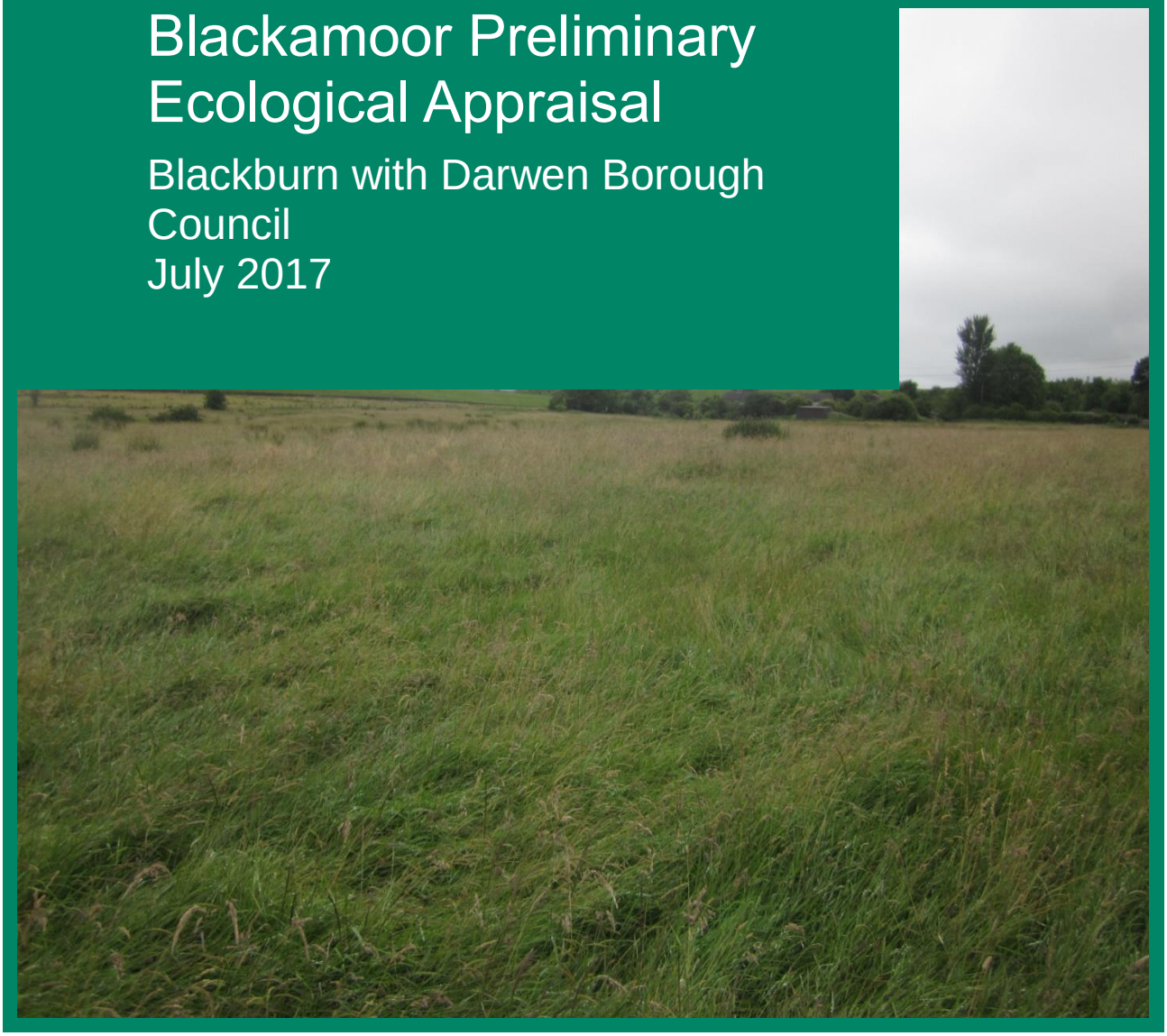
CAPITA

Blackamoor Preliminary Ecological Appraisal

Blackburn with Darwen Borough Council
July 2017



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1. Summary

Capita Ecologists were commissioned by Blackburn with Darwen Borough Council in June 2017 to undertake a Preliminary Ecological Appraisal (PEA) of the Blackamoor site, located at the land off Blackamoor Road and Roman Road in Blackburn. The PEA includes a desk study, an Extended Phase 1 Habitat Survey and a Preliminary Roost Appraisal of the buildings and structures within the site boundary to assess their potential to support roosting bats and nesting birds.

The design of the scheme is currently in the preliminary stages but it is likely that the proposals will be for a housing development. The results of the PEA will enable the identification of potential ecological constraints associated with the development of the site which will be used to inform the detailed design.

The PEA was undertaken on the 5th July 2017. The habitats within the proposed development site comprise buildings/structures, semi-improved neutral grassland, scattered trees, tall ruderal vegetation, scrub, woodland, hedgerows, ephemeral/short perennial, ditches, a dry pond, hardstanding and stone walls. The site has been divided into two areas that differ in habitat composition. These areas can be seen on the plan at Appendix A. The total size of the site is approximately 19 ha.

Overall the site is of moderate value to biodiversity in the local area, providing a large greenspace within an urban environment and connectivity to the wider landscape. The site is also likely to qualify as the Encapsulated Countryside Local Priority Habitat. However, the value of the site is reduced somewhat by the presence of non-native invasive species throughout the habitats.

An Ecological Impact Assessment (EcIA) and Construction Environmental Management Plan (CEMP) will be required once the recommended further survey work is completed and should form part of any submissions for a planning application.

Further surveys including bat surveys, an invertebrate survey and a breeding bird survey are recommended in order to inform future proposals.

It is recommended that mitigation and compensation designed at the site is informed by these further surveys and also the input of an ecologist with a view to aiming to retain or establish green corridors across the site to retain the ecological functionality already established in the wider landscape.

2. Introduction

2.1 Background

Capita Ecologists were commissioned by Blackburn with Darwen Borough Council (BwDBC) in June 2017 to undertake a Preliminary Ecological Appraisal (PEA) of the Blackamoor site, located at the land off Blackamoor Road and Roman Road in Blackburn. The PEA includes a desk study, an Extended Phase 1 Habitat Survey and a Preliminary Roost Appraisal of the buildings and structures within the site boundary to assess their potential to support roosting bats and nesting birds.

The surveys have been undertaken to inform a feasibility study for the site, it is likely that the proposal will be housing.

2.2 Survey Site

The address of the site is Blackamoor Road, Blackburn, Lancashire BB1 2LG. A central grid reference for the site is SD6983825636. The size of the site is approximately 19 ha and includes grassland fields, residential buildings, farm buildings, outbuildings and an area at the north where a number of buildings have now been demolished. The site boundary is shown on the figure at Appendix A.

The wider landscape consists of Fishmoor and Guide reservoir, bordering the site to the north and east, industrial units to the south and residential and commercial developments to the west. Blackburn town centre is approximately 2.5 north west of the site and the M65 runs approximately 550 metres to the south.

2.3 Project Description

The design of the scheme is currently in the preliminary stages, but it is likely that the proposals will be for a housing development.

2.4 Report Objectives

The purpose of this report is to:

1. To undertake a desk-based study of the proposed development area in order to establish whether there are records of protected species or habitats of importance (on a local, regional, national, or international scale).

2. To undertake a field survey of the site to detail existing habitats and to assess whether the habitats on site have the potential to support protected or otherwise notable species.

3. To identify key ecological constraints to the proposed development of the site.

4. To identify the need for any further ecological surveys to inform an Ecological Impact Assessment (EcIA) and enable the development to proceed in full compliance with the relevant wildlife and nature conservation legislation.

5. To inform the client of how to avoid or minimise significant ecological effects.

6. To provide advice on likely suitable mitigation and compensation measures.

7. To form a basis for agreeing the scope of the EcIA with relevant consultees.

3. Legislation and Planning Policy

3.1 Legislation

Certain habitats and species are subject to protection under European and UK legislation. Those specific to the sites discussed in this report are:

- The Conservation of Habitats and Species Regulations 2010 (as amended):
    - Bats
- The Wildlife and Countryside Act 1981 (as amended):
    - Bats, nesting birds, amphibians, non-native invasive species.
- The Protection of Badgers Act 1992
- Natural Environment and Rural Communities (NERC) Act 2006:
    - Section 40 of the NERC Act places a statutory duty on public bodies, such as local authorities and statutory undertakers, that "*every public body must, in exercising its functions have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity*".
    - Section 41 of the NERC Act requires the Secretary of State to draw up a list of Habitats and Species of Principal Importance which should be used to guide decision makers (which include local authorities) in implementing their duty under Section 40.

3.1.1 Planning Policy

In March 2012, the National Planning Policy Framework (NPPF) (Department for Communities and Local Government, 2012) was published and replaced the previous detailed Planning Policy Statement 9 (PPS9) although the guidance document '*Planning for Biodiversity and Geological Conservation: A Guide to Good Practice*' ODPM 06/2005 has not been replaced by the Framework (Department for Communities and Local Government , 2005).

The NPPF promotes plan-making and decision-taking with a presumption in favour of **sustainable development**. Sustainable development is achieved where developments are designed to address the mutually dependent threads of sustainability: **economic, social and environmental needs**. In terms of biodiversity, sustainable development should **not only achieve no net loss of biodiversity but incorporate proposals that achieve net gains for nature** alongside the other social and economic needs of society.

Protected sites and species are a material consideration in determining planning applications, therefore all information relating to protected sites and species must be submitted with planning submissions for determination of the whole application. The NPPF promotes the approval of plans where applications can demonstrate that they are in accordance with up-to-date Local Plans and have addressed material considerations.

3.1.2 Biodiversity Policy

Biodiversity 2020: *A Strategy for England's Wildlife and Ecosystem Services* is the Government's strategy for people and wildlife published in 2011 shortly after the publication of the Natural Environment White Paper *The Natural Choice: securing the value of nature*.

Biodiversity 2020 forms part of the UK's commitments under the United Nations Convention of Biological Diversity and sets the main objective to protecting UK biodiversity; to **'halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people'** (Natural England, 2014).

The Strategy contains four goals to achieve this target by the end of 2020. These are:

- **Outcome 1:** improve and conserve priority habitats and ecosystem services
- **Outcome 2:** ensure sustainable management and protection of the marine environment
- **Outcome 3:** overall improvement in the status of our wildlife and will have prevented further human induced extinctions of known threatened species
- **Outcome 4:** engage people in biodiversity.

3.1.3 Blackburn with Darwen Local Development Framework

The following policies are taken from the Blackburn with Darwen Borough Council's Core Strategy, part of the Local Development Framework and are relevant to the proposals at the site:

- Policy CS13: Environmental Strategy

'Development will only be permitted where it creates no unacceptable environmental impact including but not limited to.., development which results in the loss of or unacceptable damage to environmental resources including habitats and networks of habitats…'

Furthermore, that:

'LDDs and other proposals will identify specific measures to benefit the environment…, which will include at least… Creation and enhancement of habitats, including re-instatement of habitat linkages and networks, through development and other programmes…'

- Policy CS15: Protection and Enhancement of Ecological Assets

  'The Borough's ecological assets will be protected, enhanced and managed with the aim of establishing and preserving functional networks which facilitate the movement of species and populations', and 'General habitats which may support species of principal importance either for shelter, breeding or feeding purposes (both natural and built features), will be protected from development, in accordance with the Environmental Strategy set out in Policy CS13.'

- Policy 9 – Development and the Environment, of the Blackburn with Darwen Local Plan Part 2 also states:

  'Development likely to damage or destroy habitats or species of principal importance, Biological Heritage Sites, or habitats or species listed in the Lancashire Biodiversity Action Plan will not be permitted unless the harm caused is significantly and demonstrably outweighed by other planning considerations and an appropriate mitigation strategy can be secured', and

  'Development that would result in the further fragmentation of, or compromises the function of, Blackburn with Darwen's ecological network will not be permitted unless:

  The harm caused is significantly and demonstrably outweighed by other planning considerations; and an appropriate mitigation strategy can be secured'.

4. Methods

4.1 Desk Study

MAGIC online (MAGIC, 2008) resource was accessed for information on UK and European protected sites and important sites, including:

- Sites of Special Scientific Interest (SSSI);
- Special Protection Areas (SPA);
- Special Areas of Conservation (SAC);
- Ramsar sites;
- National Nature Reserves (NNR);
- Local Nature Reserves (LNR);
- Areas of Outstanding Natural Beauty (AONB);
- Ancient Semi-natural Woodland (ASNW) and
- Mapped Biodiversity Priority Habitats.

The following sources were also reviewed:

- Lancashire Local Biodiversity Action Plan
- Blackburn with Darwen Local Development Plan (LDP 2013/16).

The above resources and Ordnance Survey maps were studied to locate and ponds or waterbodies within 500 metres of the site.

4.2 Field Survey

4.3 Personnel

All ecologists employed by Capita are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's code of professional conduct when undertaking ecological work.

All fieldwork is carried out in accordance with current best practice guidelines under the supervision of senior staff and appropriately licensed ecologists. Neil Page and Suzannah Forshaw undertook the survey.

Neil Page is a Full Member of CIEEM and has been an Ecological Consultant for the last seven years. Neil has a broad range of professional experience in consulting services, including ecosystem management, design, planning, protected species mitigation and environmental research projects. Neil also has experience of a range of habitats and species, coupled with habitat creation and management, which has enabled him to mitigate both social and environmental issues on a wide variety projects and schemes. Neil is an experienced surveyor of reptiles and amphibians and he holds a Natural England Science & Education Great Crested Newt Licence.

Suzannah Forshaw is an Associate member of CIEEM. She has over five years experience working in ecology and conservation. Suzannah has worked on a wide range of projects including large infrastructure developments and demolitions. Suzannah's professional experience includes protected species surveys specialising in bats and reptiles working as an Ecological Clerk of Works, translocation schemes and project management. Suzannah holds a Natural England Science & Education Great Crested Newt Licence and a Level 2 (Class Licence) for bats.

4.3.1 Habitat Survey

The habitat survey consisted of an Extended Phase 1 Habitat Survey and was carried out during the daytime on the 5th July 2017. The weather conditions during the survey were light rain at the start of the survey, but then dry, warm and sunny in the afternoon. The survey involved undertaking a detailed walkover across the site, as indicated by the red line boundary at Appendix A. Observations of flora and fauna along with the location and extent of habitats were noted. The site and its habitats were assessed for their potential to support protected and notable species. The presence of any non-native invasive species was also noted.

The Extended Phase 1 Habitat Survey was conducted in accordance with the guidelines set out in the Handbook for Phase 1 Habitat Survey (JNCC, 2010). The extent of each observed habitat were mapped at Appendix A. Photographs are included in this report to illustrate the habitats descriptions.

4.3.2 Bats

A Preliminary Roost Assessment for bats was carried out in conjunction with the habitat survey. The accessible buildings and structures at the site were inspected externally only as internal access permissions were not sought. Binoculars and a high powered torch were used to look for features that may be used by bats. Any trees with bat potential were noted, but a full inspection of all the trees at the site was not carried out.

Inspections focused on searching for field evidence of bats including droppings, staining, feeding remains, potential roosting/access points and individual bats (alive or dead).

The Bat Conservation Trusts Good Practice Guidelines (Collins, J, 2016) are used as a basis to evaluate buildings for their potential to support bat roosts.

The table below summarises the potential of buildings, structures and trees to provide potential roosting locations for bats and is used as a reference in the building inspection results. The potential of landscape features is also included in the table and was used to describe the suitability of the landscape for foraging and commuting bats.

Table 1: Potential Roost Suitability

Roost Suitability	Qualifying Characteristics
Negligible	Built structures and underground sites No features that could be used by bats as roosts. Trees No features that could be used by roosting bats i.e. an immature tree, smooth bark, no crevices and no ivy cladding/vegetation cover. Landscape character Lack of vegetation and foraging habitat within vicinity of the site and no connections to semi-natural habitats. Site located in a highly urbanised environment.
Low	Built structures and underground sites Small number of potential roosting features that could be used by individual bats opportunistically. However, the features do not provide appropriate conditions and/or suitable surrounding habitat to be used on a regular basis. Trees No visible features within tree structure such as crevices, holes in trunk, hazard beam splits. However, the tree may contain features not seen from ground level or contains features with limited roosting potential. Landscape character Small amount of isolated habitat on site providing a potential foraging resource i.e. a single tree or a patch of introduced shrub. Maybe linked to small amount of adjacent semi-natural habitat surrounding site, however there are no distinct links to habitat further away. May be used by small numbers of foraging bats
Moderate	Built structures and underground sites Several potential roosting features within built structure, but unlikely to support a roost of high conservation status. Trees Several potential roosting features that could be used by roosting bats such as crevices, holes in trunk, lifted bark, hazard beam splits, but unlikely to support a roost of high conservation status.

Roost Suitability	Qualifying Characteristics
	Landscape character Suitable foraging habitat on site such as tree and hedgerows with linear links to wider landscape that could be used by bats for commuting to the wider landscape.
High	Built structures and underground sites Building offers a significant number of roosting features including gaps under roof tiles, hanging tiles, gaps beneath weather boarding, soffits, barge boards and fascia, holes in the wall and gaps in mortar, access points into large roof void, potential roosting features for crevice and void roosting bats. Suitable surrounding habitat. Features have the potential to be used by larger numbers of bats on a regular basis. Trees Several potential roosting features that could be used by roosting bats including, lifted bark, crevices, hazard beam splits, downwards facing holes with obvious staining and scratch marks around hole. Suitable surrounding habitat. Features have the potential to be used by larger numbers of bats on a regular basis. Landscape character The site habitat is of high quality for foraging bats and includes features such as woodland, tree lined water courses, field margins and hedgerows. The site is well connected within the landscape to surrounding habitats and strong linear features such as hedgerows and tree lines extend from the site to the wider landscape. Likely to be regularly used by commuting bats. The site may also be close to and connected to known roosts.
Confirmed roost	Presence of field signs indicative of a bat roost including staining and scratch marks around a potential roost entry point combined with the following; urine staining, droppings clustered beneath a potential roosting feature and the presence of live or dead bats.

4.4 Constraints and Limitations

Observations were limited to a daytime building inspection to identify evidence of the presence of bats. External field signs of bats can be lost over time due to weathering and damp conditions.

Access permissions were not provided to enter the residential properties or structures at the site. The gardens of the residential properties were also not accessed, which limited accessibility for the external building inspections. However, the majority of the non-residential buildings and structures were in a very poor state of repair and did not appear safe to access, even if permissions were obtained.

Some of the scrub and tall ruderal areas were very dense and access was difficult.

Although the survey was undertaken in the optimum period for Extended Phase 1 Surveys, some floral species may not have been present or visible at the time of this survey if the survey was undertaken outside of their active growing season (such as bluebells).

5. Baseline Ecological Conditions

5.1 Designated Sites

The following designated sites are located within the vicinity of the survey site.

5.1.1 West Pennine Moors Site of Special Scientific Interest (SSSI)

This statutory designated site is located approximately 3 km to the south east of the site. The features of interest associated with this SSSI are: blanket bogs, wet and dry heaths, acid and lime flushes with associated pastures, diverse assemblages of upland moorland and woodland birds.

The site is located within the Impact Risk Zone[1] for the SSSI, however it does not fall under any of the categories requiring consultation with Natural England. The site is not functionally linked to the SSSI and is separated by existing infrastructure. Due to the distance between the SSSI and the survey site, the project is unlikely to cause any significant impacts on the designated site and therefore the SSSI has been scoped out of any further assessment.

5.1.2 Local Nature Reserves (LNR)

5.1.2.1 Arran Train LNR

The Arran Train LNR is located approximately 820 metres to the east of the site. The LNR is a wildlife corridor through a housing estate and is managed by the Wildlife Trust. The site contains grassland with orchids, particularly large numbers of common spotted orchid *Dactylorhiza fuchsii*, three man-made ponds and planted woodland. Smooth newts *Lissotriton vulgaris*, frogs *Rana temporaria* and toad *Bufo bufo* breed in the open water areas. The Knuzden Brook bisects the site (Natural England, 2013). The site has some green links to this area, but it is mainly separated by the A6071 and industrial units to the east.

[1] Impact Risk Zones are a GIS tool developed by Natural England to make a rapid initial assessment of the potential risks to SSSIs posed by development proposals (Natural England, 2017)

5.1.2.2 River Darwen Parkway LNR

The River Darwen Parkway LNR is located approximately 820 metres to the west of the site. The site is also designated as a Biological Heritage Site (BHS) (as Darwen Valley Parkway BHS) and is managed by the Wildlife Trust. The site contains wetland, standing and running water, grassland, woodland and heathland habitats of good quality and local significance. It is a river valley corridor and includes willow *Salix sp*. scrub, marsh areas and ponds. Acidic and neutral unimproved and semi-improved grassland, marshy grassland, tall herb and fern, heathland, bog and flush, floodplain mire, swamp, fen and inundation communities. The site is important for a number of bird species, invertebrates and amphibians (Natural England, 2013).

Due to the distance between this LNR and the survey site and the separation by existing dense infrastructure, the development is unlikely to cause any significant impacts on the designated site and therefore this LNR has been scoped out of any further assessment.

5.1.3 Ancient Woodlands

Fernhurst Ancient Woodland is located approximately 1.5 km to the west of the site. The survey site does not contain any ancient woodland features and is not connected to this woodland. Due separation of the site from the area of Ancient Woodland, the project is unlikely to cause any impacts on the ancient woodland and therefore it has been scoped out of any further assessment.

5.1.4 Biological Heritage Sites

In addition to the Darwen Valley Parkway BHS, the following Biological Heritage Sites are located within 2 km of the site boundary:

- Davyfield Pasture is located approximately 1 km south of the site.
- Grimshaw Brook Valley is located approximately 1.2 km south of the site.
- Flashbrook Fields is located approximately 1.3 km south of the site.
- Eccleshill Old Iron Works is located approximately 1.4 km to the south of the site.
- Lower Eccleshill Marsh is located approximately 1.4 km south of the site.
- Waterside and Pickup Bank Valley is located approximately 1.6 km south east of the site.
- Fernhurst Wood is located approximately 1.8 km to the west of the site.

None of these designated areas are functionally linked to the site and are located a sufficient distance away from the survey site that they are unlikely to be impacted by any works. Therefore they have been scoped out of further assessment.

5.1.5 Habitats of Principal Importance/Local Biodiversity Priority Habitats

The following Habitats of Principal Importance are recorded as being located within 2 km of the site:

- Lowland Mixed Deciduous Woodland – There are a number of areas of this habitat within the 2 km search radius. The nearest section is located approximately 160 metres to the north west of the site, the site is connected to this area via the habitats to the north, Roman Road separates the Habitat of Principal Importance from the survey site, however, this is only a single lane carriageway.

- Lowland Meadows – The nearest area to the site is located approximately 860 metres south, of the site, separated from the site by the M65 motorway.

- Lowland Heathland – This habitat is located approximately 1 km to the west and is not functionally linked to the site.

- Wood pasture and Parkland - This habitat is located approximately 1.2 km to the south west and is not functionally linked to the site.

- Lowland Fens – This habitat is located approximately 1.3 km to the south west and is not functionally linked to the site.

5.2 Habitats

The following habitat types were identified on the site during the survey. The habitats are illustrated on the plan at Appendix A. The site has been divided into two areas that differ in habitat composition; these are listed separately in order to assist in the descriptions of habitats. These areas can be seen on the plan at Appendix A.

5.2.1 Buildings/Structures

The site contains numerous buildings and structures, most are derelict, with some residential properties along Blackamoor Road. There are a number of outbuildings, most are in a very poor state of repair and are overgrown, the internal areas were not accessed due to the potential risk to health and safety. There are other buildings shown on OS maps that were not seen during the survey, these buildings are likely to have been demolished or the remnants are concealed under the dense scrub and vegetation at the site.

The buildings in Area 2 have now been demolished with just rubble and hardstanding remaining.

Further details and photographs for the buildings are provided in Section 5.3.6 where they are assessed for their suitability to support bat roosts.

5.2.2 Semi-Improved Neutral Grassland

Figure 1: Semi-Improved Neutral Grassland Field at the South of the Site

Figure 2: Orchids Within the Semi-Improved Grassland at Area 2

Figure 3: Wet Grassland Area Dominated by Reed Canary Grass

Semi-improved neutral grassland is the dominant habitat type across the site. It is likely that the fields were once used for agricultural purposes, likely to have been hay meadows and there is evidence to suggest the grasslands were managed on a rotational basis, with some areas of a longer sward height than others. However, it appears they are now largely unmanaged and are becoming colonised by scrub, tall ruderal species and trees. Species such as thistle *Cirsium arvense* occur throughout much of the sward along with Himalayan balsam *Impatiens glandulifera*.

The sward is long throughout the site. Species present include meadow foxtail *Alopecurus pratensis*, perennial rye-grass *Lolium perenne*, cocksfoot *Dactylis glomerata*, crested dog's tail *Cynosurus cristatus*, Yorkshire fog *Holcus lanatus*, annual meadow grass *Poa annua*, sweet vernal grass *Anthoxanthum odoratum*, meadow buttercup *Ranunculus acris*, red clover *Trifolium pratense*, ribwort *plantain Plantago lanceolata* and broadleaved plantain *Plantago major*. Some areas are more diverse where species such as yellow rattle *Rhinanthus minor* and bush vetch *Vicia sepium* occur. There are also some damper areas containing reed canary grass *Phalaris arundinacea* and hard rush *Juncus inflexus*. Patches of reed canary grass have been Target Noted as TN1 on the plan at Appendix A.

Areas towards the north of the site contain frequent orchids such as common spotted *Dactylorhiza fuchsia* amongst other orchid species, particularly within Area 2 where the grassland areas contain dense populations of orchids.

5.2.3 Scattered Trees

Figure 4: Scattered Trees, North of the Access Track at Area 1

Areas of scattered trees are present across the site within the grassland which are denser where they surround the scrub and tall ruderal vegetation. Scattered trees are also present within some of the hedgerows and at the field boundaries. The majority appear to have self-seeded and there are numerous saplings establishing across the site.

Species present include elder *Sambucus nigra*, willow Salix sp., hawthorn *Crataegus monogyna*, ash *Fraxinus excelsior*, wild cherry *Prunus avium*, holly *Ilex aquifolium*, silver birch *Betula pendula* and poplar *Populus sp*.

5.2.4 Tall Ruderal Vegetation

Figure 5: Tall Ruderal Vegetation at the Filed Boundaries

Figure 6: Tall Ruderal Vegetation

Tall ruderal vegetation is present at the field margins of the semi-improved grassland.. These areas contain species such as nettle *Urtica dioica*, thistle, broadleaf willowherb *Epilobium ciliatum*, dead nettle *Lamium sp.,* cleavers *Galium aparine,* cow parsley *Anthriscus sylvestris*, yellow vetchling *Lathyrus aphaca* and also grass species such as cocksfoot and Yorkshire fog.

There are also extensive patches of tall ruderal vegetation across the site that are beginning to encroach upon the existing grassland areas, dominant species include nettle, willowherb *Epilobium sp.,* thistle and goldenrod *Solidago sp.*

Tall ruderal is also present around the edges of the woodland and the scattered trees.

5.2.5 Scrub

Figure 7: Scrub and Grassland Habitat at the North of Area 1

The site contains areas of scrub, particularly around the central areas, in the valley and at the field boundaries. Species composition includes bramble *Rubus fruticosus*, thistle, hawthorn, bindweed *Calystegia sepium*, dog rose *Rosa canina*, dogwood *Cornus sanguinea* and the valley within Area 1 contains gorse *Ulex europaeus*.

5.2.6 Woodland

Figure 8: Alder Dominated Woodland

5.2.6.1 Semi-Natural Broadleaved Woodland

Woodland pockets occur across the site, mainly towards the east where self-seeded species have naturally colonised through lack of management in the fields creating woodland habitats.

The woodland Target Noted as TN5 is alder *Alnus glutinosa* dominated with young trees that are thin and densely packed. Due to the young age of the woodland the ground flora has not yet fully established being mainly composed of bramble, bindweed, garlic mustard *Alliaria petiolate* and Himalayan balsam.

There is a pocket of woodland to the south of Area 2 which may have developed from once planted scattered trees, species include lime *Tilia x europaea,* rowan *Sorbus aucuparia*, horse chestnut *Aesculus hippocastanum* and sycamore *Acer pseudoplatanus* present. This area has a sparse understory dominated by grass species and shrubs such as rhododendron *Rhododendron ponticum*.

5.2.6.2 Plantation Woodland

The woodland at the north of Area 2 is uniform in structure and the trees are spaced apart equally, which is characteristic of woodland that has been planted. It is likely to have been part of a former playground as there is evidence of playground equipment within the woodland and to the south. Species include hazel *Corylus avellana*, alder, rowan and oak *Quercus sp.* The ground flora is sparse and dominated by ivy *Hedera helix* and wood avens *Geum urbanum* with infrequent cleavers and common mallow *Malva neglecta*.

Both the semi-natural broadleaved woodland and plantation woodland areas lack diversity and structure being dominated by invasive species with a sparse understory. They would not qualify as the Lowland Mixed Deciduous Woodland Habitat of Principal Importance.

5.2.7 Hedgerows

Figure 9: Leylandii Hedgerow in Area 2

There are a number of species-poor and defunct hedgerows across the site, mainly along the tracks and at the edges of the fields and along Roman Road/Blackamoor Road. Most are dominated by hawthorn. Some of the hedgerows contain scattered trees such as yew *Taxus baccata*, sycamore, ash and elder.

The hedgerow along the track and to the north of Building 1 contains frequent Japanese knotweed *Fallopia japonica,* a non-native invasive species.

There is a hedge of non-native Leylandii *Cupressus* × *leylandii* present within Area 2 that is likely to have once been the boundary for the redundant playground.

Generally the hedgerows are species-poor, gappy and overgrown due to lack of management, and are becoming dominated by tree species. They are short and do not stretch along entire boundaries meaning they are unlikely to provide any significant connectivity or wildlife corridors.

5.2.8 Ephemeral/Short Perennial

Figure 10: Ephemeral/Short Perennial Vegetation Colonising Disturbed Ground in Area 2

Where the buildings have been demolished and the land is now disused in Area 2, the area has begun to colonise with short patchy early colonising plant communities. The soil and ground contains rubble from the demolition of the buildings.. Species present include self-heal *Prunella vulgaris*, birds foot trefoil *Lotus corniculatus*, cat's ear *Hypochaeris radicata*, red clover, St. John's wort *Hypericum perforatum*, field horsetail *Equisetum arvense*, ragwort *Senecio jacobaea* , rosebay willowherb *Chamerion angustifolium*, lady's mantle *Alchemilla mollis* and teasel *Dipsacus fullonum* There are also a number of saplings present.

5.2.9 Ditches

Figure 11: Ditch With Running Water, Dominated by Himalayan Balsam

Figure 12: Ditch to the East of the Site with Stone Sidings

There are two ditches at the site. One is located west of the buildings at the centre of Area 1 and is Target Noted as TN2 and the other is just west of Guide Reservoir and is likely to be connected to the reservoir (TN3). The ditches are very overgrown. The ditch at TN2 is entirely covered by Himalayan Balsam and the water is not visible, but can be heard and is likely to have a moderate flow rate.

The ditch at TN3 is located at the edge of the scattered trees and woodland and runs down the site and then along Blackamoor Road. There is a section branching off and running towards some small buildings associated with the reservoir at the centre. The northern area of this ditch is entirely vegetated and the water is not visible. The southern area is less vegetated and some of the water is visible can be seen and appears to contain duckweed *Lemnoideae sp*. and is reinforced with stone sidings. The ditch has a slow flow rate.

5.2.10 Dry Pond

Figure 13: Dry Pond in Plantation Woodland of Area 2

There is a dry pond with a boardwalk located within the plantation woodland at Area 2; the pond is Target Noted as TN14 on the plan at Appendix A. It is likely that this was once part of the now disused playground in this area. It appears as if the pond has not held any water for some time and is of little value to biodiversity and therefore has been scoped out of further assessment. However, there is potential to restore the pond to add value to the habitat for wildlife in the future.

5.2.11 *Hardstanding*

Figure 14: Hardstanding at Area 2

Area 2 contains a substantial amount of hardstanding from previous car parking areas and the redundant playground. There are also areas of hardstanding left from the demolition of buildings here.

There is also an area of hardstanding in Area 1 which consists of an access track that comes in off Blackamoor Road and is used by the terraced houses and runs to the outbuildings. The track appears to have once been tarmacked, but is now quite overgrown and uneven.

This habitat is of no value to biodiversity and as such has been scoped out of further assessment.

5.2.12 *Stone Walls*

Figure 15: Overgrown Stone Wall at the East of the Site

Figure 16: Stone wall Along Roman Road

Stone walls demarcate many of the field boundaries and are present along Roman Road and Blackamoor Road. Some of the walls, particularly at the east of the site, are in a poor state of repair and are now overgrown with scrub, polypody ferns *Polypodiopsida sp* are growing at the

base of some of the walls. Some sections along the roads have recently been repaired and the gaps have been filled in with mortar.
Some areas of the walls contain numerous gaps and crevices that would be suitable to support species such as nesting birds. Where areas are overgrown or have collapsed, these will provide hibernacula for species such as amphibians. The walls are likely to be too low to be used by bats as roosting close to the ground would make then vulnerable to predation.

5.2.13 Biodiversity Habitats of Principal Importance/Local Priority Habitats

The table below lists the habitats found at the site and whether these habitats are listed as Habitats of Principal Importance in England or as Local Priority Habitats under the Lancashire Biodiversity Action Plan (LBAP). The LBAP contains a list of general and urban habitat plans that have been used to inform this assessment.

Although the individual habitats do not currently qualify as Habitats of Principal Importance or Local Priority Habitats, the site as a whole is considered to qualify as the Lancashire Local Priority Habitat 'Encapsulated Countryside.' Encapsulated countryside frequently includes former agricultural features and comprises habitats including grassland, scrub, woodland, marsh and watercourses. They are systems which no longer receive the formal management associated with the rural environment and are now isolated within urban areas. They are often valuable components of wildlife corridors or functional stepping stones in an ecological network (Dunlop, 2004).

Table 2: Summary of Local and National Importance of Habitats Found at the Site

Habitat	Habitat of Principal Importance	LBAP
Semi-improved neutral grassland, tall ruderal, scrub, woodland, hedgerows	X (the woodlands do not display sufficient characteristics to classify as a Habitat of Principal Importance)	✔ Encapsulated countryside
Scattered trees	X	X
Ephemeral/short perennial	X	X the extent of this habitat is unlikely to be of sufficient size to classify as the Local Priority Habitat 'DUN land'.
Ditches	X	X
Dry pond	X	X

✔ Listed as Habitats of Principal Importance/Local Priority habitats
X Not listed as Habitats of Principal Importance/Local Priority habitats

5.3 Species

5.3.1 Notable Floral Species

5.3.1.1 Data Search

54 notable species were returned within the 2 km data search. None are from within the site boundary.

The nearest records are of bluebells *Hyacinthoides non-scripta*, located approximately 350 metres to the south east of the site, although the exact location is not specified. The records are from 1997. No bluebells were recorded at the site although this would have been constrained to some extent by the time of the survey, it is also likely that the woodland is too young for the species to occur on the site.

There is also a nearby record of a bee orchid *Ophrys apifera*, located approximately 350 metres to the south east of the site (although again an accurate location cannot be determined) it is possible that the more free draining soil within Area 2 could support the species however none were observed during the survey.

The table at Appendix B lists the floral species recorded within a 2 km radius of the site and their protection.

5.3.1.2 Field survey

The PEA did not include a detailed botanical survey or National Vegetation Classification (NVC) survey; however species such as orchids and yellow rattle which usually indicate well established and better quality grasslands were observed within the grassland communities. Some orchid species are listed as Local Priority Species and Species of Principal Importance (although none of these were seen at the site).

5.3.2 Invertebrates

Figure 17: Ruby Tailed Wasp Nest

5.3.2.1 Data Search

22 records of notable invertebrate species were returned within the 2 km data search. The nearest record is of a speckled wood butterfly, located approximately 360 metres north of the site, near to Fishmoor Reservoir. The record is from 2015.

Three butterflies were recorded that are listed on the Lancashire Biodiversity Action Plan: small heath *Coenonympha pamphilus* (recorded in 1997), ringlet *Aphantopus hyperantus* (recorded in 2015) and wall *Lasiommata megera* (recorded in 1997). Small heath and wall are also listed as Species of Principal Importance and are on the ICUN red list.

Other invertebrate species recorded include mining bees, moths, beetles and a mollusc.

5.3.2.2 Field Survey

A detailed invertebrate survey was not undertaken as part of the PEA. Numerous butterfly and moth species were recorded across the site. The open grassland habitats on site are suitable to support species such as small heath. The valley area in Area 1 contained a number of rocky outcrops in the slopes, these areas contained ruby tailed wasp nests *Chrysis ruddii.*
The site is likely to be of local importance for invertebrate species.

5.3.3 Amphibians

5.3.3.1 Data Search

Common from, common toad, smooth newt and palmate newt *Lissotriton helveticus* have all been recorded within the 2 km search radius.

The nearest record is of a frog, located approximately 220 metres north of the site at Fishmoor Reservoir. The record is from 2013.

There are no records of great crested newts *Triturus cristatus* within 2 km.

5.3.3.2 Field Survey

The ditches at the site are flowing and are therefore unfavourable to species such as great crested newts for breeding. However, the remainder of the habitats would be suitable to support great crested newts, if present, and other species of amphibian, with hibernacula provided by the overgrown stone walls and collapsed buildings and the tall ruderal, grassland and scrub vegetation will provide commuting, sheltering and foraging habitat. The reservoirs were not inspected as part of this survey, but they may have potential to support breeding amphibians and are directly connected to the site.

From OS maps, there are four waterbodies within 500 metres of the site, not including the two adjacent reservoirs. 500 metres was chosen for the search radius as this is generally considered to be the maximum distance travelled by great crested newts from their ponds. The closest pond is located 180 metres south east of the site, just off Premier Way. From aerial imagery, the pond appears to be dry but this is not confirmed. The pond is separated from the site by Blackamoor Road, which is a busy road and likely to act as a barrier to newt dispersal.

The next closest pond is located along Newfield Brook, it is possible that the pond contains flowing water associated with the brook, which may make the waterbody unfavourable to newts, the pond is also separated from the site by Roman Road and a few commercial buildings.

The third pond is located approximately 420 metres south of the site and is located within an industrial site. The pond is separated from the site by the industrial buildings and by Blackamoor Road, all which will act as significant barriers to newt dispersal.

There is also a further small reservoir located approximately 410 metres to the south east of the site, just north of Spinning Avenue. This is also separated by significant barriers to the site including Blackamoor Road and the A6177. It is unlikely newts would travel across these features.

The reservoirs have not been assessed for their potential to support great crested newts, from information online it is possible that they are stocked with fish, which would mean it is unlikely that great crested newts would be present.

Due to the lack of suitable connected ponds within the vicinity of the site, and the lack of records of great crested newts, the species have been scoped out of further assessment. However, common amphibian species such as toads and frogs are likely to be present at the site.

5.3.4 Reptiles

5.3.4.1 Data Search

No records of reptiles have been returned within the data search.

5.3.4.2 Field Survey

The habitats on site are suitable for reptiles, providing a mosaic of habitat types that will provide a range of microclimates required by reptiles to regulate their body temperatures. However, reptiles are rarely recorded in Blackburn and are thought to be absent in the area. Combined with the lack of records, reptiles have been scoped out of further assessment.

5.3.5 Birds

5.3.5.1 Data Search

27 bird species have been recorded within the 2 km search radius. The nearest record is of a lapwing *Vanellus vanellus* located approximately 350 metres to the north of the site at Fishmoor Reservoir. The record is from 1998.

12 species recorded are listed on the Red List of Birds of Conservation Concern, given them the highest conservation priority with species in need of urgent action (RSPB, 2015). These species are:

- Curlew *Numenius arquata*
- Grey wagtail *Motacilla cinerea*
- House sparrow *Passer domesticus*
- Linnet *Linaria cannabina*
- Redwing *Turdus iliacus*
- Song thrush *Turdus philomelos*
- Grey partridge *Perdix perdix*
- Herring gull *Larus argentatus*
- Lapwing *Vanellus vanellus*
- Mistle thrush *Turdus viscivorus*
- Skylark *Alauda arvensis*
- Starling *Sturnus vulgaris*

A number of these species are also listed as national Biodiversity Species of Principal Importance and Local Priority Species in the Lancashire Biodiversity Action Plan.

5.3.5.2 Field Survey

A full breeding bird survey was not undertaken as part of the PEA however any incidental birds observed at the site during the field survey were noted. A number of swallows *Hirundo rustica* were observed foraging at the grassland fields, feeding on the insects. It is also likely that swallows will use the farm outbuildings to nest.

House sparrows were frequently observed across the site, a large number of house sparrows were foraging in the hedgerow to the north of Building 1 throughout the survey. Nesting house sparrows were observed in Building 4. Sparrows are listed as a Species of Principal Importance and a Local Priority Species on the Lancashire Biodiversity Action Plan. Roosting wood pigeons *Columba palumbus* were also observed at Building 1. Other species recorded at the site included starlings, mistle thrush, dunnock *Prunella modularis* and crows *Corvus corone*. Starling and mistle thrush are listed on the Red list of Birds of Conservation Concern. Dunnock is listed on the Amber list and is also a Species of Principal Importance as long with starlings.

The two adjacent reservoirs are also known to be popular bird watching locations and will acting as a donor site from which birds would travel from and to.

The area is of importance to bird species, especially with the reservoirs located nearby which are likely to attract a number of birds who may use the grassland fields for foraging/roosting and the denser vegetation and buildings for nesting.

5.3.6 Bats

5.3.6.1 Data Search

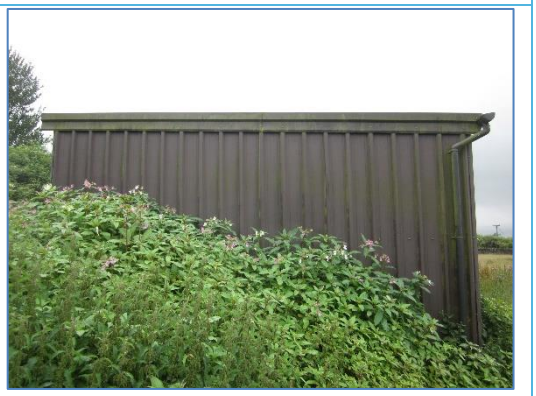
Three records of Pipistrelle bat species were returned within the data search, these records are historic, being from 1986. All three records are from a roost within a residential property located approximately 2 km to the south west of the site. It is likely that the lack of additional records for bats is due to the under recording of the species in the local area as there are suitable habitats to support roosting, foraging and commuting bats.

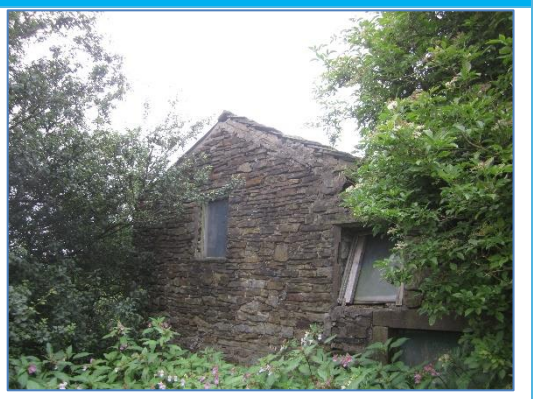
5.3.6.2 Field Survey – Building Inspection

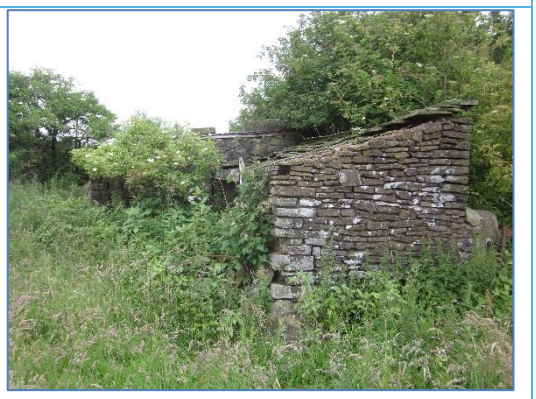
The following table details the results of the Preliminary Roost Appraisal undertaken for bats.

Table 3: Preliminary Roost Assessment (Buildings) for Bats Results

Building Number	Description	Photographs
1	The two terraced houses along Blackamoor Road, to the west of the access track have been jointly labelled as Building 1 as they are similar in style and construction. They were not accessed internally and could only be viewed from the adjacent land as access for the properties had not been sought. The buildings are two storey with multiple extensions to the rear. The roof is pitched. The buildings contain numerous gaps under the soffits and beneath the slate tiles on the roof which are suitable for bats to access. The external elevations are rendered with the west elevation covered with plastic cladding. The brick buildings to the rear were in a poor state of repair within numerous gaps in the brickwork and in the roof. The buildings are also located at the edge of the habitats and are well connected to the hedgerow and scattered trees at the north, which has the potential to provide a linear commuting feature for bats. It is unlikely that the houses would provide suitable hibernation habitats for bats as they are likely to be warm and would not provide a constant cool temperature required for bats to enter a state of torpor.	

Building Number	Description	Photographs
	However, as the houses were not entered this cannot be confirmed at this stage. **Moderate suitability to support bat roosts.**	
2	Building 2 is a red brick barn style building that is in a poor state of repair. The brickwork contains numerous gaps and holes, with failing render. There is a corrugated metal extension to the south. The building is mainly surrounded by trees and dense Himalayan balsam, which restricts flight access for bats. The roof is corrugated and is less suitable to support bats. The building appears to have been disused for a number of years and is also likely to provide suitable hibernation habitat for bats. **Low suitability to support bat roosts.**	
3	Building 3 is a corrugated metal shed with a flat roof. No gaps or cracks were observed in the building. **Negligible suitability to support bat roosts.**	

Building Number	Description	Photographs
4	Building 4 is a stone outbuilding with a slate roof. The building is surrounded by scattered trees which restrict flight access for bats to parts of the building. House sparrows were nesting in parts of the building at the time of the survey. The building contains numerous gaps within the stone walls and under the roof slates, particularly at the gable ends. The building appears to have been disused for a number of years and is likely to provide suitable hibernation roosts for bats. **Moderate suitability to support bat roosts.**	 
5	The row of terraced houses along the access track at the south of Area 1 have been jointly named as Building 5. Access to the surroundings of these buildings was not possible as permissions were not obtained, so it is unknown if the buildings are one property or more. The buildings are stone, with rendered elevations at the front and back (east and west). The gable end walls are stone and appear to contain multiple gaps. There is an extension at the south end of the houses which contains numerous gaps in the roof and walls. The roof of the main houses appear to have been recently re-tiled and is	

Building Number	Description	Photographs
	in good condition with no obvious gaps noted. The building is linked to the hedgerow and has good connectivity to the wider environment. Currently this building has been assessed as moderate, due to the lack of access for a thorough survey. If access is sought in the future some areas may be able to be ruled out as being suitable for bats and the potential may be reduced. **Moderate suitability to support bat roosts.**	
6	Building 6 comprises stone outbuildings that appear to be connected. They are in a very poor state of repair and have mostly become overgrown with scrub. The roof has partially collapsed and although contains numerous gaps and crevices, the features are likely to be too open and exposed to the weather for bats to roost within. The walls contain numerous gaps between the stones. The structure is very low to the ground, which may make bats vulnerable to predation and less likely to use this building. It may also provide suitable hibernation roosts for bats when there is less vegetation surrounding it during the winter months. **Low suitability to support bat roosts.**	 

Building Number	Description	Photographs
7	There are a number of derelict outhouses that line the access track at the south of Area 1, opposite and surrounding Building 5. These structures are similar in construction so have been jointly labelled as Building 7. They are mainly constructed of stone and brick, with slate roofs. Some of the buildings have corrugated fronts. They are all in a poor state of repair with large cracks in the walls and multiple gaps under the slate roof tiles. The buildings are single storey with most of the features quite low to the ground, which may make bats vulnerable to predation and less likely to use the features. They are well connected to suitable habitats. Currently the buildings have been assessed as having moderate potential to support bats, due to lack of access for a thorough survey. If access is sought in the future some areas may be able to be ruled out as being suitable for bats and the potential may be reduced. **Moderate suitability to support bat roosts.**	 

Building Number	Description	Photographs
		 
8	The terraced houses along Blackamoor Road, to the east of the access track have been jointly labelled as Building 8 as they are similar in style and construction. They were not accessed internally and could only be viewed from the adjacent land as access for the properties had not been sought. The buildings are two storey residential dwellings, the walls are rendered and provide limited opportunities for bats. The slate roof has tiles that have slipped or shifted, creating gaps and access for bats beneath.	

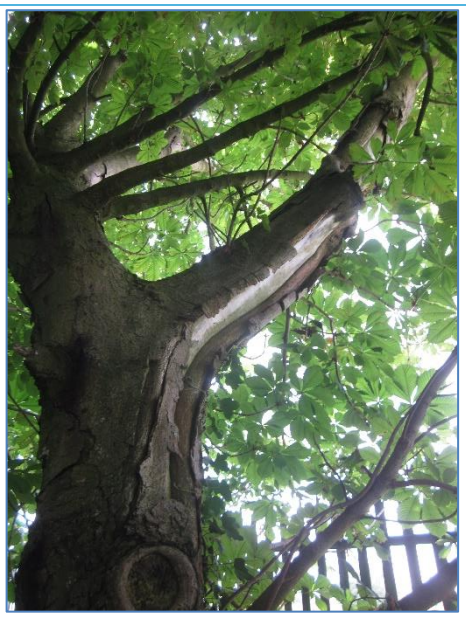
Building Number	Description	Photographs
	The buildings back on to the extensive area of grassland, tall ruderal and scattered trees which are suitable for foraging and commuting bats. It is unlikely that the houses would provide suitable hibernation habitats for bats as they are likely to be warm and would not provide a constant cool temperature required for bats to enter a state of torpor. However, as the houses were not entered this cannot be confirmed. The buildings have currently been assessed as having moderate potential to support bat roosts. This may be able to be reduced if a thorough survey is carried out as closer inspection may reveal that features observed are not suitable. **Moderate suitability to support bat roosts.**	

5.3.6.3 Field Survey – Tree Inspection

The scope of the PEA survey did not include a full tree inspection, however, any trees observed during the bat survey that may have suitability to support bat roosts have been noted and are described in the table below.

Table 4: Preliminary Roost Assessment (Trees) for Bats Results

Building Number	Description	Photographs
T1	Species: Ash Grid Reference: SD6987225665 The tree is located at the north of the access track from Blackamoor Road at the south of Area 1. The tree is mature. The tree contains a torn limb, although the damage did not appear to contain much of a crevice for bats to utilise. The tree also contains a large cavity at the base. Although this feature is too low to be suitable for bats, it may suggest that there is further damage within the trunk of the tree and there may be features further up the tree that may not be able to be seen from ground level. **Low suitability to support bat roosts.**	
T2	Species: Goat willow Grid reference: SD7000925764 This tree is located to the north east of Area 1. The tree is mature and contains a branch tear at the southern side of the tree. Although the damage provides suitable crevices for bats, the feature appears to be open at the top and would allow rain and weather to impact on the feature making it less favourable to bats, which prefer a more constant temperate and dry conditions in which to roost.	

Building Number	Description	Photographs
	The tree is also densely surrounded by scattered trees and Japanese knotweed with no clear flight lines into the tree. **Low suitability to support bat roosts.**	
T3	Species: Horse chestnut Grid reference: SD6949325710 The tree contains a large amount of flaking bark around the entire trunk. Some of the bark may provide roosting opportunities for individual bats. The tree is located on the edge of the woodland to the south of Area 2 with good accessibility to the wider landscape. **Low suitability to support bat roosts.**	

Building Number	Description	Photographs
T4	Species: Oak Grid reference: SD6954925548 This tree is located along Roman Road. There is a large branch tear which would allow suitable access for bats. However, the feature is pointing upwards, meaning it is likely to be exposed to weathering and unfavourable to bats. The tree is also next to the busy road and is likely to be subject to light spill from the surrounding streetlights. The tree is located within a line of scattered trees and at the edge of suitable habitat. **Low suitability to support bat roosts.**	
T5	Species: Hawthorn Grid reference: SD6967325573 This tree is located in the valley within the centre of Area 1. It is located on the northern slope. The tree has a small split in the limb, which may support a small number of bats, However, the feature is split open to the other side and therefore may be subject to weathering, reducing its suitability for bats. **Low suitability to support bat roosts.**	

5.3.6.4 Field Survey – Foraging and Commuting Habitat

The habitats on site provide some linear features such as hedgerows and tree lines that are well connected to the wider landscape and are suitable for commuting bats, including the two reservoirs which are adjacent to the site. These large waterbodies are likely to attract invertebrates, a food source for bats.

The site provides a variety of habitat types including damper grassland areas, trees and woodland which are all suitable for foraging bats.

Therefore the habitats at the site have been classified as having **moderate** suitability for foraging and commuting bat species.

5.3.7 Badgers

5.3.7.1 Data Search

No records of badgers have been returned within the data search.

5.3.7.2 Field Survey

No evidence of badger activity was recorded during the survey such as setts, latrines and droppings. The woodlands lack structure and are too young to be of significant value for species such as badgers. There are some areas suitable for badger setts, such as the sides of the valley at Area 1.

The area is unlikely to support badgers, however, the species are highly mobile and will often move setts and establish new territories.

5.3.8 Other Mammals

No records of otters were returned within the data search. Although otters are frequently recorded at reservoirs, the two reservoirs adjacent to the site present sub-optimal habitat for the species with little opportunities for holts due to the intact and uniform nature of the bank and little cover such as scrub, reeds or woodland in the vicinity.

The nearest suitable watercourse is likely to be the River Darwen, located approximately 950 metres to the west of the site. Although otters are known to travel large distances, it is unlikely that they would travel from this area, being separated by dense infrastructure and due to the

presence of more suitable habitat nearby. In combination with the lack of records, otters have been scoped out of further assessment.

There is a record of a water vole *Arvicola amphibius*, from Blackamoor from 1983 (although the exact location is not specified) and a further eight records in the surrounding areas, with the most recent being from 1999 from along Alum House Brook, approximately 1.5 km to the south west of the site. Currently the ditches at the site are extremely overgrown and provide little bankside habitat for water voles to establish their territories and burrow. The ditches are also culverted and lack suitable connectivity to more appropriate ditches in the wider landscape.

Although the ditches at the site may once have been suitable for the species it is unlikely that they are currently present and therefore they have been scoped out of further assessment. However, it may be possible to enhance the ditches at the site for species such as water voles in the design of the scheme.

5.4 Biodiversity Species of Principal Importance

The table below details the species of local and national importance that have the potential to occur at the site that are listed as Species of Principal Importance in England or as Local Priority Species under the Lancashire Biodiversity Action Plan (LBAP).

Table 5: Summary of Local and National Importance of Species Found at the Site

Species	Species of Principal Importance	LBAP
Floral Species	✔ (many species listed as Species of Principal Importance, please see the table at Appendix B for a summary of those found in the locality)	✔ (many species listed on the LBAP, please see the table at Appendix B for a summary of those found in the locality)
Invertebrates	✔ (many species listed as Species of Principal Importance)	✔ (many species listed on the LBAP)
Amphibians	✔ (common toad)	✔ (common toad, common frog)
Birds	✔ (e.g. house sparrow, dunnock, song thrush and more)	✔ (e.g. house sparrow, song thrush and more)
Bats	✔ (Noctule, soprano pipistrelle, brown long-eared)	✔ (Whiskered, Brandt's, natterer's, daubenton's, Noctule, common pipistrelle, brown long-eared)
Badgers	X	X

✔ Listed as Species of Principal Importance / Local Priority species
X Not listed as Species of Principal Importance / Local Priority species

5.5 Non-native Invasive Species

5.5.1.1 Data Search

The following non-native invasive species have been recorded within 2 km of the site:

- Japanese knotweed is recorded within the site boundary. The record is from 2005 but confirmed through field survey.
- Himalayan Balsam *Impatiens glandulifera* is located within the site boundary. The record is from 2005 but confirmed through the field survey.

- Canadian waterweed *Elodea Canadensis* is recorded located approximately 550 metres west of the site along Higher Croft Brook from 2005. The most recent record is from 2011 at new waterside.

- Curly waterweed *Lagarosiphon major* the nearest record is recorded as being located approximately 1.1 km north east of the survey site. The record is from 2002.

- Chinese mitton crab *Crangonyx pseudogracilis* a crustacean recorded located approximately 1.5 km west within a pond at Oxbow Wood Allotments. The record is from 1999. It is unlikely that this species would be present at the site due to the lack of suitable habitat.

- Giant hogweed *Heracleum mantegazzianum* is recorded located approximately 1.6 km west of the site. The record is from 1995.

5.5.1.2 Field Survey

Himalayan balsam, Japanese knotweed and *Rhododendron ponticum* are all listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as non-native invasive species and have been recorded as being present across the site during the field survey.

Only one area of rhododendron was recorded within the woodland at the south of Area 2 at grid reference SD6952725717, this is Target Noted as TN15 on the plan at Appendix A.

Himalayan Balsam and Japanese knotweed are present across Area 1. Larger clumps and areas have been grid referenced and Target Noted as TN7 and TN8 on the plan at Appendix A, however it is important to note that these are not the only areas of invasives, only the larger patches, other isolated patches were too small to map.

Some of the knotweed on site is likely to be giant knotweed and is present together with the Japanese knotweed, it is also likely some of the plants are a hybrid between the two species *Fallopia japonica x Fallopia sachalinensis.* All species are listed on Schedule 9 as non-native invasive species, as it was difficult to distinguish the species in the field all references have been made to Japanese knotweed throughout this report.

Table 6: Himalayan Balsam Locations

Grid Reference	Description
SD6976925449	Small patch located along Blackamoor Road, at the end of the scattered trees.
SD6991125584	Extensive area of Himalayan Balsam surrounding all the outbuildings (Buildings 2-7)
SD6986425611	Located along the ditch and surroundings at the west of the outbuildings. The species entirely covers the ditch and the water is not visible.
SD7000325767	Present in the scrub and tall ruderal across the entire of this area, Japanese knotweed also present here.
SD6961325527	Present along the entire length of the valley.
SD7006525752	Present within and to the east of the scrub
SD7006125645	Present throughout the woodland in this area
SD7012525675	Located along the ditch in this area, mainly at the east.

Table 7: Japanese Knotweed Locations

Grid Reference	Description
SD6993125558	Located in the hedge to the rear (north) of Building 1
SD6998925557	Present to the east of Building 8, along Blackamoor Road. Small plants are growing throughout the vegetation in this area.
SD7000925764	Present throughout the scrub and all ruderal vegetation and extensive area beneath the goat willow tree, possible about 20 metres squared.
SD7006525752	Present within and to the east of the scrub
SD7014325642	Large clump, north of the ditch.

6. Ecological Constraints and Opportunities

The following ecological constraints to the development have been identified along with recommendations for avoidance, compensation and mitigation. In addition, biodiversity enhancement measures are provided that, if adopted, would contribute to the sustainability of the development by ensuring net gains of biodiversity at the site in line with the National Planning Policy Framework, the duties on public bodies under the NERC Act 2006 and the conservation of biodiversity locally.

Once the recommended further surveys have been completed and the design has been progressed an Ecological Impact Assessment (EcIA) will be required to assess the development's impacts to biodiversity and to support a planning application. It is also recommended that a Construction Environmental Management Plan (CEMP) and Landscape Ecological Management (LEMP) are produced. Depending on the proposals, the scheme may need screening for an Environmental Impact Assessment (EIA).

6.1 Designated Sites

6.1.1 Arran Trail Local Nature Reserve (LNR)

The Arran Trail LNR is located approximately 820 metres to the north east of the site, although the site is separated by the A6071 and the industrial estate, there are some green links to the north east of Fishmoor Reservoir and between the M65 and south of the industrial units. The site also contains features of interest associated with the LNR such as orchids. Local Nature Reserves are designated under the National Parks and Access to the Countryside Act 1949 and are statutory sites designated by Local Authorities after consultation with Natural England.

6.1.1.1 Potential Impacts

The site currently provides green links to this area and although the proposals are currently being developed, there is potential for fragmentation and loss of green corridors through the site and within the wider environment. Any impacts to Local Nature Reserves will be considered during the planning application process by the Local Authority and proposals should be designed to avoid impacts to habitats, availability of access and recreational pressure.

6.1.1.2 Recommendations

Ensure the continued connectivity of areas by using the results of further survey work to establish green corridors through the site.

The reserve is managed by the Wildlife Trust and it is recommended that they are consulted to ensure that they are aware of the development proposals and any likely impacts.

There is also potential to offset any negative impacts to biodiversity by improving connectivity through the wider landscape or engaging with the Wildlife Trust for community projects and improvements of the Arran Trail LNR.

6.2 Habitats of Principal Importance

With the exception of Lowland Mixed Deciduous Woodland, designated Habitats of Principal Importance located within 2 km of the site are not functionally linked to the area and are unlikely to be impacted by the works.

6.2.1 Lowland Mixed Deciduous Woodland Habitat of Principal Importance

There is a nearby area of this habitat to the north west of the site. Habitats of Principal Importance are recognised under the Natural Environment and Rural Communities Act 2006 and within planning policies. The survey site is somewhat connected to this area through the habitats to the north.

6.2.1.1 Potential Impacts

This habitat also provides a green corridor within the landscape and is connected to the site via habitats to the north. Significant loss of habitats to development could cause fragmentation of green corridors within the landscape.

6.2.1.2 Recommendations

Once the design is finalised impacts to this habitat should be assessed within the EcIA.

Ensure the continued connectivity of habitats by using the results of further survey work to establish green corridors through the site to ensure the continued connectivity of any important habitats.

6.3 Habitats

None of the habitat types present on the site are Habitats of Principal Importance, however, together the site is likely to qualify as the Local Priority Habitat ‘Encapsulated Countryside.’ Although this recognition does not have any statutory status, it is of importance in the local area and species which have specific protection under other legislation such as bats and birds may depend on the habitat.

Local Authorities will take impacts to Local Priority Habitats and the avoidance or mitigation incorporated in the scheme into account when determining a planning application as required under the National Planning Policy Framework.

The following recommendations include all habitat types at the site; however, these recommendations may be subject to change once the further survey work for protected species is completed.

- Wherever possible existing habitats should be retained and conserved through appropriate management.

- Depending on the final design of the development, a Landscape Ecological Management Plan (LEMP) should be produced to detail implementation and management of biodiversity features across the site.

- Habitats lost will need to be mitigated or compensated for in the design scheme for the project.

- Green corridors should be retained across the site that form continuity in the habitat corridors already established in the wider landscape, in particular to the Arran Trail LNR at the east of the site and the area of Lowland Mixed Deciduous Woodland Priority Habitat connected to the habitats north of the site as well as the adjacent reservoirs.

- An ecologist should be consulted on planting schedules and species lists, aiming to recreate the habitats that will be lost (when known) and ensuring that species beneficial to wildlife are included (such as nectar-rich plants to benefit bees and other invertebrates that are likely to be present at the site).

- The use of native species of local provenance should be prioritised.

- Trees should be retained where possible and protected in line with BS 5837:2012, Trees in relation to design, demolition and construction throughout site clearance and construction.

- Trees removed should be replaced with locally characteristic species. There is potential to enhance connectivity to the Habitat of Principal Importance (Lowland Mixed Deciduous Woodland) to the north of the site.

- Woodlands at the site should be retained and improved to enhance their value to biodiversity; this can be done by removing or treating the invasive species and thinning out trees to allow more light to reach the ground layer and encourage the establishment of native plants. Hazel coppicing could be carried out at the plantation woodland in Area 2.

- The dry pond could be re-instated and other ponds or wetland areas created across the site.
- The ditches should be cleared of invasive species and improved, there is potential to link ditches to the wider landscape to improve connectivity for aquatic species. This may improve the biodiversity of the site.
- Ensure that future management of the site will benefit biodiversity such as by implementing a reduced mowing regime and removing arisings from the site. This information should be included within the LEMP.

6.4 Species

6.4.1 Floral Species

Yellow rattle is present within the grassland sward and is known for its ability to increase species diversity in grassland communities by supressing the growth of aggressive grass species and allowing wildflowers to grow. Orchids are also present throughout the grassland, particularly in Area 2. Some species of orchids are listed as Species of Principal Importance and Local Priority species although none of these species were noted on site, a detailed botanical survey was not undertaken.

6.4.1.1 Potential Impacts

Loss of species leading to a decrease in species diversity in the locality. The scheme may cause net loss in biodiversity at the site where sensitive mitigation measures and enhancement opportunities are not sought.

6.4.1.2 Recommendations

The habitats containing the orchids and yellow rattle should be retained wherever possible.

If the habitats containing the orchids and yellow rattle cannot be retained, an attempt to translocate the species should be undertaken. The methods for translocation and the composition of the receptor habitat should be compiled by a botanist or suitably experienced ecologist and may include translocation or seed collection to ensure the best chance of the species survival. The botanist should input on the scheme design to ensure that mitigation areas are placed in the correct positions. Future management prescriptions for the areas will also be required.

6.4.2 Invertebrates

The habitats at the site are likely to support a diverse range of invertebrates. Many species were observed using the site during the PEA survey.

6.4.2.1 Potential Impacts

There is potential for habitat loss and fragmentation causing a decline in the local population of invertebrates and a reduction of available greenspaces in an urban area.

6.4.2.2 Recommendations

If impacts to the habitats on site can be adequately avoided and mitigated for where necessary, further surveys should not be required.

If significant habitat loss is to occur, it is recommended to undertake a habitat assessment or full invertebrate survey to accurately establish the value of the site to invertebrates, particularly the likely presence of Local Priority Species or Species of Principal Importance.

6.4.3 Amphibians

There are no ponds on the site (with the exception of the dry pond in Area 2 which does not currently hold any water). However, it is possible that common species of amphibians may be using the adjacent reservoirs and may use the site for shelter and foraging. Common toads are listed as a Species of Principal Importance and both common toads and frogs are listed in the Lancashire Biodiversity Action Plan as Priority Species.

6.4.3.1 Potential Impacts

Habitat loss or reduction in available habitat for a Species of Principal Importance or Local Priority Species.

Harm or injury to common amphibian species.

6.4.3.2 Recommendations

Wherever possible habitats suitable to support amphibians should be retained and protected throughout site clearance and development.

It is recommended that a toolbox talk is given to those working on the scheme to make them aware of the potential presence of amphibians in the local area and their importance at a local level.

An area away from works should be designated as a safe zone for amphibians and any that are found during the works can be moved to this area, it may be necessary to fence the area to prevent amphibians from returning to the site during works.

Areas where amphibians are most likely to be present, such as the wetter grassland areas, stone walls and rubble piles should avoid being removed or affected within the hibernation season for amphibians (mid-October – end of February).

There is the potential to enhance the area for amphibians, this could be by creating a wetland area or pond at the site, or investigating the potential to restore the dry pond at Area 2. Log piles and deadwood could be left which will provide refugia for amphibians to shelter and hibernate. Habitat connectivity across the site should also be prioritised by restoring the ditch network for example. This could be included in the wider landscape designs for the site.

6.4.4 Birds

Habitats at the site including the trees, woodland, scrub, tall ruderal, stone wall and buildings are suitable to support nesting birds. It is an offence under the Wildlife & Countryside Act 1981 (as amended) to disturb birds whilst they are nesting.

It is also likely that the habitats are of value to bird species within the local area. A number of birds were using the site throughout the survey and it is likely that the nearby reservoirs are of importance to birds acting as a donor site from which birds would travel from and to. A number of bird species are listed as Species of Principal Importance and Local Priority Species.

6.4.4.1 Potential Impacts

If birds are disturbed whilst nesting this may result in an offence under the above legislation.

Removal of suitable habitats will result in a decrease in available habitats for foraging and nesting birds in the local area and may impede the aims of the local plans and NERC Act 2006.

6.4.4.2 Recommendations

Any vegetation removal or works affecting the buildings, structures and stone walls should be undertaken outside of the nesting bird period (which is generally March – September).

If this is not possible (or if buildings are required to be demolished during this time frame in relation to bats), an ecologist should check the area for the presence of nesting birds immediately prior to works commencing. If birds are actively nesting in the work zone, works should not commence in the area and a suitable buffer zone should be established until the young birds have fully fledged.

It is recommended that a breeding bird survey is undertaken at the site to assess the usage and value of the site to birds and to accurately inform mitigation proposals. Further recommendations may be advised in relation to nesting birds once these further surveys have been carried out and should be included within an EcIA.

Further recommendations may be made pending the results of this survey.

6.4.5 Bats

A number of the buildings, structures and trees at the site have suitability to support bat roosts.

The site has also been assessed as being of moderate value to foraging and commuting bats.

Bats are protected under the Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended) they are a European Protected Species. This makes it an offence to disturb, destroy or obstruct a roost or injure or kill a bat. Some species of bats are also recognised as Species of Principal Importance and Local Priority Species.

6.4.5.1 Potential Impacts

If the buildings, structures or trees highlighted as having bat roost potential will be affected by the scheme there is potential to destroy or disturb a bat roost, or injure bats, causing an offence under the above legislation.

The removal of habitat at the site may also cause fragmentation of habitats for a European Protected Species. As some species of bats are also listed as Species of Principal Importance/Local Priority Species affecting their habitat may result in a reduction of local populations of bat species and impede the aims of local and national plans.

6.4.5.2 Recommendations

In order to ascertain the use of the sites by bats, the following surveys are required to inform the development and in line with the Good Practice Guidelines (Collins, J, 2016):

Buildings

If possible, access permissions should be obtained to undertake internal inspections of buildings that are to be affected. Building suitability ratings may be reclassified following further inspection surveys. However, it is noted that a number of the disused structures on the site appeared to be unsafe and it may not be possible to undertake more detailed assessments.

The following buildings were assessed as providing low suitability for roosting bats and should be subject to one emergence/re-entry survey between May-August:

- Building 2
- Building 6.

The following buildings were assessed as providing moderate suitability for roosting bats and should be subject to one emergence survey and one dawn re-entry survey between May-September, with one of these surveys occurring between May-August:

- Building 1
- Building 4
- Building 5
- Building 7
- Building 8

Trees

When the design is finalised a plan of trees to be removed should be given to the project ecologist and these trees should be inspected in detail for their potential to support bat roosts.

Working methods should be included in the CEMP for trees assessed as having low suitability to support bat roosts that will be removed or affected. This should include soft and section felling of trees under the supervision of a licensed ecologist if thought necessary and a toolbox talk given to those working on the tree removal.

Habitat

In order to assess the use of the site by bats, one transect survey should be undertaken each month of April – October to inform mitigation proposals for the site.

Further recommendations will be made in regards to bats once these further surveys have been undertaken and should be included within an EcIA.

If a bat roosts is discovered and will be affected by the works, a licence with an appropriate mitigation strategy will be required from Natural England in order to allow works to proceed legally.

The lighting strategy for the site should be designed to be wildlife friendly and should ensure that any green corridors or wildlife areas created across the site remain dark and suitable for nocturnal species. An ecologist should be consulted when designing the lighting plans.

6.4.6 Badgers

No evidence of badgers was observed during the survey. It is unlikely that the site will support badger territories, however the valley in Area 1 has some potential for an outlier or annex sett. Badgers also regularly change territories and establish new setts, meaning they may move on to the site in the future. Badgers are protected under the Protection of Badger Act 1994.

6.4.6.1 Potential Impacts

If a badger sett is obstructed or destroyed or a badger is wilfully killed this could constitute an offence under the above legislation.

6.4.6.2 Recommendations

As it is unlikely badgers or badger setts will be encountered on the site, a badger survey is not recommended. However, a toolbox talk should be given to those working on the scheme so they are aware of what a badger sett may look like and their legal obligations in carrying out works if one is present on or near the construction area. If at any time a badger sett is suspected, works in the area should cease and the project ecologist should be contacted.

Any trenches should be backfilled at the end of each day or should be fitted with a suitable egress board to ensure any animals which may have become trapped, can escape.

6.4.7 Non-Native Invasive Species

Japanese knotweed, Himalayan balsam and *Rhododendron ponticum* have been recorded at the site. These species are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to cause the species to grow in the wild.

6.4.7.1 Potential Impacts

There is potential for an offence to be caused under the above legislation if the species are caused to spread or grow into the wild.

Non-native species also out-compete native flora and reduce the diversity of a site and the ecological value.

Some species such as Japanese knotweed can cause damage to buildings and roads if not eradicated effectively.

6.4.7.2 Recommendations

It is recommended that a pre-construction invasive species survey is carried to accurately map all the locations of the invasive plants to inform the contractors of where the plants are.

Eradication of non-native invasive species at the site will remove the risk of damage to future development and improve its value to biodiversity and will help towards compensating for any habitat loss at the site by making more habitats available.

A method statement for the eradication and management of invasive species at the site should be included in the CEMP and include site protocols and biosecurity measures to stop the spread of invasives.

7. Conclusion

Overall the site is of moderate value to biodiversity in the local area, providing a large greenspace within an urban environment and connectivity to the wider landscape. The site is also likely to qualify as the Encapsulated Countryside Local Priority Habitat. However, the value of the site is reduced somewhat by the presence of non-native invasive species throughout the habitats.

The development of the site is likely to result in a net loss of biodiversity and measures will need to be incorporated into the design of the scheme to achieve no net loss and a biodiversity where possible in line with the National Planning Policy Framework.

An Ecological Impact Assessment (EcIA) and Construction Environmental Management Plan (CEMP) will be required once the further survey work is completed and should form part of any submissions for a planning application.

It is recommended that mitigation and compensation designed at the site is informed by the further survey work and the input of an ecologist, aiming to retain or establish green corridors across the site that form continuity in the corridors already established in the wider landscape.

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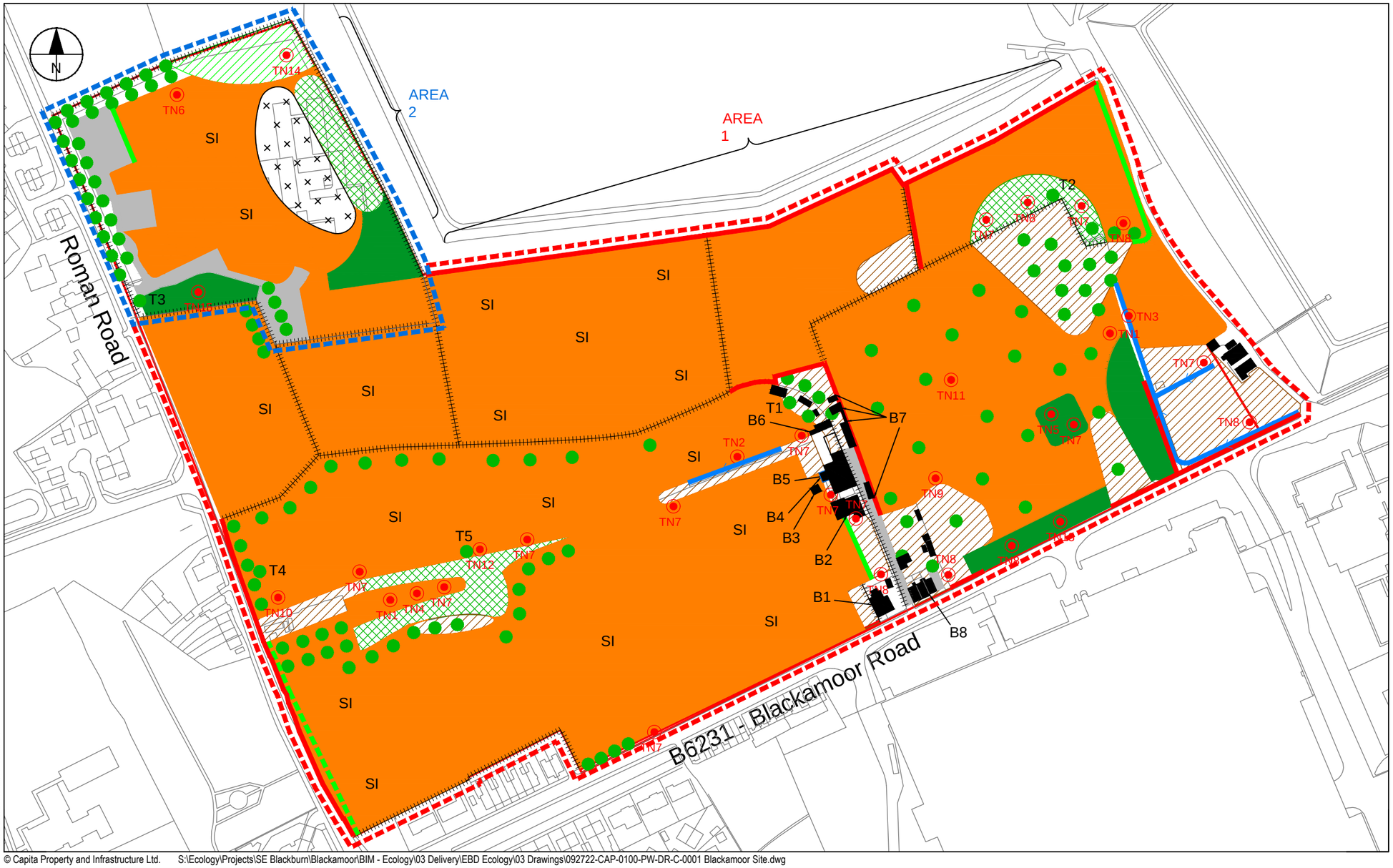
Appendix A – Extended Phase 1 Habitat Plan

A.1 Target Notes

Target Note	Description
TN1	Wet area dominated by reed canary grass
TN2	Ditch entirely covered with Himalayan balsam
TN3	Ditch possibly culverted and likely to be connected to the reservoir
TN4	Steep sided valley, dividing the fields
TN5	Alder dominated woodland
TN6	Redundant playground
TN7	Himalayan Balsam
TN8	Japanese knotweed
TN9	Area not accessed due to dense vegetation and boundary fence line
TN10	Old farm track with hardstanding now colonised by grassland species, old wall and rubble piles present, possibly remnant of old buildings
TN11	Scattered trees throughout entire field. Each tree location has not been mapped accurately
TN12	Ruby tailed wasp nest
TN13	Old farm track with hardstanding now colonised by grassland species, old lamp post line the old farm track, scattered hawthorn throughout
TN14	Dry Pond
TN15	Rhododendron

KEY:

- SITE BOUNDARY
- SCRUB
- HARDSTANDING
- STONE WALL
- FENCE
- TALL RUDERAL VEGETATION
- SEMI NATURAL BROADLEAF WOODLAND
- DITCH WITH RUNNING WATER
- HEDGEROW
- PLANTATION WOODLAND
- SI — SEMI IMPROVED NEUTRAL GRASSLAND
- SCATTERED TREE
- T — TREES WITH BAT POTENTIAL
- DEFUNCT HEDGEROW
- BUILDINGS
- EPHEMERAL / SHORT PERENNIAL
- TARGET NOTE
- B1 — BUILDING NUMBERS



Rev	Drwn	Chk'd	App'd	Description	Date
P01	DR	NP	DW	INFORMATION	16/06/2017

Purpose of Issue
INFORMATION

Classification

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TOWN HALL
BLACKBURN BB1 7DY

Project
BLACKAMOOR

Drawing
PHASE 1 HABITAT PLAN

Scale @ A3	Drawn	Checked	Approved
1:2500	DR	NP	DW

Project No.
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Appendix B – Notable Floral Species Records

Common Name	Latin Name	Distance from the site (metres)	Protection
Bee Orchid	*Ophrys apifera*	341.9	None
Bluebell	*Hyacinthoides non-scripta*	341.9	Schedule 8, Wildlife and Countryside Act 1981 (as amended)
Sweet-Briar	*Rosa rubiginosa agg.*	564.6	None
Reflexed Saltmarsh-Grass	*Puccinellia distans*	697.8	None
Sainfoin	*Onobrychis viciifolia*	697.8	ICUN red list
Yellow Archangel	*Lamiastrum galeobdolon subsp. argentatum*	769.5	None
Scots Pine	*Pinus sylvestris*	825.2	Nationally scarce
Horsetail	*Equisetum palustre x telmateia = E. x font-queri*	893.0	Lancashire Biodiversity Action Plan
Annual Knawel	*Scleranthus annuus*	922.4	Lancashire Biodiversity Action Plan, Species of Principal Importance
Columbine	*Aquilegia vulgaris*	922.4	None
Corn Spurrey	*Spergula arvensis*	922.4	ICUN red list
Large-flowered Hemp-nettle	*Galeopsis speciosa*	922.4	ICUN red list
Loose Silky-bent	*Apera spica-venti*	922.4	ICUN red list
Stinking Chamomile	*Anthemis cotula*	922.4	ICUN red list
Burnet Rose	*Rosa spinosissima*	1023.1	None
Sheep's-bit	*Jasione montana*	1031.9	Lancashire Biodiversity Action Plan
Water Dock	*Rumex hydrolapathum*	1031.9	None
Common Cornsalad	*Valerianella locusta*	1121.2	Lancashire Biodiversity Action Plan
Basil Thyme	*Clinopodium acinos*	1176.0	Lancashire Biodiversity Action Plan, Species of Principal Importance
Field Pepperwort	*Lepidium campestre*	1176.0	Lancashire Biodiversity Action Plan
Hairy Violet	*Viola hirta*	1176.0	Lancashire Biodiversity Action Plan
Welsh Poppy	*Meconopsis cambrica*	1213.0	Nationally scarce
Northern Yellow-cress	*Rorippa islandica*	1214.2	Lancashire Biodiversity Action Plan, Nationally scarce
Soft Shield-fern	*Polystichum setiferum*	1222.4	None

Lesser Meadow-rue	*Thalictrum minus*	1278.2	Lancashire Biodiversity Action Plan
Northern Dock	*Rumex longifolius*	1311.0	Lancashire Biodiversity Action Plan
Annual Beard-grass	*Polypogon monspeliensis*	1321.7	Nationally scarce
Petite-leaved Hawkweed	*Hieracium diaphanum*	1321.7	Nationally Rare
Royal Fern	*Osmunda regalis*	1321.7	None
Shrubby Cinquefoil	*Potentilla fruticosa*	1324.0	Nationally Rare ICUN Red List
Blue Moor-grass	*Sesleria caerulea*	1330.2	Lancashire Biodiversity Action Plan, Nationally scarce
Mezereon	*Daphne mezereum*	1357.1	Lancashire Biodiversity Action Plan, Nationally scarce, ICUN Red List
Greater Spearwort	*Ranunculus lingua*	1402.6	None
Narrow-leaved Water-plantain	*Alisma lanceolatum*	1426.9	Lancashire Biodiversity Action Plan
Common Meadow-rue	*Thalictrum flavum*	1483.6	Lancashire Biodiversity Action Plan
Black Poplar	*Populus nigra subsp. betulifolia*	1506.5	Lancashire Biodiversity Action Plan
Black Poplar	*Populus nigra subsp. betulifolia*	1506.5	Lancashire Biodiversity Action Plan
Dropwort	*Filipendula vulgaris*	1506.5	Lancashire Biodiversity Action Plan
Saw-wort	*Serratula tinctoria*	1506.5	Lancashire Biodiversity Action Plan
Spring Sandwort	*Minuartia verna*	1506.5	Lancashire Biodiversity Action Plan, Nationally scarce, ICUN red list
Wild Cabbage	*Brassica oleracea*	1506.5	Lancashire Biodiversity Action Plan, Nationally scarce
Yellow Bird's-nest	*Monotropa hypopitys*	1506.5	Lancashire Biodiversity Action Plan, Species of Principal Importance, ICUN red list

Field Woundwort	*Stachys arvensis*	1575.1	ICUN red list
Common Kettlewort	*Blasia pusilla*	1575.7	None
White Water-lily	*Nymphaea alba*	1667.6	None
Sand Cat's-tail	*Phleum arenarium*	1690.2	Lancashire Biodiversity Action Plan
Lesser Marshwort	*Apium inundatum*	1712.3	None
Box	*Buxus sempervirens*	1735.8	Nationally rare
Spindle	*Euonymus europaeus*	1893.4	None
Water-soldier	*Stratiotes aloides*	1893.4	Nationally rare, ICUN red list
Bristly Oxtongue	*Picris echioides*	1924.1	Lancashire Biodiversity Action Plan
Sea-buckthorn	*Hippophae rhamnoides*	1928.6	Nationally scarce
Tutsan	*Hypericum androsaemum*	1960.2	None
Tufted Loosestrife	*Lysimachia thyrsiflora*	1989.0	Lancashire Biodiversity Action Plan, nationally scarce

Wildlife and Countryside Act 1981 (as amended) - This legislation implements parts of the Birds Directive 2009 and the Berne Convention (1979) into national legislation. It includes a number of Schedules which are reviewed (usually every five years) on which details of the protected species, and their level of protection, are shown. Schedule 8 refers to protected species of wild animals and plants.

Species of Principal Importance - The England Biodiversity List has been developed to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal The S41 list will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 “to have regard” to the conservation of biodiversity in England, when carrying out their normal functions.

ICUN red list - The IUCN Red List System was first conceived in 1963 and set a global standard for species listing and conservation assessment efforts. For more than 30 years the Species Survival Commission (SSC) has been evaluating the conservation status of species and subspecies on a global scale – highlighting those threatened with extinction and promoting their conservation.

Nationally rare - Occurring in 15 or fewer hectads (10km X 10km grid squares) in Great Britain. Includes rare species qualifying under the main IUCN criteria.

Nationally Scarce - Occurring in 16-100 hectads (10km X 10km grid squares) in Great Britain. Includes rare species qualifying under the main IUCN criteria.

Lancashire Biodiversity Action Plan - Lancashire BAP Species are Local Priority Species of significance in Lancashire and for which a Lancashire BAP Action Plan has been prepared.

(LERN, 2016, Lancashire Key Species)

Appendix C – Wildlife Legislation

The following has been produced as a guide, to outline possible offences that could occur during development. For a definitive list of all species of flora and fauna, and a full interpretation you should refer to relevant Acts listed below.

C.1 The Wildlife and Countryside Act 1981 (as amended)

C.1.1 *Applies to all wild birds where it is an offence:*

- To kill, injure or take any wild bird (subject to certain exceptions)
- To take, damage or destroy a nest whilst it is in use or being built
- To take or destroy the egg of any wild bird

C.1.2 *Schedule 1*

It is also an offence to disturb any wild bird listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended)

- While it is nest building
- At a nest containing eggs or young
- disturbs the dependant young of any such bird.

C.1.3 *Schedule 5*

For animals fully protected under Schedule 5 which includes, all bats, great crested newts, otters, water voles, sand lizards, smooth snake and natterjack toad. It is an offence:

- To intentionally kill or injure or take
- to intentionally or recklessly damage or destroy or obstruct access to any structure or place which a species uses for shelter or protection, at any time even if the animal is not there.
- To intentionally or recklessly disturb whilst it is occupying a place which it uses for shelter or protection.
- To obstruct access to any structure or place which an animal uses for shelter or protection.

Adder, grass snake, common lizard and slow worm are only protected from being killed or injured and the white- clawed crayfish is only protected from being taken.

C.1.4 *Schedule 8*

Specific species of plants listed in Schedule 8 are protected. It is an offence:

- To intentionally pick, uproot or destroy a wild plant listed in Schedule 8.

C.1.5 *Schedule 9*

Invasive non-native species are listed under Schedule 9. It is an offence:

- To plant or otherwise cause to grow in the wild.

There is a defence to the above offence that if such species are spread into the wild, but it can be demonstrated that all reasonable steps have been taken to avoid committing the offence this would be a defence accepted in the legislation.

If soils are contaminated by invasive non-native plant species it becomes classified as ‘controlled waste’ under the Environmental Protection Act 1990 (England, Wales & Scotland), and must be disposed of accordingly.

C.2 The Conservation of Habitat and Species Regulations 2010 (as amended)

Schedule 2 applies to all European Protected Species (EPS) which includes all bat species, great crested newts, dormice, otters, sand lizards, smooth snake and natterjack toad amongst others. The protection afforded is overlapping but separate from the Wildlife and Countryside Act 1981 (as amended).

It is an offence:

- To deliberately capture, injure or kill
- To deliberately disturb
- To damage or destroy a breeding site or resting place of an EPS; this applies whether species are present or not.

In order to permit a development where the above offences to a European Protected Species or their habitats are likely to be committed, a European Protected Species License can be obtained from Natural England where appropriate mitigation is offered to offset the negative impacts to local populations.

In considering planning applications local authorities and Natural England have to have regard to the Habitats Regulations in considering whether the project satisfies the "Three Tests" listed below:

1. **Regulation 53(2)(e**) states: a licence can be granted for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".

2. **Regulation 53(9)(a)** states: the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative".

3. **Regulation 53(9)(b)** states: the appropriate authority shall not grant a licence unless they are satisfied "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range."

Therefore, where an EPS is likely to be affected development proposals must be designed to either avoid or mitigate impacts to EPS and their habitats.

C.3 The Protection of Badgers Act 1992

Badgers and their setts are protected under the Protection of Badgers Act 1992 under which it is an offence to:

- Intentionally capture, kill or injure a badger
- Damage, destroy or block access to their setts
- Disturb badgers in setts
- Treat a badger cruelly
- Deliberately send or intentionally allow a dog into a sett
- Bait or dig for badgers

Where interference with a badger sett cannot be avoided during development, a Licence from Natural England should be applied for.

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