

Ecological Impact Assessment

BE-741.1a

**Joseph Norton Academy, Busker Lane,
Scissett, Huddersfield HD8 9JU**



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Report title	Ecological Impact Assessment
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Revision	A
Site address	Joseph Norton Academy, Busker Lane, Scissett, Huddersfield HD8 9JU
Grid reference	SE 24524 10331
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Client	Paul Mathews Architectural
Date	24 th August 2018

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Executive Summary

Bagshaw Ecology Ltd have been requested by Paul Mathews Architectural to undertake an Ecological Impact Assessment of development of the Land adjacent to Joseph Norton Academy, Busker Lane, Scissett, Huddersfield HD8 9JU, in relation to an application for planning. The development proposals are to demolish the existing building and construct an additional learning and recreational building for the school.

The survey found the habitats on the site to be of negligible to low ecological importance.

The building on the site had some suitable features for cavity roosting bats including lifted and missing roof tiles and it was considered to have low potential for roosting bats. In accordance with current best practice guidelines a further dusk emergence survey was carried out on the building. No bats were observed emerging from the building and it is therefore not anticipated that bats are roosting within the building. Therefore, no further surveys or mitigation for bats is recommended.

A sycamore *Acer pseudoplatanus* to the north of the site was considered to have low potential for roosting bats. As this tree is due for removal it is recommended that this is done via soft felling.

A pond is located 125m to the west of the site in the adjacent residential garden. As the proposed development has a footprint of under 0.5ha and affects predominantly unsuitable habitat, it is considered highly unlikely that great crested newts *Triturus cristatus* will be affected by the development proposals.

The trees and shrubs on the site provide suitable habitat for nesting birds. It is recommended that no works are carried out to the trees within bird nesting season (1st March – 31st August), unless a further survey can confirm that the nests are no longer occupied.

In accordance with the National Planning Policy Framework (NPPF), it is recommended that the ecological value of the site is enhanced through the incorporation of bird boxes into the development proposals.

1. Introduction

1.1. Background

Bagshaw Ecology Ltd have been requested by Paul Mathews Architectural to undertake an Ecological Impact Assessment of development of the Land adjacent to Joseph Norton Academy, Busker Lane, Scissett, Huddersfield HD8 9JU hereafter referred to as 'the site'.

The purpose of the report is to identify the habitat types on the site, along with the presence or absence of any protected or notable species. The ecological impact of any proposed development is assessed, and mitigation, management and aftercare proposals are suggested when appropriate.

1.2. Site Details

The site is located at grid reference SE 24524 10331, and is accessed off the south of Busker Lane. The site is bordered by Busker Lane to the north, residential properties to the west and woodland to the south and east.

The site is approximately 0.4ha in size and comprises a disused gate house and car park.

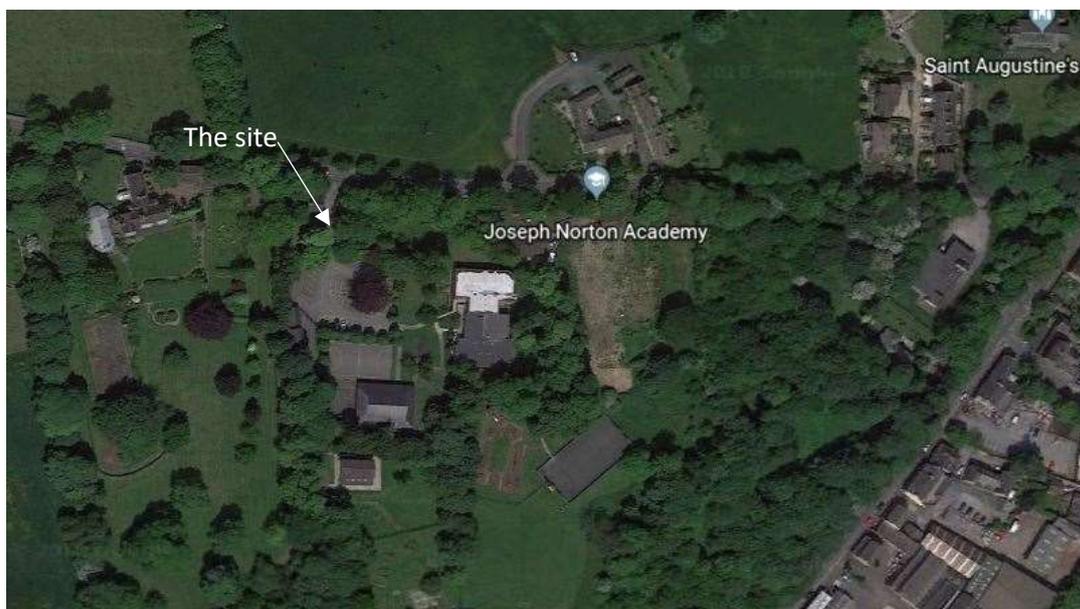


Figure 1.1. Aerial imagery of site and surrounding area (Google Earth Pro, 2018)

1.3. Development Proposals

The development proposals are to demolish the existing building and construct an additional learning and recreational building for the school.

2. Legislative Context

2.1. Legislation

The Wildlife and Countryside Act 1981 (as amended), makes it an offence to:

- Deliberately or recklessly injure, kill or capture any animal species protected under Schedule 5 of the act.
- Deliberately or recklessly kill, injure or take any wild bird; to take, damage or destroy the nest of any wild bird while occupied or being built, or to take or destroy the egg of a wild bird. Additional protection is afforded to bird species listed under Schedule 1 of the Act.
- Intentionally pick, uproot or destroy any wild plant included in Schedule 8 of the act.

The Conservation of Habitats and Species Regulations 2017 makes it an offence to deliberately capture, kill or disturb any animal protected under Schedule 2 of the regulations. It is also an offence to damage or destroy a breeding site or resting place of an animal, even if the animal is not present at the time.

2.2. Policy

The UK Biodiversity Action Plan (UKBAP) includes a list of 943 national priority species and 56 habitats of principal importance, with all species and habitats having specific action plans defining the measures required to ensure their conservation. Although the UKBAP has since been superseded by County Biodiversity Plans, it remains a useful point of reference.

Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006 requires that any public bodies take into consideration any species and habitats listed in the UKBAP when implementing their duty and exercising any normal functions.

The National Planning Policy Framework (NPPF) states that planning decisions should aim to protect or enhance biodiversity and conservation interests, and where possible any development should aim to increase net gains in biodiversity.

3. Methods

3.1. Ecological Data Search

The local biological record centres, West Yorkshire Ecology Service (WYES), was consulted as to any protected/notable species within 1km of the site.

The Department for Environment, Food and Rural Affairs' (DEFRA) Magic Maps website was consulted as to any land based designations within 1km of the site.

Aerial imagery was assessed to give an appraisal of the surrounding land use.

3.2. Phase 1 Habitat Survey

The habitat survey and mapping exercise was carried out on 25th July 2018.

The survey was undertaken by Amy Reddick BSc (Hons) MSc GradCIEEM. An ecologist and licenced bat surveyor (Class Licence 2017-32206-CLS-CLS) with experience of carrying out habitat surveys.

The study area was surveyed in accordance with JNCC (2010) guidelines. Habitat types were assigned an alphanumeric code, and target notes were made identifying important species, along with the presence of potential habitats for any protected or notable species.

Habitats and species present on or adjacent to the site were assessed using CIEEM's (2016) guidelines. Ecological features were classed as being of either international, national, regional, district, local, low or of negligible importance (see table 3.1).

Table 3.1 Importance of Ecological Features

Value of feature	Key examples
International	Internationally designated sites (SPA, pSPA, SAC, cSAC, pSAC, Ramsar site, Biogenetic Reserve, or an area which meets designation for such sites. Internationally significant and viable areas of a habitat type listed in Annexe 1 of the Habitats Directive. Any regularly occurring, globally threatened species. A regularly occurring population of an internationally important species, which is threatened or rare in the UK.
National	A nationally designated site (SSSI, NNR), or an area which has met the published selection criteria. A regularly occurring significant number/population of a nationally important species (e.g. listed on the Wildlife and Countryside Act 1981 (as amended)). A feature identified as being of critical importance in the UK BAP.
Regional/County	Viable areas of key habitat identified in the regional or county BAP. A regularly occurring significant population/number of any important species important at regional/county level. Sites of conservation importance which exceed the district selection criteria but which fall short of SSSI selection guidelines.

Value of feature	Key examples
District	Areas of habitat identified in District/City/Borough BAP. Sites that the designating authority has determined meet the published ecological selection criteria for designation. Sites/features which are scarce within the District/City/Borough. A regularly occurring significant population/number of any important species important at District/City/Borough level.
Local	Areas identified in a Local BAP. Sites/features which are scarce in the locality or which are considered to appreciably enrich the habitat resource within the local context (e.g. species-rich hedgerows). Local Nature Reserves. Any populations, species or habitats of local importance.
Low/Site	Habitats of moderate to low diversity which support a range of locally and nationally common species, the loss of which can be easily mitigated.
Negligible	Habitats of no ecological value, the removal of which requires no mitigation.

3.3. Bat Survey

The bat survey was based upon methodologies prescribed by Collins (2016), Mitchell-Jones (2004) and Mitchell-Jones and McLeish (2004). This involved an inspection of the exterior and interior of the building. Any structural features with potential for use by roosting bats were recorded and any suitable access points were identified. Any direct evidence of bats, such as scratch marks, oil stains, droppings and feeding remains were also identified.

Taking account of the structural features of the building, and the surrounding habitat, the building was assigned a level of roost suitability based upon professional judgement (see table 3.1) and evaluation using the Bat Roost Trigger Index (TI) (Underhill-Day, 2017).

The Bat Roost Trigger Index (TI) is a tool that assesses the features known to influence roost selection to assign a roost suitability class to a building or structure. The list includes 28 features that reflect A) the location and environment around the building, B) the exterior features such as roof materials, and C) the interior features particularly those within the roof void. By summarising the condition of each feature and assigning it a numerical score between a maximum of 1 and a minimum of 0.2, a geometric mean TI score between 0 and 1 is generated automatically. This score corresponds to one of the four bat roost suitability classes given in the Bat Conservation Trust guidelines (see table 3.1).

Table 3.2 Bat roost suitability classes, the corresponding TI scores and the percentage of structures found to have evidence of bats during the testing phase.

Bat Roost Suitability Class	Description	Corresponding TI score	Percentage of structures found to contain evidence of bats
High	Buildings that have many areas suitable for roosting with a large number of potential access points.	>0.7	98%
Medium	Buildings with a smaller number of areas suitable for roosting, but still supporting features that could be attractive to bats and potentially support maternity roosts.	0.6 – 0.7	56%
Low	Buildings with limited roosting opportunities but which could be used on a sporadic or occasional basis which are unsuitable for maternity roosts.	0.5 – 0.6	31%
Negligible	Buildings which appear unsuitable for roosting bats due to a clear lack of roosting spaces such as voids etc. and/or absence of suitable access points.	<0.5	3%

The Bat Roost TI is still undergoing review, and therefore its results should be viewed with a level of caution. Therefore, although in most cases it provides an accurate assessment of the building, it is only used in addition to, rather than instead of professional judgement.

Following the initial scoping survey, a dusk emergence survey of the gate house was carried out on 20th August 2018 by Amy Reddick and Frances Wrathall. Both surveyors were equipped with Echo Meter Touch 2 bat detectors. Bat calls were analysed using Kaleidoscope software. The property was monitored for any emerging and/or re-entering bats. Any further bat activity in the surrounding area was recorded.

Sunset was at 20:24. The survey commenced at 20:09 and finished at 21:54. The weather at the time of the survey was clear and dry. The start temperature was 18°C and the finish temperature was 17°C. Wind was Beaufort 1, and cloud cover was approximately 100%.

4. Results

4.1. Constraints

The survey was carried out during the optimum period for habitat surveys. Despite this, some species are only observable at certain times of year, and therefore may not have been present.

4.2. Designated Sites

A search on Magic Maps (DEFRA, 2018) found several notable habitats within 1km of the site including;

- Three Ancient Woodland Priority Habitats, Riding Wood, Blacker Wood and Bagden Wood which is the closest at 670m south of the site.
- Twenty-One Deciduous Wood Priority Habitats, the closest of which is 150m east of the site.

WYES hold records of six designated site within 2km of the site, including;

- Blacker wood, a Local Wildlife site (LWS) consisting of a semi-natural woodland close to a railway line.
- Deffer Wood, a LWS and Kirklees Site of Wildlife Significance (KSWS) comprising a large ancient woodland which has been replanted with mixed conifers and broadleaved trees.
- High Bridge Wood, a LWS consisting of an area of plantation woodland.
- Park Gate Dyke, a LWS and KSWS comprising a herb rich grassland with patches of dense scrub.
- Riding Wood, a LWS an ancient woodland surrounded by semi-improved grassland.
- Wither Wood, a KSWS composed predominantly of ancient woodland.

4.3. Habitats

The land use in the nearby surrounding area is predominantly suburban and agricultural, with intermediate levels of tree cover, and good terrestrial connectivity to and from the site. There are several woodlands within 1km of the site, providing suitable habitat for foraging and commuting bats.

The site is composed of a disused gate house and associated land. Table 4.1, below, summarises the habitat types found on the site. A map of the habitats can be viewed in the appendices.

Table 4.1 Habitats as defined by JNCC (2010) on the site

JNCC Habitat Type	Description	Ecological Value	Image of Habitat
A1.1 Broadleaf woodland	An area of woodland was located behind tall metal fencing to the east of the site. Species observed included sessile oak <i>Quercus petraea</i> , sycamore <i>Acer pseudoplatanus</i> , horse chestnut <i>Aesculus hippocastanum</i> , holly <i>Ilex aquifolium</i> , ash <i>Fraxinus excelsior</i> , hazel <i>Corylus avellana</i> and bramble <i>Rubus fruticosus</i> . Extensive rhododendron <i>Rhododendron ponticum</i> was also observed.	Local	

JNCC Habitat Type	Description	Ecological Value	Image of Habitat
A3 Scattered trees	Several mature trees were scattered throughout the site. Three mature sycamore were located north of the building. There were several trees located in the adjacent garden including red oak <i>Quercus rubra</i> , hornbeam <i>Carpinus betulus</i> , cherry <i>Prunus sp.</i> and a Leyland cypress <i>Cupressus × leylandii</i> hedge. A large copper beech <i>Fagus sylvatica</i> was located in the centre of the car park on the site.	Low	
J1.3 Ephemeral vegetation	Bare ground and ephemeral vegetation observed adjacent to the building. Species included ash saplings, bramble, cocks foot <i>Dactylis glomerata</i> , perennial ryegrass <i>Lolium perenne</i> , common bent <i>Agrostis capillaris</i> , common dandelion <i>Taraxacum officinale</i> , wood avens <i>Geum urbanum</i> , ragwort <i>Jacobaea vulgaris</i> , common hogweed <i>Heracleum sphondylium</i> , sheep's sorrel <i>Rumex acetosella</i> and bracken <i>Pteridium aquilinum</i> .	Negligible	
J1.4 Introduced shrub	Several areas of planted ornamental shrubs including rhododendron, cotoneaster <i>Cotoneaster sp.</i> and Oregon grape <i>Mahonia aquifolium</i> .	Negligible	
J4 Hardstanding	Hardstanding areas including the car park and access road.	Negligible	

4.4. Bats

DEFRA (2018) holds one record of a granted European Protected Species Licences for bats within 1km of the site which allowed the destruction of a common pipistrelle resting place. The licence start date was the 1st of May 2016 and the licence end date is the 30th September 2021.

WYES hold records of common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long eared bat *Plecotus auritus*, noctule *Nyctalus noctule* and Natterer's bat *Myotis nattereri*, within 1km of the site.

The scoping survey found one building on the site, a small two-storey gate lodge:

- The building was of stone construction and had a pitched slate tile roof. There were some slightly lifted tiles on the south aspect with a large area of missing tiles towards the southwest corner of the roof, this area was covered by cobwebs. There were also some small gaps under the lead flashing. The roof on the north aspect was in good condition. The building had overhanging eaves which were well sealed. The exterior walls were observed to be in good condition. The building had numerous broken windows which had been boarded up.
- The interior of the building had no separate roof void. The second floor was open to the roof which was well-lit due to the presence of a window on the east aspect. Mouse droppings were observed throughout the second story. No signs of roosting bats were observed within the building.

In accordance with Collins' (2016) recommendations, a further dusk survey was carried out on the gate house.

During the emergence survey no bats were observed emerging from the buildings.

Several noctules *Nyctalus noctula* were observed commuting and foraging over the site in addition to several passes by common pipistrelle *Pipistrellus pipistrellus*.

A sycamore tree with extensive common ivy *Hedera helix* on the main stem was located to the north east of the building on the site. The ivy may be obscuring potential roost features therefore the tree is considered to have low potential for roosting bats.

4.5. Other Mammals

WYES hold records of otter *Lutra lutra* and brown hare *Lepus europaeus* within 1km of the site.

No signs of any notable mammal species were observed on the site.

4.6. Reptiles and Amphibians

DEFRA (2018) holds two records of granted European Protected Species Licences for great crested newts *Triturus cristatus* within 1km of the site including;

- One which allows the destruction of a great crested newt resting place. The licence start date was the 26th of November 2015 and the licence end date was the 30th June 2014.
- One which allows the destruction of a great crested newt resting place. The licence start date was the 2nd of November 2013 and the licence end date was the 30th June 2014.

WYES hold records of common toad *Bufo bufo*, common frog *Rana temporaria*, smooth newt *Lissotriton vulgaris*, palmate newt *Lissotriton helveticus*, great crested newts *Triturus cristatus* and grass snake *Natrix natrix* within 1km of the site.

The habitats on site which are affected by the development provide unsuitable habitat for reptiles and amphibians consisting of ephemeral vegetation and hardstanding.

A search on aerial imagery (Google Earth Pro, 2018) revealed one pond 125m west of the site in the adjacent properties garden. It is possible that there were other ponds located in residential gardens which could not be viewed via aerial imagery.

The proposed development has a footprint of under 0.5ha and affects hardstanding and ephemeral vegetation. An assessment using the Natural England Rapid Risk Assessment Calculator (Natural England, 2013), found that the risk of an offence resulting from the proposed development is highly unlikely (see table 4.3, below).

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Based on the output from the Natural England Rapid Risk assessment and the unsuitable habitats on the site, it is considered highly unlikely that the proposed development will have any impact upon great crested newts.

4.7. Bird Species

WYES hold records of goshawk *Accipiter gentilis*, redwing *Turdus iliacus*, fieldfare *Turdus pilaris*, brambling *Fringilla montifringilla*, kingfisher *Alcedo atthis* and barn owl *Tyto alba* within 1km of the site, which are afforded protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

The tree and shrubs on the site provide suitable habitat for nesting birds. All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).

4.8. Invertebrates

The site provides suitable pollination opportunities for invertebrates due to the presence of ephemeral vegetation, introduced shrub and scattered trees.

5. Impact Assessment

5.1. Habitats

The main habitats on the site consist of ephemeral vegetation, hard standing and introduced shrub and are considered to have negligible to low ecological value. Due to this its removal is not considered to have any significant ecological impacts on the local landscape.

5.2. Species

The building on the site had some lifted and missing roof tiles suitable for cavity roosting bats and scored 0.51 in the bat roost trigger index (TI) indicating low potential for roosting bats. Therefore, in accordance with Collins (2016) one further survey was carried out. No bats were observed emerging from the building, therefore it is not anticipated that bats are roosting within the building.

One of the sycamore trees on the site had low potential for roosting bats. If this tree is due for removal it could impact upon roosting bats, if present.

There is a pond located 125m to the west of the site in the adjacent residential garden. Due to the distance of the development from the pond, the small size of the site and the unsuitable habitats affected by the development it is considered highly unlikely that great crested newt will be affected by the development proposals.

The trees and the shrubs on the site provide suitable habitat for nesting birds. All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended). The removal or trimming of any of the trees or shrubs on site during bird nesting season could disturb nesting birds and potentially kill or injure their young.

6. Conclusion and Recommendations

6.1. Further surveys

As roosting bats are not anticipated to be utilising the building no further surveys or mitigation for bats are recommended.

As impacts to great crested newts are considered highly unlikely, no further surveys or mitigation for great crested newts is recommended.

6.2. Avoidance of Ecological Impacts.

If the sycamore with low potential is due for removal it is recommended that this is done via soft felling to minimise impacts to roosting bats.

No tree or shrub removals should be undertaken during bird nesting season (1st March – 31st August). If this is not possible, a nesting bird check should be carried out within 48 hours prior to removal, and works should only commence if it has been established that no nesting birds are present.

6.3. Mitigation and Enhancement

In accordance with the National Planning Policy Framework, it is recommended that the ecological value of the site is enhanced through the incorporation of bird boxes into the development proposals or on existing trees on site. These should consist of two bird boxes of type Schwegler 1B with 26mm entrances, which should be hung from trees at a minimum height of 1.5m, with clear flight paths to and from the entrances.

7. References

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Wildlife and Countryside Act 1981 Ch. 69

Appendices

Appendix 1: Photographs



Plate 1: The east gable of the building



Plate 2: The west gable of the site



Plate 3: The south aspect of the roof



Plate 4: The north aspect of the roof



Plate 5: Missing tiles on the south west corner of the roof



Plate 6: Interior of the converted loft space



Plate 7: Interior of the converted loft space



Plate 8: Interior of the converted loft space



Plate 9: Hard standing adjacent to building



Plate 10: Scattered trees and introduced shrubs adjacent to the building



Plate 11: Sycamore trees to north of the building



Plate 12: Sycamore trees to the north of the building



Plate 13: Woodland adjacent to the site with rhododendron



Plate 14: Woodland adjacent to the site

Appendix 2: Results of the Bat Roost Trigger Index (TI) for the buildings

Project:	Joseph Norton Academy	Evidence:	None
Code:	BE-741	Constraints:	None
Date:	03/08/2018	Surveyor:	Amy Reddick
TRIGGER INDICES		CATEGORY	TI VALUE
A) Location, habitat and environmental context of structure			
T1: General location	Rural		1
T2: Foraging opportunities within 250 m	Good		1
T3: Foraging opportunities within 5 km	Good		1
T4: Commuting opportunities	Good		1
T5: Cover in vicinity of structure	Good		1
T6: External lighting in vicinity of structure	Moderate level		0.33
T7: Number and character of nearby buildings	Mixture of old and new		0.67
T8: Structure/building exposure	Low		1
B) Exterior features and characteristics of structure or building			
T9: Structure/building age	Old		1
T10: Size of Building	Small size		0.33
T11: Main wall construction material	Old		1
T12: Condition of wall/roof pointing/render	Some gaps, cracks or crevices noted		0.67
T13: Condition of lintel/door frame features	Tightly sealed		0.33
T14: Condition of eaves/soffits/bargeboards	Tightly sealed		0.33
T15: Condition of weatherboarding/cladding	No boarding present		0.2
T16: Condition of lead flashing	Flashing tightly sealed		0.33
T17: Roofing material	Older style tiling		1
T18: Bat access potential	No gaps noted		0.33
C) Interior features and characteristics of structure or building			
T19: Character of roof void/roof space	No void or very limited roof space		0.2
T20: Character and condition of roof supports	Tightly sealed modern timbers/supports		0.33
T21: Presence and extent of cobwebbing	Numerous cobwebs in roof space		0.33
T22: Presence and condition of roof lining	Potential cavity but very limited access		0.33
T23: Light levels in roof void/space	Light		0.33
T24: Protection from weather/wind	Intermediate protection		0.67
T25: Temperature regime	Variety of temperatures		1
T26: Level of (human, animal) disturbance	High		0.33
T27: Flight Space	Poor		0.33
T28: Flying Access (Horseshoe bats)	None		0.33
TRIGGER INDEX SCORE =		0.51	
BAT ROOST SUITABILITY =		LOW	

Appendix 3: Phase 1 Habitat Map

Project: Joseph Norton Academy

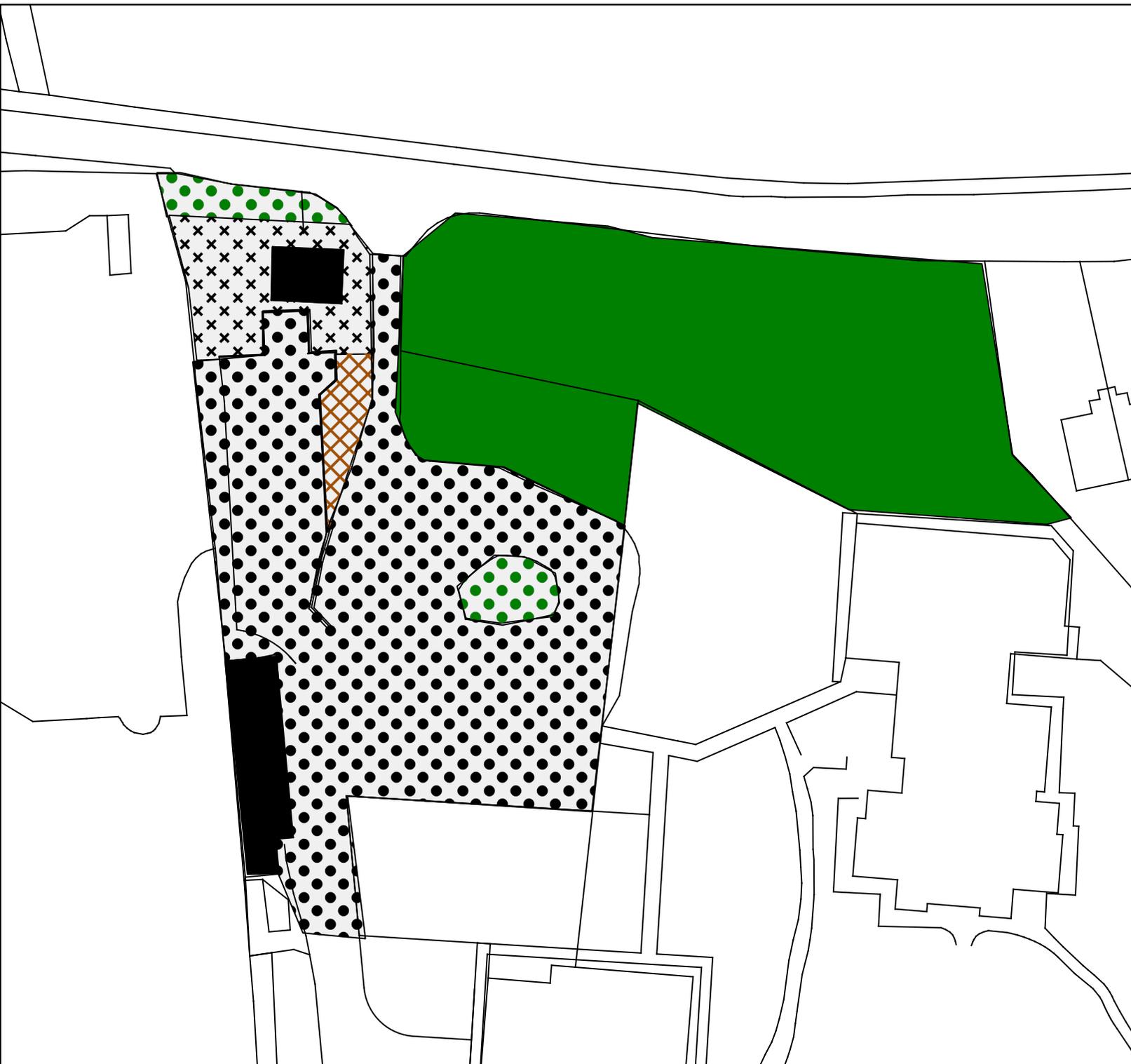
Drawn by: Amy Reddick

Date: 6th August 2018

Legend

Phase 1 Habitats:

-  A1.1.1 - Broadleaved woodland
-  A3.1 - Scattered trees
-  J1.3 - Ephemeral vegetation
-  J1.4 - Introduced shrub
-  J3.6 - Buildings
-  J4 - Bare ground



Appendix 4: Phase 1 Habitat Map

Project: Joseph Norton Academy

Drawn by: Amy Reddick

Date: 22nd August 2018

Legend

-  Surveyor locations
-  Foraging/commuting routes
-  Gate house

