Brooks Ecological
Grounded advice

Elsecar Heritage Centre

Barnsley Metropolitan Borough Council

Preliminary Ecological Appraisal Report

ER-5592-03

Report reference	**ER-5592-03**
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Date	16/01/2023

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Summary

This report is produced to inform Barnsley Metropolitan Borough Council of potential ecological constraints associated with their proposed development site and the need for further reporting or output to support a planning application.

This report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in November 2022.

Key Findings

The Site is of generally low ecological value, with only very small areas of vegetation present, all of which are managed.

Bat emergence surveys are recommended on four of the six buildings assessed, in order to determine the status of roosting bats on-site.

Metric score

The Site has been calculated to provide 0.37 Habitat Units and 0.16 Hedgerow Units. The proposals for the Site are not expected to impact these numbers, with no net loss expected as the outcome for the Site as a whole.

Introduction

1. Brooks Ecological Ltd was commissioned by Barnsley Metropolitan Borough Council to carry out a Preliminary Ecological Appraisal (PEA) of land at Elsecar Heritage Centre.
2. This report is produced with reference to British Standard BS:42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.

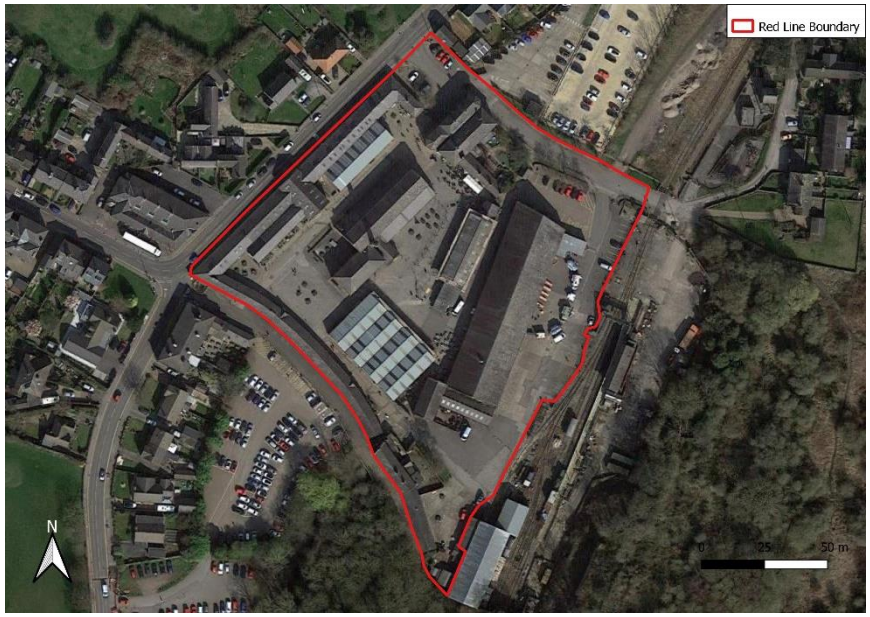
Purpose of a PEA

3. A PEA is an *initial assessment* of the baseline for a proposed development site and establishes whether the Site is likely to be constrained by ecology, and whether more information is needed to identify the ecological baseline.
4. The subsequent Preliminary Ecological Appraisal Report (PEAR) is intended to give guidance to a developer and assist with the early stages of project planning and design. Where a site is not complex or constrained, and no additional ecological input is necessary the PEAR *may* be sufficient, and suitable to support a planning application.
5. Biodiversity Accounting metrics are used to quantify the value of a Site in Biodiversity Units - which helps in the later stage of assessing the ecological impacts of the proposed development.
6. Biodiversity Units can help to inform avoidance, or on-site mitigation levels required; or as a last resort can translate to a direct monetary value where compensation (off-site) is required. Please be aware that they *can* significantly impact on costs and viability.

The Site

7. The application site 'the Site' comprises a tourist attraction of a model Victorian industrial village.
8. The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

Figure 1 *The Site (red line boundary).*



Desk Study

Landscape

9. The Site is located at Elsecar Heritage Centre, on the eastern edge of Hoyland, approximately 8km south of Barnsley.

10. The Site is dominated by hardstanding and buildings. The wider landscape comprises a mix of farmland and woodland, with more urban areas to the north and west of the Site.

Wildlife Corridors

11. The Site is linked to the wider landscape through several features, including the Elsecar Branch of the Dove and Dearne Canal, a railway line, a small beck (which leads to Elsecar Reservoir) and woodland.

12. Potentially higher value habitat is present in the form of scattered woodland amongst the neighbouring farmland and Elsecar Reservoir.

Figure 2 Analysis of wildlife corridors and higher value habitat visible on mapping in relation to the Site.

Designated Sites

Statutory Designations

13. A search has been made to identify any nationally designated sites within a 2km radius of the Site, or internationally designated sites within a 10km radius. The results are shown in the below table.

Table 1 Statutory Designated Sites.

Site Name	Distance from Site	Designation	Summary Interest
Elsecar Reservoir	Approximately 275m south-west	Local Nature Reserve (LNR)	Willow carr and wetland habitats

14. Direct and indirect impacts on this site, as a result of the proposed development, are unlikely due to the Site's separation and distance and limited nature of the proposals.

SSSI Impact Risk Zones (IRZs)

15. The Site lies within the IRZ for the Dearne Valley Wetlands SSSI but does not fall into any of the highlighted categories which require the LPA to consult with Natural England in relation to potential impacts.

Non-Statutory Designations

16. There are eight Local Wildlife Sites in the search area. These are:

- Wombwell Wood
- Elsecar Colliery
- Elsecar Reservoir
- Skiers Spring Wood
- Rainborough Park
- Simon Wood
- King`s Wood
- Lee Wood

17. Despite Elsecar Reservoir, Simon Wood and King's Wood all being located close to the boundary of the Site, no impacts are expected on these LWS due to the small scale of the proposals, with the footprint and land use of the Site not changing.

18. Direct and indirect impacts on all remaining sites as a result of this development are unlikely due to the Site's separation and distance.

Nature Improvement Area

19. The Site is located within the Dearne Valley Green Heart Nature Improvement Area.

Granted EPSM Licenses

20. No granted licenses show up within 1km of the Site.

Figure 3 *Sheffield Biological Records Centre; Designated Sites*

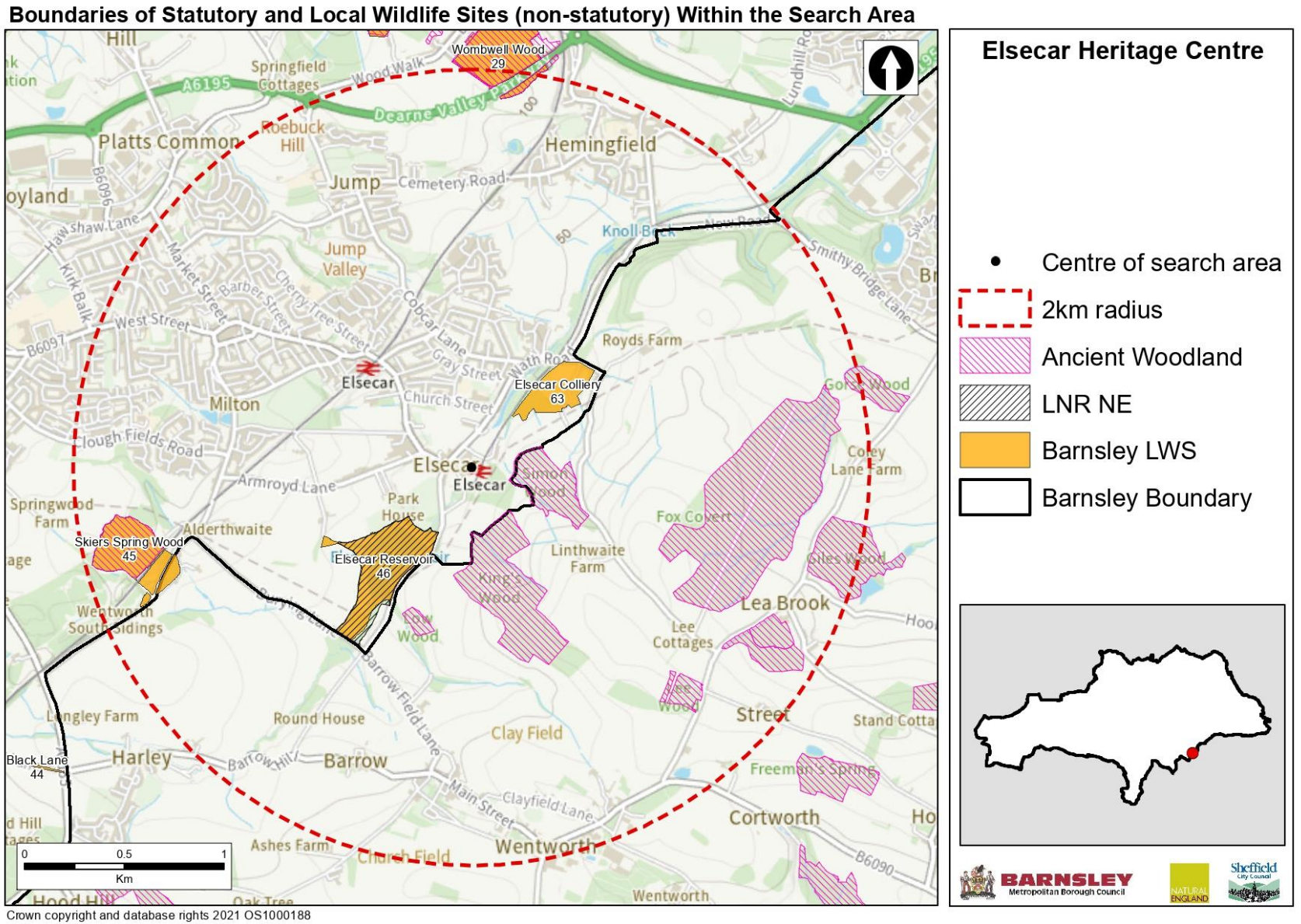


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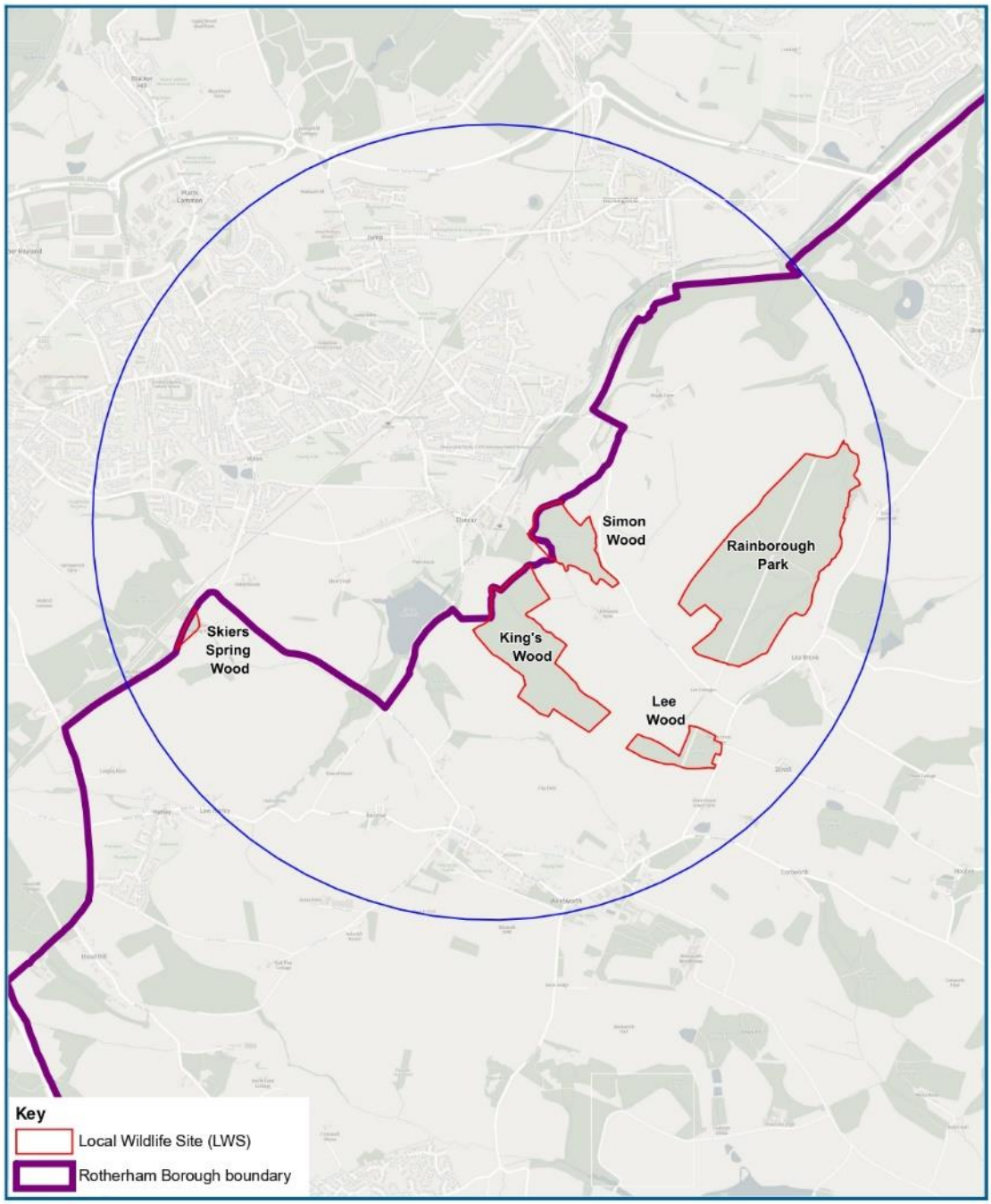
Figure 4 *Rotherham Biological Records Centre; Designated Sites*



Rotherham Metropolitan Borough Council

Brooks: 2km SK3859699876 - sites

Survey

21. The survey was carried out during November 2022[1] and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010).

22. Enough time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.

23. Whilst the majority of the Site was accessible, at least 10% of the Site was inaccessible due to very dense vegetation, which could not be closely inspected. This could have concealed invasive species or protected species evidence.

Habitat Appraisal

24. The Site's habitats are described in order on the following pages. In line with the requirement to provide information on **Biodiversity Net Gain (BNG**), habitats are named in accordance with the UK Habitats classification system - we have used the relevant UK Habs guidance in identifying habitats. Habitat descriptions are divided into the 'distinctiveness' categories used in the calculations - with more weight being afforded the more distinctive / important habitats.

25. Generally, the following apply to each tier of distinctiveness; although some authorities might highlight some lower distinctiveness habitats as having a higher importance locally. Where relevant we have highlighted these.

Very Low Distinctiveness Habitats

26. Habitats of little or no habitat value i.e., lacking any significant native vegetation, but could still provide supporting habitat for protected or notable fauna such as birds or bats. In the context of BNG - their areas are included in calculation, but mitigation or compensation is not required.

Low Distinctiveness Habitats

27. Habitats which are ubiquitous, often which have been created or modified by man. They tend to lack diversity of species and structure. They are unlikely to support notable flora but could still provide supporting habitat for protected or notable fauna. In the context of BNG they are included in calculations, but compensation / mitigation needs only to provide habitat of similar or higher distinctiveness.

Medium Distinctiveness Habitats

28. Habitats which are common but provide a higher level of structural and species diversity, though unlikely to support more notable assemblages, species of interest could be present here and they are more likely to be important supporting habitat to fauna. In the context of BNG mitigation needs to provide habitat of the same broad habitat type, or that of higher distinctiveness.

High Distinctiveness Habitats

29. These are habitats which are more natural and contain more important assemblages of plants and potentially species which are rare in their own right. They will provide good supporting habitat for fauna. These habitats are likely to be targeted as conservation priorities and will be the subject of additional policy guidance or legislation. In the context of BNG whilst mitigation or compensation for loss or damage is possible, provision of more of the same type of habitat would be required – which (with a few exceptions) is likely to be difficult.

Very High Distinctiveness Habitats

30. These are the UKs rarest / best habitats. They will be present in very particular locations and a range of rare or important plant and animal species will depend on the particular conditions they provide. These habitats will be the subject of restrictive policy guidance or legislation. Whilst the BNG metric does not preclude mitigation or compensation in respect of these habitats, creation of the same habitat type would be required and this would range between very difficult/expensive and impossible.

31. Each habitat is mapped and an area for each type is provided in the format of the DEFRA Biodiversity Metric 3.1 Calculation Tool. The areas can be used to quantify the impacts of development in an Ecological Impact Assessment if this is required by the Local Planning Authority.

Condition Assessment

32. Our condition assessment for each habitat described references where available the criteria set out in DEFRA (2021) Biodiversity Metric 3.1 Technical Supplement (1).

33. Habitats in the Low Distinctiveness tier tend to fall into the poor condition category by default. Where we feel this is not the case, we have explained our reasoning. Habitats within the other higher tiers can fall into a range of conditions. We set out our reasoning based on the given criteria and guidelines.

[1] This Report has been prepared during December 2022 following a visit to the site in November 2022 and our findings are based on the conditions of the site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation or deviation from the site conditions which affect the conclusions set out in this report.

Habitats of Low/Very Low Distinctiveness

Figure 5 Approximate location and extent of these habitats.

Table 2 Summary – Habitats of Low / Very Low Distinctiveness.

<table>
<tr><th>Habitat Code/ Name</th><th>Summary Description</th><th>Condition</th></tr>
<tr><td>u1b Developed land; sealed surface</td><td>The majority of the Site is covered by hard sealed surfaces of tarmac, concrete and/or buildings</td><td>n/a - Poor</td></tr>
<tr><td>g4 Modified grassland</td><td>A small area of managed grassland is present close to the southern tip of the Site.

Species present are limited, with perennial rye being the dominant grass species, alongside dandelion and daisy.

<table>
<tr><th>Criteria</th><th>Pass/Fail</th><th>Condition</th></tr>
<tr><td>6-8 species?</td><td>Fail</td><td rowspan="9">6-7 including criterion 1 = Good

4 - 5 including criterion 1 = Moderate

4-5, excluding criteria 1 = Poor

0-3 = Poor</td></tr>
<tr><td>Varied sward height?</td><td>Fail</td></tr>
<tr><td>Scrub <20%</td><td>Pass</td></tr>
<tr><td>Damage <5%</td><td>Pass</td></tr>
<tr><td>Bare ground 1-10%</td><td>Fail</td></tr>
<tr><td>Bracken <20%</td><td>Pass</td></tr>
<tr><td>Absence of invasives</td><td>Pass</td></tr>
<tr><td>Score</td><td>4 passes (fails criterion 1)</td></tr>
</table></td><td>Poor – see table</td></tr>
<tr><td>1160 Introduced shrub</td><td>The borders of an outdoor play area used by a nursery school, planted with ornamental shrubs.</td><td>n/a - Poor</td></tr>
<tr><td>232 Un-vegetated garden</td><td>Small garden areas of houses in the south of the Site. Whilst the garden is principally unvegetated with areas of cobbles, some ornamental planting is present around the borders.</td><td>n/a - Poor</td></tr>
<tr><td>1140 Ground level planters</td><td>Small areas that have been planted with ornamental species on areas of hard-standing surfaces</td><td>n/a - Poor</td></tr>
</table>

Habitats of Low/Very Low Distinctiveness

Figure 6 – View of developed land; sealed surface

Figure 7 - View of developed land; sealed surface

Figure 8 – Example of ground level planters

Figure 9 – View of unvegetated garden

Figure 10 – View of modified grassland

Figure 11 – View of introduced shrub

Habitats of Medium Distinctiveness

Figure 12 Approximate location and extent of these habitats.

1170 Tree

34. Two urban trees are present within the outdoor space associated with the nursery school. One ash and one cherry tree are present, growing above the ornamental shrub border.

Defra Metric Condition Assessment - Moderate

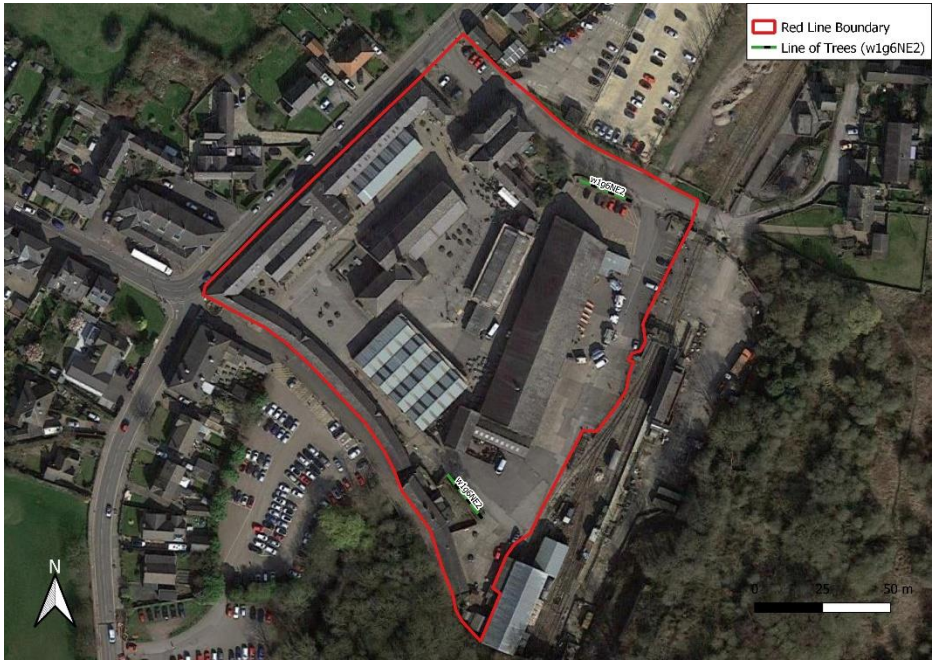
Criteria	Pass/Fail	Condition
>70% natives	Pass	5-6 = Good
Continuous canopy gaps <10%	Pass	3-4 = Moderate
Mature or veteran tree or 50% of block is	Fail	0-2 = Poor
No pruning evidence	Pass	
Deadwood, cavities etc. for birds	Fail	
> 20% canopy oversailing vegetation	Pass	
Score	**4**	

Figure 13 View of urban tree.

Figure 14 View of urban tree.

Habitats of Medium Distinctiveness (Cont.)

Figure 15 Approximate location and extent of these habitats.



w1g6 Line of Trees

35. This habitat type occurs here as two distinct types:
36. (1) Towards the northern edge of the Site, an alternating line of rowan and silver birch trees are planted over a hard-standing surface.
37. (2) A line of silver birch towards the southern edge of the Site, growing over modified grassland

Defra Metric Condition Assessment – Moderate (for both tree lines)

Criteria	Pass/Fail	Condition
>70% natives	Pass	5 = Good
Continuous canopy gaps <10%	Pass	3-4 = Moderate
One mature or veteran tree	Fail	0-2 = Poor
6m veg strip either side	Fail	
95% plus trees healthy	Pass	
Score	3	

Figure 16 Northern line of trees.

Figure 17 Southern line of trees.

DEFRA Metric (Baseline)[2]

38. This metric sets out the baseline for the Site - proposals should seek to **Avoid** areas of higher value, **Mitigating** any loss on-Site through retention and enhancement, or habitat creation.

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A-1 Site Habitat Baseline

Condense / Show Columns | Condense / Show Rows | Main Menu | Instructions

	Habitats and areas			Distinctiveness	Condition	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units
1	Grassland	Modified grassland	0.0075	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.02
2	Urban	Developed land; sealed surface	1.8367	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
3	Urban	Ground level planters	0.0039	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.01
4	Urban	Introduced shrub	0.0129	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.03
5	Urban	Un-vegetated garden	0.0104	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
6	Urban	Urban Tree	0.0407	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.33
7								
8								
9								
10								
		Total habitat area	1.91					0.37

[2] Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

B-1 Site Hedge Baseline

Condense / Show Columns | Condense / Show Rows | Main Menu | Instructions

	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Baseline ref	Hedge number	Hedgerow type	Length (km)	Distinctiveness	Condition	Strategic significance		Total hedgerow units
1		Line of Trees	0.04	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.16
2								
3								
4								
5								
6								
			0.04					0.16

Faunal Appraisal

39. The following pages discuss only the groups and species that could be reasonably expected to be found on the type of habitats present on, or adjacent to, the site.

Bats

Desk evidence

40. A total of 30 records for bats were returned for the search area. Species recorded include common pipistrelle, soprano pipistrelle, brown long-eared, noctule, lesser noctule, Daubenton's and Leisler's, as well as indeterminate bat species.

41. Of these records, five are noted as relating to roosts, with a single roost of brown-long eared bat and three roosts of soprano pipistrelle located closest to the Site, approximately 750m north-east of the Site boundary.

42. Work was carried out by Middleton Bell Ecology during 2018 across the whole Site, which found a total of nine bat roosts including a large Daubenton's summer roost in the culvert beneath the centre. Five common pipistrelle, one soprano pipistrelle and two unidentified pipistrelle days roosts were recorded in buildings across the Site. None of the roosts were in the buildings covered by the scope of this assessment.

43. Brooks Ecological undertook an emergence survey at the Site in 2021. This found no evidence of roosting in buildings 15B- 15G (see Figure 18) and an overall low level of bat activity.

Field Evidence (Roosting)

44. Six buildings on-site are scheduled to have works carried out, ranging from whole roof replacement to ground floor refurbishments and wall reconfiguration. These buildings (labelled 7, 10, 13, 20a, 20b and 21 on the Elsecar Heritage Centre plan) were all assessed for their suitability to support roosting bats. There are no proposals for any of the other on-site buildings, and thus the scope of this survey was limited to those listed above.

45. The small number of trees on-site will not be impacted by the proposed works, and their bat roost suitability was not assessed

Table 3 Bat Roost Suitability Assessment

Ref:	Notes	Suitability
B7	18th century, two-storey stone and mortar building with a pitched slate tiled roof, forming part of a row of joined buildings. B7 has two gables on the north-east elevation. The roof space is open to the ground floor and partly covered with felt and breathable roof membrane. The building is generally in good condition. Small gaps are present along the eaves, particularly along the eastern and south-west aspects. The roof is also in a good condition, with only a small number of slightly lifted tiles offering roosting opportunities. These features could be used by crevice dwelling bats for summer day roosts.	Low
B10	B10 houses the Site's visitor centre and is also a two-storey stone and mortar-built building with a slate tile roof. Some gaps were noted along the wall tops and eaves as well as slightly lifted tiles. The building was found to be in an overall good condition. Works are expected to be internal only for this building and so no impact is expected on any of the potential roost features noted.	Low
B13	B13 is a 19th century large two-storey building, constructed again from stone and mortar, with a slate roof. The roof is complex, with ridges, hips and a wide valley. B13 contains a roof void, which was inspected from the loft hatch. No evidence of roosting bats was noted during this internal inspection. Several gaps along the eaves and beneath the soffit of the building were noted on all sides of B13. There were also some lifted roof tiles, a missing ridge tile on the north-eastern aspect and damage to the barge board. All these features could be used by crevice dwelling bats for summer day roosts.	Moderate
B20a	A large 19th century building with stone walls on the eastern elevation and brick walls to the west. The roof is Welsh slate tiles, supported by cast iron pillars. Gaps in the masonry, along and under the eaves and particularly around the supporting iron columns was	Low

Ref:	Notes	Suitability
	noted throughout B20a. All these features could be used by crevice dwelling bats for summer day roosts. Unlike B21 (see below), the interior of this building is used for storage and is likely to remain in darkness for longer.	
B20b	B20b is a small adjoining brick structure to B20a. It has a pitched asbestos cement roof. There is no roof space, with the asbestos sheeting is open to the ground floor. The stone masonry is generally in good condition. Where some potential roost features were noted, they are subject to water damage, with the roof in general found to be damp and in a poor condition. As a result of the damp conditions, the small number of gaps and crevices noted are not likely to be used by roosting bats.	Negligible
B21	A large 19th century building with stone walls on the eastern elevation and brick walls to the west. The roof is Welsh slate tiles, supported by cast iron pillars. The interior of B21 is mainly open to the underside of the roof, with the interior used frequently and well-lit. Gaps in the masonry, along and under the eaves and particularly around the supporting iron columns was noted throughout B21. All these features could be used by crevice dwelling bats for summer day roosts.	Low

Field Evidence (foraging and commuting)

46. The Site is expected to be of very low value for foraging and commuting bats, with few areas of vegetation and areas being lit during night.

47. More attractive habitat for foraging and commuting bats is available off-site to the south and east.

Summary Evaluation

48. Of the six buildings that were covered by the survey, five were assessed as having bat roost suitability.

Further Surveys and Recommendations

49. Further surveys are recommended on Building 7, 13, 20a and 21, in order to establish the status of roosting within these buildings. Works to Building 10 will not impact on any of the features identified, and thus no further survey is recommended here.

50. Buildings 7, 20a and 21 should subject to a single emergence survey during the next survey period (May to August 2023). Building 13 should be subject to two emergence surveys.

Figure 18 Elsecar Heritage Centre Building Plan.

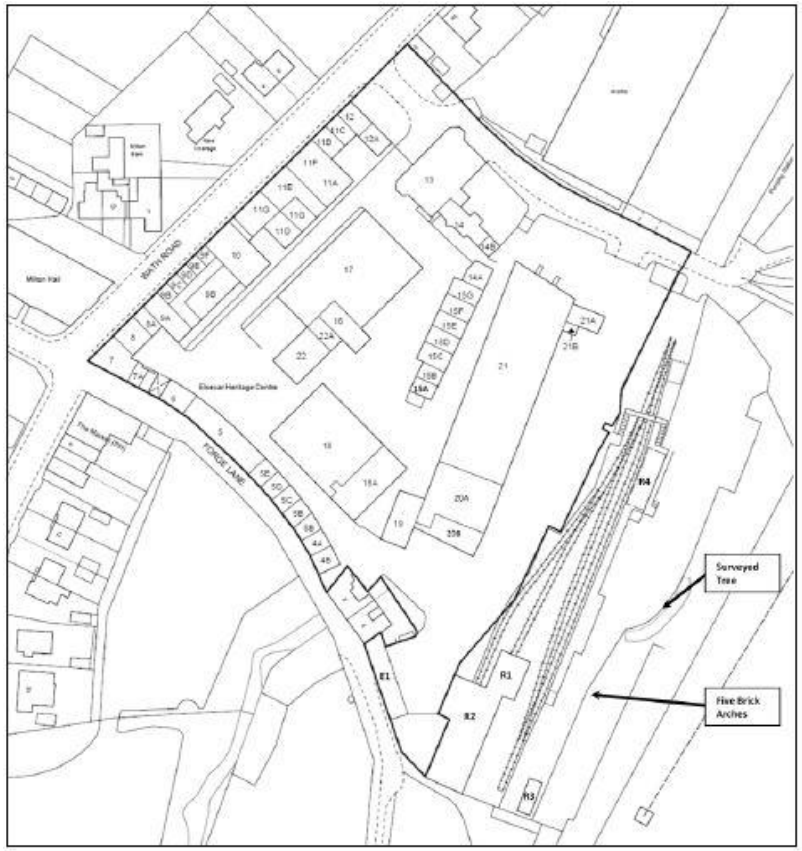


Figure 19 Buildings subject to BRSA.

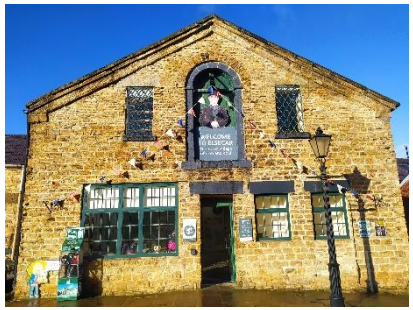
Bat Roost Suitability Assessment

General view of B7

B2 roof space

Gaps along the eaves on B7

General view of B10



General view of B13

B13 roof space

Gaps along the eaves of B13

Gaps along the eaves of B13

General view of B20a

General view of B20b

General view of 21

Gaps associated with support poles typical of B20a and B21

Birds

Desk Evidence

51. A wide range of bird records were returned for the search area, with many relating to Elsecar Reservoir to the south-west.

Field Evidence

52. The Site supports common and widespread habitats.
53. Much of the Site is covered by hard-standing and buildings, which offer poor foraging opportunities for birds. The Site is also busy with people and accordingly, few species were encountered during the walkover survey (feral pigeons and pied wagtail). Buzzard displaying over woodland to the south.
54. Pigeons are known to make use of the many buildings on-site for nesting.

Summary Evaluation

55. The proposals for the Site are limited to six buildings. The overall layout and use of the Site will remain unaffected as a result of the works.
56. Any birds currently using the Site for foraging purposes will be able to do so during and following the works.
57. The proposals do have the potential to impact on species that nest on buildings, such as pigeons, house sparrow, swallows and house martins

Further Surveys and Recommendations

58. No further surveys are considered necessary to demonstrate current baseline in respect of birds.
59. Standard precautions apply in respect of restrictions on carrying out works to buildings during the nesting season.

Invasive Non-Native Species (INNS)

60. INNS are species listed on Schedule 9 of the Wildlife and Countryside Act (1981), for which it is an offence to cause or allow it to grow in the wild.
61. No INNS were noted[3]:

Survey constraints

62. This survey is party constrained by the small areas that were inaccessible due to the current usage.
63. Although no INNS have been identified in this preliminary survey it is not always possible to conclude absence from preliminary survey alone due to factors such as season, accessibility, 3rd party attempts to hide evidence or undisclosed treatment programmes. For this reason, this report should not be relied upon as definitive evidence of absence of INNS.
64. This Site presents a small risk of supporting undetected INNS based on the following factors:
    - Areas of site inaccessible to survey
    - Suboptimal survey season
65. Should further assurances be needed in relations to INNS, a dedicated Invasive Weed Survey should be commissioned.

[3] Whilst our ecologists are trained in the identification of invasive species this report is not a dedicated invasive species survey. Detectability of invasive plant species can be affected by several factors, and conclusive determination status, or extent, is not possible through preliminary survey alone. As the presence of invasive species can generate significant costs to development, the client may wish to instruct a dedicated invasive species survey prior to entering into contracts.

Ecological Constraints & Opportunities

66. Proposals for the renovation of buildings on-site are not expected to lead to a change in the Site's biodiversity metric value.

67. The total areas of hard standing and building footprints will remain the same, with the small areas of greenspace unaffected.

Faunal Constraints

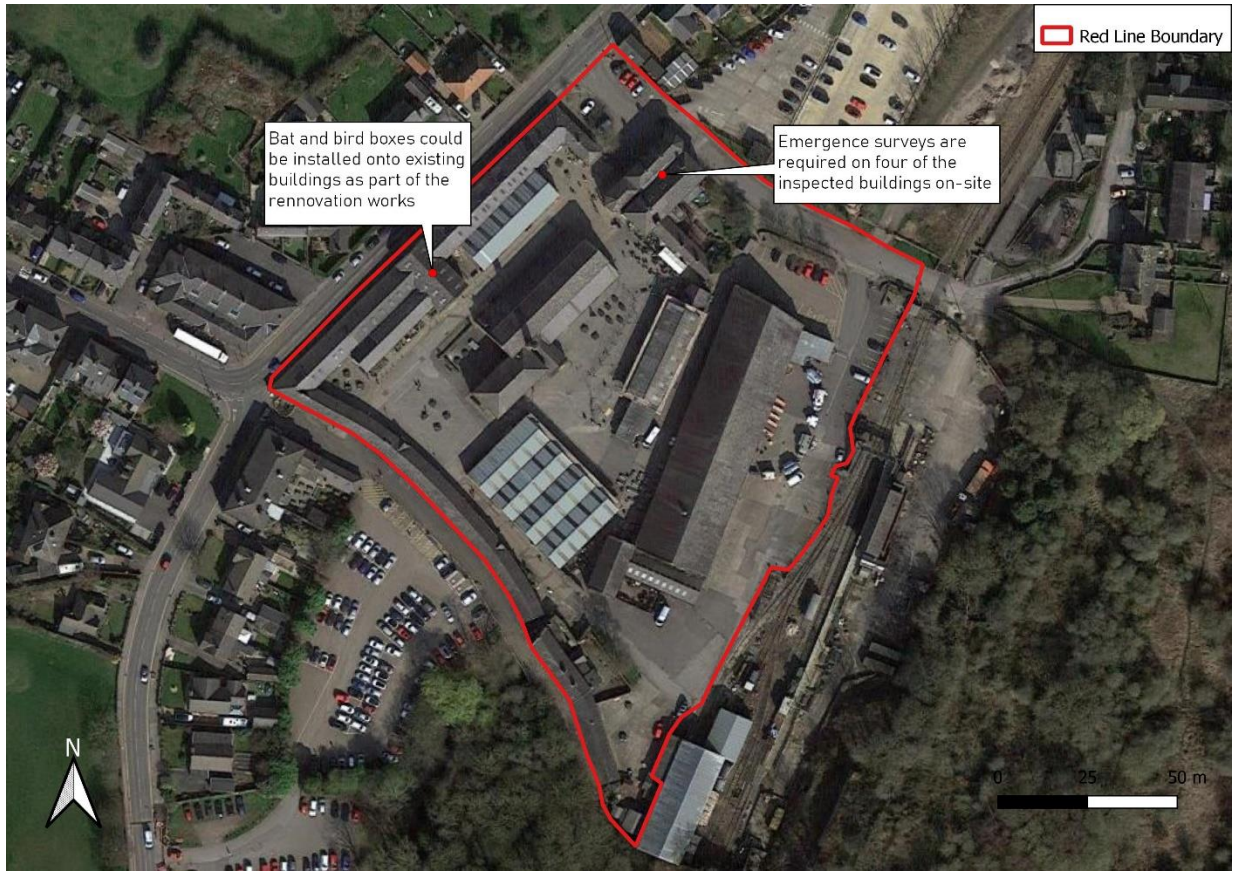
68. Four buildings on-site have been assessed as having the potential to support roosting bats, with impacts expected on the roost features as a result of the proposed works. Further survey is recommended on these buildings.

Opportunities

69. The scope of the proposed works is relativity minor and opportunities to enhance the Site are fairly limited.

70. As part of the renovation works, bat and bird boxes could be installed onto buildings to encourage these species to make use of the Site.

Figure 20 *Constraints and Opportunities Plan.*



Conclusions and Recommendations

Planning considerations		
Recommendation	Rationale	When
R1 Additional Surveys	Bat emergence surveys	May-August inclusive (September sub-optimal.
R2 Calculate final Biodiversity Impact Score	The Site's baseline score has been calculated using the Defra Metric 3.1 calculator. This has generated a score for 0.37 Habitat Units and 0.16 Hedgerow Units, with all of the Site's value coming from sites small landscaping provision. Current proposals focus on areas of hardstanding and buildings, which do not contribute towards the Site's baseline score, and do not affect any of the landscaping areas. The current proposals will therefore not result in any change in biodiversity value. Should the proposals change, which mean that existing areas of landscaping or trees are impacted, then a full Biodiversity Net Gain Assessment will be required.	N/A - Not required under current proposals.

Other considerations (managing legal or financial risks)		
Issue	Rationale	When
R3 Nesting bird management	As with most sites the standard precaution in relation to birds would apply: To prevent the proposed works impacting on nesting birds, any works to the buildings will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any works required during the breeding bird season should be preceded by a nesting bird survey to ensure that the law is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the construction phase of the development.	Pre- and during -clearance

References

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Appendix 1 Habitats and Ecological Features

Appendix 2 List of species recorded

Ash	*Fraxinus excelsior*
Cherry	*Prunus sp.*
Daisy	*Bellis perennis*
Dandelion	*Taraxacum officinale agg*
Perennial rye grass	*Lolium perenne*
Rowan	*Sorbus aucuparia*
Silver birch	*Betula pendula*
White clover	*Trifolium repens*

Appendix 3 Explanatory Notes and Resources Used

Site Context

Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains.

Designated Sites

A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSI's]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-Site habitats

When assessing these we consider whether the Site could be functionally linked to them, considering links such as:

- Hydrological links - is the Site upstream downstream, or could ground water issues affect it?
- Physical links - is the site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.
- Recreational links - do footpaths and roads make it likely that increased recreational pressure could be felt?
- Habitat links - is the site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be 'stepping stones of habitat of similar form or function.

Method

Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

Faunal Appraisal

This section first looks at the types of habitat found on Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce or NERC Act 2006 Section 41 species (referred to collectively as 'notable species').

Records of notable species supplied from a 2km area of search by Sheffield Biological Records Centre and Rotherham Biological Records Centre are used to inform this appraisal.

We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Barnsley Biodiversity Action Plan'.

Priority Species	Priority Habitats
Hedgehog	Mixed deciduous woodland
Bats	Upland oakwood
Water Vole	Wet woodland
Otter	Parkland and veteran trees
Grey Partridge	Traditional orchard
Bittern	Scrub
Kestrel	Coniferous woodland
Little Ringed Plover	Hedgerows
Lapwing	Arable field margins
Barn Owl	Acid grassland
Skylark	Neutral grassland
Tree Sparrow	Floodplain grazing marsh
Twite	Amenity grassland
Great Crested Newt	Upland heathland
Salmon	Lowland heath
Bullhead	Reedbeds
White-clawed Crayfish	Lowland fen
Glow Worm	Upland flushes, fens and swamps
Dingy Skipper	Rush pasture
Bluebell	Blanket bog
	Standing water and ponds
	Running water, rivers & streams
	Open Mosaic Habitats on Previously Developed Land
	Built environment and gardens

Bats

Bat roosting potential is classified according to the following criteria set out below, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

Bat Roosting Suitability of Buildings and Trees

Suitability	Criteria
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used on a regular basis or by a larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protections, conditions and surrounding habitats.

Evaluation

In evaluating the Site, the ecologist will take into account a number of factors in combination, such as:

- the baseline presented above,
- the site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity.

There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.

The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

Appendix 4 Bat Activity Survey Rationale

The Bat Conservation Trust Guidelines (BCTG) (Collins 2016) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the guidelines within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

- the avoidance of legal offences, and;
- the provision of a sufficient level of information - such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys - they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines -

'The Guidelines do not aim to either override of replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement. '

Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the Site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

With the vast majority of the Site covered by hard standing surfaces, there is expected to be very low bat activity due to the lack of foraging opportunities and commuting features. The proposed works will not impact on the overall nature of the Site and for these reasons together, bat activity surveys are not considered necessary

This assessment was made by David Lovett who has 9 years' experience of scoping and delivering bat surveys and has carried out many bat activity surveys.

Appendix 5 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).
Provides framework at an international (EU) level for the consideration / protection of European Protected Species (EPS), and habitats through the designation of sites.
Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)
Provides framework at an international (EU) level for the consideration / protection of important bird populations and the sites on which they are dependant.
The Conservation of Habitats and Species Regulations (2010)
This transposes 1) into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.
The Wildlife and Countryside Act (1981) as amended
This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.
The Countryside and Rights of Way Act 2000 (CRoW)
Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP / LBAP).
Natural Environment and Rural Communities Act 2006 (NERC)
Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.
Hedgerows Regulations (1997)
Define and provide protection for Important Hedgerows.
Protection of Badgers Act (1992)
Protects badgers from persecution, this includes excavation / development in the proximity of setts.

Protected Sites

Statutory EU / International Protected Sites
Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.
Statutory UK Protected Sites
Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.
Locally Protected Sites
Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist - all subject to local policy.
Protected Species
European Protected Species
A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.
UK Protected Species
A number of species (including bats, GCN, watervole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or form certain activities only. All nesting bird species are protected from damage or destruction of their nests - whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended, lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: himalayan balsam (*Impatiens glandulifera),* japanese knotweed (*Fallopia japonica*) and giant hogweed *(Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF):

The National Planning Policy Framework was updated in July 2021. The most relevant paragraphs from the NPPF are set out below.
The approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is and this falls under one of three objectives of the planning system – the 'environmental objective' applying in this case. Paragraph 8c (P8c) of the NPPF states that sustainable development should "*protect and enhance our natural, built and historic environment*", including "*improving biodiversity*". P10 sets out the Framework's presumption in favour of sustainable development.
Section 11 of the NPPF details making effective use of land. The Framework states that planning policies and decisions should *"take opportunities to achieve net environmental gains – such as developments that would enable new habitat creation"* and should "*recognise that some undeveloped land can perform many functions, such as for wildlife"* (P120).
Section 15 details conserving and enhancing the natural environment; policies and decisions should be "protecting and enhancing valued landscape [and] sites of biodiversity […] value", "recognise the intrinsic character and beauty of the countryside" and contribute to conserving and enhancing the natural environment and reducing pollution (P174). Allocations of land for development should, "allocate land with the least environmental or amenity value, where consistent with other policies in this Framework" and "take a strategic approach to maintaining and enhancing networks of habitats" (P175).
The Framework sets out ways to minimise the impacts on biodiversity through plans which "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" 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" (P179).
It is made clear in P180 that local planning authorities should apply a set of principles when determining planning applications. Planning permission should be refused *"if significant harm to biodiversity resulting from development cannot be avoided […], adequately mitigated, or, as a last resort, compensated for"*. Development should not normally be permitted where an adverse effect on a SSSI is likely, and "*opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity"*.

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.

This strategy builds on the Natural Environment White Paper (June 2011) - Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.
The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP / Section 41 habitats and species.
ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity — Code of Practice for Planning and Development.

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.