

St John's Street – Ecological Assessment

Pareto Properties LLP.

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Executive Summary

Ecus Ltd was commissioned by Pareto Properties LLP in May 2020, to undertake an Ecological Assessment of a three-storey property and adjoining courtyard, located off St John's Street, Manchester (central National Grid Reference: SJ 83462 97942; hereafter referred to as the 'Site'), in relation to proposed residential development plans. It is understood that works will involve the construction of a new two-storey building, partial reconstruction and renovation of the existing building with associated tree plantings. All current Site habitats are anticipated to be lost.

No statutory or non-statutory designated sites were identified within 1 km of the Site.

The Site habitats consisted of a main building, hard-standing for car parking with a paved courtyard containing ornamental plantings and scattered broad-leaved trees. All habitats are common and widespread and are considered of value to nature conservation at site level only.

Two current ecological constraints have been identified for the Site. These are listed below.

1. Bats

The main building on Site has been assessed to have moderate potential to support roosting bats due to a number of gaps and potential entry points on all aspects that may provide access to internal cavities within the building. The presence of a common pipistrelle day roost was confirmed following nocturnal surveys. The proposed renovation and partial demolition of this building will result in the destruction of the identified roost and carries the risk of killing/injuring and disturbing individual bats. Mitigation measures have been proposed to address these impacts. This will involve obtaining a mitigation license from Natural England, the provision of alternative roosting opportunities, followed by supervised soft demolition.

Additionally, two trees have been identified with features assessed to have low potential to support roosting bats. It is recommended that the trees are removed under supervision, incorporating soft felling techniques.

It also further recommended that lighting schemes aim to minimise light spill above current level, both during and post development works.

2. Birds

It is possible that common and widespread bird species may nest in trees and denser shrubs within the Site. It is therefore recommended that all vegetation clearance is conducted outside of during the bird breeding season (1st March to 31st August inclusive) to minimise any impacts on nesting birds. Should clearance be essential during the breeding season, any affected trees and shrubs should be subject to a nesting bird check by a suitably qualified ecologist no more than 48 hours prior to the commencement of works.

No other ecological constraints were identified. However, it is recommended that to enhance biodiversity within the Site, plans should incorporate additional soft landscaping and provisions for bat and bird boxes.

1. Introduction

- 1.1.1 Ecus Ltd was commissioned in May 2020 by Pareto Properties LLP to undertake an Ecological Assessment of a three-storey property and adjoining courtyard, located off St John's Street, Manchester (central National Grid Reference: SJ 83462 97942; hereafter referred to as the 'Site').
- 1.1.2 This report has been requested in relation to a proposed residential development project at the Site. It is understood that this will involve the construction of a new residential building within the north of the Site, renovation and partial demolition of the current existing building with associated tree planting.
- 1.1.3 The purpose of the survey was to carry out an extended Phase 1 habitat survey and to review the potential for the Site to contain, or be used by, species protected under both UK and European nature conservation legislation, namely the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment)(EU Exit) Regulations 2019. Any impacts upon these habitats or species likely to result from the proposed works were then assessed.
- 1.1.4 Following the initial assessment, further nocturnal bats surveys were conducted within the Site to confirm the presence/absence of roosting bats.
- 1.1.5 This report details the findings of the survey work and subsequent assessment. Methodologies employed are described including Site surveys and evaluation and recommendations for any further survey work and/or mitigation measures are included, where appropriate.

2. Methodology

2.1 Data consultation

- 2.1.1 Data consultation was undertaken by Ecus Ltd in May 2020 in collaboration with the Greater Manchester Local Records Centre (GMLRC). This process helped to determine whether there were any existing biological records or locally designated sites of nature conservation interest within 1 km of the Site. Only recent species records (2010 – 2020) are discussed in this report.
- 2.1.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website (<http://magic.defra.gov.uk>) was consulted for information on statutory designated sites of nature conservation interest within 1 km of the Site.
- 2.1.3 Information obtained from GMLRC and MAGIC is included within the report as appropriate.

2.2 Extended Phase 1 Habitat Survey

- 2.2.1 The Site was surveyed on 8th May 2020 using extended Phase 1 habitat survey methodology (JNCC, 2010) by Ecus ecologist Paul Wolstenholme BSc (Hons) MSc GradCIEEM. Additional support was provided from associate director of ecology Natasha Seaward (MSc, MCIEEM, class II bat license reference: 2015:10131-CLS-CLS). The habitats and vegetation types present were recorded digitally using a bespoke mobile data collection project within QField (QField Development Team, 2020) and exported as annotated maps. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all plants occurring across the site.
- 2.2.2 The DAFOR scale (D = dominant, A = abundant, F = frequent, O = occasional, R = rare) was used to indicate relative abundance of recorded plant species. This provides a subjective measure of how common a particular species is within the survey area.
- 2.2.3 Priority habitats present that are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the Greater Manchester Biodiversity Action Plan, were noted.
- 2.2.4 The value and sensitivity of ecological features present on Site were determined based on the guidance given by CIEEM (2016). Individual ecological receptors (habitats and species that could be affected by the development) for the scheme were assigned levels of importance for nature conservation. The highest level is international, then decreasing in order of importance through national, regional, county, local and site level.

2.3 Protected and Key Species

- 2.3.1 Any evidence of protected species or groups encountered during the survey was recorded. This included observations of field signs and an assessment of the suitability of the habitats present to support protected species. For full details of legislation relating to all habitats and species discussed within this report visit <http://www.legislation.gov.uk>.

Amphibians

- 2.3.2 Ponds within 250 m of the Site boundary, not separated from the Site by a major barrier, were searched for using Ordnance Survey (OS) and Google maps.
- 2.3.3 Site habitats were assessed for their suitability to support amphibian species.

Badger

- 2.3.4 Signs of badger (*Meles meles*) activity were searched for within the Site. The badger assessment followed standard methodology (Harris *et al.*, 1989), including searching for setts and examining linear features and boundaries for signs of badger activity (e.g. dung pits, foraging marks, feeding signs and pathways).

Bats

- 2.3.5 A visual inspection of all trees and structures within the Site was undertaken in accordance with best practice guidance (Collins, 2016).
- 2.3.6 All buildings were examined for potential roost features such as crevices, and cavities created by, for example, lifted or missing roofing material and missing mortar in brickwork. Close focusing binoculars were used where necessary. Similarly, all trees were examined for potential roost features created by lifted bark, woodpecker holes, knot holes, trunk cavities and so on. Any evidence of roosting bats, including live or dead bats, droppings, and staining due to fur oils, was noted.
- 2.3.7 An individual building or tree may have several features of potential interest to roosting bats associated with it. It is not always possible to confirm usage of a feature by bats as often the animals may be present on one day and no evidence of occupation may be found on the next. Consequently, it is customary when undertaking such surveys to assign each feature to a defined category of roosting potential as follows: negligible, low, moderate, high, confirmed (Collins, 2016).
- 2.3.8 The Site was also assessed for its potential to support foraging and commuting bats.

Birds

- 2.3.9 A detailed bird survey was not undertaken as part of this assessment, however, during the Site visit all bird species observed were recorded and habitats were assessed for their value to nesting and foraging birds.

Reptiles

- 2.3.10 The habitats present on Site were assessed for their suitability to support basking, foraging and hibernating reptiles, with reference to their connectivity to other suitable habitat in the surrounding area.

Riparian mammals and white-clawed crayfish

- 2.3.11 A desk based search for watercourses on Site, and within 30 m of the site, which were not separated from the site by a major barrier, was undertaken using an Ordnance Survey (OS) mapping and aerial photography.

Other protected and key species

- 2.3.12 The opportunity was taken whilst on Site to assess habitats for their potential to support other protected species, search for signs of nationally or locally scarce or notable species, or any species protected under national or international nature conservation law.

2.4 Invasive Non-Native Species

- 2.4.1 Any evidence of invasive non-native species, as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), was recorded.

2.5 Nocturnal Bat Survey

- 2.5.1 Following the results of the Preliminary Bat Roost Assessment (PBRA; *see section 3.4.5 -3.4.9*), it was recommended that one dusk emergence and one dawn re-entry survey should be undertaken at the Site during separate visits.
- 2.5.2 Nocturnal surveys were undertaken by experienced bat surveyors positioned to cover all building elevations with suitability for roosting bats. Survey details including date of survey, surveyor names and weather conditions are shown in Table 1 below. Surveyor locations are illustrated in Appendix 3.
- 2.5.3 Three surveyors were considered appropriate for both the dawn and dusk surveys, which allowed for suitable visibility of the buildings potential entry and emergence features.
- 2.5.4 The nocturnal surveys were undertaken following best practice guidance (Collins, 2016) with surveyors equipped with fully recordable and professional bat detectors. Bat activity, including passes, foraging, roosting locations and species type were recorded onto field maps, along with other incidental bat activity, if and when observed on Site.

Table 1. Survey timings, surveyor details and weather conditions

Date/Time	Survey Type	Surveyors	Air Temp (°C)	General Conditions
10 th July 2020 21:15 – 23:15	Dusk Emergence	S1: Paul Wolstenholme – Graduate Ecologist S2: Ryan Evans – Seasonal Ecologist S3: Libby Ward – Seasonal Ecologist	15 at survey start	Dry, 90% cloud cover, light breeze (Beaufort scale: 2) Sunset: 21:40
17 rd July 2020 03:30 – 05:20	Dawn Re-entry	S1: Paul Wolstenholme – Graduate Ecologist S2: Ryan Evans – Seasonal Ecologist S3: Christina Hewitt – Assistant Ecologist	15 at survey start	Dry, 80% cloud, light air (Beaufort scale: 1) Sunrise 05:03

2.6 Limitations

- 2.6.1 Phase 1 habitat surveys are intended to provide a rapid assessment of habitats present within a site at any time of year. The Site walkover was conducted in May, which is within of the optimal season for such survey, and was conducted by an experienced ecologist. Therefore, it is considered that a robust assessment of Site habitats has been made.
- 2.6.2 The survey was conducted during the COVID-19 global pandemic and therefore, as per government guidelines, it was assessed that as the building is in current use it was not appropriate to undertake an internal inspection of the roof cavity for its potential to support roosting bats. A precautionary approach has therefore been applied as the

buildings on Site could only be assessed through an external inspection.

- 2.6.3 Both the external PBRA and nocturnal bat survey work were undertaken under optimal conditions, following standard methodology outlined within the Bat Survey Guidelines (Collins, 2016). As such, it is considered that a robust assessment of the presence of, and potential for roosting bats within the Site has been made.

3. Findings and Evaluation

3.1 Site Description

- 3.1.1 The Site is approximately 0.053 ha in area and is comprised of a three-storey office/residential building and associated car-parking areas with a fenced-off court yard at the rear containing ornamental plantings and scattered broad-leaved trees.
- 3.1.2 The Site is located within the Castlefield area of Manchester City Centre and is immediately surrounded by residential and commercial development (Figure 1). The urban green space of St John's Gardens is located approximately 190m south west of the Site and the River Irwell flows north to south, 480m west of the Site.



Figure 1: Site location at 1:10,000 Scale. The Site boundary is highlighted in red. (Imagery @2020 Inforterra Ltd & Bluesky, Maxar technologies, The Geoinformation Group, Google Earth @2020)

3.2 Designated Sites

- 3.2.1 No statutory or non-statutory sites were identified within 1km of the Site. The nearest such designation is The Cliff/ Kersal Dale Local Nature Reserve (LNR) located approximately 3.5km north of the site. This site is of local importance to nature conservation.
- 3.2.2 No priority habitats listed within the Priority Habitat Inventory (England) were identified within 1km of the Site.

3.3 Habitats

- 3.3.1 Site habitats are discussed in order of dominance below.

Buildings and Hard-Standing

- 3.3.2 The majority of the site is comprised of urban developed land, with a three-storey town house type-building within the southern section of Site (J3.6: B1 in Figure 2;

Photograph 1, Appendix 1), sealed tarmac and concrete car-parking areas within the central area of the Site (J5 in Figure 2; Photographs 2 & 3; Appendix 1) and a paved courtyard in the north surrounded by metal railings (J5 in Figure 2; Photograph 4, Appendix 1). Wind-blown debris and leaf-litter is frequent throughout the courtyard area with sparse specimens of common pavement weeds including: common nettle *Urtica dioica*; herb-robert *Geranium robertianum*; and great willowherb *Epilobium hirsutum*.

- 3.3.3 Sealed surfaces such as this support a very low biodiversity and abundance of botanical species and are considered to be of negligible value for nature conservation.

Introduced Shrub

- 3.3.4 Within the courtyard area of the site are several landscaped shrubs within elevated brick-built planters (J1.4 in Figure 2; Photographs 4 – 8, Appendix 1). These planters are largely dominated by introduced ornamental species including: oleaster, *Elaeagnus* sp.; laurustinus, *Virburnum tinus*; escanollia, *Escanollia* sp.; and honeysuckle *Lonicera* sp; with the exception of the planter in the north east corner of the courtyard which is dominated the native shrub species: gorse *Ulex europaeus*. Self-seeded common nettle; bramble *Rubus fruticosus* agg; smooth sow-thistle *Sonchus oleraceus*; and cleavers *Galium aparine* are also occasionally present throughout.
- 3.3.5 This habitat is dominated by non-native botanical species that are considered to provide very limited benefits for native fauna. However, the planters do create structural habitat diversity within the immediate area and as such, are considered to be of value to nature conservation at site level.

Broad-leaved Scattered Trees

- 3.3.6 Within the courtyard planters, a number of planted mature broad-leaved trees are present (A3.1 in Figure 2; Photographs 10 – 16, Appendix 1) including Norway maple *Acer platanoides*; and silver birch *Betula pendula*. Self-seeded saplings of hazel *Corylus avellana*; and cherry *Prunus* sp. are also occasionally present within the raised planters.
- 3.3.7 The trees species present are common and widespread throughout the UK with many similar specimens that can be found planted within the surrounding urban environment. The trees do however offer some structural diversity and are therefore considered to be of value to nature conservation at site level only. A full arboricultural impact assessment of the trees present on site has been provided alongside this report (Ecus, 2020).

3.4 Species

Amphibians

- 3.4.1 GMLRC returned no records for amphibians within 1km of the site and no ponds were identified within 250m. The Site habitats are considered completely unsuitable for amphibians and isolated by the surrounding urban environment. Therefore, amphibians are not considered to be a receptor for the site works and are not discussed further in this report.

Badger

- 3.4.2 GMLRC returned 2 records for badger *Meles meles*; within 1km of the site. Both records pertained to field signs observed over 600m east of the Site.
- 3.4.3 No field signs of any badger activity were observed during the Site visit and the habitats present are considered to offer negligible value for sett creation and/or foraging. As such, badgers are not considered to be a receptor for the works and are not discussed

further in this report.

Bats

- 3.4.4 GMLRC returned 81 recent bat records from within 1 km of the Site. Records pertained to reports of both roosting and activity for the following species: common pipistrelle *Pipistrellus pipistrellus* (14 roost records, 45 activity records); soprano pipistrelle *Pipistrellus pygmaeus* (1 roost record, 4 activity records); Daubenton's bat *Myotis daubentonii* (1 roost record, 1 activity record); brown long-eared bat *Plecotus auritus* (1 activity record); unidentified pipistrelle species *Pipistrellus* sp. (3 roost records, 9 activity records); and an additional 2 unidentified bat activity records. 6 EPS licences pertaining to bats were identified within 1km of the Site. These were in relation to common pipistrelle (5 incidences) and brown long-eared bats (1 incidence). The closest such record is for brown long-eared bat approximately 100m north east of the Site and involved the destruction of a maternity roost.

Preliminary Bat Roost Assessment

- 3.4.5 The main building on Site (B1 in Figure 2) was assessed for its suitability to support roosting bats. The building is a three-storey brick built townhouse style dwelling with a pitched slate-tiled roof. The building is in a moderately poor condition with weather damage present on all aspects.
- 3.4.6 The external survey identified several significant features that could provide potential access for bats to the internal cavities and crevices of the building, these include: significant gaps under fascia boarding and on the northern protruding aspect and within the interior western and eastern aspects (Photographs 17 – 21, Appendix 1); an open ventilation brick on the northern protruding aspect (Photograph 22, Appendix 1); a significant gap in the soffit boxing on the north-east corner of the building (Photograph 23, Appendix 1). Small gaps are also present under the cornicing around the eastern and southern aspect (Photographs 24 & 25, Appendix 1) and a tight crevice is present between adjacent buildings, northern aspect of the western site boundary (Photograph 26, Appendix 1).
- 3.4.7 An internal inspection could not be undertaken within the current global COVID-19 situation. However, from the design of the building it is assumed that it will have an insulated, timber raftered roof cavity typical of buildings of this type. A roof cavity in this style is likely to offer suitable conditions for bat roosting, should access be available.
- 3.4.8 The building is surrounded immediately by an urban environment and no confirmed evidence of bats was observed during the external inspection. However, suitable foraging habitat within St John's gardens and along the River Irwell corridor (200m & 500m West respectfully) are within commuting distance of the site and given the potential roosting features observed, the building as a whole has been assessed to have moderate potential to support roosting bats.
- 3.4.9 It has been assessed that the building has potential to support roosting bats during summer and transitional roosting periods and does not have the characteristics to support a significant traditional hibernation roost. However, it is possible for small numbers of bats to be present at any time of year, particularly individual pipistrelle bats which unlike other species, have been found to winter roost in the cracks and crevices of above ground buildings (Korsten *et al*, 2016).
- 3.4.10 In addition to the building survey, all trees were assessed for their suitability to support roosting bats from ground level. Knot holes were identified on both the Norway maple in the north-east of the courtyard (5m high, Southern Aspect; Photograph 27, Appendix 1) and the silver birch in the south-west (5m high, southern and eastern aspect; Photographs 28 & 29, Appendix 1). All features did not appear to extend into significant

cavities and are only likely to provide small crevices suitable for supporting a low number of bats during summer roosting periods. Additionally, given their standing within an urban environment, they are considered unlikely to be in frequent use and as such, are assessed to have low potential for roosting bats. No other potential roosting features were observed on any of the other trees present.

- 3.4.11 The Site itself is relatively isolated in a fragmented urban environment and does not form part of any significant commuting and/or foraging corridor. Therefore, habitats are considered to have value for foraging bats at Site level only and their loss is unlikely to have a significant impact on bat populations. However, it has been assessed that there is roosting potential in both the main building and some of the trees on site. Therefore, bats are considered to be a potential receptor to the Site works.

Nocturnal Surveys

- 3.4.12 Details of the findings from the nocturnal activity surveys are presented below, alongside a brief summary of any bat activity recorded. Surveyor positions, approximate roost locations and observed bat flight paths are illustrated in Appendix 3.

2nd July 2020 – Dusk emergence survey

- 3.4.13 A single common pipistrelle was observed emerging from the upper-roof area, on the NW elevation at approximately 21:55. The exact location could not be identified due to low-lux levels and sighting restrictions, however it is thought to have emerged from a significant gap in the fascia boarding along the verge of the upper-roof (Approximate Roost Location in Appendix 3; Photograph 31 & 32, Appendix 1).
- 3.4.14 The individual bat was then observed foraging around the trees within the courtyard area for the majority of the remainder of the survey, with a second common pipistrelle observed passing several times, high above the building. Pipistrelle activity was observed until 23:03. A single pass of noctule, *Nyctalus noctula*, was also recorded early on during the survey (21:40) but was not seen. It is likely that this individual bat was commuting high above the Site to more optimal foraging areas.

17th July 2020 – Dawn re-entry survey

- 3.4.15 Intermittent observations of common pipistrelle were observed throughout survey, with several passes recorded over the building itself, and foraging activity around the trees within the courtyard. Activity was recorded until 04:39. No bats were observed either re-entering or emerging from a roost within the building during this visit.

Birds

- 3.4.16 In 2015, a re-assessment of Birds of Conservation Concern (BoCC) was published by Eaton *et al.* (2015), which defined rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.
- 3.4.17 “Red” is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. “Amber” is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more. These categories are followed by “Green”, indicating that the species are relatively unthreatened.
- 3.4.18 GMLRC returned 115 records of 17 species within 1km. Of these records, 5 species are listed as Schedule 1 species protected under the Wildlife and Countryside Act 1981 (as amended) and 11 are priority species under S41 of the Natural Environment and

Rural Communities (NERC) Act 2006. The full list of species and their relative designations can be found in Appendix. 2.

- 3.4.19 The habitats present are considered to be sub-optimal to the majority of the species returned by GMLRC and birds are unlikely to be present in any significant numbers. However, the Site habitats will provide foraging and possibly nesting opportunities for a variety of bird species, particularly small passerines such as robin *Erithacus rubecula*; blackbird *Turdus merula*; and goldfinch *Carduelis carduelis*; all of which were observed during the site visit.
- 3.4.20 A small passerine nest was observed within open air brick located on the northern protruding aspect of the main building (Target Note 1 in Figure 2; Photograph 30, Appendix 1) which appeared to be active during the survey visit. No other nests were observed, however it is reasonably likely that they may be encountered within the canopy of the scattered trees and the denser shrubs. Significant impacts to these habitats are anticipated and, as such, nesting birds should be considered to be a potential receptor to the proposed works.

Reptiles

- 3.4.21 GMLRC returned no recent records of any native species of reptile from within 1km of the Site.
- 3.4.22 The Site habitats are considered unsuitable to support reptile populations and are completely isolated with no suitable ecological connectivity to the wider area. Therefore, reptiles are not considered to be a potential receptor to the works and are not discussed further in this report.

Riparian mammals and white-clawed crayfish

- 3.4.23 GMLRC returned no recent records of either otter *Lutra lutra*, water vole *Arvicola amphibius* or of white-clawed crayfish *Austropotamobius pallipes* from within 1km of the Site.
- 3.4.24 No suitable waterbodies likely to support riparian mammals and/or white-clawed crayfish were identified from mapping within 30m of the Site and the Site habitats present are considered to be unsuitable. As such, riparian mammals and white-clawed crayfish are not considered to be a potential receptor to the proposed works and are not discussed further in this report.

Other key and notable species

Hedgehog

- 3.4.25 GMLRC returned 1 record for European hedgehog *Erinaceus europaeus*; from within 1km of the Site.
- 3.4.26 Introduced shrubs can offer sheltering and foraging opportunities for hedgehog, however the examples of this habitat present within this site are raised off the ground in brick planters rendering them completely inaccessible. Therefore, it is considered unlikely that hedgehogs would be present on site and they are not considered to be a receptor to the site works.

Invertebrates

- 3.4.27 GMLRC returned 3 records from within 1km of the Site for priority moth species protected under S41 of the Natural Environment and Rural Communities (NERC) Act 2006.
- 3.4.28 The habitats present on Site are largely comprised of non-native botanical species

which are considered to be of low value to native invertebrates. As such, the Site is unlikely to support significant invertebrate populations and they are not considered to be a receptor to the works.

3.5 Invasive Non-Native Species

- 3.5.1 No records for invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were returned by GMLRC from within 1km of the Site.
- 3.5.2 No schedule 9 species were identified during the Site visit and therefore, it is considered highly unlikely that the works will have any impact on the spread of invasive species. As such, non-native invasive species are not discussed further in this report.

4. Ecological Assessment and Mitigation

4.1 Proposals

- 4.1.1 It is understood that the development works will involve the construction of a two-storey residential building (B2 in Figure 3); renovation of the existing building (B1 in Figure 3) including partial demolition and reconstruction; with additional tree planting between the two buildings (Figure 3). As a result of these works, all introduced shrubs, trees and associated vegetation are due to be lost.

4.2 Designated Sites

- 4.2.1 There are no statutory or non-statutory designated sites for nature conservation within 1km of the Site. Therefore, statutory or non-statutory sites are highly unlikely to be impacted in any significant way by the proposed works.

4.3 Habitats

Introduced Shrub

- 4.3.1 The areas of introduced shrub due to be lost are largely comprised of non-native species which are considered to offer limited value to native biodiversity. This type of habitat is also common and widespread within the surrounding urban environment and as such, its loss will not represent a significant ecological impact.

Scattered Trees

- 4.3.2 All trees on site are common and widespread within the wider area and their loss is considered unlikely to have a significant ecological impact. Further recommendations in relation to tree removal and planting are provided as part of the arboricultural assessment provided alongside this report (Ecus, 2020)

4.4 Species

Bats

- 4.4.1 All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Under regulation 41, bats are protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).
- 4.4.2 All UK bats are also included on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, their protection is limited to certain offences. Under the 1981 Act (as amended) it is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.
- 4.4.3 *Barbastella barbastellus*; Bechstein's *Myotis bechsteinii*; brown long-eared bat; greater horseshoe *Rhinolophus ferrumequinum*; lesser horseshoe *Rhinolophus hipposideros*; noctule and soprano pipistrelle bats are included as priority species within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Building Assessment

- 4.4.4 Following the nocturnal surveys, it has been confirmed that the existing building on Site supports at least one common pipistrelle day roost. Common pipistrelles are considered to be habitat generalists, able to forage in almost all habitats types, and they are known to regularly switch between day roosts through-out the spring/summer

in order to seek out optimal roosting conditions.

- 4.4.5 Common pipistrelle bats are common and widespread within the UK with a currently increasing population trend. As such, the roost present is considered to be of low conservation status, with importance at site level only.

Potential Impacts

- 4.4.6 Under current work proposals, partial demolition of the existing building is due to occur, with the protruding western and northern aspect at the rear of the building due to be removed and re-constructed. Renovation of the remaining sections of the building is also planned, which is likely to include replacement of existing fascia boarding and soffit boxing. This will result in the destruction of a day roost used by common pipistrelle.
- 4.4.7 In the absence of mitigation, demolition and renovation works may also result in individual bats being injured or killed. Due to the legal status of bats, these actions would result in a criminal offence.

Mitigation

- 4.4.8 Prior to the commencement of any external work to the existing building on site, there is a requirement for either a European Protected Species License (EPSL) or alternatively, the Site could be registered under a 'low impact' Bat Mitigation Class License (BMCL) by a suitably qualified and approved ecologist. Either license would allow the destruction of a roost of 'low conservation status' (i.e. small roosts used by common and widespread species for feeding, day or night roosting or during transitional periods), an action that, if unlicensed, would be an offence. Licenses are generally be only issued/registered once planning permission is secured.
- 4.4.9 As part of the license, an appropriate detailed mitigation plan will be required, this will outline the following mitigation measures:
- Suitable roosting provision would be required in order to mitigate the loss of roosting features within the existing building. This can be achieved by installing bat boxes (Schwegler type boxes, 2F or 2FN) within the trees present immediately outside the building, along St John's St (Photographs 33 & 34, Appendix 1). Boxes should be installed prior to the commencement of any external building works.
 - The presence of a licensed ecologist to supervise renovation/demolition works and confirm the presence/absence of bats prior to any potential roost disturbance. In the case of a BMCL, this will be the approved ecologist for which the Site is registered under.
 - The licensed ecologist will supervise the soft demolition of areas with the potential to support roosting bats, i.e. fascia boarding, soffit boxing, roof tiles, underfelt and wall plates. Any bats present will be captured by the licensed ecologist and translocated to the safety of the previously installed bat box.
 - Once the licensed ecologist is satisfied that there are no longer any roosting bats present, renovation works and mechanical demolition can be undertaken.
 - It is recommended that post-development monitoring should be undertaken to determine the effectiveness of the mitigation measures.

Trees

- 4.4.10 Two trees within the site have been assessed to have features with the potential to support roosting bats. All feature present have been assessed as having low roosting potential and are considered to be only likely to support an occasional roost during the summer activity period. As such, it is recommended felling of these tree should be supervised by a suitably qualified ecologist and should incorporate soft felling

techniques, such as sectional felling with careful lowering and resting of felled material to allow any roosting bats to vacate the tree of their own volition.

Lighting

- 4.4.11 Bats are particularly sensitive to light and therefore it is recommended that artificial lighting schemes should endeavor to minimise levels to those currently present within the surrounding area (both during and post development works). In addition to this, lights that emit minimal ultra-violet light and avoid insect-attracting white and blue wavelengths of light should be used. Further information on lighting design can be provided within the guidance note prepared by the BCT (BCT, 2018).

Birds

- 4.4.12 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against destruction of the nest during the bird nesting season, which falls between March 1st and August 31st, inclusive.
- 4.4.13 The scattered trees and shrubs on Site will offer some foraging and nesting opportunities to a wide variety of bird species. However, the habitats present are common and widespread and are unlikely to support significant population numbers.
- 4.4.14 Despite this, it is likely that nesting birds may be encountered within the Site habitats. It is therefore recommended that to minimise any impacts to nesting birds, tree and shrub removal should be undertaken outside of the bird nesting season.
- 4.4.15 However, should it be essential for vegetation clearance to be undertaken during the nesting bird season, any trees and shrubs due to be impacted should first be checked for active nests by an ecologist a maximum of 48h before the work begins. If an active nest were to be discovered, an exclusion zone around the nest would need to be established and adhered to until the chicks fledged (to be monitored and confirmed by an ecologist).

4.5 Biological Enhancements

- 4.5.1 The creation of new habitats that benefit native biodiversity is strongly encouraged. This could either be incorporated as additional landscaping schemes and/or within the buildings as green roofing and living walls. The addition of flowering botanical species through these methods is likely have positive benefits for local invertebrate populations and subsequently other species such as bats and birds.
- 4.5.2 To further enhance the Site, it is also recommended that plans include the provision of bird and additional bat boxes either within the buildings or installed on trees. A suitably qualified ecologist should be consulted to determine the appropriate location and position for any proposed boxes.

5. References

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Korsten, Erik & Jansen, Eric & Limpens, Herman & Boonman, Martijn & Schillemans, Marcel. (2016). *Swarm and switch: on the trail of the hibernating common pipistrelle*. Bat News. Summer 2016. 8-10.

Natural England (2010). List of habitats and species of principal importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

QField Development Team (2020). QField Version 1.4.4 Open Source Geospatial Foundation Project.

Figure 2. Phase 1 Habitat Map

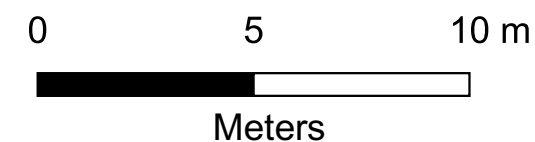
The table below lists the target notes from Figure 1.

Target Note ID	Description
TN1	Small passerine nest within open air brick



Legend

- Site Boundary
- J1.4 - Introduced shrub
- J3.6 - Buildings
- J5 - Other Habitat: Hard-Standing
- J2.4 - Fence
- J2.5 - Wall
- A3.1 - Broad-Leaved Scattered Trees
- ⊙ Target Notes



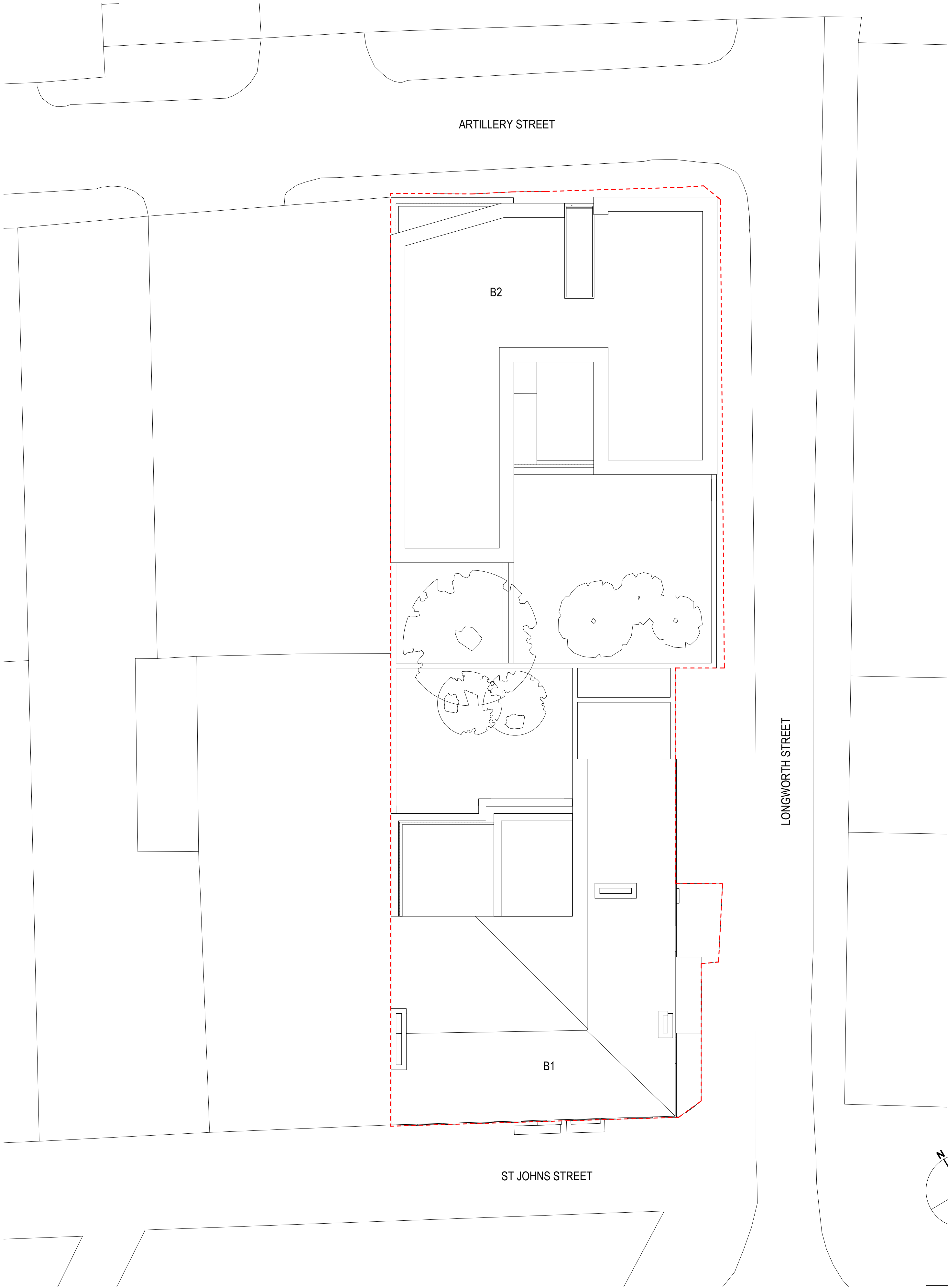
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Figure 2.
Phase 1 Habitat Map

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Figure 3. Proposed Site Layout



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Dimensioning
Figured dimensions only to be taken from these designs and drawings. Work to annotated dimensions only. All dimensions to be checked on site. Architects to be informed immediately of any discrepancies before work proceeds. Drawings are to be read in conjunction with relevant specifications, structural engineers and service engineers' drawings. All data, dimensions and designs contained in this document are confidential to the copyright owner and may not be communicated to any third party save in accordance with a licence for the copyright owner or with the copyright owner's written permission and authority.

Rev	Description	Date	By
P1	Issued for Information	01.05.20	TG

Client
Owner

Project
St John's

Title
Proposed Site Plan

Status
Planning

Project number	Date
1084	02/06/19

Drawn by	Checked by
JB	TG

Scale	Revision
1 : 100@A1	P1

Drawing No.
1084-TGA-ZZ-RF-DR-A-0200

Appendix 1. Site Photos

Legend

Photo 1. Building 1, South of Site

Photo 2. Hard-Standing, Rear of Building 1

Photo 3. Car Parking Area, Central Site

Photo 4. Paved Courtyard, North of Site

Photo 5. Introduced Shrub, North-East of Courtyard

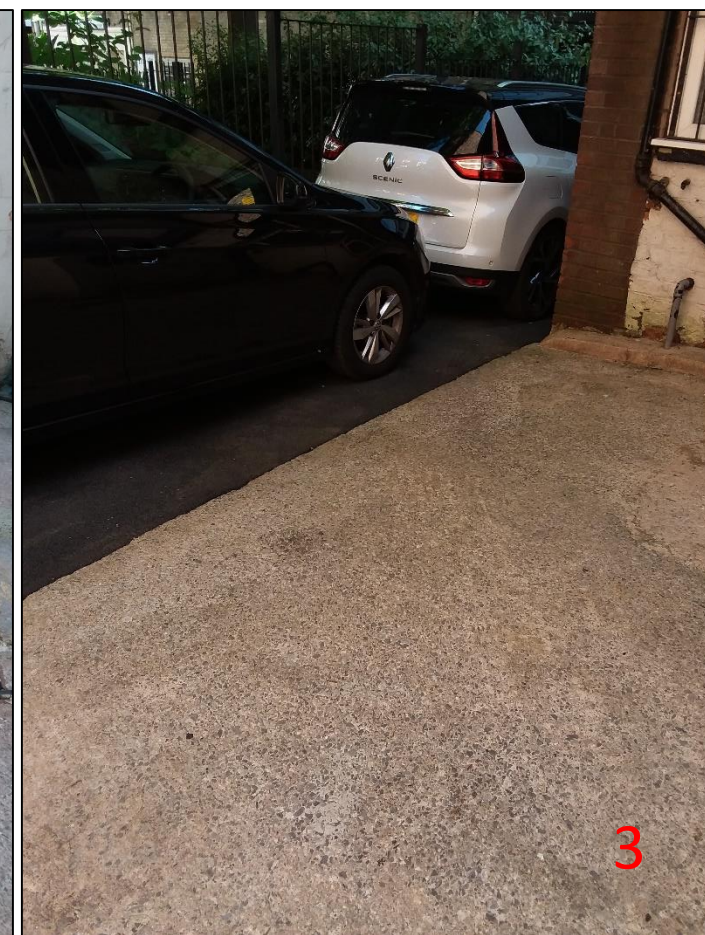
Photo 6. Introduced Shrub, Central North of Courtyard

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Legend

Photo 7. Introduced Shrub, Central West of Courtyard

Photo 8. Introduced Shrub, South East of Courtyard

Photo 9. Introduced Shrub, North West of Site

Photo 10. Norway Maple, South East Courtyard

Photo 11. Norway Maple, North East Courtyard

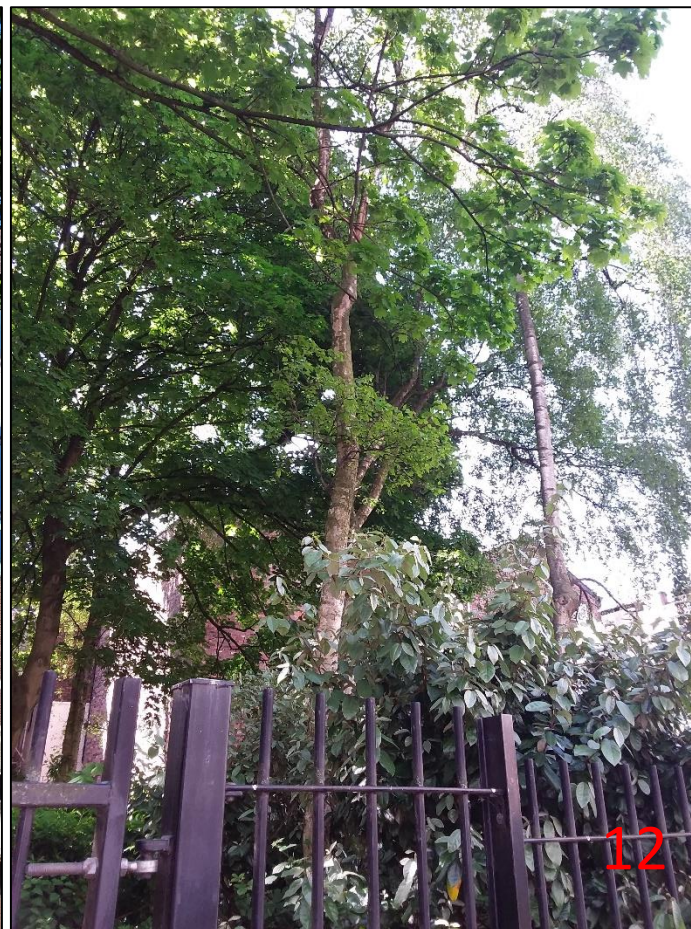
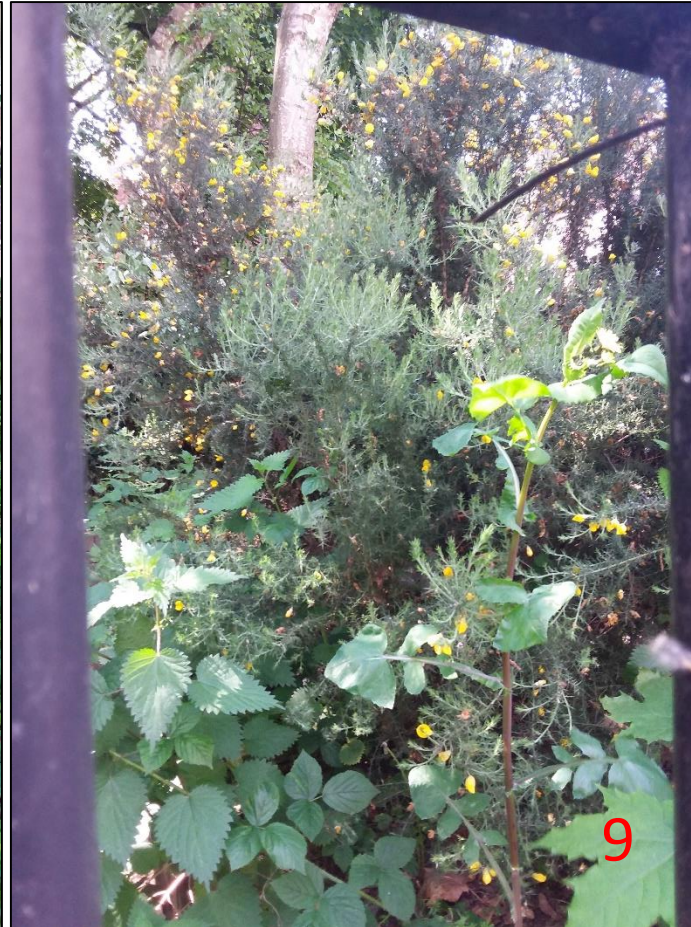
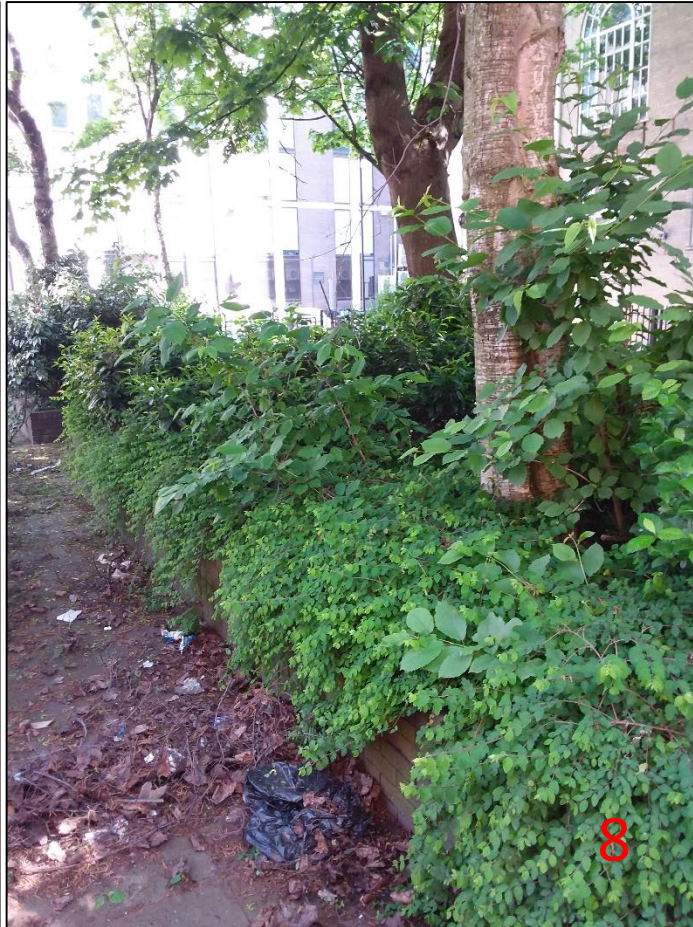
Photo 12. Silver Birch, North Central Courtyard

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Legend

Photo 13. Silver Birch, North West Courtyard

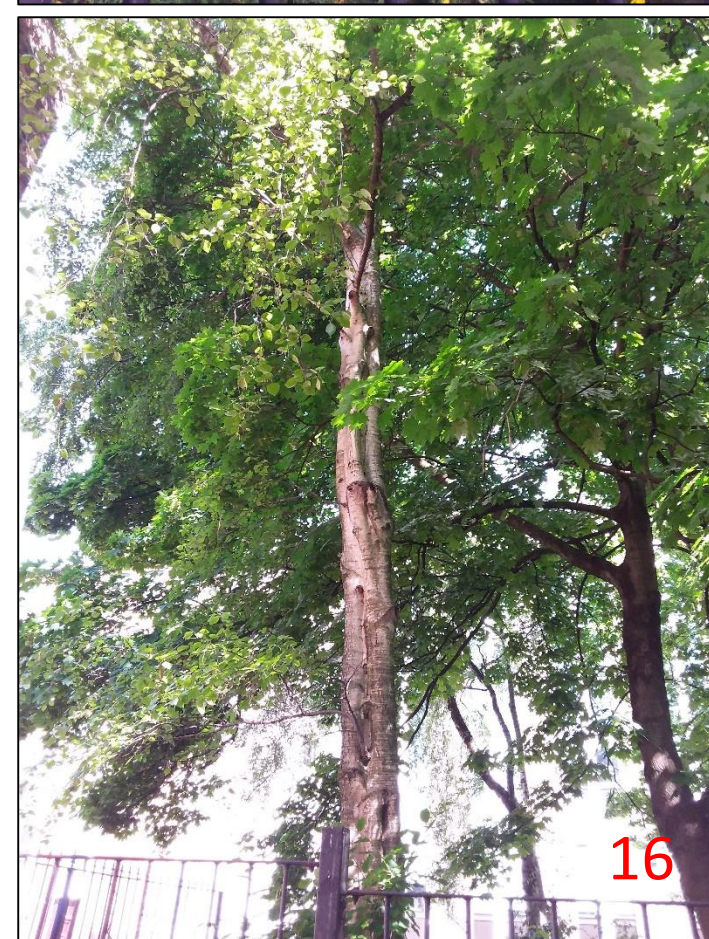
Photo 14. Silver Birch, Central West Courtyard

Photo 15. Norway Maple, Central Courtyard

Photo 16. Silver Birch, South West Courtyard

Photo 17. Gaps Under Fascia Board Between Window Frame, Western Aspect

Photo 18. Gaps Under Fascia Board, Upper Structure, North and Western Aspect



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Appendix 1. Site Photos

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Legend

Photo 19. Gaps Under Fascia Boarding, Northern Protruding Aspect Building 1 (West Side)

Photo 20. Gaps Under Fascia Boarding, Western Interior Aspect Building 1

Photo 21. Gaps Under Fascia Boarding, Eastern Interior Aspect Building 1

Photo 22. Open Ventilation Brick, Northern Protruding Aspect Building 1

Photo 23. Gap in Soffit Box, North East Corner Building 1

Photo 24. Small Gaps in Cornicing, Eastern Aspect Building 1

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Legend

Photo 25. Small Gaps in Cornicing, Southern Aspect Building 1

Photo 26. Wall Crevice, Northern Aspect Building 1, Western Site Boundary

Photo 27. Knot Hole, 5m High Southern Aspect of Norway Maple (North East of Courtyard)

Photo 28. Knot Hole, 5m High, Southern Aspect of Silver Birch (South West of Courtyard)

Photo 29. Knot Hole, 5m High, Eastern Aspect of Silver Birch (South West of Courtyard)

Photo 30. Small Passerine Nest, Northern Protruding Aspect Building 1

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Legend

Photo 31. Approximate Roost Location – Upper Roof, Western Aspect

Photo 32. Approximate Roost Location – Close View

Photo 33. Potential Bat Box location – Lime Tree, Immediately SE of Building 1

Photo 34. Potential Bat Box location – Lime Tree, Immediately SW of Building 1



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Appendix 1. Site Photos

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Appendix 2. Bird Species Recorded within 1km

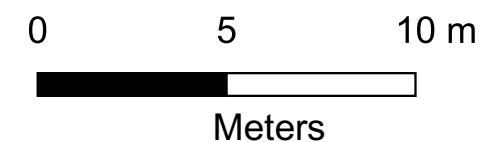
Common Name	Scientific Name	BoCC Status	W & C Act 1981	NERC Act 2006
Black Redstart	<i>Phoenicurus ochruros</i>	Red	Schedule 1	S41
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber		
Cuckoo	<i>Cuculus canorus</i>	Red		S41
Dunnock	<i>Prunella modularis</i>	Amber		
Herring Gull	<i>Larus argentatus</i>	Red		S41
Hobby	<i>Falco subbuteo</i>	Green	Schedule 1	
House Sparrow	<i>Passer domesticus</i>	Red		S41
Kingfisher	<i>Alcedo atthis</i>	Amber	Schedule 1	
Lapwing	<i>Vanellus vanellus</i>	Red		S41
Lesser Redpoll	<i>Carduelis cabaret</i>	Red		S41
Linnet	<i>Carduelis cannabina</i>	Red		S41
Little Ringed Plover	<i>Charadrius dubius</i>	Green	Schedule 1	
Peregrine	<i>Falco peregrinus</i>	Green	Schedule 1	
Skylark	<i>Alauda arvensis</i>	Red		S41
Song Thrush	<i>Turdus philomelos</i>	Red		S41
Spotted Flycatcher	<i>Muscicapa striata</i>	Red		S41
Starling	<i>Sturnus vulgaris</i>	Red		S41

Appendix 3. Bat Activity Map



Legend

-  Site Boundary
-  Building 1
-  Vegatated Areas
-  Hard-Standing Areas
- Bat Flight Paths
 -  Common Pipistrelle
-  Surveyor Locations
-  Approximate Location of Roost



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Appendix 3.
Bat Activity Map

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