

Ascerta

Landscape, Arboricultural & Ecological Solutions
for the Built Environment

Preliminary Ecological Appraisal

Ryebank Fields
Chorlton
Manchester
M21 9WW
Ref: P.1254.19

June 2020

Rev	Date	Details
A	29/04/2020	Minor amendments following client request
B	20/07/2020	Minor amendments following client request

P.1254.19

Preliminary Ecological Appraisal

Of

**Ryebank Fields
Chorlton
Manchester,
M21 9WW**

For

Manchester Metropolitan University

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EXECUTIVE SUMMARY

A Preliminary Ecological Appraisal has been carried out on land at Ryebank Fields, Chorlton, Manchester, M21 9WW on 1st November 2019 by Mr Neil Everett. The assessment comprised a desk study and biological records search, as well as a site walkover survey in order to map habitat types. The survey was extended to assess the potential for protected species to use the site. The assessment provides baseline data as to current site conditions and where appropriate allows recommendations to be made in respect of further potential work in order to satisfy current wildlife legislation.

The survey area includes an area of semi-improved and unmanaged improved grassland with broad-leaved woodland, scattered trees, bramble scrub and species poor hedgerow. A small electrical substation is present to the south of the site with areas of hardstanding. The Nico ditch (an ancient boundary or defensive ditch) runs east – west through the centre of the site.

Assessed against the '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' 2nd edition (2018), the habitats range in ecological value from **negligible** to **local**. At this stage the habitat loss cannot be quantified. Overall the proposals are unlikely to adversely affect the ecological value of the area provided the recommendations below are followed, to include a detailed assessment of the Biodiversity Net Gain potential of the proposals and identification of appropriate areas where habitat creation and enhancement can occur on-site or in the immediate vicinity of the site.

The site provides habitat for nesting birds, badger, hedgehog, amphibians, bats, reptiles. Provided the recommendations below are followed these species will not be adversely affected by the proposals.

The site lies within Manchester and is covered by Manchester's Local Development Framework Core Strategy Development Plan Document (adopted 11 July 2012) and extant policies within the Unitary Development Plan. The policy of relevance is EN 15 within the Core Strategy document.

Recommendations

1. Nocturnal bat activity surveys to be undertaken between April and October. Up to one survey may be required per month in suitable weather conditions;
2. The deployment of two static detectors per transect to collect bat activity data across the site over five consecutive nights per month between April and October;
3. Further vegetative survey to be undertaken at an appropriate time of year (April to September) to assess the condition of habitats on the site and feed into the Defra Biodiversity Net Gain calculations;
4. Avoiding vegetation removal during the bird breeding season (1 March to 31 August inclusive) or undertaking a survey for breeding birds and ensuring any active nests found are protected within a suitable buffer zone until they are no longer in use;
5. Mitigation for the loss of nesting bird habitat with the provision of open fronted nest boxes, 26mm and 32mm hole nest boxes, with the numbers to be in accordance with the council's guidelines;
6. Control of the invasive species snowberry and cotoneaster to stop it from spreading into the wild during development works;
7. Lighting sensitive to the needs of bats, designed to avoid overspill onto any retained habitats and offsite habitats;

8. The use of Reasonable Avoidance Measures (RAM's) in relation to hedgehog and common frog, to include hand clearing of the brash pile and scrub as well as storage of construction materials on pallets to avoid harm to hedgehog;
9. To enable hedgehog continued use of the site it is advised that gaps of at least 13cm by 13cm are left under any new garden fences following development;
10. Provision of a hedgehog hibernaculum on site to mitigate for loss of habitat;
11. Habitat enhancement with the installation of 26mm and 32mm hole nest boxes, swift boxes and house sparrow terraces attached to retained trees or integrated within new dwellings and bat boxes (e.g. Beaumaris woodstone, Vivara bat bricks or similar) attached to or integrated within new dwellings. The number of boxes to be installed will be in accordance with the council's guidelines; and
12. Suitable landscaping incorporating species that provide a food or shelter resource to wildlife to include hawthorn, hazel, holly, blackthorn, field maple, dog rose and honeysuckle as hedgerow species and oak, alder, field maple, silver birch, crab apple, rowan and bird cherry as tree species, together with implementing a relaxed mowing regime and establishing wildflowers in these areas.

1.0 Introduction

Ascerta has been instructed by Manchester Metropolitan University to carry out a Preliminary ecological assessment of the land at Ryebank Fields, Chorlton, Manchester, M21 9WW (hereafter referred to as the site). The site OS grid reference is SJ 8104 9458.

Our client is looking to develop a Framework to guide future residential development within the survey area.

The site was visited on 1st November 2019 by Mr Neil Everett when a preliminary Ecological Appraisal, which includes an assessment of the potential for protected species to be using the site or surroundings, was carried out in accordance with the *Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit* (JNCC, 2010). The report was prepared following methods detailed in the CIEEM '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (2018) and '*Guidelines for Ecological Report Writing*' (2017). This report presents the results of the survey including evaluation of habitats on site and the potential for protected species to be using the site. The report includes recommendations for further actions where applicable in order to satisfy current wildlife legislation and to achieve our client's objectives.

2.0 Objectives

Our client's objectives are to assess the potential ecological constraints of the proposed development site.

Our objectives are as follows:

- Identify and evaluate any features of ecological value and the potential of the site to support protected species based on the walkover survey and biological records search;
- Identify designated sites within 2km of the site;
- Review protected species records within 2km of the site;
- Map the habitats within the site using JNCC (2010) methods;
- Provide recommendations for further species-specific surveys and mitigation measures where current legislation requires;
- Provide recommendations that seek to enhance the ecological value of the site;
- Provide recommendations to assist our clients in achieving their objectives whilst satisfying current wildlife legislation.

3.0 Relevant Legislation

3.1 European Legislation

The following Directives have been adopted by the European Union and provide protection for fauna and flora species of European importance and the habitats which support them:

- Directive 2009/147/EC on the Conservation of Wild Birds (Birds Directive);
- Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive).

3.2 UK Legislation

The Habitats Directive has been transposed into national legislation through the Conservation of Habitats and Species Regulations 2017 (The Habitats Regulations). This provides for the designation and protection of 'European Sites' (SPAs, SACs and Ramsar Sites, including proposed or potential European Sites) and the protection of 'European Protected Species'.

The key UK legislation relating to nature conservation is the Wildlife and Countryside Act 1981 (as amended) (W&C Act). This Act is supplemented, *inter alia*, by provision in the Countryside and Rights of Way (CRoW) Act 2000, and the Natural Environment and Rural Communities Act 2006 (NERC Act). Additional species and habitat specific UK legislation includes the Protection of Badgers Act 1992 and the Hedgerow Regulations 1997.

The UK legislation is due to be updated, with the publication of The Environment (Principles and Governance) Bill, which is due to be passed through parliament in the autumn of 2019. The draft Environment Bill sets out how the UK will maintain environmental standards following leaving of the EU. The Bill builds on the vision of the 25 Year Environment Plan, with the ambition from the government to leave the environment in a better state than it was when inherited.

The Defra Biodiversity Metric is being implemented to work alongside the Environment Bill. This tool calculates potential biodiversity impacts as a result of development and identifies mitigation and compensation requirements to ensure no net loss of biodiversity. In addition, it identifies measures that can be implemented in order to meet Biodiversity gain as a result of development. Defra released a beta version of the biodiversity metric in July 2019. This metric is likely to be the default metric used by councils once the Environment Bill comes into force.

The National Planning Policy Framework (NPPF) 2019 has been published to provide further planning guidance. Wildlife, biodiversity and ecological networks are referred to in Section 15 '*Conserving and enhancing the natural environment*'. The NPPF states that the planning system should contribute to and enhance the natural and local environment by: recognising the wider benefits of ecosystem services, minimising impacts on biodiversity and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures. Further guidance is provided within Government Circular 06/05: *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System*.

Species and Habitats of Principal Importance

Species and Habitats of Principal Importance are listed under section 41 of the NERC Act and are a material consideration in planning decisions. Planners require relevant, up to date information from ecological surveys in order to assess the effects of a proposed development on biodiversity as Councils have a statutory obligation under section 40 of the NERC Act to consider biodiversity conservation in the determination of planning applications.

Background information about the lists of priority habitats and species (Species and Habitats of Principal Importance) can be found within the UK Biodiversity Action Plan (UK BAP). Although this has been succeeded by The '*UK Post-2010 Biodiversity Framework*', many of UK BAP tools are still relevant. BAPs identify habitats and species of nature conservation priority on a UK (UK BAP) and Local (LBAP) scale. Most BAP priority habitats and species have Habitat Action Plans (HAP) and Species Action Plans (SAP) and there are also "grouped action plans" for groups of related species with similar conservation requirements. The LBAP relating to this Site is the Greater Manchester Biodiversity Action Plan.

Badgers

The legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992.

Under the Protection of Badgers Act 1992 it is an offence *inter alia* to:

- Wilfully kill, injure or take a badger, or to attempt to do so;
- Cruelly ill-treat a badger; or
- Intentionally or recklessly interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.

The Badger Act 1992 defines a badger's sett as "*any structure or place which displays signs indicating current use by a badger*"

Natural England can issue licences to enable works to continue that may affect a protected species. In relation to disturbance of badgers, Natural England (2009) gives guidelines on disturbance which will require a licence. These includes: "*using very heavy machinery (generally tracked vehicles) within 30 metres of any entrance to an active sett; using lighter machinery (generally wheeled vehicles), particularly for any digging operation, within 20 metres; light work such as hand digging or scrub clearance within 10 metres. There are some activities which may cause disturbance at greater distances (such as using explosives or pile driving) and these should be given individual consideration.*"

Bats

In England, all bats and their roosts are protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife & Countryside Act 1981 (as amended). Several species of bat are also highlighted as Priority Species under the UK Biodiversity Action Plan and within the Local BAP.

Under the current legislation as summarised on pages 8 and 9 of the Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016) it is a criminal offence to:

"To kill, capture, injure or take a wild bat;

- *To damage or destroy a place used by a bat for breeding or resting. All offences of this nature are identified within the Habitats Regulations. This offence is unique in that it can be committed accidentally. No element of intentional, reckless or deliberate action needs to be evidenced;*
- *To disturb bats anywhere (roosts, flight lines or foraging areas) if levels of disturbance can be shown to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate or to affect significantly local distribution or abundance;*
- *To intentionally or recklessly disturb a bat, whilst it is occupying a place of shelter or protection;*
- *To intentionally or recklessly obstruct access to any place used by a bat for shelter or protection; and*
- *To be in possession or control of a bat alive or dead (or any part of a bat or anything derived from a bat, although bat droppings are generally considered to be acceptable), or to transport a bat, to sell or exchange a bat or to offer to sell or exchange a bat taken from the wild."*

Breeding Birds

Breeding Birds are protected under the Wildlife and Countryside Act which make it an offence to:

- *intentionally kill, injure or take any wild bird or take, damage or destroy the nest of any wild bird whilst it is in use or being built;*
- *intentionally take or destroy the egg of any wild bird;*
- *have in one's possession or control any wild bird, dead or alive, or any part of a wild bird (including eggs), which has been taken in contravention of the Act or the Protection of Birds Act 1954;*
- *intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.*

Great Crested Newt

The great crested newt (*Triturus cristatus*) is fully protected under the Wildlife and Countryside Act, 1981 (as amended) and the Habitats Regulations, 2017. It is also a Species of Principal Importance. The legislation makes it an offence to:

- *Deliberately (or intentionally) kill, injure or capture (or take) a great crested newt, or great crested newt egg or eft;*
- *Deliberately (intentionally) damage or destroy any breeding site or resting place (i.e. pond, refuge, hibernaculum);*
- *Deliberately or recklessly obstruct access to any breeding site or resting place;*
- *Deliberately, intentionally or recklessly disturb a great crested newt, in particular disturbance which is likely to:*
 - *impair the ability of the great crested newt to survive, breed, reproduce, or to rear or nurture young;*
 - *impair the ability of the great crested newt to hibernate or migrate; or significantly affect the local distribution or abundance of great crested newts*

Invasive Species

It is an offence under Section 14(2) of the Wildlife and Countryside Act 1981 to 'plant or otherwise cause to grow' in the wild any plant in Schedule 9 Part II.

3.3 Local Policy

The site lies within Manchester and is covered by Manchester's Local Development Framework Core Strategy Development Plan Document (adopted 11 July 2012) and extant policies within the Unitary Development Plan. The policy of relevance is EN 15 within the Core Strategy document.

The following table provides a summary of the main species within the UK that could be encountered within or within proximity of this development site, together with the legislation that affords them protection.

Table 3.1 Protected Species and the Associated Legislation.

	Species	Legislation
Mammals	Badger (<i>Meles meles</i>)	Protection of Badgers Act 1992.
	All species of bat Water vole (<i>Arvicola amphibious</i>) Red Squirrel (<i>Sciurus vulgaris</i>)	Schedule 5, W&C Act 1981 (as amended) and Section 41, NERC.
Birds	All wild birds	Schedule 5, W&C Act 1981 (as amended) and Section 41, NERC.

It is a criminal offence to intentionally, wilfully kill, injure or take any of the aforementioned protected species or to destroy or disturb its habitat.

4.0 Survey Methods

The Preliminary Ecological Appraisal involved the collection and review of data from a desk study and field survey along with assessment of the value of the habitats following CIEEM guidelines.

4.1 Desk Study

A review of the designated sites and habitats within 2km of the site has been undertaken using the Multi-Agency Geographic Information for the Countryside (MAGIC) and the Natural England websites.

A review of UK and Local priority species and habitats known to occur in the region of the site has been undertaken; using the Joint Nature Conservation Committee website and local records from Greater Manchester Ecology Unit (Appendix 3).

4.2 Field Survey

A walkover survey of the site was conducted on 1st November 2019 when the habitat types and features of ecological interest were identified and mapped in compliance with the Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit (JNCC, 2010). The survey methods involve the recording and mapping of all habitat types and ecological features present on the site, including the identification of the main species present and examination of the potential for any protected species. Habitats were mapped and target notes made for any interesting features.

The surveys particularly focused on the following species and habitat features:

- Mammals (badgers and bats);
- Birds;
- Amphibians and reptiles;
- Invertebrates;
- Hedgerows and boundaries;
- Invasive plant species; and
- Plant communities and trees.

4.3 Bat Survey Methods

The survey methods followed the guidelines set out by the Bat Conservation Trust Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016). Habitats, buildings and trees were assessed for suitability for use by bats and categorised independently using table 4.1 page 35 within the Bat Conservation Trust Guidelines (Collins, 2016).

Preliminary Ecological Appraisal for Bats

Habitats on site were assessed for their suitability for bats to use them for roosting, commuting and foraging both on the site and surrounding area. Commuting and foraging habitat suitability was categorised **low to high**. Commuting and foraging habitat valued as **moderate** or above may need further survey effort if lost to the proposals.

Preliminary Roost Assessment Trees

All trees were inspected for Potential Roost Features (PRFs). Features searched for included: Natural or woodpecker holes, cracks/splits in major limbs, loose bark,

hollows/cavities, dense epicormic growth, bird and bat boxes. Where such features were found they were investigated for scratches or staining, bat droppings and smoothing of surfaces around entry points. Trees assigned a suitability of **moderate** or above may require further inspection if they are to be lost to the development.

External Inspection of the Building

A daytime external inspection of the buildings was carried out during the survey by a licenced bat ecologist. The building was searched externally looking for signs of bats, including staining on barge boards, soffits and more commonly droppings on flat surfaces i.e. window ledges that would indicate potential roosting sites. Possible bat access points such as loose tiles, cracks and crevices or crawl spaces beneath and/or behind roofing materials such as roofing felt, panelling, soffits and tiles were identified and checked for signs of use by bats, for example droppings, scratch marks and staining. A Clulite Smartlite torch was used to aid the inspection of crevices.

The building was categorised as per Table 4.1 (below). Buildings assigned a suitability of **Low** or above may require further inspection if they are to be lost to the development.

Table 4.1: Guidelines for assessing Potential Roost Features (PRFs), commuting and foraging habitat within a proposed development site. Guidelines taken from table 4.1 page 35 of the Bat Conservation Trust Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016).

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

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

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

4.4 Badger Survey Methods

The site was searched for setts and badger field signs including foraging areas, latrines and tracks. Attention was paid to the presence of the following field signs:

- Setts: single holes or a series of holes likely to be interconnected underground;
- Latrines: badgers usually deposit faeces in excavated pits;
- Paths and footprints;
- Scratching posts: at the base of trees;
- Snuffle holes: areas where badgers have searched for insects;
- Day nest: bundles of vegetation where badgers may sleep above ground; and
- Traces of hair.

Any setts recorded were categorised into sett types using the following criteria (Thornton, 1988):

4.5 Evaluation

Habitats and species on the site were evaluated following the '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' 2018. A geographical frame of reference is assigned to each habitat and species, with International Value being most important, then National, Regional, County, District, Local and lastly, within the immediate Zone of Influence (ZoI) of the proposals only.

Value judgements are based on characteristics that can be used to identify ecological resources or features likely to be important in terms of biodiversity. These include site designations such as SSSIs. For undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological resource are considered. Ecological resource quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

Although we cannot assess the survey findings fully in relation to the draft Environment Bill and Biodiversity Metric, the recommendations detailed within this report aim to meet requirements of the Environment Bill and Biodiversity Metric as far as possible at this stage.

4.6 Limitations

The site visit was undertaken in November. Although this is within the sub-optimal time of year for phase 1 habitat surveys, sufficient vegetation was present to enable habitat identification. It is not considered a limit to the conclusions of the report based on the habitats found within the site and the works proposed.

There was no access to the internal areas of the electricity substation during the site visit. However, the building could be suitably accessed for bat roost potential externally. The access issue is not considered a limit to the conclusions of the report based on the habitats found within the site and the works proposed.

The site was visited on only one occasion. This produces a snapshot of habitats and species on the site and others may be present at different times of the day or year. This limitation has been taken into account within this report.

5.0 Survey Results

5.1 Desk Study

Two statutory sites were identified within a 2km radius of the proposed development site and five non-statutory sites were identified within a 2km radius the proposed development site.

The following statutory sites were identified within the vicinity of the proposals (with approximate distance and direction from the site):

- Broad Eees Dole (LNR) 1.4km south west; and
- Chorlton Ees & Ivy Green LNR 1.3km south

The following non-statutory sites were identified within the vicinity of the proposals (with distance and direction from the site):

- Broad Eees Dole Site of Biological Importance (SBI) 1.4km south west;
- Chorlton Ees & Ivy Green SBI 1.3km south;
- Meadows at Sale Water Park SBI 2km south;
- Hardy Farm SBI 1.5km south; and
- Bridgwater Canal SBI 1km west.

The site does not lie within a Natural England SSSI Impact Risk Zone.

Following a review of records held by the Greater Manchester Ecology Unit, several priority species that have the potential to occur within the vicinity of the proposed development have been identified. These include, water vole, great crested newt, nesting birds and bats.

One European Protected Species Licence (EPSL) application within 2km of the site since 2015 was identified using Magic Maps;

- 2015-15443-EPS-MIT for the destruction of a resting place for brown long-eared bat. Start date 08/10/2015 end 01/07/2016 900m south east.

A list of key habitats is shown in table 5.1 below and a summary description of key habitats within the survey area is provided in Section 5.2. Notes on the presence or potential presence of protected species are provided in Section 5.3. The Phase 1 Habitat map can be found in Appendix 1. The Target Notes (TN) and lists of species recorded during survey are presented in Appendix 2.

5.2 Habitat Survey

The site lies within Chorlton, approximately 3.5km south west of Manchester City Centre. The habitats on the site comprise predominantly unmanaged improved grassland, with an area of semi-improved grassland to the southwestern corner of the site. Scrub vegetation with bramble is present in areas to the western site boundary with smaller pockets of scrub vegetation to the centre of the site and to the north and east. A small area of tall ruderal vegetation is present within the north eastern area of the site. Broad-leaved woodland lines the north western site boundary, small areas of woodland are also present to the south eastern site boundary. A section of broadleaf woodland plantation is also present to the northern site boundary.

Within the southern area of the site is a section of hardstanding that has become colonised by moss. A dry ditch (The Nico Ditch) filled with dense bramble scrub lies west to east at the centre of the site. Some of the bramble has been recently cut back to enable exploration of the ditch.

The site is bound to the north east and south west by a species rich hedgerow with trees. Scattered trees and a species poor hedge are also present to the southern sector of the site. An earth bank is present adjacent to the north of hardstanding area that has become encroached by vegetation from the improved grassland area. These habitats are presented on plan P.1254.19.05A (Appendix 1).

Within the wider environment lies public open space and residential dwellings. The River Mersey flows approximately 1.3km south west with the M60 (Manchester Ring Road) beyond.

Weather conditions during the survey were mild (13°C), with light drizzle (8/8 cloud cover) with a F2 (Beaufort Scale) light breeze, therefore appropriate for this type of survey. Table 5.1 details the habitat types recorded on the site

Table 5.1 Habitat Types on the Proposed Development Site.

Description	Photograph
Hardstanding: An area of hardstanding is present to the south of the site and has become colonised by moss, predominantly to the margins. The bare areas offer little in the way of value to wildlife. This habitat type is common in the wider environment and will be lost to the proposals.	
Ecological Value	Negligible

Description	Photograph
Building (B1): An electrical sub-station is present to the south western corner of the site. The building is brick built with a concrete roof. The building is discussed in detail in section 5.4 below.	
Ecological Value Semi-Improved Grassland: An area of semi-improved grassland is present to the south western corner of the site. Species include cock's foot, sheep's fescue and ribwort plantain. The area is of value to birds, small mammal species and amphibians. Bats may also use the areas for forage and as connectivity to more favourable habitat. It is recommended that this section of grassland is retained and enhanced within the proposals to assist with Biodiversity Net Gain requirements.	Negligible 
Ecological Value Improved Grassland: The site is predominantly unmanaged improved grassland that was formerly playing fields. It is slowly undergoing succession to species poor, semi-improved grassland. It is open to public access with desire lines crossing the grassland resulting in a shorter sward where paths are present. Species present include false oat grass, Yorkshire fog, perennial ryegrass and creeping thistle. The grassland within the southern sector of the site becomes wetter with areas of canary reed grass and sedge. The areas are of value to birds, small mammal species and amphibians. Bats may also use the areas for forage and as connectivity to more favourable habitat. Any loss of this habitat will require appropriate compensation that can be agreed once the proposals have been finalised and Biodiversity Net Gain calculations have been completed.	Within the Zone of Influence to Local  
Ecological Value	Within the Zone of Influence

Description	Photograph
<p>Dry Ditch: A ditch runs west to east across the centre of the site. The ditch forms part of the Nico ditch that runs between Ashton-under-Lyne and Stretford. It was constructed between the 5th and 11th Century AD. At the time of the walkover survey the ditch was dry and overgrown with bramble in areas. Areas of bramble were cut back in early December to allow for further investigation of the ditch and this has not impacted on the biodiversity value of this habitat at this time of year. The vegetated ditch area is of value to birds, small mammal species and amphibians. Bats may also use the areas for forage and as connectivity to more favourable habitat. If the ditch were to be lost to the proposals, an area of similar scrub habitat could be created elsewhere to compensate for this loss. The ditch is unlikely to hold water as it was dry at the time of survey (which was undertaken after significant rainfall). Therefore, loss of this ditch is unlikely to adversely impact the ecological value of the area as it is not functioning ecologically as a ditch currently.</p>	
	November 2019
	
	January 2020
Ecological Value	Negligible
<p>Earth Pile: To the south of the site there is an earth bank that has become colonised by scrub and grassland vegetation. The bank is adjacent to a line of scattered trees (see below) to the north of the hardstanding.</p>	<p>No photograph available</p>
Ecological Value	Within the Zone of Influence
<p>Species Rich Hedgerow with Trees: The site is bound to the north east and south west by a species rich hedgerow with trees. Species include; poplar, aspen and cottonwoods. It is of value for birds, small mammal species and amphibians as foraging habitat, and is suitable for use by nesting birds. Bats may use the hedgerow as a commuting corridor. Hedgerows can be BAP habitats. It is advised this habitat is retained and enhanced within the proposals. Any loss of this habitat will require appropriate compensation that can be agreed once the proposals have been finalised and Biodiversity Net Gain calculations have been completed.</p>	
Ecological Value	Local

Description	Photograph
<p>Species Poor Hedge: An area of intact, non-native species poor hedge is present to the southern site boundary. Laurel is the dominant species within the hedge line with occasional elder. It is of limited value for birds, small mammal species and amphibians as foraging habitat, and is suitable for use by nesting birds. Bats may use the hedgerow as a commuting corridor. This hedgerow type is common in the wider environment and could be replaced within the proposals with native, species rich hedgerow which will be of greater ecological value than this laurel dominated hedgerow.</p>	
Ecological Value	Within the Zone of Influence
<p>Bramble Scrub: Surrounding and within the dry ditch there is an area of dense bramble scrub on both bank areas. Areas of bramble were cut back in early December to allow for further investigation of the ditch and this has not impacted on the biodiversity value of this habitat at this time of year. Pockets of bramble are also present to the south of the site and to the western site boundary. Scrub is of forage value to birds, small mammal species and amphibians, may also be of value to nesting birds such as robin. The bramble may provide limited forage opportunities for bats. This type of habitat is common within the wider environment. Any loss of this habitat will require appropriate compensation that can be agreed once the proposals have been finalised and Biodiversity Net Gain calculations have been completed.</p>	
Ecological Value	Within the Zone of Influence
<p>Introduced Shrubs: Two areas of introduced shrub are present within the site. To the north west of the site is snowberry (TN1) and within the semi improved grassland cotoneaster as noted (TN2). The areas of shrub are of value to birds and small mammal species. This type of habitat is common within the wider environment.</p>	
Ecological Value	Negligible

Description	Photograph
<p>Scattered Trees: Two lines of scattered trees are present to the south of the site, adjacent to the hardstanding. Species present include, sycamore, ash and oak. Scattered trees are present in other areas of the site, many are young trees and are likely self-sown. The trees are of value to birds and small mammal species, they may be of value to nesting birds also when sufficiently mature. Bats may use the trees for forage and as a commuting corridor to surrounding habitats. This type of habitat is common within the wider environment. Any loss of this habitat will require appropriate compensation that can be agreed once the proposals have been finalised and Biodiversity Net Gain calculations have been completed. There is scope for replacement tree planting to extend the area of broadleaved woodland if habitats along the western site boundary can be retained within the proposals.</p>	 
<p>Tall Ruderal: An area of tall ruderal vegetation is present within the improved grassland area to the north east of the site. The area is dominated by rosebay willowherb. The area is of value to birds, small mammal species and amphibians as forage. This type of habitat is common within the wider environment. It can be replaced within the proposals with higher quality, more diverse tall ruderal habitat to ensure Biodiversity Net Gain is achievable.</p>	
<p>Broad-leaf Woodland: Broadleaf woodland lines the north western site boundary, small areas of woodland are also present to the south western site boundary. Species present include; holly, hazel, poplar and sycamore. The areas are of value to birds, bats, mammal species and amphibians. This type of habitat is difficult to replace in the short term and it is advised it is retained within the proposals to ensure Biodiversity Net Gain can be achieved.</p>	
Ecological Value	Local

Description	Photograph
<p>Broadleaf Plantation Woodland: A section of broadleaf woodland plantation is present to the northern site boundary. The area is dominated by poplar, aspen and cottonwoods with many young trees that have self-seeded along the margins. Other species present include oak and ash. The areas are of value to birds, bats, small mammal species and amphibians. This type of habitat is common within the wider environment and could benefit from thinning to create a more diverse woodland, if retained within the proposals. Any loss of this habitat will require appropriate compensation that can be agreed once the proposals have been finalised and Biodiversity Net Gain calculations have been completed.</p>	
Ecological Value	Within the Zone of Influence

5.3 Protected and Invasive Species

Species Results	Evaluation and Recommendations
<p>Bats:</p> <p>No record for bats were returned for the site, however numerous records for bats were returned within the search area. The majority of the records relate to Broad Ees Dole SBI and LNR and Chorlton Ees & Ivy Green LNR. Species recorded in these areas include common pipistrelle, Daubenton's, noctule, soprano pipistrelle, pipistrelle species and bat species. One record for whiskered bat was returned for Broad Ees Dole LNR, 1.3km southwest of the site.</p> <p>Two records for Daubenton's roost were returned approximately 1.3km and 1.6km south of the site. One record for a soprano pipistrelle roost was also returned 1.3km south.</p> <p>One record of a brown long-eared bat roost was returned approximately 1.1km south east of the site. The closest bat records to the site were for pipistrelle species bat, one record is adjacent to the eastern site boundary and a second to the western site boundary. The furthest record for pipistrelle species bat from the site is 1.8km north east.</p> <p>Four records for pipistrelle species bat roosts were returned, the closest record is approximately 570m west and the furthest is approximately 1.6km north east</p> <p><u>Preliminary Ecological Appraisal for Bats</u></p> <p>Habitats: The habitats on site, including the species poor hedgerow, species rich hedgerow with trees, broad-leaf woodland, scattered trees, improved grassland, semi improved grassland and bramble scrub have the potential to provide bat foraging and commuting habitat.</p> <p>Buildings: The building on the site provides negligible habitat for roosting bats. This is discussed in detail in Section 5.4 below.</p> <p>Trees: The majority of poplar, hazel and aspen are too young to have formed features suitable for use by bats as a roost. The mature trees, including the sycamore are of a sufficient size, but no features were noted that would provide bats with suitable shelter for roosting.</p>	<p>Habitat: The habitats on the site are considered to provide moderate bat commuting and foraging suitability. It is likely that some of these features will be retained within the proposals, including some of the scattered trees and the species poor hedgerow. In order to determine the impact of the proposals on the local bat population, nocturnal bat activity surveys are recommended. The survey effort would need to be agreed with the council ecologist once the habitat loss on the site is quantified and could require up to one visit per month between April and October together with leaving static detectors on site for 5 days per month between April and October.</p> <p>Building: The building could not be fully accessed for internal survey but has negligible bat roost potential following the external inspection. Further details of the buildings are provided in section 5.4 below.</p> <p>Trees: The trees provide negligible bat roost habitat.</p> <p>To enable bats continued use of retained commuting and foraging habitats on the site it is advised that lighting is kept to a minimum and designed to avoid spill into the foraging habitat i.e. the scattered trees along the eastern border of the site. Lighting design should follow advice set out in <i>Bats and lighting in the UK- bats and the built environment series</i>, (Bat Conservation Trust, 2018).</p>
Evaluation	Moderate bat commuting and foraging habitat, negligible roosting habitat.

Species Results	Evaluation and Recommendations
<p>Breeding Birds:</p> <p>The majority of bird records were returned within the areas within Broad Ees Dole SBI and LNR 1.4km south west; Chorlton Ees & Ivy Green SBI and LNR, Meadows at Sale Water Park SBI and Hardy Farm SBI. Species recorded included herring gull, reed bunting, song thrush, house sparrow, bullfinch and curlew.</p> <p>The closest bird record to the site was for common redpoll, approximately 200m west on the site within Longford Park. Records of bull finch and ring ouzel were also retuned for the same location.</p> <p>Other bird records including linnet, lapwing, grey partridge and dunnock were also retuned for the search area. Full details are included within Appendix 3. The site provides nesting and foraging habitat for these species, although species such as ring ouzel are unlikely to use the site for nesting due to the level of human disturbance.</p> <p>The habitats on site offer nesting opportunities for common bird species within trees and the species poor hedgerow. No bird activity was recorded during the site walkover survey.</p>	<p>There will be habitat loss for breeding and foraging birds as a result of the proposals. However, some nesting habitat will be retained, and the loss can be mitigated by the provision of bird boxes (open fronted nest boxes, 26mm hole and 32mm hole nest boxes) and the replanting of lost scrub habitat. The number of bird boxes and area of replanting would need to be in accordance with the council's guidelines and can be calculated once the proposals for the development has been finalised</p> <p>Most resident and migrant birds breed in the spring and summer months, although woodpigeons and collard doves nest throughout the year.</p> <p>In order to avoid harm to nesting birds, vegetation should not be cleared during the bird breeding season along with any demolition works on the building (between 1 March and 31 August). If vegetation needs to be cleared during this period or any proposed building demolition occurs, a nesting bird survey will be required, conducted by a suitably qualified ecologist, before works begin. If any active nests are observed during the survey, exclusion zones will be set up and works will not occur in these areas until nesting is complete.</p>
Ecological Value	Within the Zone of Influence

Species Results	Evaluation and Recommendations
<p>Other Species:</p> <p>Four records for common toad were returned within the data search. The closest record is approximately 300m east of the site and the furthest from a location within Broad Ees Dole LNR and SBI 1.4km south of the site.</p> <p>Three records of hedgehog were returned for the site, all relating to locations east of the survey area. The furthest record was 2km and the closest 1.6km.</p> <p>No records of amphibians, reptiles, water vole, otter or white clawed crayfish were returned, and no records for amphibians other than common toad were returned for the search area.</p> <p>There are no water bodies on site or within the immediate vicinity that would provide suitable habitat for water vole, otter or breeding habitat for amphibians such as great crested newt or common toad.</p> <p>The site contains terrestrial habitat that would be suitable for use by reptiles or amphibians including the unmanaged grassland and scrub habitats.</p> <p>Two possible fox holes were also recorded within the Nico ditch and mammal tracks were present throughout the site.</p>	<p>The site contains no suitable habitat for water vole, otter or white clawed crayfish. It also contains no suitable breeding habitat for amphibians. The site lies within a dense urban area with limited connectivity to the west of the site via Longford Park for these species. It is considered that these species (apart from common frog) are not using the site due to a very low likelihood of these species being present in the area and need no further consideration within the development framework guidance.</p> <p>As habitat exists for common frog, and there are records of them in the area, it is recommended that vegetation clearance should occur from the centre of the site outwards, to enable any frogs present to move away from the site.</p> <p>Habitat exists for hedgehog and hedgehog could be influenced by the proposals as they have large territories that include urban areas. Therefore, it is recommended that Reasonable Avoidance Measures (RAMs) be employed in respect to hedgehog during the works. These include:</p> <ul style="list-style-type: none"> • Construction materials stored on pallets so as not to create a hedgehog refuge area; • Existing refuge areas (brash pile and bramble scrub) should be removed by hand and cut back slowly so hedgehog within are not harmed during their removal. <p>To enable hedgehog continued use of the site it is advised that gaps of at least 13cm by 13cm are left under any new garden fences following development. To mitigate for the loss of habitat that could be used by hibernating hedgehog it is recommended that a hedgehog hibernaculum is provided within the landscaping.</p>
Ecological Value	Within the Zone of Influence

Species Results	Evaluation and Recommendations
Invasive Species: Stands of cotoneaster (TN2) and snowberry (TN1) were observed during the walkover survey and are marked on drawing P.1254.19.04 (Appendix 1).	Multiple cotoneaster species and snowberry are listed in Schedule 9 Part II of the Wildlife and Countryside Act 1981. It is advised that these species be controlled using suitable methods to avoid spread in the wild during works.
Ecological Value	N/A

5.4 Building Description

Building 1 (B1)	Photograph
<p>An electrical sub-station is present to the south western corner of the site. The building is brick built with a flat concrete roof. The building is surrounded by metal railings and metal gate.</p> <p>Access to the inside of the building was not possible at the time of the walkover, however the building could be fully viewed externally to check for features that could be used by bats for roosting.</p> <p>The building is in good condition with no visible access points for bats. The mortar throughout the brickwork was in a good state of repair with no gaps or cracks and no gaps were visible around the areas where the roof meets the wall.</p> <p>The building has been assessed as providing negligible bat roost potential and will require no further surveys within the current proposals.</p>	

6.0 Assessment & Recommendations

6.1 Designated Sites and Habitats

The habitats on the site comprise hardstanding, unmanaged improved grassland, bramble scrub, broad-leaved woodland, scattered trees, species-poor hedge, semi-improved grassland and tall ruderal vegetation. These habitats are considered to have an ecological value of **local** or lower. Some of these habitats will be lost to the proposals, and it is recommended the higher value habitats, including the semi-improved grassland, the hedgerows and the broad-leaved woodlands are retained within the proposals. Improving the species diversity of the hedgerow, together with wildflower planting, will contribute towards mitigation for loss of vegetated habitat. Overall the proposals are unlikely to adversely affect the ecological value of the area provided the recommendations below are followed, to include a detailed assessment of the Biodiversity Net Gain potential of the proposals and identification of appropriate areas where habitat creation and enhancement can occur on-site or in the immediate vicinity of the site.

There are no statutory or non-statutory protected sites within the vicinity of the proposals that are likely to be influenced by the proposals. This is because the designated sites lie some distance from the proposals, with areas available for recreation closed to the proposals, including the adjacent area of Public Open Space to the west.

6.2 Protected and Invasive Species

The site has been assessed to provide **moderate** bat foraging and commuting habitat and will require nocturnal activity surveys. The level of survey effort would need to be agreed with the council ecologist once the redevelopment proposals have been finalised and habitat loss confirmed. If all habitats are to be lost, it is likely one transect per month would need to be carried out between April and October in suitable weather conditions. The deployment of two static detectors will also be required per transect for five consecutive nights per month to assess the level of bat activity across the site. The trees and building on the site have been assessed as having **negligible** bat roost potential

Further works to be taken in relation to protected and invasive species are presented in Section 5.3 above. These include:

- Further surveys to assess badger use of the site;
- The use of Reasonable Avoidance Measures (RAM's) in relation to hedgehog and amphibians, to include hand clearing the bramble scrub and storage of construction materials on pallets to avoid harm to hedgehog;
- These include lighting sensitive to the needs of bats;
- Avoiding site clearance during the breeding bird season; and
- Control of snowberry and cotoneaster on site using suitable methods to avoid spread in the wild during works.

6.3 Enhancements

In order to meet requirements for biodiversity protection and enhancement outlined within the NPPF, it is recommended that ecological enhancements are included. These could include:

1. Provision of bird boxes (25mm and 32mm entrance hole box, house sparrow terraces, swift boxes), attached to new or existing trees on site and integrated within

- new dwellings, with the numbers provided to be in accordance to the council's guidelines;
2. Provision of bat features (e.g. Schewgler 2F type or similar) attached to retained trees on site or provision of bat boxes (e.g. Beaumaris woodstone boxes, Vivara bat bricks or '*bird brick houses*' bat boxes) attached to or integrated within new or retained buildings, in accordance with the councils guidelines; and
 3. Suitable landscaping incorporating species that provide a food or shelter resource to wildlife to include hawthorn, hazel, holly, blackthorn, field maple, dog rose and honeysuckle as hedgerow species and oak, alder, field maple, silver birch, crab apple, rowan and bird cherry as tree species together with implementing a relaxed mowing regime and establishing wildflowers in these areas.

7.0 Conclusions

It is considered that there would be very limited adverse impact on the local ecology as a result of the proposals, provided the recommendations detailed above are followed. In summary these include:

1. Nocturnal bat activity surveys to be undertaken between April and October. Up to one survey may be required per month in suitable weather conditions;
2. The deployment of two static detectors per transect to collect bat activity data across the site over five consecutive nights per month between April and October;
3. Further vegetative survey to be undertaken at an appropriate time of year (April to September) to assess the condition of habitats on the site and feed into the Defra Biodiversity Net Gain calculations;
4. Avoiding vegetation removal during the bird breeding season (1 March to 31 August inclusive) or undertaking a survey for breeding birds and ensuring any active nests found are protected within a suitable buffer zone until they are no longer in use;
5. Mitigation for the loss of nesting bird habitat with the provision of open fronted nest boxes, 26mm and 32mm hole nest boxes, with the numbers to be in accordance with the council's guidelines;
6. Control of the invasive species snowberry and cotoneaster to stop it from spreading into the wild during development works;
7. Lighting sensitive to the needs of bats, designed to avoid overspill onto any retained habitats and offsite habitats;
8. The use of Reasonable Avoidance Measures (RAM's) in relation to hedgehog and common frog, to include hand clearing of the brash pile and scrub as well as storage of construction materials on pallets to avoid harm to hedgehog;
9. To enable hedgehog continued use of the site it is advised that gaps of at least 13cm by 13cm are left under any new garden fences following development;
10. Provision of a hedgehog hibernaculum on site to mitigate for loss of habitat;
11. Habitat enhancement with the installation of 26mm and 32mm hole nest boxes, swift boxes and house sparrow terraces attached to retained trees or integrated within new dwellings and bat boxes (e.g. Beaumaris woodstone, Vivara bat bricks or similar) attached to or integrated within new dwellings. The number of boxes to be installed will be in accordance with the council's guidelines; and
12. Suitable landscaping incorporating species that provide a food or shelter resource to wildlife to include hawthorn, hazel, holly, blackthorn, field maple, dog rose and honeysuckle as hedgerow species and oak, alder, field maple, silver birch, crab apple, rowan and bird cherry as tree species, together with implementing a relaxed mowing regime and establishing wildflowers in these areas.

The above recommendations, if fully implemented, will enable the proposals to meet the requirements of national and local guidance and legislation including the NPPF and Policy EN15 within Manchester's Local Development Framework Core Strategy Development Plan Document.

8.0 References

- Bat Conservation Trust (2018) *Bats and lighting in the UK- bats and the built environment series 08/18* Bat Conservation Trust, London.
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- Department for Communities and Local Government (2019), *National Planning Policy Framework (NPPF)*
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- Multi Agency Geographic Information for the Countryside (MAGIC) [online]
- Rose. F. (2006). *Collins The Wild Flower Key, how to identify wild flowers trees and shrubs in Britain and Ireland*. Penguin Group: London.
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Appendix 1

DO NOT SCALE
ALL COORDINATES RELATED TO LOCAL GRID.
LOCATED TO NG BY BEST FIT TO DETAIL.
EXTRACTED FROM OS DIGITAL DATA.

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- KEY
- Survey area
 - Intact hedge species-poor
 - Hedge with trees species rich
 - Hedge with trees species-poor
 - Fence
 - Dry ditch
 - Earth bank
 - Broadleaved woodland semi-natural
 - Broadleaved woodland plantation
 - Scrub - dense/continuous
 - SI Neutral grassland semi-improved
 - Improved grassland
 - Other tall herb and fern ruderal
 - Buildings
 - Hard standing
 - Scattered Trees
 - Target note

TN1 - Approximate location of Snowberry
TN2 - Approximate location of Cotoneaster
TN3 - Fox holes

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CLIENT:
Manchester Metropolitan University

PROJECT:
Ryebank Fields, Chorlton,
Manchester

DRAWING TITLE:
Phase One Habitat Survey

SCALE: NTS@A3	DRAWN BY: LK	DRAWING NO: P.1254.19.05
DATE: 20/01/2020	CHKD BY: RK	REV: A



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Appendix 2

Species List

English Name	Scientific Name
Ash	<i>Fraxinus excelsior</i>
Aspen	<i>Populus tremula</i>
Beech	<i>Fagus sylvatica</i>
Bramble	<i>Rubus fruticosus agg</i>
Cherry	<i>Prunus sp.</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Clover	<i>Trifolium repens</i>
Cock's-foot	<i>Dactylis glomerata</i>
Compact rush	<i>Juncus conglomeratus</i>
Crested dog's tail	<i>Cynosurus cristatus</i>
Creeping bent-grass	<i>Agrostis stolonifera</i>
Creeping thistle	<i>Cirsium arvense</i>
Couch grass	<i>Elymus repens</i>
Cotoneaster	<i>Cotoneaster sp</i>
Elder	<i>Sambucus nigra</i>
False oat grass	<i>Arrhenatherum elatius</i>
Goat willow	<i>Salix caprea</i>
Hazel	<i>Corylus avellana</i>
Hornbeam	<i>Carpinus</i>
Holly	<i>Ilex aquifolium</i>
Ivy	<i>Hedera Helix</i>
Lime	<i>Tilia sp</i>
Maple	<i>Acer sp.</i>
Oak	<i>Quercus robur</i>
Perennial ryegrass	<i>Lolium perenne</i>
Poplar	<i>Populus sp.</i>
Ragwort	<i>Senecio jacobaea</i>
Reed canary grass	<i>Phalaris arundinacea</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Sheep's fescue	<i>Festuca ovina</i>
Silver birch	<i>Betula pendula</i>
Sphagnum moss	<i>Sphagnum sp.</i>
Stinging nettle	<i>Urtica dioica</i>
Sycamore	<i>Acer pseudoplatanus</i>
Timothy	<i>Phleum pratense</i>
Whitebeam	<i>Sorbus aria</i>
Wood avens	<i>Geum urbanum</i>
Yorkshire fog	<i>Holcus lanatus</i>

* invasive species

Target Notes

TN1 - Approximate location of snowberry

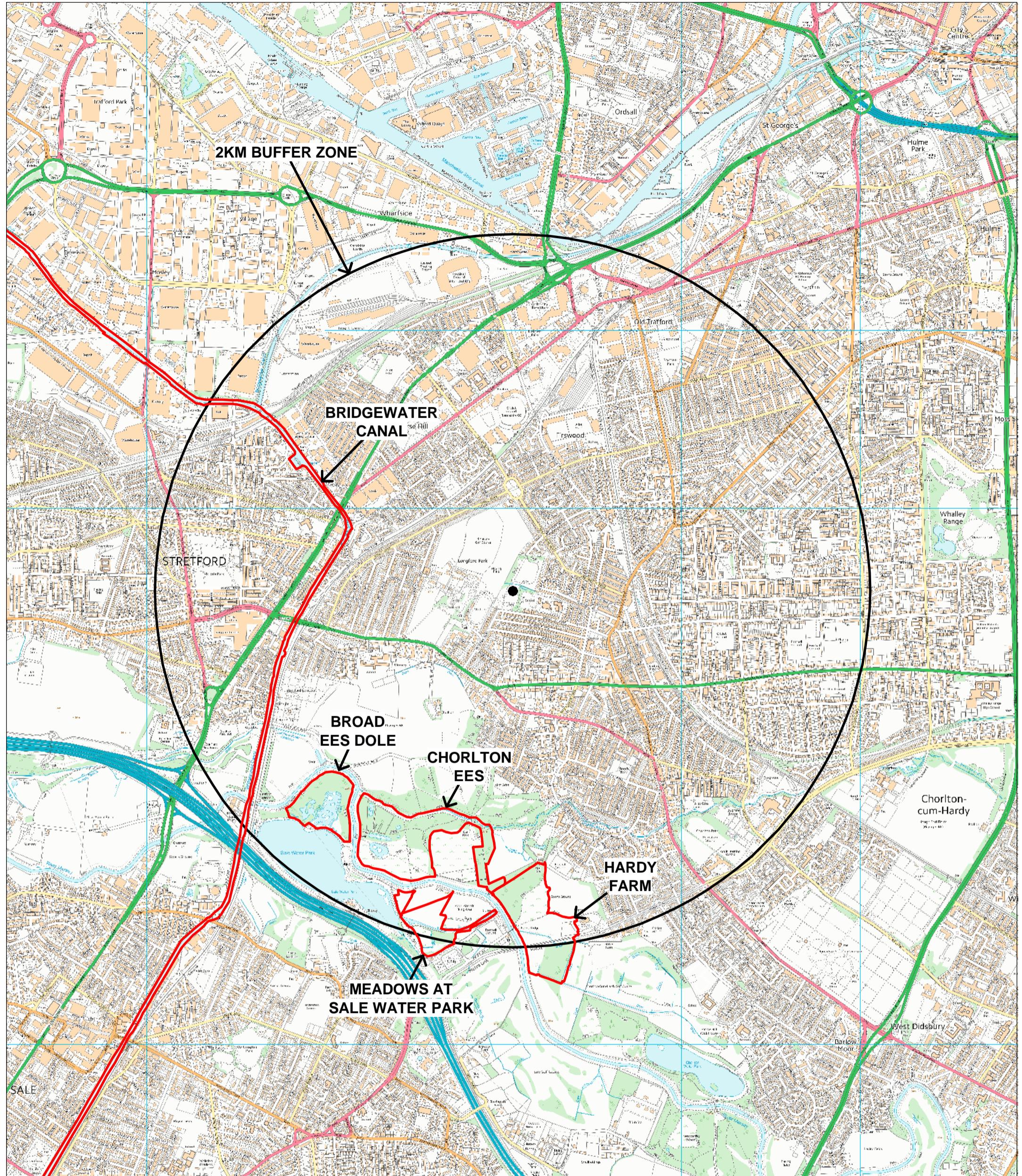
TN2 - Approximate location of cotoneaster

TN3- Location of fox holes



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Appendix 3



KEY
SITE OF BIOLOGICAL IMPORTANCE
 SBI BOUNDARY

GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SJ 8105 9454
RYEBANK FIELDS - MAP 1

SCALE 1:20,000

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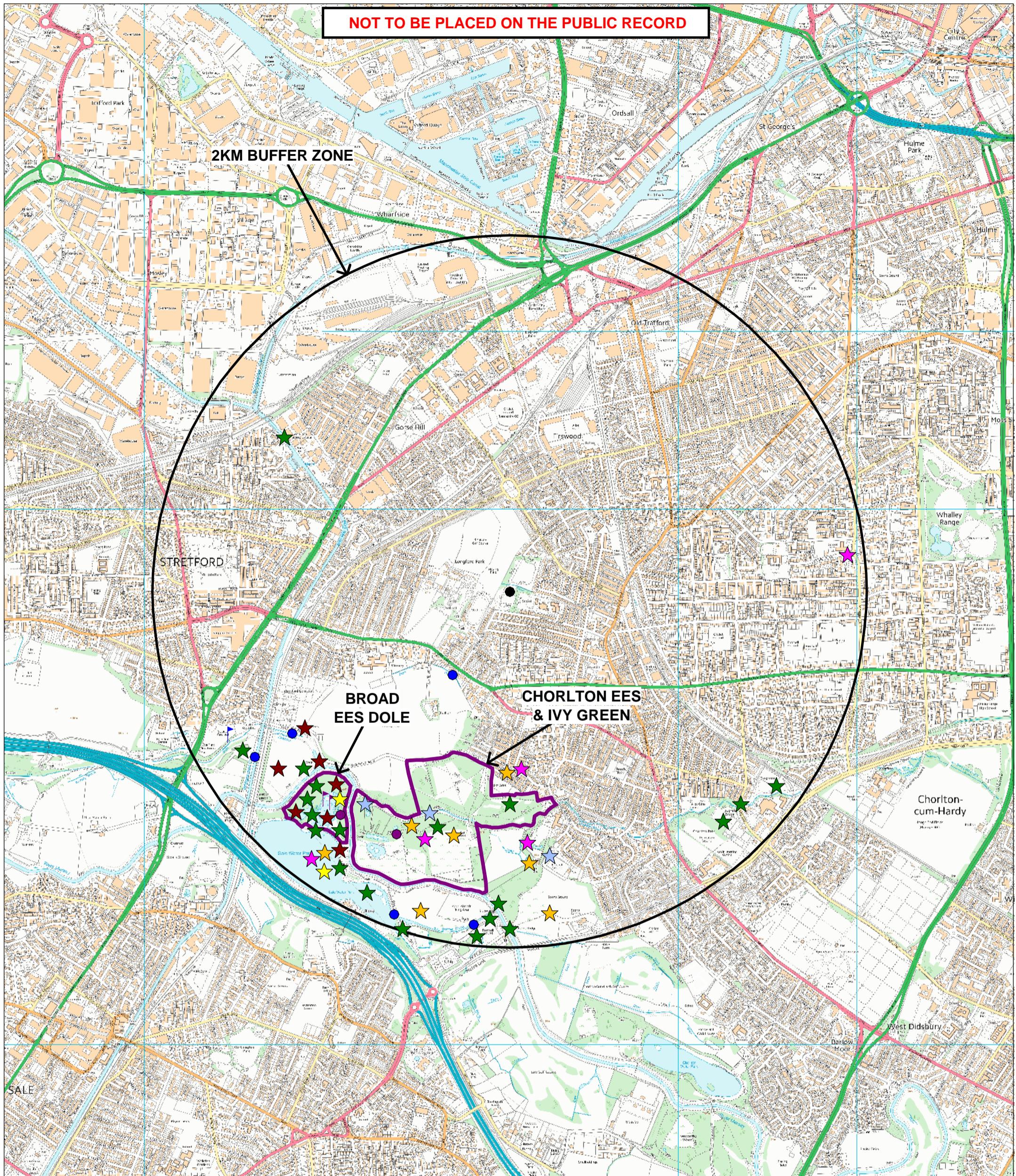


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Date Produced: 11/12/2019

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**KEY
SITES**

LOCAL NATURE RESERVES

PROTECTED SPECIES

- ─ GREAT CRESTED NEWT
- GCN ABSENCE
- EUROPEAN WATER VOLE
- WATER VOLE ABSENCE
- ★ BARN OWL

- ★ COMMON SCOTER
- ★ GREY HERON
- ★ KINGFISHER
- ★ LITTLE RINGED PLOVER
- ★ PEREGRINE

**GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SJ 8105 9454
RYEBANK FIELDS - MAP 2**

SCALE 1:20,000



**Greater Manchester
Ecology Unit**

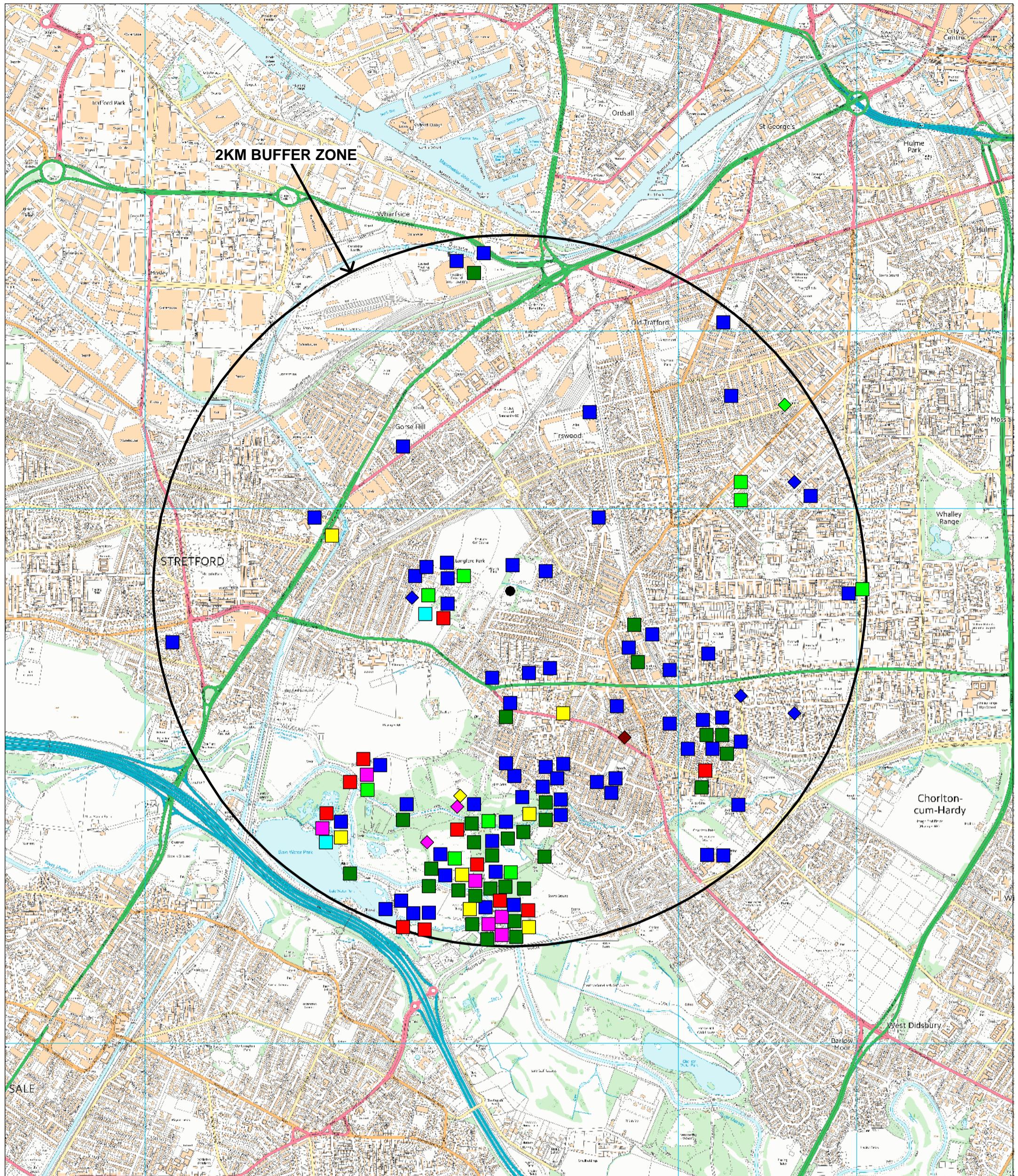
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KEY BAT ROOSTS

- ◆ BAT SP
- ◆ BROWN LONG-EARED BAT
- ◆ DAUBENTON'S BAT
- ◆ PIPISTRELLE SP
- ◆ SOPRANO PIPISTRELLE

BATS OTHER SIGNS

- ◆ BAT SP
- ◆ COMMON PIPISTRELLE
- ◆ DAUBENTON'S BAT
- ◆ NOCTULE BAT

- ◆ PIPISTRELLE SP
- ◆ SOPRANO PIPISTRELLE
- ◆ WHISKERED BAT

GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SJ 8105 9454
RYEBANK FIELDS - MAP 4

SCALE 1:20,000

BAT DATA COURTESY OF SOUTH LANCS BAT GROUP

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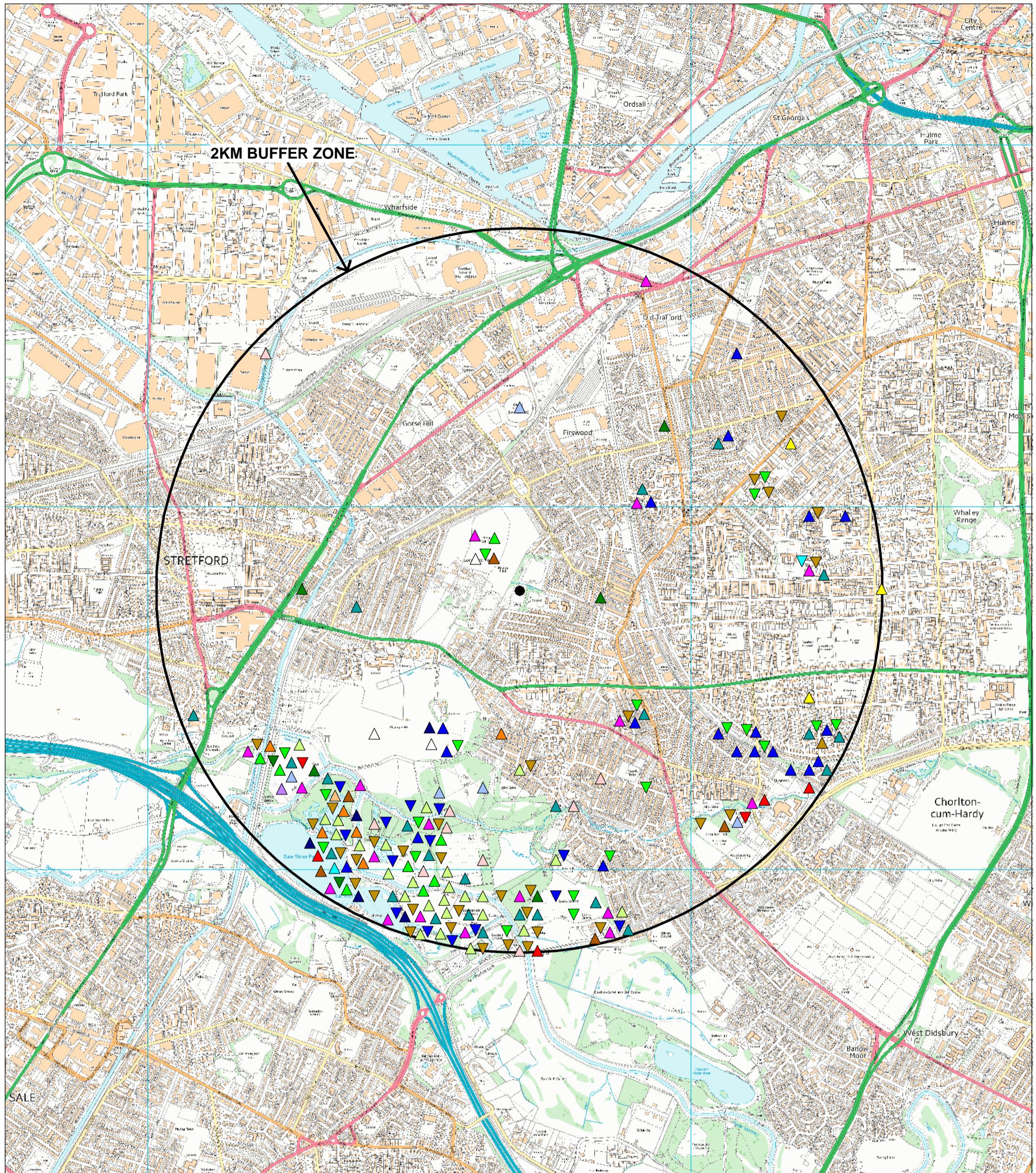
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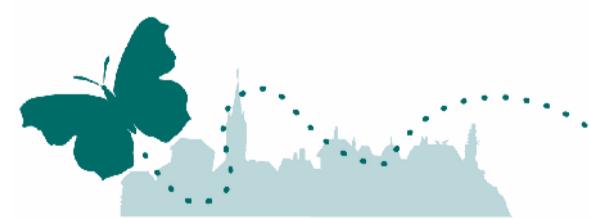


**KEY
SECTION 41 SPECIES**

- | | |
|-----------------------|------------------|
| ▲ BLACK-TAILED GODWIT | ▲ LAPWING |
| ▲ BULLFINCH | ▲ LESSER REDPOLL |
| ▲ COMMON REDPOLL | ▲ LINNET |
| ▲ COMMON TOAD | ▲ REED BUNTING |
| ▲ CUCKOO | ▲ RING OUZEL |
| ▲ CURLEW | ▲ S41 MOTH |
| ▲ DUNNOCK | ▲ SKYLARK |
| ▲ GR.HOPPER WARBLER | ▲ SONG THRUSH |
| ▲ GREY PARTRIDGE | ▲ SP. FLYCATCHER |
| ▲ HEDGEHOG | ▲ STARLING |
| ▲ HERRING GULL | ▲ TREE SPARROW |
| ▲ HOUSE SPARROW | ▲ WILLOW TIT |

GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SJ 8105 9454
RYEBANK FIELDS - MAP 5

SCALE 1:20,000



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Date Produced: 12/12/2019