in the IAQM guidance for low risk trackout activities.			
Rochdale Canal	County	Accidental spillage and release of hydrocarbons and oils from construction vehicles, plant, and equipment	Best practice pollution prevention measures	Negligible	No direct effects (permanent or temporary) on this Site of Biological Importance (SBI) are anticipated during the construction phase of the Proposed Development, as works will be confined to the Site boundary. The hydrological link to the SBI (Via New Islington Marina) to the construction works means that some temporary minor indirect effects could occur during the construction process such as water pollution events. The implementation of best practice mitigation measures will ensure that impacts are negligible resulting in neutral effects.	Neutral adverse effect Not significant
Cotton Field Park	County	Accidental spillage and release of hydrocarbons and oils from construction vehicles, plant, and equipment	Best practice pollution prevention measures	Minor	The proximity of the local priority habitat to the construction works means that some temporary minor indirect effects could occur during the construction phase of the Proposed Development such as ground pollution events. The implementation of best practice mitigation measures will ensure that impacts are minor resulting in neutral effects.	Slight adverse effect Not significant
		Fugitive dust emissions generated by construction activities.	Implementation of the mitigation measures specified in the IAQM guidance for all construction activities.	Negligible	The proximity of the local priority habitat to the construction works means that some temporary minor indirect effects could occur during the construction phase of the Proposed Development process such as dust pollution. The implementation of best practice mitigation measures should ensure that impacts are negligible resulting in neutral effects.	Neutral adverse effect Not significant
			Implementation of the mitigation measures specified in the IAQM guidance for low risk demolition activities.			

Receptor	Sensitivity	Impact	Mitigation	Residual impact magnitude	Residual effect	Residual effect significance
			Implementation of the mitigation measures specified in the IAQM guidance for low risk trackout activities.			
		Site clearance works	Replacement compensatory habitat	Minor	The Proposed Development will include landscape planting that includes the planting of 96 native trees, 0.06 ha of modified grassland, and 0.06 ha of wildflower meadow planting. The habitats within the baseline currently provide very limited ecological value (predominantly hardstanding, unsealed surface, and ornamental shrubs). The proposed landscaping will result in a 199.72% net gain of habitat units, demonstrating the beneficial impact of the Proposed Development on the ecological value of the Site.	Slight adverse effect Not significant
Ashton Canal	County	Accidental spillage and release of hydrocarbons and oils from construction vehicles, plant, and equipment	Best practice pollution prevention measures	Negligible	No direct effects (permanent or temporary) on this SBI are anticipated during the construction phase of the Proposed Development, as works will be confined to the Site . The hydrological link to the SBI (Via New Islington Marina) to the construction works means that some temporary minor indirect effects could occur during the construction process such as water pollution events. The implementation of best practice mitigation measures will ensure that impacts are negligible resulting in neutral effects.	Neutral adverse effect Not significant

8.8 Mitigation Measures

The following sections provide details of the proposed mitigation referenced in the above impact assessment.

8.8.1 Best practice biodiversity measures

The following ecological mitigation measures have been provided as general best practice or for legal compliance only.

If any protected species or evidence of protected species, or any INNPS, are unexpectedly encountered at any point during the works, all works will cease, and an ecologist will be contacted for further advice on how to proceed.

Prior to construction, a suitably qualified Ecological Clerk of Works (ECoW) will be employed for the duration of construction of the Proposed Development and for pre-construction clearance works.

The retained trees within, and adjacent to the Site, will be protected in line with guidelines provided in BS 5837 Trees in relation to Construction[63].

Any excavations will be filled or covered overnight to prevent animals (such as fox) becoming entrapped. Where excavations cannot be filled or covered overnight, a plank of wood (or similar) will be placed into the excavation at an angle that allows means of escape.

Vegetation removal should occur outside the core bird nesting season (the nesting season is 1 March to 31 August, though it should be noted that variation in dates is possible, for example from geographical variations in climate, or due to a particularly mild winter). In order to avoid damage or destruction of occupied nests or harm to breeding birds, works within the core bird nesting season will require an inspection of vegetation to be cleared for breeding birds and their occupied nests by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any nesting birds are identified during the survey, they will be left in situ for their entire nesting period and alternative approaches to the work proposed. This may include leaving an exclusion zone around the nests to avoid disturbance.

The trees with a precautionary ‘low’ bat roost suitability and the structure on Site will be soft felled, where tree limbs and PRFs are cut/removed in sections under the guidance of the ECoW. These measures will be incorporated into the Construction Environmental Management Plan.

8.8.2 Best practice pollution prevention measures

Potential impacts from construction can be mitigated through best practice measures which are associated with good site practice and preparation of robust method statements. Mitigation measures which will be implemented to mitigate any potential impacts to the water environment during construction of the Proposed Development will include adhering to Guidance such as Guidance on Pollution Prevention (GPPs) and CIRIA C715 Environmental good practice. Although now withdrawn by the Environment Agency, their Pollution Prevention Guidelines still detail good practice advice for undertaking works which may have the potential to result in water pollution. In general terms, by following these guidelines, significant impacts to the water environment will be avoided. Implementation of the mitigation measures specified in the IAQM guidance for all construction activities

The following general mitigation measures for all construction sites, specified in the IAQM guidance will be implemented across the construction works areas (Note that number refer to the mitigation number in the IAQM guidance):

1. Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.

2. Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.

3. Display the head or regional office contact information.

4. Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site.

5. Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.

6. Make the complaints log available to the local authority when asked.

7. Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.

8. Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport / deliveries which might be using the same strategic road network routes.

9. Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.

10. Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.

11. Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

12. Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.

13. Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.

14. Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.

15. Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period.

16. Avoid site runoff of water or mud.

17. Keep site fencing, barriers and scaffolding clean using wet methods.

18. Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.

19. Cover, seed or fence stockpiles to prevent wind whipping.

21. Ensure all vehicles switch off engines when stationary - no idling vehicles.

22. Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.

23. Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).

24. Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.

25. Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).

26. Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.

27. Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.

28. Use enclosed chutes and conveyors and covered skips.

29. Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

30. Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

31. Avoid bonfires and burning of waste materials

8.8.3 Implementation of the mitigation measures specified in the IAQM guidance for low risk demolition activities

In addition to the general measures set out in the IAQM guidance, the following mitigation measures specified for low risk demolition activities must be applied (Note that numbers refer to the mitigation number in the IAQM guidance):

33. Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.

34. Avoid explosive blasting, using appropriate manual or mechanical alternatives.

35. Bag and remove any biological debris or damp down such material before demolition.

8.8.4 Implementation of the mitigation measures specified in the IAQM guidance for low risk trackout activities

In addition to the general measures set out in the IAQM guidance, the following mitigation measures specified for low risk trackout activities must be applied (Note that numbers refer to the mitigation number in the IAQM guidance):

43. Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.

44. Avoid dry sweeping of large areas.

45. Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.

47. Record all inspections of haul routes and any subsequent action in a site log book.

49. Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

8.8.5 Replacement compensatory habitat

The Proposed Development will include landscape planting that includes the planting of 96 native trees, 0.06 ha of modified grassland, and 0.06 ha of wildflower meadow planting. The habitats within the baseline currently provide very limited ecological value (predominantly hardstanding and ornamental shrubs). The proposed landscaping will result in a 199.72% net gain of habitat units, demonstrating the beneficial impact of the Proposed Development on the ecological value of the Site. A further breakdown of the BNG is provided in Appendix 8.2.

A variety of bird nesting boxes will be installed within suitable locations throughout the Proposed Development (such as within the tree planting), targeting urban bird species that are locally present and listed as local priority species[58]. The bird boxes will target species locally present, as provided by GMBRC: swift, song thrush, black redstart, house sparrows, and starlings. Models will include (subject to availability): 2HW Schwegler, WoodStone Swift Nest Box, 1B Schwegler Nest Box, 1SP Schwegler Sparrow Terrace, and 16S Schwegler Swift Box. This, in combination with the tree planting, will increase the bird nesting opportunities within the Site beyond their current levels and further increase the ecological value of the Site.

A variety of bat boxes will be installed within suitable locations throughout the Proposed Development, including boxes suitable for day roosts, maternity, and hibernation. Models will include (subject to availability) 1FF Schwegler Bat Box, 2F Schwegler Bat Box, and 1FW Bat Hibernation Box. This will increase the suitability for bats beyond the Sites current limited levels.

Woodcrete insect boxes and hibernacula (such as log piles) will be installed within suitable locations throughout the Proposed Development (such as within areas of wildflower meadow and ornamental shrub) to provide enhanced habitats for invertebrates.

The stands of wall cotoneaster (INNPS) within the Site (located within the planters on the southern boundary) will be eradicated prior to any works commencing to avoid the spread of this species during construction.

[58] https://www.gmwildlife.org.uk/resources/downloads/gm_bap/urban_managed_greenspace_2003.pdf

8.9 Cumulative effects

This planning application has sight of the prospective Phase 2 development adjacent to the east of the Proposed This planning application has sight of the prospective Phase 2 development adjacent to the east of the Proposed Development as disclosed within the SRF 2023. It is understood that this will comprise a commercial development with opportunities for ancillary ground floors to provide active frontages. The buildings will be of heights between 6-16 storeys and vehicular access will be available via Old Mill Street. It is assumed the Proposed Development will have been constructed prior to the construction of the Phase 2 development and therefore no cumulative effects are anticipated during the construction phases as these will not overlap. In relation to the operational phase of the Proposed Development, this was scoped out of the biodiversity assessment as all impacts were anticipated to be negligible and not significant. Therefore, the Proposed Development is not expected to result in adverse cumulative effects in combination with those of the Phase 2 development during its construction nor its operation.

There are no other anticipated future developments to consider within this assessment of inter-cumulative effects as all applications within the planning portal as the time of assessment are expected to already be constructed prior to the Proposed Development. However, it is advised that should concurrent construction projects occur that regular liaison is carried out between the environment manager/engineer or the site manager ensure mitigation measures remain appropriate.

Intra-cumulative effects of the Proposed Development are considered in Volume 2, Chapter 20 of this ES.

8.10 Summary and conclusions

No likely significant effects have been identified for the IEFs during either the construction or the operation of the Proposed Development.

8.11 Glossary and acronyms

Term	Definition
BNG	Biodiversity Net Gain (BNG) is a specific, quantifiable outcome from project activities that deliver demonstrable benefits for biodiversity compared to the baseline situation
CEcol	Chartered Ecologist
CIEEM	Chartered Institute of Ecology and Environmental Management
ZoI	The zone of influence is an area within which ecological features may be subject to biophysical changes as a result of the Proposed Development.
FISC	Field Identification Skills Certificate
GMLRC	The Greater Manchester Local Records Centre is the local biological records centre.
INNPS	Invasive non-native plant species
IRZ	The Impact Risk Zones are a tool developed by Natural England to make a rapid initial assessment of the potential risks posed by development proposals to: Sites of Special Scientific Interest.
NPPF	National Planning Policy Framework
PRF	Potential roosting feature (for bats)
SAC	Special Area of Conservation
SBI	Site of Biological Importance
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TN	Target Note
UKHab	The UK Habitat Classification (UKHab) is a comprehensive habitat classification system that is recommended for use within the Statutory Metric. It is the classification system that the metric predominantly uses for area-based habitat features.

AtkinsRéalis
Birchwood Park,
Chadwick House
Warrington, WA3 6AE,
United Kingdom

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