

OVG Manchester

Ecological Mitigation Report

0042841

27 February 2020

Revision 02

Revision	Description	Issued by	Date	Checked
00	Ecological Mitigation Report	JR	17/01/2020	PO
01	Updated landscape information	JR	14/02/2020	PO
02	Updated landscape information	JR	27/02/2020	PO

https://burohappold-my.sharepoint.com/personal/jenny_ross_burohappold_com/Documents/Documents/03 Projects/Project Bradford/200116 JR PO 0042841 Ecological Mitigation Report 02.docx

This report has been prepared for the sole benefit, use and information of OVG Manchester Ltd for the purposes set out in the report or instructions commissioning it. The liability of Buro Happold Limited in respect of the information contained in the report will not extend to any third party.

author

Jenny Ross

date

27/02/2020

approved

Pernille Olsen

signature



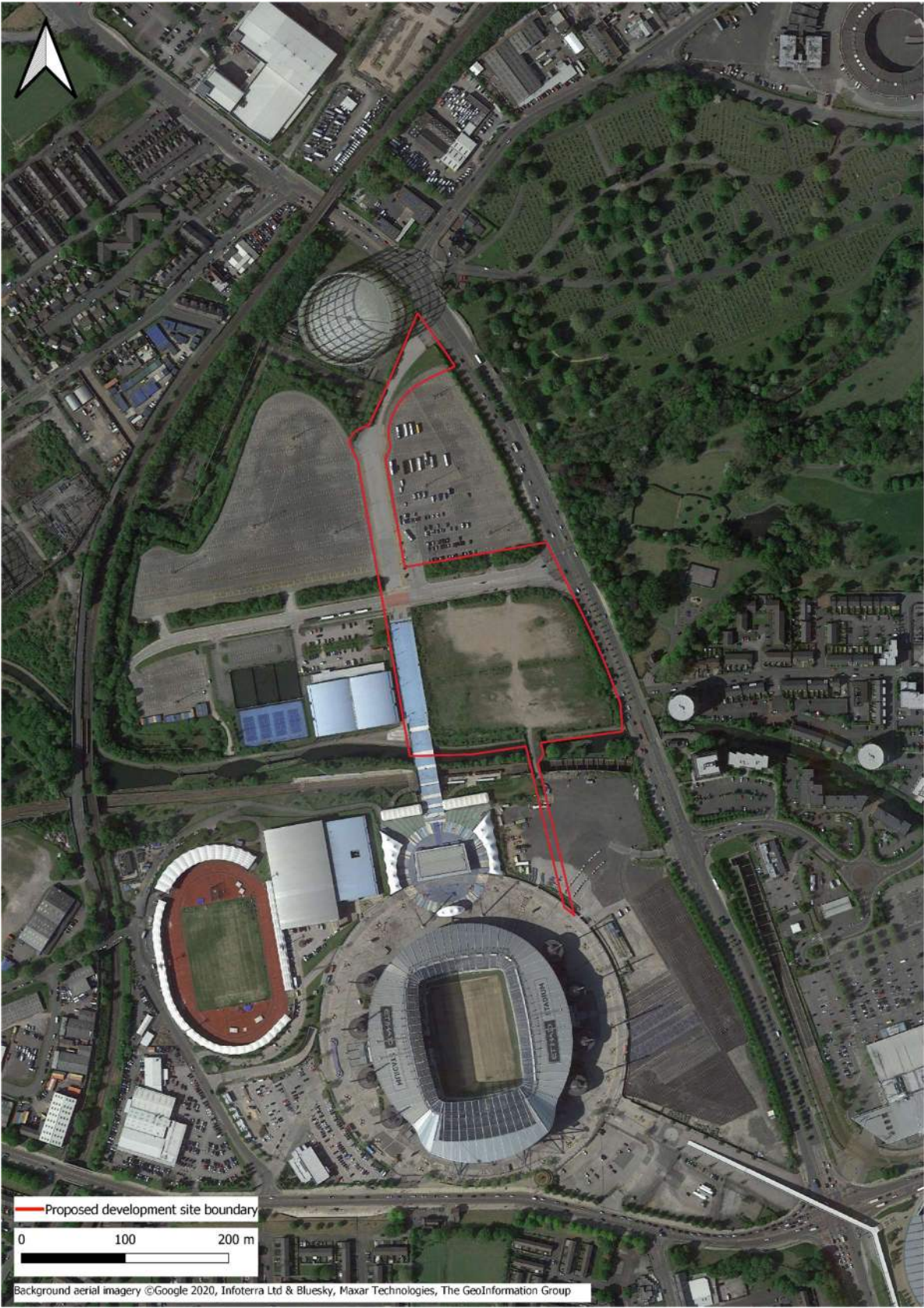
date

27/02/2020

..

Contents

1	Introduction	9
1.1	Background	9
1.2	Site context	9



9

2	Site Survey	10
2.1	Desk Study	10
2.2	Habitat survey	10

3	Mitigation and enhancement measures	12
3.1	Ashton Canal SBI	12
3.2	Habitat loss	12
3.3	Breeding birds	13
3.4	Supplementary mitigation measures	13

Table of Figures	
Figure 1-1	Proposed development site boundary and the wider landscape 9
Figure 2-1	Combined Phase 1 habitat survey results 11

Glossary

Term	Definition
CEMP	Construction Environment Management Plan
EA	Ecological Appraisal
GMEU	Greater Manchester Ecology Unit
MAGIC	Multi-Agency Geographical Information for the Countryside (government website)
MCC	Manchester City Council
PAA	Penny Anderson Associates – Subconsultant which carried out the Phase 1 habitat survey and EA report included within Appendix A.
SBI	Site of Biological Interest

1 Introduction

1.1 Background

BuroHappold Engineering (BuroHappold) have been commissioned by OVG Manchester Limited to provide ecology consultant services to support a planning application for the construction of a new multi-use indoor arena in Manchester with supporting retail and leisure facilities, back-of-house and support functions, public realm, cycle parking, access and associated works; hereafter referred to as 'the proposed development'.

The proposed location for the arena is within the Etihad Campus Masterplan boundary, adjacent to Alan Turing Way (central OS Grid reference SJ8698 8286) and is hereafter referred to as 'the site' and shown in Figure 1-1. The site boundary totals an area of approximately 4.46ha, with the main arena development area being approximately 2.53ha.

Works to facilitate the proposed development would include complete clearance of vegetation within the main arena development area, along with clearance of additional smaller areas of vegetation for transport access improvements to the north and improved pedestrian connections from the north and south of the arena.

The results of an Ecological Appraisal (EA) of the main arena site (detailed in Appendix A) indicated that the proposed development would not result in a significant impact on ecological features outside of the site boundary, and so ecology was scoped out of the Environmental Statement. This report, therefore, is intended to provide detail on the mitigation designed into the proposed development to account for any site-level impacts that may be incurred by the proposed development during construction and/or operation. The report also outlines the enhancement measures for local biodiversity. This report provides a summary of the EA findings, and a complete habitat survey map of the site boundary, which changed following the completion of the EA report. Detailed survey information and relevant legislation and policy taken into account through the proposed development design are included in Appendix A.

A pre-application consultation meeting was held in January 2020 with Jennifer Atkinson from Manchester City Council (MCC) and David Dutton from the Greater Manchester Ecology Unit (GMEU). In the meeting, the proposed mitigation as detailed within this report was presented and agreed to be sufficient for the proposed development by the consultees present.

1.2 Site context

The site is situated east of Manchester City Centre and represents a brownfield site within the Etihad Campus which has been place-marked for development for a number of years. The site is currently used as required as over-flow parking. The site is situated 150m north of the Etihad Stadium and is bounded by the Sportcity Way to the north and the A6010 Alan Turing Way to the east. To the south is the Ashton Canal and associated towpath, and to the west is Joe Mercer Way, a raised pedestrian access boulevard to the stadium. Figure 1-1 illustrates the location of the site within the wider landscape.

The site is partially connected to the wider landscape via the Ashton Canal to the south, which supports a green corridor leading partially to the west but more substantially to the east. The wider Etihad Campus is adjacent to Philips Park, across Alan Turing Way to the east and scrubland associated with the former gas works to the north and west.

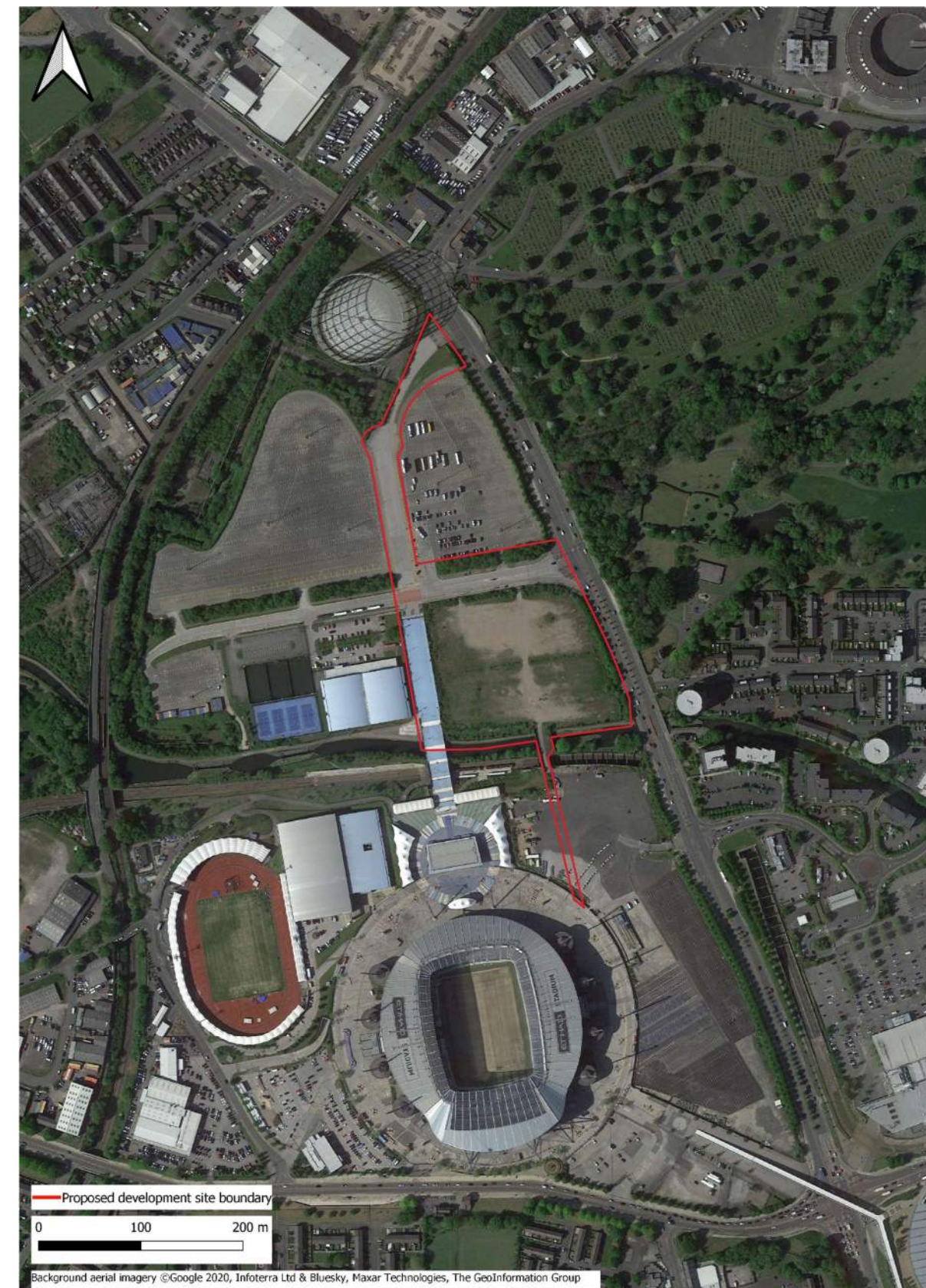


Figure 1-1 Proposed development site boundary and the wider landscape

2 Site Survey

A desk study and Preliminary Ecological Appraisal of the site were undertaken in June 2019 (Appendix A). A further survey was undertaken of the wider Etihad Campus in July 2019. The results of both surveys have been combined to address the change in site redline boundary which was modified to include access routes to the north and south of the main arena development area. The combined habitat survey results are presented in Figure 2-1. Details of survey methodology and legislation relevant to the site are provided within the Ecological Appraisal report in Appendix A. The results of the surveys are summarised here.

2.1 Desk Study

A data search was commissioned from GMEU and was supplemented by data from the government website MAGIC in order to identify statutory and non-statutory designated sites, priority habitats and protected and/or notable species of flora and fauna within 2km of the site. Full results of the data search, including maps of the records returned, can be found in Appendix A. The most relevant results to the site with regards to the proposed development and mitigation proposed in this report are summarised below.

A single statutory designated site was returned within the search results. Clayton Vale Local Nature Reserve is located approximately 1km to the east of the site. It is considered to be of far enough distance, with significant barriers to ecological dispersal, to not require further assessment with regards to the proposed development. Three non-statutory designated Sites of Biological Interest (SBI) are within 1km of the site, with part of the Ashton Canal SBI immediately to the south of the site. The Ashton Canal is designated for its aquatic flora, including grass-wrack pondweed *Potamogeton zosteriformis*. The closest record of this plant within Ashton Canal is 1.8km south east of the site.

Protected and notable species records of note included a common pipistrelle *Pipistrellus pipistrellus* roost 65m along the Ashton Canal as well as multiple bat activity records using the canal as a foraging and commuting corridor, including one within 15m of the site.

One record for little ringed plover *Charadrius dubius* was also returned within the main arena development area. The nature of the record was unconfirmed within the data search results. However, at the meeting with David Dutton from GMEU, it was confirmed that the record concerned a confirmed breeding attempt by a solitary little ringed plover for a single season, and the species have not been recorded on site since.

2.2 Habitat survey

A Phase 1 habitat survey was undertaken of the main arena site on 21st June 2019 by Penny Anderson Associates (PAA) on behalf of BuroHappold. PAA were subsequently commissioned by City Football Group to undertake a further Phase 1 habitat survey of the wider Etihad Campus. The results of both of these surveys have been combined to illustrate the habitats within the final site boundary. The combined result of the habitat surveys is illustrated within Figure 2-1.

The key habitats identified on site are:

- Unimproved neutral grassland;
- Ephemeral/ short perennial vegetation;
- Broadleaved woodland;
- Scrub; and
- Hardstanding

The unimproved grassland covers the less used areas of the site with a relatively open sward. The grassland was considered to be species-rich and supported a number of species affiliated with calcareous substrates. Whilst 16 species listed on the GMEU selection criteria for grassland SBI (Greater Manchester Ecology Unit, 2016) were recorded on site, it is not considered that the grassland on site meets the other SBI criteria for grassland on brownfield sites. Most notably, the grassland is populated with young self-seeded trees including goat willow *Salix caprea* and silver birch *Betula pendula*, and scrub is encroaching on all edges of the site. Therefore, in the absence of development of this parcel of land, it is considered that the grassland would not persist without intervention and would eventually, naturally, become outcompeted by scrub and tree species.

The areas of broadleaved woodland on site refer to dense treeline stands on the boundaries of the site. This includes a mix of young to semi-mature planted small-leaved lime *Tilia cordata* and Italian alders *Alnus cordata* as well as self-established young silver birch and goat willow. Small pockets also persist to the north of the main development area as a fragmented southern boundary to the car parks on the Etihad Campus. These areas are more species diverse, with no dominant species, and include downy birch *B. pubescens*, hazel *Corylus avellana*, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* and ash *Fraxinus excelsior*, in addition to those listed previously.

As part of the survey of the habitats on site, surveyors also searched for the presence, or the potential for presence, of protected or notable species. No protected or notable species were identified on site. The potential for breeding birds to utilise the site was noted, with the trees and scrub providing suitable nesting habitat, although no nests were recorded during the survey. There are no structures on site and none of the trees were considered to have features suitable to support roosting bats. The isolated nature of the site, due to the presence of main roads and extensive hard standing immediately adjacent, lead to the conclusion that the presence of other protected or notable species on site would be unlikely and, therefore, no further surveys were undertaken.



Figure 2-1 Combined Phase 1 habitat survey results

3 Mitigation and enhancement measures

Whilst ecology was scoped out of the Environmental Statement, due to the consideration that the proposed development would not lead to significant effects on ecological features above the site level, a number of mitigation and enhancement measures have been designed into the proposed development to address non-significant effects on the ecology of the site. These measures are outlined below.

3.1 Ashton Canal SBI

Construction impacts

Whilst the Ashton Canal is outside of the site boundary and is not proposed to receive any surface water drainage from the site during construction or operation of the site, its proximity to the site puts it at risk of construction impacts.

In the absence of suitable mitigation, construction impacts on the canal could include airborne dust, surface water run off containing higher sediment loads and the potential for pollution events from machinery and/or material leaks on site.

The potential for these events and their impact on the Ashton Canal have been assessed within the Water and Air Quality Chapters as part of the Environmental Statement. Suggested mitigation measures are outlined in these reports and will be secured by a Construction Environment Management Plan (CEMP). Typical mitigation measures that are recommended to be employed at the site include:

- Dust management procedures such as damping down and tight control measures of waste materials;
- Shallow slope gradients of soil to prevent wash away in periods of heavy rainfall;
- Capture site run-off in perimeter cut-off ditches/ settlement lagoons and/or settlement tanks. Any dewatering of excavations should be pumped into a settlement tank or lagoon;
- Sediment should be removed from water before discharge into surface water network through the use of a baffle tank system or equivalent;
- Incorporate interceptors into the site drainage system at high risk areas such as car parks, unloading and refuelling areas; and
- Storage and refuelling areas should be within bunded areas not located within 10m of water bodies or drainage lines.

Additional construction impacts may also include light spill from construction lighting to facilitate night time works and/or security of the site compound. The CEMP will include details of how, should night-time lighting be required, lighting units will be positioned so as to prevent light spill on to the canal. This would include placing units on, or near to, the canal boundary and facing them away from the canal, directing light into the site compound where it is required.

Lighting impacts

The Ashton Canal is considered to offer important commuting and foraging routes for local wildlife, including bats. The desk study returned records for bats which included a roost record for common pipistrelle bats within 65m west of the site with an additional activity record of a common pipistrelle within 15m of the site on the canal.

Therefore, lighting for the site has been designed to minimise light spill on to the canal in an effort to maintain existing light levels through operation of the arena. Highly directional LED lighting has been used to ensure that the lighting is directed to areas required and does not spill on to the canal.

Initiatives implemented into the design include using recessed lights where possible, particularly under the overhangs designed into the building which will also help to minimise sky glow. Where lighting columns are required, and placed on the canal side of the development, they are directed into the site with units selected that have little to no back spill, preventing spill into the canal corridor. Seating areas on the canal edge are lit with recessed lighting, preventing upwards and backwards spill towards the canal.

Whilst lighting columns already exist on the canal tow path, these are outside of the site boundary and will be retained to maintain a safe lighting level for users of the tow path at night.

3.2 Habitat loss

During construction works to facilitate the proposed development, all habitats within the main arena development site will be lost. A small area of amenity grassland in the north of the site and a small section of the broadleaved parcel to the south of the car parking area will also be removed. Through the design process, the majority of the broadleaved woodland parcels to the south of the car park have been retained, with different scenarios of access in this area being tested and resulting in a greater retention than original plans.

Landscaping within the proposed development has sought to replace the green edge corridors of the boundaries of the site and protect and enhance the canal edge to the south of the development. Details of the landscaping can be found within the documents submitted as part of the planning application. An overarching landscaping plan is included within Appendix B.

In summary, the proposed landscaping on site will provide approximately:

- 1,208m² wildflower planting on the southern boundary, creating a native species-rich planting buffer to the Ashton Canal SBI;
- 681m² understorey and shrub planting beneath trees. These will include a mix of native and ornamental species and aim to provide a nectar and pollen source for foraging invertebrates;
- 1,916m² of green screens. These are pre-established screens that will be affixed to walls along the eastern, southern and western boundaries. These will provide instant green impact to the site and provide refuge sites for invertebrates; and
- 67 trees including a mix of native and non-native species. The majority of trees will be broadleaved, with scots pine *Pinus sylvestris* and bullbay *Magnolia grandiflora* used as wind mitigation in required areas. Following consultation with GMEU, tree species on the southern boundary have been altered to be native species only, with the exception of bullbay as it is required for wind mitigation, to provide a more sensitive native species focussed buffer to the canal.

The wildflower buffer will be managed for wildlife. A mowing regime of a late summer cut, once the flowers have set-seed, is recommended to support the longevity of the planting mix. The arisings from the mowing should be removed from the site to prevent nutrient enrichment of the soil which would encourage the establishment of non-target species such as nettles and docks. Whilst the wildflower area is establishing, management of the area should also include the removal of non-target species which might grow quicker and out-compete those planted.

The green screens and tree planting on the eastern boundary of the site will replace the existing tree and scrub corridor that has established here. This will reconnect the site with the established treeline planting already implemented on Etihad Campus to the north and south of the arena site.

3.3 Breeding birds

Whilst breeding birds were not confirmed on site during the habitat survey, the trees and scrub provide suitable habitat which could support nesting birds. As all breeding birds, and their nests, are protected from disturbance and damage under the Wildlife and Countryside Act (1981, as amended), it is recommended that works to clear the vegetation on site avoid the bird nesting season (March-August, inclusive). Where this cannot be avoided, the vegetation should be checked by an experienced ecologist no more than 48 hours ahead of site clearance. Should an active nest be found, the vegetation containing the nest and a suitable buffer, as defined by the ecologist, would need to be retained on site until the chicks have fledged and the nest is confirmed by an ecologist to be no longer in use.

3.4 Supplementary mitigation measures

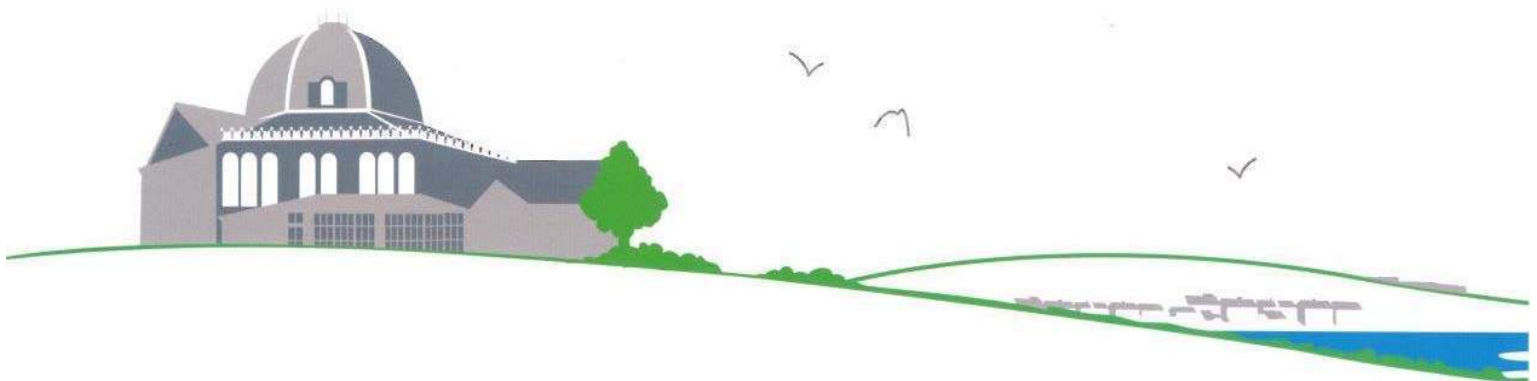
In addition to the mitigation outlined above, the following measures could also be implemented to support the landscaping and provide further enhancements for biodiversity as a result of the proposed development. These measures include:

- Apply sustainable horticultural practices to increase the sustainability of the formal landscaping by:
 - No, or low, use of residual pesticides;
 - No use of peat-based products;
 - Utilise rainwater harvesting in the irrigation system;
 - Design-in features to reduce water use and enable composting and integrated pest management;
 - Source and use UK-produced plants to reduce risk of introduction of imported pests and diseases and to reduce the carbon footprint;
 - Select plants that require less water and chemical inputs and are naturally suited to the local conditions; and
 - Widen the diversity of species planted to increase resilience to climate change and new pest/disease outbreaks.
- Provide bat and bird habitat boxes along the canal edge opposite to the site, away from the tow path. Bat boxes could also be incorporated under bridges in shaded areas away from artificial light and the tow path to minimise disturbance.

Appendix A Ecological Appraisal Report – Penny Anderson Associates, 2019



OVG EUROPE LIMITED
PROJECT BRADFORD, MANCHESTER
ECOLOGICAL APPRAISAL



OVG EUROPE LIMITED

PROJECT BRADFORD, MANCHESTER

ECOLOGICAL APPRAISAL

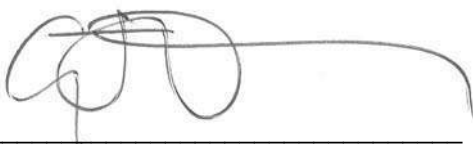
Penny Anderson Associates Limited
'Park Lea'
60 Park Road
Buxton
Derbyshire
SK17 6SN

Project Manager
Gerard Hawley BA (Hons), MSc, DipPSE (Dist), MCIEEM

Author
Caroline Boffey BSc (Hons), MRes, ACIEEM

July 2019

This project has been undertaken in accordance with PAA policies and procedures on quality assurance.


Signed: _____

CONTENTS

Page

SUMMARY	1
1. INTRODUCTION	3
Site Description	3
Legislative Context	3
Invasive Species.....	4
Protected Species	4
2. METHODS	5
Desk Study	5
Phase 1 Habitat Survey.....	5
Protected Species Assessment.....	5
Limitations	5
3. RESULTS	6
Desk Study	6
Statutory Protected Sites	6
Special Areas of Conservation	6
Sites of Special Scientific Interest	6
Local Nature Reserves	6
Non-Statutory Protected Sites	6
Sites of Biological Interest	6
Regionally Important Geological and Geomorphological Sites	7
Protected and Notable Species	7
Section 41 Species.....	7
Bats.....	7
Birds.....	8
Eurasian Badger	10
Water Vole	10
Common Toad	10
Slow-worm	10
Plant Species.....	10
Pond Mud Snail	10
Schedule 9 Species.....	10
Site Overview	11

Open, Neutral Grassland - Unimproved, with Young Trees/Scrub.....	11
Ephemeral/Short Perennial.....	12
Hardstanding.....	12
Broadleaved Woodland - Semi-natural.....	12
Broadleaved Woodland - Plantation.....	13
Dry Ditch.....	13
Neutral Grassland - Unimproved.....	13
Canal.....	13
Evaluation.....	13
4. RECOMMENDATIONS.....	15
Nesting Birds.....	15
Other Protected Species.....	15
Ecological Enhancement.....	15
5. REFERENCES.....	18
6. ABBREVIATIONS.....	19
 TABLES	
1 Sites of Biological Importance Within the 2km Search Area.....	7
3 Bird Records (Including Schedule 1 Species).....	8
2 Bat Records from Greater Manchester Ecology Unit.....	7
4 Potential Enhancement Measures for Consideration.....	16
 FIGURE	
1 Phase 1 Habitat Map	
 APPENDICES	
1 Summary Species Legislation	
2 Plant Species List	
3 Desk Study Results	
4 Photographs	

SUMMARY

Penny Anderson Associates Ltd was commissioned by BuroHappold Engineering on behalf of OVG Europe Limited to carry out an extended Phase 1 habitat survey at a site referred to as Project Bradford, Manchester, where there are proposals for development.

The extended Phase 1 habitat survey was carried out on 21st June 2019. Habitats were assessed based on the plant species present, with the results reported and presented on an annotated Phase 1 habitat survey map. The habitat map details the location and extent of all habitat types recorded within the site boundary.

An additional and important element of the extended Phase 1 habitat survey approach is to look for evidence of protected species being present and to assess the need for further species-specific surveys. A request was made to the Greater Manchester Ecology Unit for records of protected species, priority species and wildlife sites within 2km of the centre of the site to place the site within a wider ecological setting.

Data returned by Greater Manchester Ecology Unit did not identify protected species recorded within the site with the exception of a single record for little ringed plover, a Schedule 1 species, and one for northern lapwing, a Red listed species of conservation concern, just within or close to the site boundary.

No evidence of nesting birds was found during the survey. All breeding birds are protected by law and a recommendation is made that where possible initial works are carried out outside the bird nesting season (1st March to 30th September). If works are outside this period it is recommended that a suitably experienced ecologist check the site no more than 48 hours prior to works to ensure no active nests are present.

The former car park site comprises six main habitats. The middle of the site is stone hardstanding, with very sparse low-growing plants of ephemeral/short perennial species scattered across the bare ground. The ephemeral/short perennial vegetation increases in cover slightly further out from the centre, containing a high proportion of introduced species such as white and ribbed melilot, common michaelmas-daisy and large-flowered evening primrose amongst the patches of bare ground.

This vegetation grades into the species-rich neutral grassland that has recently developed over the car park with increased grass and forb cover. The grassland has a rather open, skeletal structure with small areas of bare ground showing through. White melilot and michaelmas-daisy are still prominent in the sward along with a range of forbs and grasses, including the local Biodiversity Action Plan species, yellow-wort, which occurs rarely.

A number of upright concrete culverts are scattered across the grassland. Young saplings of a range of woody tree and scrub species have established on the grassland, scattered predominantly around the edges and in a conspicuous line across the middle of the site.

Goat willow and silver birch are the most common species with frequent butterfly-bush. More concentrated areas of the young trees/scrub have developed over the neutral grassland along the north, west and south-western edges of the site, with a small amount of Italian alder, which, being non-native suggests that an element of planting has occurred.

A small area of slightly more established semi-natural broadleaved woodland has developed at the south-east edge. Along the eastern boundary is a line of older, planted small-leaved lime trees with grassy ground flora. A dry, vegetated ditch runs along the north and west sides of the site, within the more wooded grassland areas.

There were no potential bat roost features observed in the trees during the survey, although the habitats on site and along the adjacent canal area would provide suitable foraging opportunity for bats.

Floating water-plantain, listed in Schedule 4 of the Conservation (Natural Habitats, etc.) Regulations 1994 and Schedule 8 of the WCA 1981, had been recorded in Ashton Canal. However, the survey found

that the canal was poor in aquatic vegetation. Additional surveys or special measures for other protected species are not considered necessary.

There are no designated wildlife sites within or immediately adjacent to the site and there are no Special Areas of Conservation or Sites of Special Scientific Interest within the 2km search area. A Local Nature Reserve, Clayton Vale, is located just less than 1km to the east of the site. There are three Sites of Biological Interest: Ashton Canal (West), Rochdale Canal Stott's Lane Ducie Street Basin and Bank Bridge Meadow within the search area. All wildlife sites and records of species returned were considered sufficiently distant and isolated from the site to not be impacted by development proposals.

National Planning Policy requires that opportunities for ecological enhancement are sought within all development proposals, moving towards the aim of 'biodiversity net gain'. A number of potential ecological enhancement measures that could be introduced as part of the re-development of the site are provided.

1. INTRODUCTION

- 1.1 Penny Anderson Associates Ltd (PAA) was commissioned by BuroHappold Engineering on behalf of OVG Europe Limited to carry out an extended Phase 1 habitat survey at a site referred to as Project Bradford off Alan Turing Way, Manchester (hereafter referred to as the 'site'). The survey was commissioned in relation to proposals for the re-development of the site.
- 1.2 The extended Phase 1 habitat survey also included a desk study for the site and the area within 2km of its centre. This examined all data records for protected sites, habitats and species held by Greater Manchester Ecology Unit (GMEU).
- 1.3 This report details the results of the desk study and the extended Phase 1 habitat survey.

Site Description

- 1.4 The site is approximately 2.35ha in extent. Alan Turing Way lies to the east and the Ashton Canal marks the southern boundary with the tramline to the south of the canal. A service road forms the northern boundary and to the west there is a walkway to the Etihad campus with the Manchester Tennis and Football Centre further west. The site is fenced and in most parts has a border of trees and scrub. The site predominantly consists of hardstanding with areas of neutral grassland and ephemeral/short perennial vegetation. There are no buildings or permanent structures.

Legislative Context

- 1.5 The text below provides a brief summary of the legislation in relation to the species or species group in England and Wales. The original Acts, Regulations and any amendments should be referred to for the precise wording.
- 1.6 A range of international and national legislation has been established in the UK to protect important nature conservation sites and priority species. At the international level, European Union (EU) Directives require individual member states to implement their conservation provisions nationally for the benefit of Europe as a whole. These Directives have been transposed into UK law by the Conservation of Habitats and Species Regulations 2017; further details can be obtained from the Joint Nature Conservation Committee (JNCC) web site at www.jncc.defra.gov.uk.
- 1.7 Other international conventions include: the Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979), which requires the maintenance of populations of wild flora and fauna, giving particular protection to endangered and vulnerable species; and the Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979), which requires the protection of migratory species throughout their entire range. The above conventions are implemented in England and Wales via the Wildlife and Countryside Act (WCA) (1981) (as amended) and Countryside and Rights of Way (CRoW) Act 2000. This legislation also protects important habitats and sites such as Sites of Special Scientific Interest (SSSI).
- 1.8 At the national level, the UK Post-2010 Biodiversity Framework published in 2012 is the Government's response to the Convention on Biological Diversity (2010). It describes the UK's biological resources, commits a detailed plan for the protection of these resources within the UK's devolved framework across England, Wales, Scotland and Northern Ireland. The document identifies future priorities for nature conservation and adopts a more strategic approach, including ecosystem services and sustainability alongside biodiversity. Despite administrative changes following devolution, there is still an underlying objective of protecting and enhancing a range of priority species and habitats, often still based on the objectives and classifications of the original UK Biodiversity Action Plan. Biodiversity 2020 is England's

national biodiversity strategy. Building on the Natural Environment White Paper published in 2011, this provides a means of delivering the international and EU commitments to biodiversity. Under Biodiversity 2020, Priority Species and Habitats referred to are those of 'Principal Importance' for the conservation of biodiversity in England listed on Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006.

- 1.9 Finally, the National Planning Policy Framework (NPPF), updated 2019, provides guidance for local authorities on the content of the Local Plans and is a material consideration in determining planning applications. Briefly, with an overall focus on sustainable development, the NPPF states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated for should be refused. The NPPF states that the planning system should contribute to and enhance the natural environment through a range of actions, including:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; and
- minimising impacts on biodiversity and providing net gains for biodiversity including establishing coherent ecological networks that are more resilient to current and future pressures.

- 1.10 To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Invasive Species

- 1.11 Certain non-native species that have been introduced into the UK are regarded as being a threat to native biodiversity. Legislative measures have, therefore, been put in place to prevent the spread of these invasive species in the wild.
- 1.12 Under section 14 of the WCA 1981 (as amended), it is illegal to introduce plants listed under Part II of Schedule 9 of the WCA into the wild or sell these species. Offences include causing the spread of viable plant material or neglecting to contain or appropriately manage non-native species.
- 1.13 Commonly introduced Schedule 9 species include non-native cotoneaster species, specifically, small-leaved cotoneaster (*Cotoneaster microphylla*) and wall cotoneaster (*C. horizontalis*), Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Reynoutria japonica*).

Protected Species

- 1.14 Details of the protected species legislation relevant to this report can be found in Appendix 1.

2. METHODS

Desk Study

- 2.1 A request for details of protected species, priority species and wildlife sites within 2km of the centre of the site (SJ 86822 98867) was made to GMEU. The desk study consisted of a consultation exercise whereby statutory and non-statutory authorities were contacted to gather local and site-specific ecological information.

Phase 1 Habitat Survey

- 2.2 The Phase 1 habitat survey was undertaken by Ecologist Caroline Boffey on 21st June 2019. The surveyor has the appropriate practical experience in survey methods and the required knowledge, skills and experience as set out in Chartered Institute of Ecology and Environmental Management (CIEEM) competency guidelines (CIEEM 2013).
- 2.3 The Phase 1 habitat survey methodology was based on guidance set out in the *Handbook for Phase 1 Habitat Survey* (JNCC 2010). Habitats were assessed based on the plant species present, with the results reported and presented on an annotated Phase 1 habitat survey map (see Figure 1). This habitat map details the location and extent of all habitat types recorded within the site boundaries. Habitat types were recorded, along with an indication of the relative abundance of each plant species using the 'DAFOR' scale (where D = dominant; A = abundant; F = frequent; O = occasional; R = rare). Common names for species are given in the text and a full list with common and scientific names after Stace (2019) is presented in Appendix 2.

Protected Species Assessment

- 2.4 The habitat survey was 'extended' (Institute of Environmental Assessment 1995, CIEEM 2017) to include a general assessment of the suitability of the site to support any protected or notable species. Features with suitability for any individual species were noted, together with any incidental field signs.
- 2.5 During the survey any evidence of the trees being used by nesting birds (e.g. old nest material) was also looked for.

Limitations

- 2.6 It is important to note that the desk study results provide an indication of the species present in and around the site, but do not confirm current presence or absence of any particular species. Protected species are often under-recorded in county wildlife databases.
- 2.7 The survey was carried out by an experienced surveyor and access was available to the whole of the site. The day was warm and dry. It is, therefore, considered that there were no significant limitations to the survey.

3. RESULTS

Desk Study

- 3.1 The desk results returned by GMEU are presented as figures in Appendix 3.

Statutory Protected Sites

Special Areas of Conservation

- 3.2 Special Areas of Conservation (SAC) are protected sites with strict conservation protection, designated under Article 3 of the European Commission Habitats Directive.
- 3.3 There are no SAC in the 1km search zone for the site.

Sites of Special Scientific Interest

- 3.4 SSSI are statutory sites designated to support species of plants and animals that find it more difficult to survive in the wider environment. They represent a selection of this country's best wildlife and geological sites, and cover approximately 7% of the terrestrial area of the country (with over 4,000 sites in England).
- 3.5 There are no SSSI in the search zone for the site.

Local Nature Reserves

- 3.6 Local Nature Reserves (LNR) are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities. LNR are sites that contain wildlife and/or geological features that are of special interest locally.
- 3.7 Manchester has seven LNR, one of which falls within the search area: Clayton Vale, located just under 1km to the east of the site. The LNR covers approximately 57ha consisting of unimproved grassland, woodland, ponds and the River Medlock. The vale has two ponds that are Grade C Sites of Biological Importance (SBI) containing common reed (*Phragmites australis*) and supporting a wide range of aquatic species. The site was originally heavily polluted by industrial waste during the industrial revolution and was purchased by the City Council in 1982 who undertook a major reclamation project, planting over 46ha of native trees.

Non-Statutory Protected Sites

Sites of Biological Interest

- 3.8 SBI are sites locally important for wildlife. SBI have no statutory legal protection, but do receive some protection through different policies and they must be taken into consideration by the planning authority when planning applications affect the site. SBI are assigned one of three grades:
- Grade A SBI are of county or regional importance (assumes a presumption against development);
 - Grade B SBI are those of district importance; and
 - Grade C SBI are those of local importance.
- 3.9 There are three SBI that fall within the search area (see Appendix 3, Map 1). A summary description is given in Table 1.

Table 1 Sites of Biological Importance Within the 2km Search Area

Site Name	Area (ha)	Grade	Description
Ashton Canal (West)	8.5ha	A	Ashton Canal is important for its submerged aquatic flora including grass-wrack pondweed (<i>Potamogeton compressus</i>) of local importance.
Rochdale Canal Stott's Lane Ducie Street Basin	8.1ha	A	Rochdale Canal supports regionally important aquatic species, including the submerged nationally important floating water plantain (<i>Luronium natans</i>).
Bank Bridge Meadow	1.4ha	C	Bank bridge meadow lies to the south of the River Medlock and consists of semi-improved and amenity grassland and deciduous trees.

Regionally Important Geological and Geomorphological Sites

- 3.10 Regionally Important Geological and Geomorphological Sites (RIGS) are locally designated sites of local, national and regional importance for geodiversity and protect important Earth Science and landscape features. They are conserved and protected from development and are a material consideration through the planning system.
- 3.11 There are no RIGS within the search zone for the site.

Protected and Notable Species

Section 41 Species

- 3.12 Some of the rarest and most threatened species are listed under Section 41 (S41) of NERC as Species of Principal Importance. The Government's Biodiversity 2020 strategy has an ambition to ensure that by 2020 there will be an overall improvement in the status of wildlife and no further extinctions of known threatened species. To achieve this, a range of actions have been identified to help in the recovery of S41 species. (see Appendix 3, Map 5)

Bats

- 3.13 Table 2 shows the number of each species of bat recorded in the search zone and the proximity to the site of the closest roost for each (see Appendix 3, Map 4).

Table 2 Bat Records from Greater Manchester Ecology Unit

Species		No. Roosts	No. Other Signs	Closest Roost	Closest Sign
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	1	12	65m	15m
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	-	3	n/a	75m
Pipistrelle species	<i>Pipistrellus</i> sp.	11	45	75m	45m
Brown long-eared	<i>Plecotus auritus</i>	1	-	190m	190m
Daubenton's bat	<i>Myotis daubentonii</i>	-	4	n/a	125m
Bat species		1	1	165m	165m

- 3.14 The majority of the records returned are for pipistrelle species. There are two native species: common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*).

The common pipistrelle is one of the UK's most common bat species found in a wide range of habitats including suburban and urban habitats. Soprano pipistrelle is also widely distributed across the UK. Where the distinction between the two species has not been made they are recorded as pipistrelle species (*Pipistrellus* sp.).

- 3.15 There is a single record for brown long-eared bat (*Plecotus auritus*), which is found throughout the UK and is widespread in the rest of Europe. Daubenton's bat (*Myotis daubentonii*) records are confined to the river Medlock corridor. This species characteristically fly and forage over water sometimes taking prey directly from the water surface (Bat Conservation Trust 2019).

Birds

Table 3 Bird Records (Including Schedule 1 Species)

Common Name	Scientific Name	Number Recorded	Amber	Red	Sch 1
Black redstart	<i>Phoenicurus ochruros</i>	1			x
Common bullfinch	<i>Pyrrhula pyrrhula</i>	8	x		
Common starling	<i>Sturnus vulgaris</i>	10		x	
Dunnock	<i>Prunella modularis</i>	5	x		
European herring gull	<i>Larus argentatus</i>	1		x	
House sparrow	<i>Passer domesticus</i>	8		x	
Kingfisher	<i>Alcedo atthis</i>	4	x		x
Linnet	<i>Linaria cannabina</i>	4		x	
Little ringed plover	<i>Charadrius dubius</i>	10			x
Northern lapwing	<i>Vanellus vanellus</i>	10		x	
Peregrine falcon	<i>Falco peregrinus</i>	6			x
Redpoll	<i>Carduelis flammea</i>	2	x		
Reed bunting	<i>Emberiza schoeniclus</i>	1	x		
Skylark	<i>Alauda arvensis</i>	1		x	
Song thrush	<i>Turdus philomelos</i>	6		x	
Spotted flycatcher	<i>Muscicapa striata</i>	1		x	

- 3.16 It should be noted that the number of species recorded within desk study data repositories does not necessarily indicate the population size. Less common species may be recorded more frequently because of their interest and rarity and more common species may be recorded less often.
- 3.17 The Red and Amber conservation status assessment is based on a number of criteria e.g. historical decline, trends in population and range, rarity, localised distribution and international importance (full details of this assessment are in Eaton *et al.* 2015). Table 3 includes those species recorded within the 2km search area that are listed as Red and Amber birds of conservation concern.
- 3.18 Species are Red listed because of a 50% decline in their population and Amber listed species are of medium conservation concern and have experienced a reduction of 25% in numbers. Schedule 1 species are protected under the WCA by the Environmental Protection Act 1990. It is an offence to intentionally disturb any of these species during the breeding season without a valid licence.

- 3.19 The number of European herring gull¹ has fallen over the past 25 years and over half of the UK breeding population is confined to fewer than ten sites. Common starling, house sparrow and song thrush are red listed because of their recent decline although they remain quite widespread in the UK. The skylark population has fallen drastically over the last 30 years thought caused by the use of herbicides and pesticides and a move to winter sown cereal crops that deters late season nesting attempts. Similarly, the northern lapwing has seen a sustained contraction in its numbers and range related to changes in farming practices and intensification. There is a record for a northern lapwing within or very close to the site (see Appendix 3, Map 5). The spotted flycatcher was once considered a common garden nesting species but has experienced a long-term decline since the 1970s. Evidence suggests this is due to poor annual survival rates of first year birds although conditions in their African wintering grounds may have also contributed to their decline. Linnet numbers have dropped substantially over the past few decades, with the UK population estimated to have declined by 57 per cent between 1970 and 2014 (BTO 2019, The Wildlife Trusts 2019: RSPB 2019)
- 3.20 The preferred habitat for dunnoek is well-vegetated areas such as hedges, scrub and deciduous woodland and in urban areas they tend to be attracted to parks, gardens and scrub habitat. Common bullfinch is Amber listed and of medium conservation concern. It is widely distributed in the UK but populations have declined by 36% since 1967 thought to be related to the loss of habitat, agricultural intensification and reduced diversity in woodlands. The numbers of redpoll and reed bunting have also declined, once more thought related to changes in agricultural practices.
- 3.21 Schedule 1 species recorded are for peregrine falcon (six records), little ringed plover (ten records), black redstart (one record) and kingfisher (four records). The peregrine falcon faced extinction in the UK in the 1960s largely as a result of pesticides. However, they have made a rapid comeback and pairs now nest on high buildings in a number of city centres, including Manchester. High buildings are used by breeding peregrine falcons and breeding at the site is highly improbable, as the site has no built structures.
- 3.22 The little ringed plover is a summer visitor that first bred in the UK in 1938 and has since successfully colonised a large part of England and Wales. Expansion has been achieved through an exploitation of manmade habitats; especially gravel pits and new reservoirs. There is a record for little ringed plover within the Project Bradford site. It does not specify if this is a recorded sighting or a nesting site. Open brownfield habitats are favoured and breeding at the site is plausible.
- 3.23 There is a single record for black redstart to the west of the site. This species is a rare breeder, passage migrant and winter visitor with a small population concentrated in London, Liverpool, Sheffield and the West Midlands. There are also records of black redstart breeding in Manchester City Centre and Greater Manchester. The site is outside the Black Redstart Priority Area. This identifies an area in central Manchester where the Schedule 1 black redstart has been recorded. A Species Action Plan (Greater Manchester Biodiversity Project 2009) aims to maintain a breeding population in Greater Manchester.
- 3.24 Kingfisher nest in burrows in river banks and hunt fish from riverside perches. They are Amber listed as their numbers have declined, thought to be caused by habitat degradation through pollution and unsympathetic management of watercourses. Records are for the River Medlock and Rochdale Canal. Note that the records for Schedule 1 species are not to be placed in the

¹ See Table 3 for scientific names of bird species

public domain and the map showing record locations is not included in this report for that reason.

Eurasian Badger

- 3.25 Eurasian badger (*Meles meles*) and their setts are protected under the *Protection of Badgers Act 1992*. It is an offence to kill or injure a badger, or to damage, destroy or interfere with its sett or to allow a dog to enter a sett.
- 3.26 There are six records of badger signs (e.g. latrines, runs, foraging activity) within the search zone and 11 recorded setts. (Please note that information related to badger and their setts is confidential and the map provided by GMEU showing the location of the signs is not included in Appendix 3 for this reason).

Water Vole

- 3.27 The water vole (*Arvicola terrestris*) is protected and a Priority Species in the UK under the WCA, 1981.
- 3.28 There is a single record for water vole in Clayton Vale LNR.

Common Toad

- 3.29 The common toad (*Bufo bufo*) is protected and a Priority Species in the UK under the WCA 1981.
- 3.30 There is a single record of common toad in the search area, located in Clayton Vale LWS to the east of the site.

Slow-worm

- 3.31 The slow-worm (*Anguis fragilis*) is protected and a Priority Species in the UK under the WCA 1981.
- 3.32 There are two records of slow-worm, the closest at a distance of approximately 1.8km.

Plant Species

- 3.33 Grass-wrack pondweed (*Potamogeton compressus*) is a threatened aquatic macrophyte species of the pondweed family. It is nationally scarce and declining both in Britain and throughout its range (Birkinshaw *et al.* 2013).
- 3.34 It has been recorded in the Ashton Canal approximately 1.8km to the south-east of the site (see Appendix, Map 5).
- 3.35 Floating water-plantain (*Luronium natans*) is listed in Schedule 4 of the Conservation (Natural Habitats, etc.) Regulations 1994; Schedule 8 of the WCA 1981, and on the IUCN Red List it is classified as 'Least Concern'.
- 3.36 There are two records, both on the Ashton Canal with one approximately 40m from the site.

Pond Mud Snail

- 3.37 The pond mud snail (*Omphiscola glabra*) is classified as Near Threatened by the IUCN, Vulnerable (RDB 2) in the UK Red Data Books and is a S41 Conservation Priority Species.
- 3.38 Decline in the population is due to the temporary habitats favoured by the pond mud snail being lost or degraded (Bratton 1991; Buglife 2019).

Schedule 9 Species

- 3.39 There were no records for non-native invasive Schedule 9 species.

Phase 1 Survey

Site Overview

- 3.40 The results of the Phase 1 survey are presented in Figure 1, showing the habitats and features within the site and including a buffer zone surrounding the site. Target notes (TN) describe features of interest. A selection of illustrative photographs is presented in Appendix 4.
- 3.41 The site is a former car park, bounded by metal fencing on three sides, with a concrete wall on the west side along the walkway to the Etihad campus. There is a dry ditch along the north and western edges. The site is accessed by a tarmac road over the canal bridge from the large car park area to the south (Plate 1).
- 3.42 The central area of the site is stone hardstanding with very sparse, scattered ephemeral/short perennial plants (Plates 2 to 5). The ephemeral/short perennial vegetation cover increases further out from the centre of the site and grades into open, species-rich unimproved neutral grassland (Plate 6). Around the edge of the site broadleaved saplings/young trees and scrub has developed (Plates 6 and 7). There has probably been an element of tree planting as indicated by the presence of the non-native species, Italian alder. The tree saplings and willow/butterfly-bush scrub encroaches out into the main part of the site in places, with a distinct line of saplings across the centre of the site (Plate 8). A small area of slightly older semi-natural broadleaved woodland is present on the eastern boundary.
- 3.43 Along the eastern edge of the site is a line of immature/semi-mature small-leaved limes with grass-dominated vegetation underneath. This line extends outside the site fencing at the south-east corner (Plate 9).
- 3.44 A number of large concrete circular culverts lie across the site, often with tree saplings growing out of them (Plate 10). There was a small area with dark-coloured mats (Plate 11, TN1) potentially offering refugia for amphibians and reptiles. However, none were seen during the survey.
- 3.45 To the south, adjacent to the site is Ashton Canal, with semi-natural vegetation of unimproved neutral grassland along the concrete towpath verges and amongst the lock. The footpath extends around the south-east boundary of the site to join the pavement alongside the road, Alan Turing Way. There are two bridges across the canal (Plates 12 and 13, TN3) and areas of semi-natural broadleaved woodland on the southern canal banks (TN5). Concrete walls bound the edge of the canal area separating it from the adjacent tramline. The canal area is well used by the public as a footpath and recreational feature.
- 3.46 The surrounding land to the east and north of the site is tarmac road and pavement. There is a line of planted Norway maples in large wooden planters along part of the central reservation of the dual carriageway to the east (Plate 14).

Open, Neutral Grassland - Unimproved, with Young Trees/Scrub

- 3.47 The grassland is an open structure with areas of hardstanding visible, typical of vegetation that has recently developed over man-made substrates (Plates 9 and 15). Creeping bent grass and black medick are abundant, with locally abundant red fescue, frequent Yorkshire fog, common ragwort and the non-native species common michaelmas-daisy. Other non-native plants present include the legume, white melilot, which forms abundant patches across the grassland, occasional ribbed melilot and large-flowered evening primrose that occurs rarely. The garden escapees of lady's-mantle and columbine are present. There are locally abundant patches of the annual grass species squirrel-tail fescue, particularly as the vegetation grades into the ephemeral/short perennial vegetation habitat further into the site.

- 3.48 The grassland is species-rich, containing a range of grassland forbs including several species favouring calcareous substrates such as rough hawk's-beard, yellow-wort and wild carrot, red clover and patches of oxeye daisy and ribwort plantain are prominent in the sward, with occasional selfheal and perforate St. John's-wort and a number of other grassland species such as tufted vetch and bird's-foot trefoil occurring rarely.
- 3.49 The habitat contains a total of 16 species listed in the GMEU selection guidelines (Greater Manchester Ecology Unit 2016) as indicator species used in the consideration of sites for selection as Grade 2 Semi-natural Grassland SBI. Also of note is the presence of yellow-wort, a Greater Manchester Biodiversity Action Plan species (Plate 11, TN1).
- 3.50 The range and abundance of flowering plants present, combined with butterfly-bush scrub provide a nectar resource for invertebrates.
- 3.51 The site appears unmanaged, which has lead to the development of scattered tree saplings and scrub within the grassland, in particular in a line across the middle of the site (Plate 8). Goat willow and silver birch are the most common species, with frequent butterfly-bush. Other species present, to a lesser extent, include white and grey willow, white poplar and aspen.
- 3.52 Areas of more concentrated tree saplings/young trees and scrub have developed over the neutral grassland along the northern, western and south-west edges of the site (Plates 6, 7, 10 and 15) where in a few years, if left unmanaged, this will form areas of broadleaved woodland. Again, silver birch and goat willow are the most common species, with occasional to frequent butterfly-bush, occasional white willow and several other broadleaved tree species occurring less frequently. The non-native species Italian alder is present in the area of trees to the north, indicating that a degree of planting has taken place. Semi-natural tree saplings/scrub are more scattered around the south-east and eastern edges of the site.

Ephemeral/Short Perennial

- 3.53 The grassland area grades into ephemeral/short perennial vegetation further into the site, with an increase in the proportion of bare substrate visible. Creeping bent is the dominant species and squirrel-tail fescue abundant near to the grassland area. Apart from black medick, which is locally abundant, the non-native species of common michaelmas-daisy, white melilot and large-flowered evening primrose are the dominant flowering plants. Ribwort plantain and the annual pineappleweed are occasional in patches, other species occur rarely (Plates 6 and 10).

Hardstanding

- 3.54 The centre of the site is a large area of stone hardstanding of the former car park, with very sparse, scattered ephemeral/short perennial species (Plates 3 to 6).
- 3.55 A tarmac road accessing the site from the south has tarmac/stone pavements with unimproved neutral grassland on the wider area on the east and lines of ephemeral/short perennial vegetation along the road and bridge edges to the west (Plate 1).
- 3.56 Outside the site fencing, to the east, is tarmac pavement, a cycleway and the dual carriageway. To the north is tarmac pavement and a road. A concrete towpath follows the course of the canal and a short section of tarmac path runs alongside the south-east edge of the boundary fencing.

Broadleaved Woodland - Semi-natural

- 3.57 There is a small area of slightly older semi-natural broadleaved woodland on the eastern boundary, within the site (TN2). Silver birch and goat willow occur frequently, with occasional butterfly-bush, grey willow and aspen. Several other species of broadleaved tree occur rarely.
- 3.58 External to the site, along the southern edge of the canal are several small areas of semi-natural broadleaved woodland (TN5). Goat willow, other willow species, sycamore and silver

birch are the most frequent woody species with hawthorn and butterfly-bush being occasional. The ground flora is bramble-dominated in places with a patch of ivy and ferns along the canal edge.

Broadleaved Woodland - Plantation

- 3.59 Along the eastern edge of the site is a line of planted, evenly spaced small-leaved lime trees (Plates 9 and 16). The line of trees continues along the road verge outside the site boundary at the south-east corner of the site.
- 3.60 The ground vegetation underneath the limes is grass-dominated with abundant red fescue, Yorkshire fog, common couch and occasional tall false-oat-grass. Amongst the forbs, colt's-foot is abundant and dandelion, ribwort plantain and hairy tare frequent. Species diversity is moderately poor and other species are present only at occasional to rare frequency.
- 3.61 Running down the central reservation of the dual carriageway Alan Turing Way, adjacent to the site, there are regularly spaced large wooden containers with young planted Norway maple; some of the trees are looking unhealthy (Plate 14).

Dry Ditch

- 3.62 There is a dry ditch running along the north and western edges of the site amongst the denser areas of tree saplings/scrub. The vegetation present is not indicative of the ditch having being wet for extended periods of time and no animal signs were observed along the ditch.

Neutral Grassland - Unimproved

- 3.63 The other areas of unimproved neutral grassland present are all external to the site boundary, alongside the canal and a small area next to the footpath near the south-east corner. These areas of grassland are more established and managed. The fine-leaved grass red fescue and forbs ribwort plantain and selfheal are all abundant in the sward. Daisy, common ragwort and common michaelmas-daisy occur frequently to abundantly and yarrow and oxeye daisy are locally abundant. Species-richness is moderate. However, 12 of the species recorded are listed in the SBI grassland selection guidelines. A small plant of the Schedule 9 species, wall cotoneaster is present, possibly originated from planting within the local area.

Canal

- 3.64 The canal stretch adjacent to the site has little aquatic vegetation except a clump of arrowhead (Plate 15, TN4). The canal and towpath provide a recreational facility with walkers, runners, cyclists and narrow boats using the canal and lock.
- 3.65 The canal sides are concrete and straight-sided, offering no potential for water vole. The two bridges along the canal are intact and appear to offer negligible potential for roosting bats (Plates 12 and 13).

Evaluation

- 3.66 The desk study identified a single statutory wildlife site, Clayton Vale LNR and a number of protected species within the search area. All sites and records of species returned were considered sufficiently distant and isolated from the site to not be impacted by development proposals.
- 3.67 The desk study revealed that floating water-plantain had been recorded in Ashton Canal, close to the site. It was not, however, recorded in the stretch of canal adjacent to the site, which was poor in aquatic vegetation.

- 3.68 The trees within the site, apart from the planted small-leaved lime along the site boundary, were all young. No birds' nests were observed within any of the trees at the time of the survey. The desk study, however, showed a recorded sighting of northern lapwing within or very close to the site and a record for little ringed plover within the site boundary. This is a species that favours this type of brownfield site.
- 3.69 No potential bat roost features were observed in the trees on the site. The two bridges on the canal stretch adjacent to the site appeared intact, with little apparent opportunity for bats to roost. The desk study, however, recorded a pipistrelle bat roost at 65m from the site and a sighting at 15m away and the canal and areas of trees on site would offer suitable foraging sites for bats.
- 3.70 The extended Phase 1 habitat survey found the open, unimproved neutral grassland habitat that had developed on the man-made substrate of the former car park to be of nature conservation interest. Although the grassland habitat is typical of sites that have developed over hardstanding and contains a number of introduced species such as melilots and large-flowered evening primrose, it is species-rich and contains 16 species listed in the SBI selection guidelines as indicator species used in the consideration of sites for selection as Gr2 Semi-natural grassland SBI. Of particular note is the presence of yellow-wort, a Greater Manchester Biodiversity Action Plan species. The extent of flowering plants and scattered butterfly-bush within the grassland offer nectar sources for pollinating insects and other invertebrates.
- 3.71 No non-native invasive Schedule 9-listed plants were observed within the site boundary. There was, however, a small individual plant of wall cotoneaster in the grassland of the adjacent grassland alongside Ashton Canal.

4. RECOMMENDATIONS

Nesting Birds

- 4.1 No evidence of nesting birds was found. However, all breeding birds are protected by law and it is recommended that initial works are carried out outside the bird nesting season (1st March to 30th September). If winter clearance is not possible, then it is recommended that a suitably experienced ecologist check the site no more than 48 hours prior to works to ensure no active nests are present. If nesting birds are confirmed to be present then works should be postponed in that area until young have fledged and/or nesting had been completed. It may be necessary to cordon off the nest and monitor it until work is completed.

Other Protected Species

- 4.2 Additional surveys or special measures for other protected species are not considered necessary.
- 4.3 Artificial light associated with the site development, however, should be situated to avoid light spillage onto the adjacent Ashton Canal as the canal corridor offers suitable foraging habitats for bats and the trees present could provide roost habitats. Daubenton's bats in particular fly and forage over water and the desk study showed a Daubenton's bat record at just 125m from the site. The desk study also showed that common pipistrelle bats were recorded close by, with a roost at 65m and a sighting at 15m away.

Ecological Enhancement

- 4.4 National Planning policy requires that opportunities for ecological enhancement are sought within all development proposals, moving towards the aim of 'biodiversity net gain'. To achieve this, projects must be considered on an individual basis to ensure that new features, planting and management regimes are suitable for the conditions on site and thus likely to be successful in the longer term. Some potential options are presented for consideration in Table 4.
- 4.5 The proposed development footprint covers most of the site, however, the bank along part of the southern edge of the site appears from the plans to be outside the development area and retention of the trees/scrub present would create habitats for a range of animals. Management for this area could include selective thinning of the existing young trees/scrub, initially and at periods as the woodland establishes, to allow light to reach the ground layer. Patches of grassland could be retained and managed by annual mowing, after the flowers have set seed and removing the arisings from site.
- 4.6 The open structure of the species-rich unimproved neutral grassland and lack of a well-formed turf make it unsuitable for transplanting from areas under development. Enhancement of the strips of grassland habitat that remain after development could be obtained by annual mowing, after the flowers have set seed and removing the arisings from site. This will aim to reduce the spread and establishment of trees/scrub on the grassland habitat and also to maintain the low soil fertility of the substrate to enhance conditions for diverse, species-rich grassland to be maintained.

Table 4 Potential Enhancement Measures for Consideration

Enhancement	Description
Bird nest boxes	• Boxes designed for a range of different species are available and could be positioned within planted areas or on built structures depending on the target species. • Particular consideration should be given to providing nesting habitat for Red and Amber List species that may be found in urban and suburban areas such as swift, common house martin, house sparrow and starling.
Bat roost features	• Features incorporated within the structure of new buildings such as: - o Self-contained bat bricks in walls - o Small gaps to provide access to cavities behind surfaces such as fascia boards or hanging tiles - o Access slot at apex of gable ends to allow bats to enter roof voids • These types of features would be best placed on the south-west, south or south-east facing elevations. • Self-contained bat boxes mounted on buildings or trees. • New roost features should be at a height of at least 3m and should have a clear flight path for bats to approach them. • (N.B. To qualify as enhancement new roost features would need to be over and above any requirement for replacement habitat that forms direct mitigation for impacts on an existing roost.)
Native species in landscape designs	• Planting schemes used in urban environments often include non-native species. These may be selected for their aesthetic appeal, pollution tolerance, evergreen foliage and low maintenance, and many nectar-bearing exotic species do support insects and provide foraging and nesting opportunities for birds. • However, native species, preferably of local provenance, tend to support greater biodiversity as they have evolved to the local conditions. It is recommended that, wherever practical, native trees and shrubs are selected for landscape designs.
Artificial lighting	• Artificial lighting can be disturbing to wildlife, particularly species such as bats that are nocturnal and adapted to forage in low-light conditions. Even if no roost is present on site, it would be good practice to adopt a sensitive lighting scheme to maximise biodiversity value post-development, with consideration given to the following points: - o Directing lamps where they are needed to avoid unnecessary light spillage; - o Use of narrow spectrum light sources with low ultra-violet, blue or white wavelength component to minimise insect attraction at lamps; - o Avoiding illumination of features and habitats that are likely to have the greatest value to bats, such as tree canopies and ponds; and - o Use of timers and/or motion sensors to limit periods of illumination to essential times only. • Further guidance on lighting specifications is provided in publications available from the Bat Conservation Trust website (www.bats.org.uk). This includes the impacts of different types of lighting (RCEP 2009), effects of artificial lighting on bat behaviour (Stone 2013) and guidelines for mitigation (Bat Conservation Trust 2014). • Specifically for this site, light spillage onto the adjacent Ashton Canal should be avoided, as the habitats present within the canal corridor offer suitable foraging opportunities for bats. Daubenton's bats in particular fly and forage over water. The wooded areas could also provide potential roosting sites.

Enhancement	Description
Green roofs	• Green roofs (living roofs) are intrinsically of greater benefit to biodiversity than more traditional roofing methods. • Green roofs can vary in their appearance and character. They can be designed to support low-growing mosses and sedums, wildflowers and grasses.
Off-site habitat enhancements	• The site area is relatively small. Outline details of the proposed redevelopment indicate limited available space for retention or enhancement of existing habitat of interest; it may be necessary to look outside the development boundary to other sites where biodiversity enhancements are more practically achieved.

5. REFERENCES

- Bat Conservation Trust, 2019. <https://www.bats.org.uk> (accessed 10/06/2019).
- Birkinshaw, N., Kemp, E. and Clarke, S., 2013. *The ecology of grass-wrack pondweed Potamogeton compressus*. Natural England Commissioned Reports, Number 130.
- Bratton, J.H., 1991. British Red Data Books: 3. Invertebrates other than insects. JNCC. Peterborough.
- BTO, 2019. <https://www.bto.org> British Trust for Ornithology (accessed 27/06/2019).
- Buglife, 2019. <https://www.buglife.org.uk/bugs-and-habitats/pond-mud-snail> (accessed 27/06/2019).
- CIEEM, 2013. *Competency Framework*. <https://www.cieem.net/competency-framework>.
- CIEEM, 2017. *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Chartered Institute of Ecology and Environmental Management.
- Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. and Gregory, R.D., 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, **108**, 708–746.
- Greater Manchester Biodiversity Project, 2009. *Black Redstart Species Action Plan*. GMEU.
- Greater Manchester Ecology Unit, 2016. Greater Manchester Sites of Biological Importance Selection Guidelines, version 2.0. <https://www.tameside.gov.uk/ecologyunit/sbi/guidelines.pdf> (accessed 28/6/19)
- Institute of Environmental Assessment, 1995. *Guidelines for Baseline Ecological Assessment*. E & F.N. Spon, an imprint of Chapman & Hall.
- JNCC, 2010. *Handbook for Phase 1 Habitat Survey – a technique for environmental audit*. Joint Nature Conservation Committee (revised edition 2010).
- RSPB, 2019. <https://www.rspb.org.uk> (accessed 27/06/2019).
- Stace, C., 2019. *New Flora of the British Isles. Fourth Edition*. C&M Floristics.
- The Wildlife Trusts, 2019. <https://www.wildlifetrusts.org> (accessed 27/06/2019).

6. ABBREVIATIONS

CIEEM	Chartered Institute of Ecology and Environmental Management
CRoW	Countryside and Rights of Way
EU	European Union
GMEU	Greater Manchester Ecology Unit
JNCC	Joint Nature Conservation Committee
LNR	Local Nature Reserve(s)
NERC	Natural Environment and Rural Communities
NPPF	National Planning Policy Framework
PAA	Penny Anderson Associates Ltd
RIGS	Regionally Important Geological/geomorphological Site(s)
SAC	Special Area(s) of Conservation
SBI	Site(s) of Biological Importance
SSSI	Site(s) of Special Scientific Interest
TN	Target Note(s)
WCA	Wildlife and Countryside Act

FIGURE



<i>Apl</i>	Acer platanoides	Norway maple
<i>Tic</i>	Tilia cordata	Small-leaved lime



Legend

Site Boundary

- Site Boundary

Habitat

- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Neutral grassland - unimproved
- Open, neutral grassland - unimproved
- Open neutral grassland - unimproved with trees/scrub
- Standing water
- Ephemeral/short perennial
- Hardstanding
- Hardstanding with sparse ephemeral/short perennial
- Fence
- Dry ditch
- Wall
- Young tree/scrub
- Norway Maple
- Circular culverts
- Target Note

British National Grid
Projection: Transverse Mercator
False Easting: 400000.000000
False Northing: 100000.000000
Central Meridian: 2.000000
Scale Factor: 0.999601
Latitude Of Origin: 49.000000

ISO A3

Metres

0 5 10 20 30 40

Penny Anderson Associates Ltd.
Parklea, 60 Park Road,
Buxton, Derbyshire, SK17 6SN.
Telephone 01298 27086

Project Name: Project Bradford

Discipline: Ecology

Title: Phase 1 Habitat Map

Scale: 1:1,000 Drawing No. Figure 1

Drawn By: MDM Originator: CB Date: 11/07/2019

PAA Ref: G:\BUHA10_Project_Bradford\Maps\ Revision: 1.0

APPENDICES

APPENDIX 1

Summary Species Legislation

SUMMARY OF THE LEGISLATION RELATING TO BADGERS AND THEIR SETTS

Badgers (*Meles meles*) are not an endangered species but have a long history of persecution and cruelty. As such, badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended), which makes it illegal for any person to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a badger sett, or to disturb a badger whilst it is within a sett. There are also additional offences relating to possession of, buying and selling a dead badger, or anything derived from a badger, and causing a dog to enter a sett.

The Act defines a sett as 'any structure or place which displays signs of current use by a badger'. Setts are defined by English Nature (1995) as 'usually underground tunnel systems providing shelter for badgers, but may include other structures used by badgers such as hay bales, drainage culverts, or cellars'. 'Current use' is more difficult to define but is usually interpreted by the presence/absence of badger field signs over several observations of the sett (Natural England 2006).

Section 15 of the National Planning Policy Framework (NPPF 2018) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible. The NPPF also includes the requirement to contribute to the Government's commitment to halt the overall decline in biodiversity and to promote the reservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

Local authorities in England are required to consider the likelihood of any proposed development adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations. The planning guidance for Wales, Technical Advice Note (Wales) 5, identifies the need to comply with the Protection of Badgers Act 1992.

English Nature, 1995. *Species Conservation Handbook*. English Nature, Peterborough.

Natural England, 2006. *Guidance on 'Current Use' in the definition of a badger sett*. Natural England, Peterborough.

Please note: the above text provides a brief summary of the legislation in relation to badgers for England and Wales and the original Act and amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO BATS

All wild species of bat are protected under the Wildlife and Countryside Act (WCA) 1981, which has also been amended by later legislation, including the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2017, and this legislation is applicable to England and Wales. Bats are listed on Schedule 5 of the WCA and are therefore subject to some the provisions of Section 9 which, with the amendments, make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection (S9:4b).
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat (S9:4c).

There are additional offences in relation to buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

Bat species are also listed under Annexes IIa and IVa of the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017.

The Conservation of Habitats and Species Regulations 2017 state that a person commits an offence if they:

- (a) deliberately capture, injure or kill any wild animal of a European protected species,
- (b) deliberately disturb wild animals of any such species, in such a way as –
 - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- (c) deliberately take or destroy the eggs of such an animal, or
- (d) damage or destroy a breeding site or resting place of such an animal.

Under these Regulations it is an offence to damage or destroy a breeding site or resting place whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead bat or part of such an animal.

In addition, seven native British bat species, including the soprano pipistrelle (*Pipistrellus pygmaeus*) and the brown long-eared bat (*Plecotus auritus*), that are frequently found in buildings, are listed as a 'Priority Species' under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CROW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006.

Section 15 of the National Planning Policy Framework (NPPF 2018) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible. The NPPF also includes the requirement to contribute to the Government's commitment to halt the overall decline in biodiversity and to promote the reservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

Local authorities in England are required to ensure that where significant harm resulting from development cannot be avoided (through locating on alternative sites with less harmful impacts),

adequately mitigated, or, as a last resort, compensated for, planning permission is refused. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to bats in England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO BREEDING BIRDS

All wild species of breeding birds and their nests are protected under Part 1 of the Wildlife and Countryside Act (WCA) 1981, as amended by later legislation including the Countryside and Rights of Way (CROW) Act 2000. This legislation applies in England and Wales.

Part 1 (Section 1:1) of the WCA states that:

'If any person intentionally,

- (a) kills, injures or takes any wild bird;
- (b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- (c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.'

Part 1 (Section 1:5) of the WCA (amended by the CROW Act 2000) refers to specific birds listed on Schedule 1 of the WCA, and states that:

'If any person intentionally or recklessly,

- (a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- (b) disturbs dependent young of such a bird,

he shall be guilty of an offence and liable to a special penalty.'

Schedule 1 includes birds such as barn owl (*Tyto alba*), black redstart (*Phoenicurus ochruros*), wood lark (*Lullula arborea*) and Cetti's warbler (*Cettia cetti*). Please refer to the WCA for a complete list of Schedule 1 species.

Some provisions are made to allow the killing and taking of certain species under certain circumstances, as follows:

- Birds listed on Schedule 2 (Part 1) of the Act may be taken or killed outside of the 'close season' for each individual species (the 'close season' is defined by the Act). This includes various wild duck and geese species.
- Birds listed on Schedule 2 (Part 2) of the Act may be killed or taken by authorised persons at all times. This includes species such as carrion crow (*Corvus corone*), black-billed magpie (*Pica pica*), feral pigeon (*Columba livia*) and greater Canada goose (*Branta canadensis*). An 'authorised person' is defined as a person who has written authorisation to undertake the act from the relevant statutory authority. The written authority is in the form of a licence, either a general licence which covers a number of the more typical 'pest' species, or an individual licence for other individual species. In England these licences are issued by Natural England and in Wales by the Welsh Assembly Government.

Please note: the above text provides a brief summary of the legislation in relation to breeding birds in England and Wales and the original Act and any amendments should be referred to for the precise wording.

SUMMARY OF LEGISLATION RELATING TO WATER VOLES

Water voles (*Arvicola amphibius*) are protected under the Wildlife and Countryside Act 1981, as amended, and this legislation is applicable to England and Wales. Water voles are listed on Schedule 5 of the Act and are, therefore, subject to some the provisions of Section 9 which, with the amendments, make it (in brief) an offence to:

- Intentionally kill, injure or take a water vole (S9:1);
- Intentionally or recklessly damage or destroy or a structure or place used for shelter or protection by a water vole (S9:4a);
- Intentionally or recklessly disturb a water vole while it is occupying such a place (S9:4b); or
- Intentionally or recklessly obstruct access to any structure or place a water vole uses for shelter or protection (S9:4c).

There are additional offences in relation to possessing, controlling (S9:2), and buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

In addition, water voles are listed as a 'Priority Species' under the under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CRoW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006. Section 15 of the National Planning Policy Framework (NPPF 2018) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and provide net gains in biodiversity where possible. The NPPF also includes the requirement to contribute to the Government's commitment to halt the overall decline in biodiversity and to promote the reservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets. Reference is made to Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System* in respect of statutory obligations for biodiversity and geodiversity conservation.

Local authorities in England are required to ensure that where significant harm resulting from development cannot be avoided (through locating on alternative sites with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, planning permission is refused. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to water voles for England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

APPENDIX 2

Plant Species List

Appendix 2 Plant Species List

Common Name	Scientific Name	Open, Neutral Grassland - Unimproved, with Young Trees/Scrub	Ephemeral/ Short Perennial	Broadleaved Woodland - Semi-natural (TN2)	Broadleaved Woodland - Plantation	Neutral Grassland - Unimproved	Broadleaved Woodland - Semi-natural (TN5)	Standing Water - Canal
Woody Species								
Ash	<i>Fraxinus excelsior</i>	R					R-O	
Ash (sapling)	<i>Fraxinus excelsior</i> (sapling)	R	R		R			
Aspen	<i>Populus tremulous</i>	R		O				
Bramble	<i>Rubus fruticosus</i> agg.	R	R			O	O-F	
Broom	<i>Cytisus scoparius</i>			R	R	R		
Butterfly-bush	<i>Buddleja davidii</i>	LO-LF	R	O			LO	
Crack willow	<i>Salix euxina</i>						O	
Dog rose	<i>Rosa canina</i>	R						
Dogwood	<i>Cornus sanguinea</i>						LO	
Downy birch	<i>Betula pubescens</i> (seedling)	R				R		
Elder	<i>Sambucus nigra</i>						R	
Goat willow	<i>Salix caprea</i>	LA		F			F	
Goat willow (sapling)	<i>Salix caprea</i> (sapling)	R						
Goat willow (seedling)	<i>Salix caprea</i> (seedling)	R-O	R					
Grey willow	<i>Salix cinerea</i>			O		R	O	
Grey willow (seedling)	<i>Salix cinerea</i> (seedling)	R	R					
Hawthorn	<i>Crataegus monogyna</i>						O	
Hazel	<i>Corylus avellana</i>						R	
Hybrid black-poplar	<i>Populus x canadensis</i>	R		R				
Hybrid black-poplar (sapling)	<i>Populus x canadensis</i> (sapling)	R						
Italian alder	<i>Alnus cordata</i>	LO						
Norway maple	<i>Acer platanoides</i>				LD			
Norway maple (sapling)	<i>Acer platanoides</i> (sapling)				R			
Rose sp.	<i>Rosa</i> sp.						LO	
Silver birch	<i>Betula pendula</i>	LA		F			LF	
Silver birch (seedling)	<i>Betula pendula</i> (seedling)	O-LF						
Small-leaved lime	<i>Tilia cordata</i>				D			
Sycamore	<i>Acer pseudoplatanus</i>						O-F	
Sycamore (seedling)	<i>Acer pseudoplatanus</i> (seedling)		R					
White poplar	<i>Populus alba</i>			R				
White poplar (seedling)	<i>Populus alba</i> (seedling)	R-LO						
White willow	<i>Salix alba</i>	LO		R			R	
White willow (seedling)	<i>Salix alba</i> (seedling)	R						
Herbs, Grasses and Ferns								
Alsike clover	<i>Trifolium hybridum</i>	R						
Annual meadow-grass	<i>Poa annua</i>		O-LA					
Arrowhead	<i>Sagittaria sagittifolia</i>							R-LA
Bird's-foot trefoil	<i>Lotus corniculatus</i>	R			R			
Black medick	<i>Medicago lupulina</i>	A	O-LA			R		
Broad-leaved dock	<i>Rumex obtusifolius</i>	R	R		O	R		
Bush vetch	<i>Vicia sepium</i>	R			R			
Cat's ear	<i>Hypochaeris radicata</i>	R	R					
Cleavers	<i>Galium aparine</i>		R					
Cock's-foot	<i>Dactylis glomerata</i>	R						
Colt's-foot	<i>Tussilago farfara</i>	R-O			A			
Columbine	<i>Aquilegia vulgaris</i> (garden escape)	R						
Common couch	<i>Elytrigia repens</i>	R			F-A			
Common field-speedwell	<i>Veronica persica</i>	R						
Common knapweed	<i>Centaurea nigra</i>					R		
Common michaelmas-daisy	<i>Symphyotrichum x salignum</i>	F	LO-LF			F		
Common mouse-ear	<i>Cerastium fontanum</i>	R						
Common nettle	<i>Urtica dioica</i>				R			
Common ragwort	<i>Jacobaea vulgaris</i>	F	R		R	F		
Common vetch	<i>Vicia sativa</i>	R			O			
Crane's-bill species	<i>Geranium</i> sp.	R				R		
Creeping bent	<i>Agrostis stolonifera</i>	A	A			LF		
Creeping cinquefoil	<i>Potentilla reptans</i>	R			O			
Creeping thistle	<i>Cirsium arvense</i>	R			O			
Creeping-Jenny	<i>Lysimachia nummularia</i>					R		
Crested dog's-tail	<i>Cynosurus cristatus</i>	R						
Curled dock	<i>Rumex crispus</i>	R						
Cut-leaved crane's-bill	<i>Geranium dissectum</i>	R				R		
Daisy	<i>Bellis perennis</i>	R	R			F-A		
Dandelion	<i>Taraxacum officinale</i> agg.	O	R		F			
False oat-grass	<i>Arrhenatherum elatius</i>				O	O		
Fern species	<i>Dryopteris</i> sp.						LA	
Fern-grass	<i>Catapodium rigidum</i>	R-LF	R					
Field forget-me-not	<i>Myosotis arvensis</i>						LO	
Foxglove	<i>Digitalis purpurea</i>	R						
Great willowherb	<i>Epilobium hirsutum</i>	R			R	R		
Greater plantain	<i>Plantago major</i>	R-O	F-LA					
Hairy tare	<i>Ervilla hirsuta</i>	R						
Hairy tare	<i>Vicia hirsuta</i>				O-F			
Hard rush	<i>Juncus inflexus</i>	R	R					
Hedge mustard	<i>Sisymbrium officinale</i>	R	R					
Herb-Robert	<i>Geranium robertianum</i>	R				R		
Hop trefoil	<i>Trifolium campestre</i>	R-LA						
Horsetail species	<i>Equisetum arvensis</i>	R						
Ivy	<i>Hedera helix</i>						LD	
Knotgrass	<i>Polygonum aviculare</i>		R					
Lady's-mantle	<i>Alchemilla vulgaris</i> (garden escapee)	R						
Large-flowered evening primrose	<i>Oenothera glazioviana</i>	R	R-LF		R			
Lesser trefoil	<i>Trifolium dubium</i>	R				R		
Mayweed species	<i>Tripleurospermum</i> sp.	R						
Meadow buttercup	<i>Ranunculus acris</i>	R			R	R		
Meadow vetchling	<i>Lathyrus pratensis</i>	R			O			
Meadowsweet	<i>Filipendula ulmaria</i>					R		
Mouse-ear-hawkweed	<i>Pilosella officinarum</i>					R		
Mugwort	<i>Artemisia vulgaris</i>	R	R					
Nipplewort	<i>Lapsana communis</i>	R						
Oxeye daisy	<i>Leucanthemum vulgare</i>	O-LF			O	LA		

Common Name	Scientific Name	Open, Neutral Grassland - Unimproved, with Young Trees/Scrub	Ephemeral/ Short Perennial	Broadleaved Woodland - Semi-natural (TN2)	Broadleaved Woodland - Plantation	Neutral Grassland - Unimproved	Broadleaved Woodland - Semi-natural (TN5)	Standing Water - Canal
Pendulous sedge	<i>Carex pendula</i>	R						
Perennial rye-grass	<i>Lolium perenne</i>	R				R		
Perforate St. John's-wort	<i>Hypericum perforatum</i>	O				R		
Pineappleweed	<i>Matricaria discoidea</i>		LO					
Prickly sow-thistle	<i>Sonchus asper</i>	R						
Purple toadflax	<i>Linaria purpurea</i>	R						
Red clover	<i>Trifolium pratense</i>	F-LA	R					
Red fescue	<i>Festuca rubra</i>	LA	R-LF		A	A	F	
Ribbed melilot	<i>Mellilotus officinalis</i>	O						
Ribwort plantain	<i>Plantago lanceolata</i>	O-LA	LO		F	A		
Rosebay willowherb	<i>Chamaenerion angustifolium</i>	R						
Rough hawk's-beard	<i>Crepis biennis</i>	R-LO	R					
Rough meadow-grass	<i>Poa trivialis</i>	R						
Selfheal	<i>Prunella vulgaris</i>	O	R-LO			A		
Smooth hawk's-beard	<i>Crepis capillaris</i>	R						
Smooth sow-thistle	<i>Sonchus oleraceus</i>		R					
Soft brome	<i>Bromus hordeaceus</i>	R						
Spear thistle	<i>Cirsium vulgare</i>	R	R			R		
Square stalked willowherb	<i>Epilobium tetragonum</i>	R	R					
Squirrel-tail fescue	<i>Vulpia bromoides</i>	O-LA	R-LA					
Thyme-leaved speedwell	<i>Veronica serpyllifolia</i>		R					
Traveller's joy	<i>Clematis vitalba</i>						R	
Tufted vetch	<i>Vicia cracca</i>	R			R	LF		
Wall cotoneaster	<i>Cotoneaster horizontalis</i>					R		
White clover	<i>Trifolium repens</i>	R						
White melilot	<i>Mellilotus alba</i>	F-LA	O-LF					
Wild carrot	<i>Daucus carota</i>	R						
Yarrow	<i>Achillea millefolium</i>	R				LA		
Yellow bartsia	<i>Parentucellia viscosa</i>	R						
Yellow iris	<i>Iris pseudacorus</i>					R		
Yellow-wort	<i>Blackstonia perfoliata*</i>	R						
Yorkshire fog	<i>Holcus lanatus</i>	F			A	O		
Mosses								
Pointed spear-moss	<i>Calliergonella cuspidata</i>	L-F						

KEY

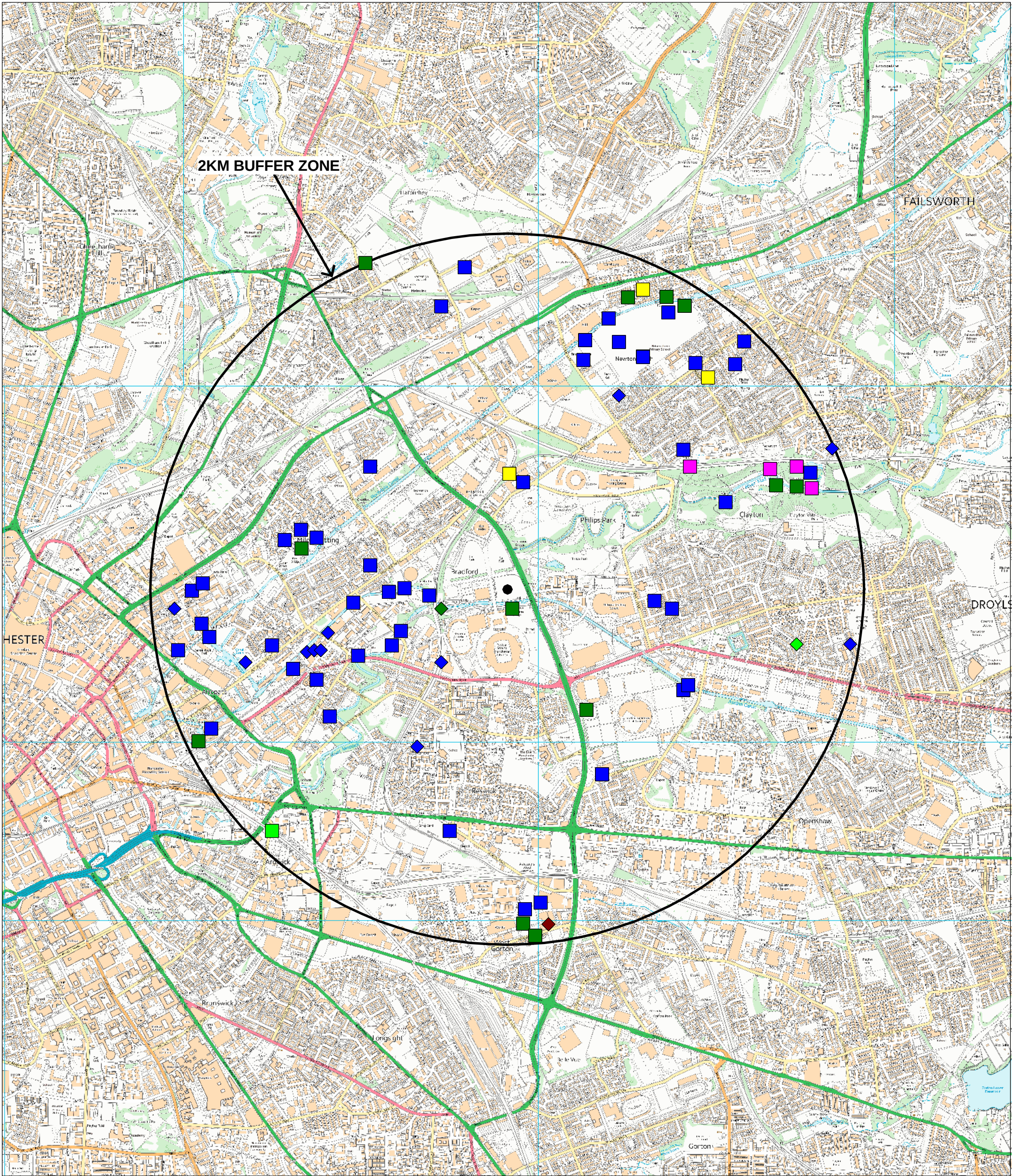
D - Dominant, A - Abundant, F - Frequent, O - Occasional, R - Rare, L - Locally

Species in blue are listed in the GMEU Sites of Biological Importance Selection Guidelines (for Grasslands)

* = BAP species

APPENDIX 3

Desk Study Results



KEY

BAT ROOSTS

- ◆ BAT SP
- ◆ BROWN LONG-EARED BAT
- ◆ COMMON PIPISTRELLE
- ◆ PIPISTRELLE SP

BATS OTHER SIGNS

- BAT SP
- COMMON PIPISTRELLE
- DAUBENTON'S BAT
- PIPISTRELLE SP
- SOPRANO PIPISTRELLE

GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SJ 86822 98860
SITE OFF ALAN TURING WAY - MAP 4

SCALE 1:20,000

BAT DATA COURTESY OF SOUTH LANCS BAT GROUP

THE MAP IS BASED UPON ORDNANCE SURVEY MATERIAL WITH
 THE PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE
 CONTROLLER OF HMSO ©CROWN COPYRIGHT
 UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT
 AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS

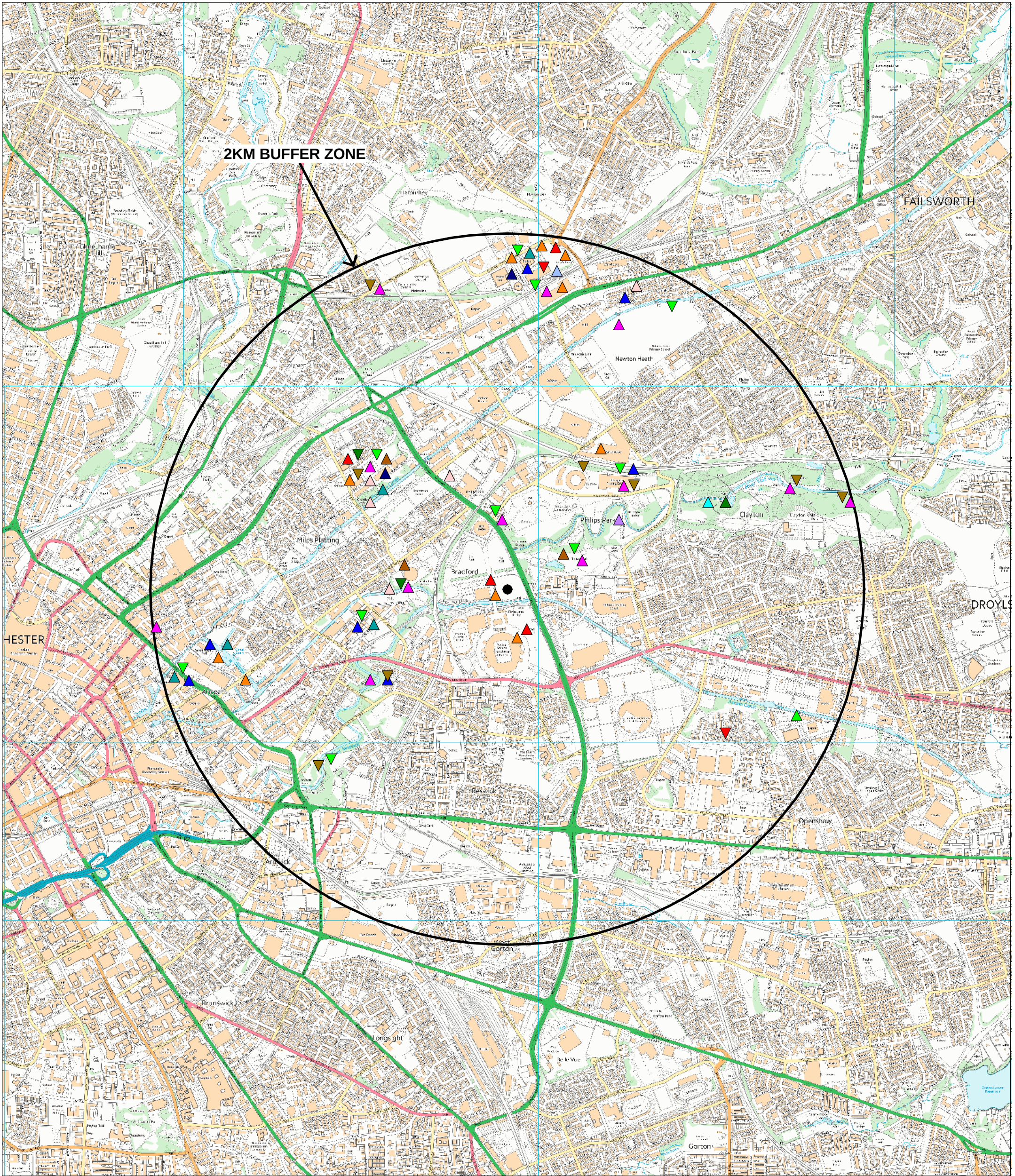
TAMESIDE MBC LICENCE NO LA100022697, 2019



Greater Manchester
Ecology Unit

Telephone 0161 342 4409
 Email: gmeu@tameside.gov.uk

Date Produced: 27/06/2019



KEY
SECTION 41 SPECIES

- | | |
|--------------------|----------------------|
| ▲ BULLFINCH | ▲ MUD SNAIL |
| ▲ COMMON TOAD | ▲ REDPOLL |
| ▲ CURLEW | ▲ REED BUNTING |
| ▲ DUNNOCK | ▲ S41 MOTH |
| ▲ GRS-WRK PONDWEED | ▲ SKYLARK |
| ▲ HERRING GULL | ▲ SONG THRUSH |
| ▲ HOUSE SPARROW | ▲ SPOTTED FLYCATCHER |
| ▲ LAPWING | ▲ STARLING |
| ▲ LINNET | |

GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SJ 86822 98860
SITE OFF ALAN TURING WAY - MAP 5

SCALE 1:20,000

THE MAP IS BASED UPON ORDNANCE SURVEY MATERIAL WITH
THE PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE
CONTROLLER OF HMSO ©CROWN COPYRIGHT
UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT
AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS

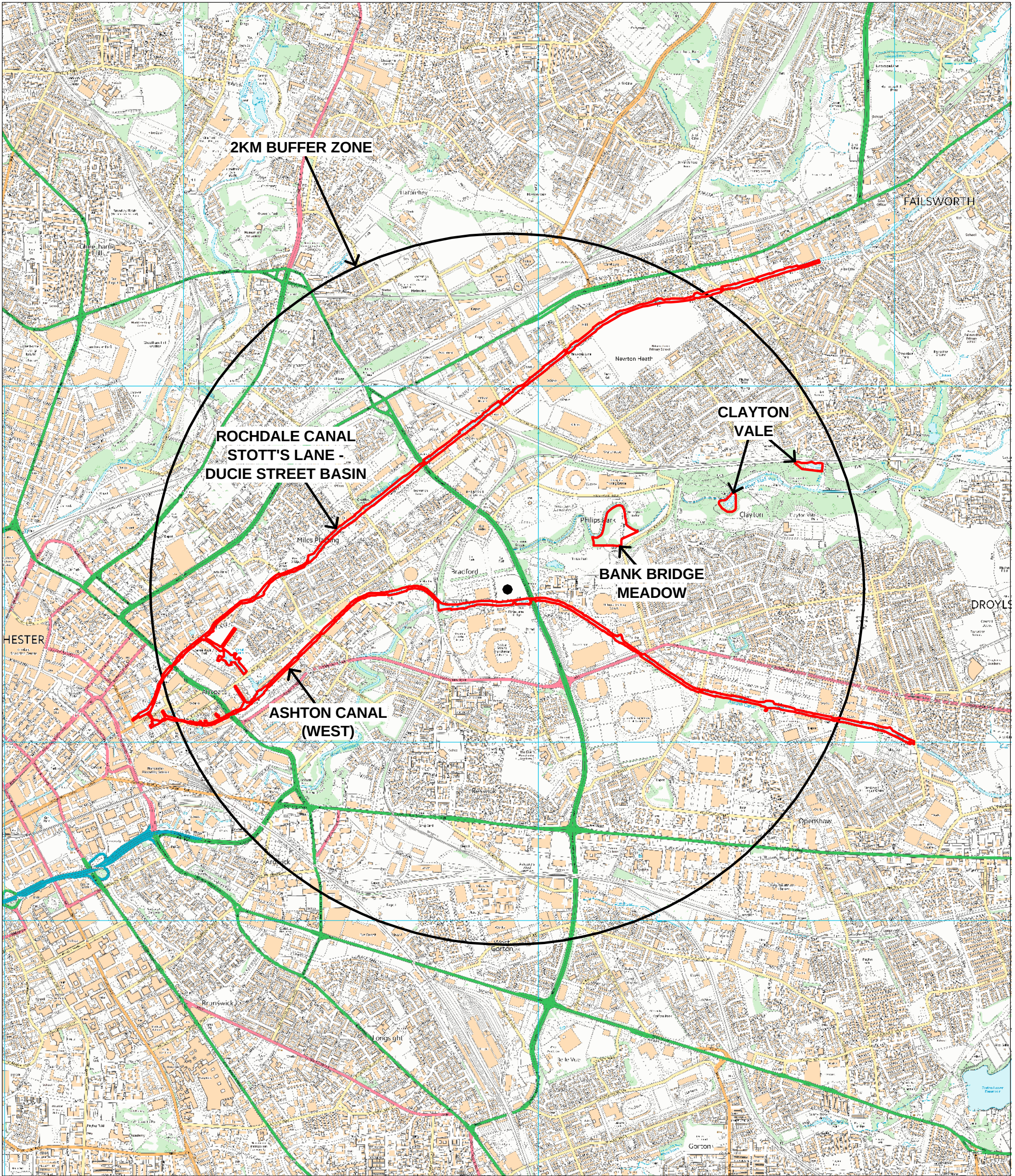
TAMESIDE MBC LICENCE NO LA100022697, 2019



Greater Manchester
Ecology Unit

Telephone 0161 342 4409
Email: gmeu@tameside.gov.uk

Date Produced: 27/06/2019



KEY

SITE OF BIOLOGICAL IMPORTANCE

 **SBI BOUNDARY**

**GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SJ 86822 98860
SITE OFF ALAN TURING WAY - MAP 1**

SCALE 1:20,000

THE MAP IS BASED UPON ORDNANCE SURVEY MATERIAL WITH
THE PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE
CONTROLLER OF HMSO Â©CROWN COPYRIGHT
UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT
AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS

TAMESIDE MBC LICENCE NO LA100022697, 2019



**Greater Manchester
Ecology Unit**

Telephone 0161 342 4409
Email: gmeu@tameside.gov.uk

Date Produced: 27/06/2019

APPENDIX 4

Photographs



Photo 1 Tarmac road over canal bridge, accessing the site from the south



Photo 2 Site, looking west



Photo 3 Site, looking north-west



Photo 4 Site, looking north-east



Photo 5 Site, looking east



Photo 6 View looking north-west across open, unimproved neutral grassland towards ephemeral/short perennial vegetation, hard standing and neutral grassland with young trees/scrub in distance



Photo 7 Young trees/scrub within the unimproved neutral grassland along the southern edge of the site



Photo 8 Line of young trees/scrub across the middle of the site



Photo 9 Open, unimproved neutral grassland with scattered young trees/scrub & line of planted small-leaved lime trees in distance



Photo 10 Circular culvert within ephemeral/short perennial vegetation; young trees within the unimproved neutral grassland at north-east edge of site



Photo 11 Mats within the grassland offering potential refugia for amphibians/reptiles and yellow-wort plant



Photo 12 Bridge across the canal, looking west and unimproved neutral grassland verges



Photo 13 Bridge across the canal, looking east and unimproved neutral grassland verges



Photo 14 Norway maple planted in wooden containers along central reservation of the dual carriageway



Photo 15 Open, unimproved neutral grassland, with young trees/scrub along edge of site



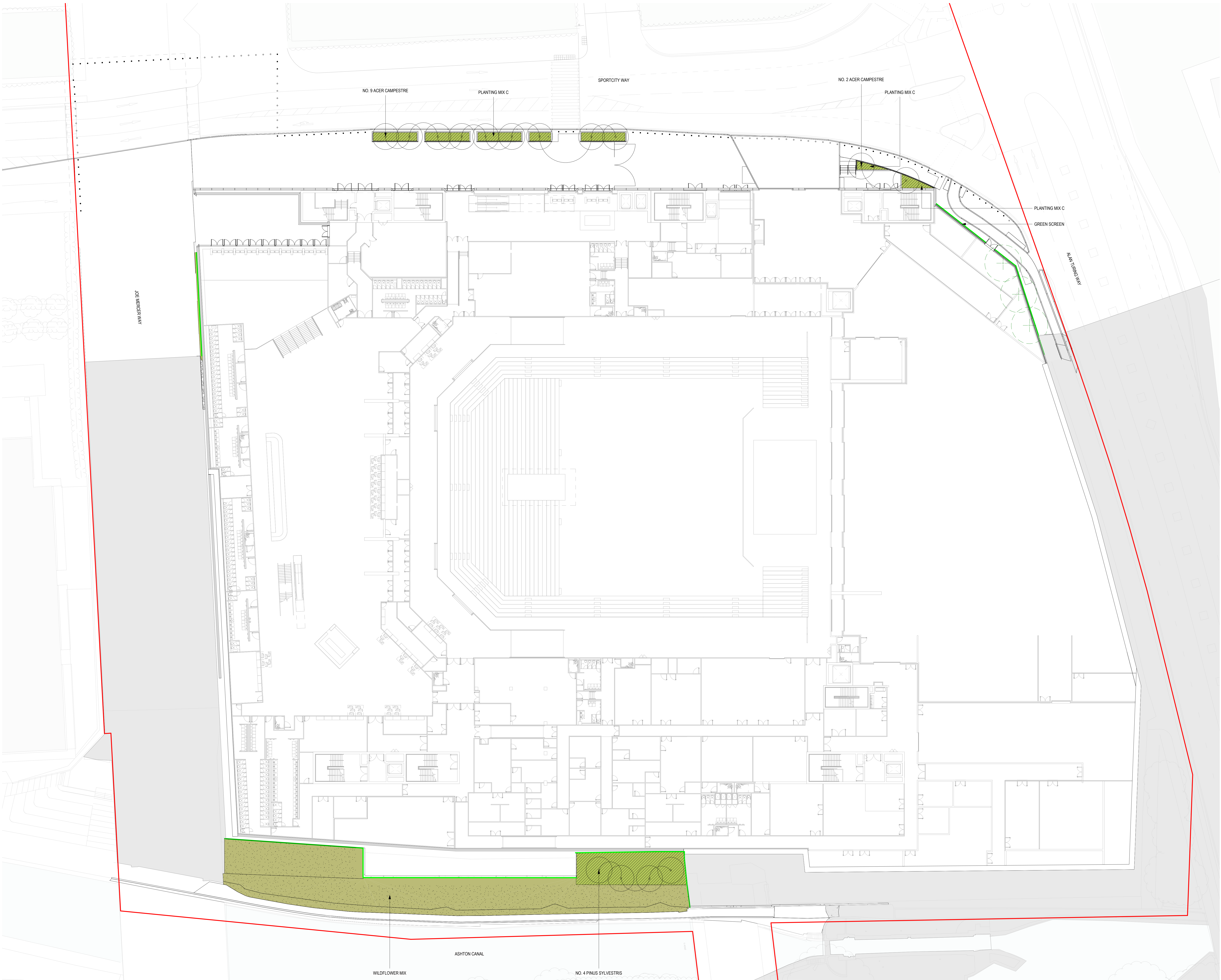
Photo 16 Canal with small population of arrowhead plant, looking north towards edge of site and line of lime trees

Penny Anderson
Associates Ltd
CONSULTANT ECOLOGISTS

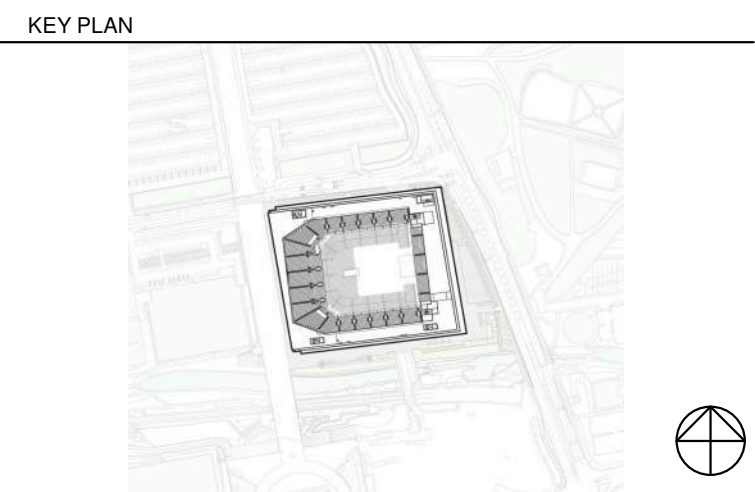


Park Lea, 60 Park Road, Buxton, Derbyshire SK17 6SN

Appendix B Overview Landscape Proposals – Populous 2020



REVISIONS		
REV	DATE	DESCRIPTION
01	14/02/2020	PLANNING



- KEY
- PLANNING APPLICATION BOUNDARY
 - EXISTING TREES TO BE REMOVED
 - EXISTING TREES TO BE RETAINED
 - PROPOSED TREES
 - PROPOSED SPECIMEN SHRUB
 - PLANTING MIX A
 - PLANTING MIX B
 - PLANTING MIX C
 - WILDFLOWER MIX
 - GREEN SCREEN

THIS DRAWING IS ONLY TO SCALE IF IT IS REPRODUCED AT THE CORRECT PAPER SIZE
1:250@A0

ALL INTERNAL LAYOUTS AND USES ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY AND ARE NOT FOR DETERMINATION



© COPYRIGHT. ALL RIGHTS RESERVED.

THIS WORK IS COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM OR BY ANY OTHER MEANS (INCLUDING ELECTRONIC OR MECHANICAL) WITHOUT THE WRITTEN PERMISSION OF POPULOUS. ANY UNAUTHORIZED REPRODUCTION OR USE OF THIS DOCUMENT FOR ANY PURPOSE WHATSOEVER IS RESTRICTED TO THE TERMS OF THE AGREEMENT TO WHICH THIS DOCUMENT IS ATTACHED AND THE INSTRUCTING PARTY.

USE INDICATED DIMENSIONS IN PREFERENCE TO SCALES. CHECK ALL DIMENSIONS ON SITE BEFORE FABRICATION OR SETTING OUT.

ARCHITECT

POPULOUS®

14 BLADES COURT | DEODAR ROAD | LONDON | SW15 2NU | UNITED KINGDOM
TELEPHONE: +44 (0)20 8074 7400 | FACSIMILE: +44 (0)20 8074 7470
ALL PRODUCTIONS & INTELLECTUAL PROPERTY RIGHTS RESERVED © POPULOUS 2009

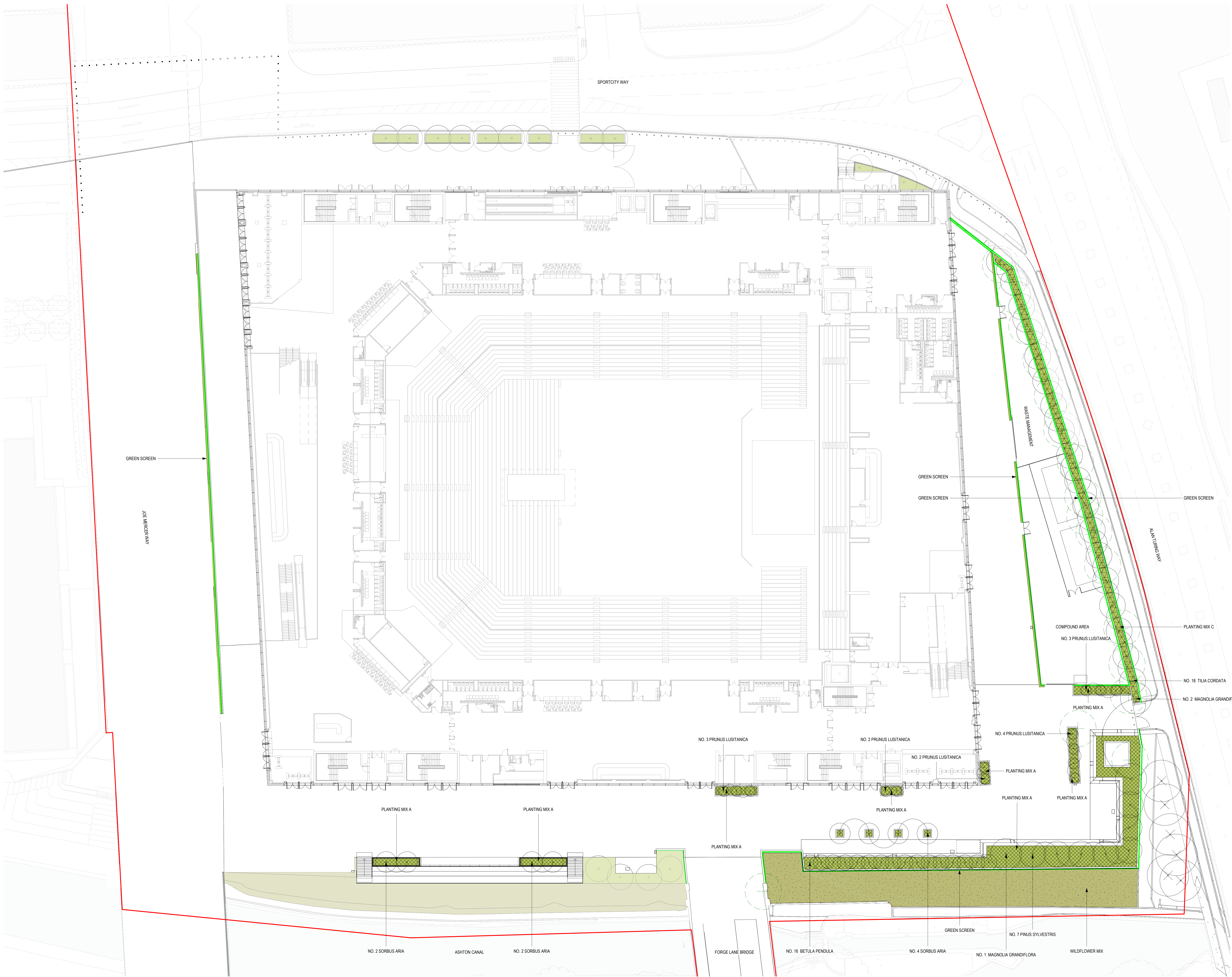
PROJECT NAME

OVG MANCHESTER

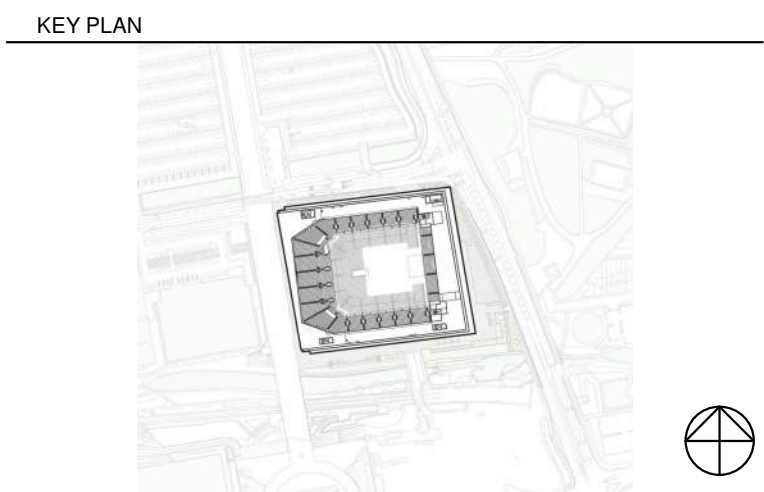
DRAWING TITLE

SOFT LANDSCAPE PLAN
GROUND FLOOR

STATUS		PROJECT No.	
PLANNING		4933	
DATE	SCALE	SIZE	
14/02/2020	1 : 250	A0	
DRAWN	CHECKED	APPROVED	
ML	TJ	DS	
PROJECT	ORIGIN	ZONE	LEVEL
BRA-POP-ZZ	GF	DR	L
DRAWING	REV		
0655	00		



REVISIONS		
REV	DATE	DESCRIPTION
01	14/02/2020	PLANNING



- KEY
- PLANNING APPLICATION BOUNDARY
 - EXISTING TREES TO BE REMOVED
 - EXISTING TREES TO BE RETAINED
 - PROPOSED TREES
 - PROPOSED SPECIMEN SHRUB
 - PLANTING MIX A
 - PLANTING MIX B
 - PLANTING MIX C
 - WILDFLOWER MIX
 - GREEN SCREEN

THIS DRAWING IS ONLY TO SCALE IF IT IS REPRODUCED AT THE CORRECT PAPER SIZE
1:200@A0

ALL INTERNAL LAYOUTS AND USES ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY AND ARE NOT FOR DETERMINATION

CLIENT

© COPYRIGHT. ALL RIGHTS RESERVED.

THIS WORK IS COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM OR BY ANY OTHER MEANS (INCLUDING ELECTRONIC OR MECHANICAL) WITHOUT THE WRITTEN PERMISSION OF POPULOUS AND ITS ASSOCIATED COMPANIES. TO USE THIS DOCUMENT FOR ANY PURPOSE WHATSOEVER IS RESTRICTED TO THE TERMS OF THE AGREEMENT TO WHICH IT IS REFERRED BY THESE POPULOUS AND ITS ASSOCIATED COMPANIES.

USE THE FOLLOWING DIMENSIONS IN PREFERENCE TO SCALES: CHECK ALL DIMENSIONS ON SITE BEFORE FABRICATION OR SETTING OUT.

ARCHITECT

14 BLADES COURT | DEODAR ROAD | LONDON | SW15 2NU | UNITED KINGDOM
TELEPHONE: +44 (0)20 8074 7400 | FACSIMILE: +44 (0)20 8074 7470
ALL PRODUCTION & INTELLECTUAL PROPERTY RIGHTS RESERVED © POPULOUS 2009

PROJECT NAME

OVG MANCHESTER

DRAWING TITLE

SOFT LANDSCAPE PLAN
LEVEL 01

STATUS		PROJECT No.	
PLANNING		4933	
DATE	SCALE	SIZE	
14/02/2020	1 : 250	A0	
DRAWN	CHECKED	APPROVED	
ML	TJ	DS	
PROJECT	ORIGIN	ZONE	LEVEL
BRA-POP-ZZ-01-	DR-	L-	

Jenny Ross
Buro Happold Limited
Camden Mill
Lower Bristol Road
Bath
BA2 3DQ
UK

T: +44 (0)1225 320 600

F: +44 (0)870 787 4148

Email: Jenny.Ross@burohappold.com