



**Code for Sustainable Homes (CSH) - Ecology Appraisal
Matlock Road, Barnsley**

Report reference: R-1721-01
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Report Title:	Code for Sustainable Homes Matlock Road, BArnsley
Report Reference:	R-1721-01
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All parties involved in the review of our CSH reports are sufficiently qualified and experienced to comply with the Code's definition of a Suitably Qualified Ecologist.

The above named confirm that in their opinion this report:

- represents sound industry practice,
- reports truthfully, objectively and appropriately to site conditions
- avoids invalid, biased or exaggerated statements

Approved for issue	Robert Weston BSc(Hons) MSc MIEEM Technical Director
Date	22.10.13



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Summary Statement

The habitat on this small site is of very low ecological value and its re-development need not be contrary to any national or local conservation policy or guidelines.

The current situation in relation to CSH assessment is as follows:

Category 9 – Ecology

Eco 1: The land has been assessed as being of low ecological value by a suitably qualified ecologist. One credit can be awarded.

Eco 2: Suitably designed key and additional recommendations have been made for the site. Assuming incorporation of these, one credit is anticipated.

Eco 3: Two trees on site are of some intrinsic value and should be retained and protected using standard tree protection measures. One credit is anticipated.

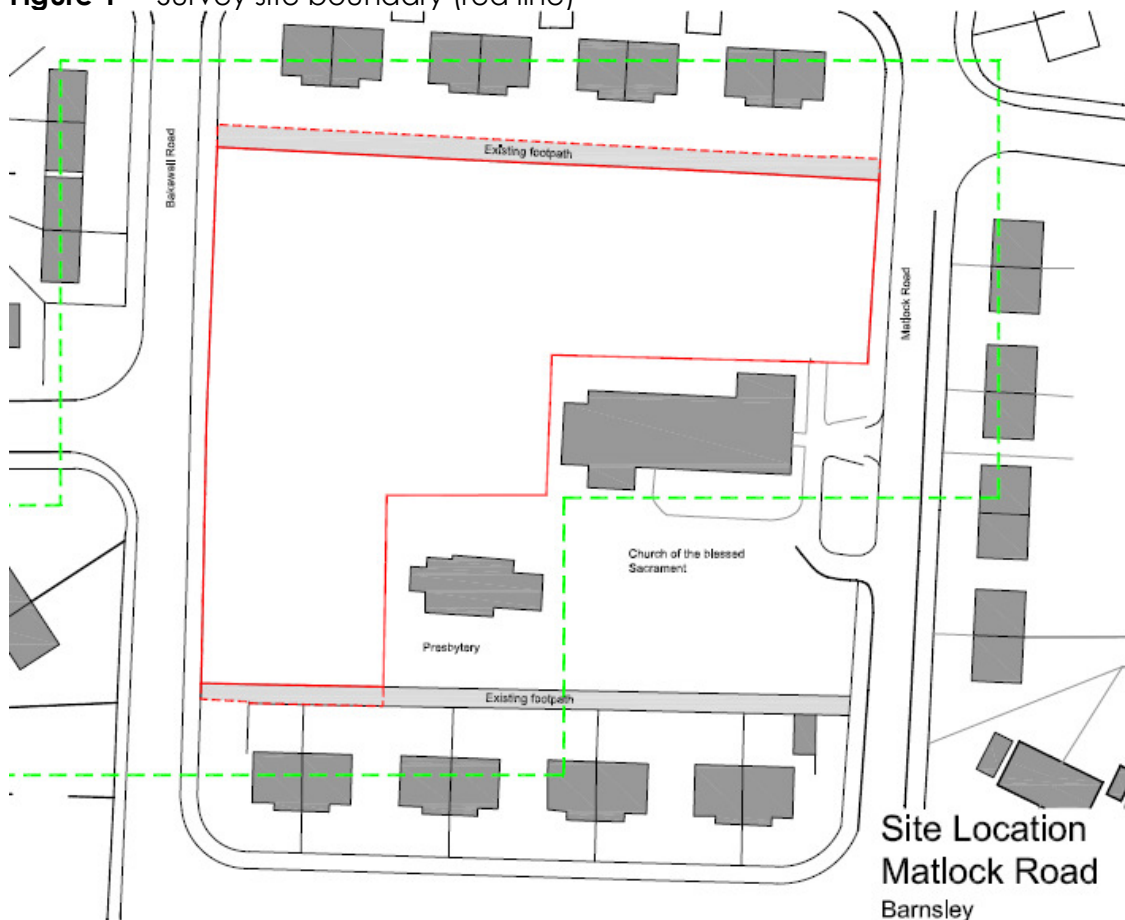
Eco 4: This part of the assessment is not possible yet as details of the site's landscaping plans are not yet available. Based on the absence of any good quality habitat on the site, improving the ecological value of the site is a possibility. Recommendations in relation to this are made at the end of the report. 2 credits are anticipated based on a likely neutral change in the site's ecological value.

Part 1: Ecological Assessment

Introduction

1. Brooks Ecological Ltd was commissioned to produce an ecological scoping and pre construction assessment report for the development of a piece of land on Matlock Road, Barnsley (SE 354 088). The assessment is based upon an extended Phase 1 Habitat Survey and desk study.
2. The application site comprises a parcel of land currently used as a play area, hard surface sports courts and former amenity grassland grading into rough grassland. The site is found in the small town of Monk Bretton on the outskirts of Barnsley. As such it is surrounded on all sides by residential development. Approximately 1km to the west Sandhill Wood, the River Dearne and The Fleets ponds provide some valuable habitat with a number of associated corridors; this is however, unconnected to the application site.

Figure 1 Survey site boundary (red line)



3. The assessment was required to provide the necessary information to determine points available at this stage of category 9 (Ecology) of the Code for Sustainable Homes (CSH) assessment framework provided by the Building Research Establishment.
4. The assessment was carried out by Peter Brooks BSc (Hons) MA, MIEEM CEnv. Peter has over 15 years experience of professional Ecology. His credentials ensure that he meets the criteria of a "suitably qualified ecologist" as required for CSH assessment.

Site Proposals and Impacts assessment

5. Our assessment of impacts is based on the proposals to redevelop the site for residential use. Impacts considered include:
 - Site preparation including vegetation and habitat removal
 - Direct effects on significant faunal groups or protected species
 - Effects on adjacent habitats or species such as disturbance and pollution
 - Operation effects on wildlife such as noise and light disturbance

Extended Phase 1 Habitat Survey

Survey Method

6. The survey was carried out on the 09th October 2013 and followed Phase 1 habitat survey methodology (JNCC, 1993). 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 2012).

Results

7. The following habitats, arranged in order of area can be described within the application site and on its boundaries:
 - Amenity/rough grassland;
 - Hard standing; and
 - Trees and shrubs.

Amenity/rough grassland

8. The majority of the site is occupied by former amenity grassland which has been unmanaged for the last few years. The grassland comprises a simple mix of common grasses, primarily perennial rye grass (*Lolium perenne*) but including cocksfoot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*) and common bent (*Agrostis Capillaris*).
9. A range of common forbs are also present within the sward, these include dandelion (*Taraxacum officinale*), prickly lettuce (*Lactuca serriola*), willowherb (*Epilobium* sp.), nettle (*Urtica dioica*), spear thistle (*Cirsium vulgare*) and common fleabane (*Pulicaria dysenterica*). A stand more heavily dominated by broad-leaved dock (*Rumex obtusifolius*) is located towards the western site boundary. Forbs are better represented around the edges of the grassland, presumably where past management has been less thorough.



Figure 2

Looking west over grassland

Hard standing

10. Hard standing is found in various forms around the site with a play area and sports court both constructed from tarmac. A bike track made with compressed gravel is found in the centre of the site. None of these areas support any vegetation other than the gravel bike track where the surrounding rough grassland is encroaching around its margins. A number of tarmac paths also intersect the site.

Trees and shrubs.

11. A small number of scattered trees and shrubs are found around the site. Two oaks (*Quercus sp.*) found in the north eastern corner of the site are approaching maturity and are by far the best specimens on site.
12. Immature specimens around the site include cherry (*Prunus sp.*), willow (*Salix sp.*), tree of heaven (*Ailanthus altissima*) and variegated dogwood (*Cornus sp.*).



Figure 3

Looking east showing trees and shrubs on site.

Table 1.1: Habitats / plot types prior to development

Habitat	Number of species	Area* m ²
Rough grassland	4	3000
Hard standing	0	1300
Trees and shrubs	3	80
Total		4380

*Scaling from plans is not always accurate and we cannot offer precise measurement of the site. Figures presented are all used to calculate proportions of the site thus anomalies in scaling are not significant in these calculations. All taken are from provided plans using area measurement tools on Promap.

Fauna

Birds

13. The site is of very limited value to birds, presenting very few features with any potential for nesting. The site will only be used by common urban birds and is unlikely to support any notable species or assemblages.

Amphibians

14. The application site supports a small area of rough grassland; while this habitat may be suitable for amphibians in their terrestrial life phase it is isolated within an area of urban development and there are no ponds within a 500 m radius, making it reasonable to conclude that great crested newt will not be present on the site.

Reptiles

15. The site comprises a tiny fragment of suitable habitat for reptiles which has very poor connectivity to any other habitat in which they might occur. Their absence from this site can be reasonably concluded.

Bats

16. Under the current red line plans the site presents no features suitable for roosting bats.

Protected mammals

17. The site does not contain any habitat likely to be of significant value to any protected mammal species, including bats. Their absence from this site can be reasonably concluded.

Other mammals

18. The site may occasionally be visited by foraging hedgehogs but its lack of good cover or connectivity to other habitat make it highly unlikely to be of significant value to any local population. Hedgehog is listed on the UK Biodiversity Action Plan.

Desk Study

19. Desk studies look for records of protected or listed wildlife sites and protected or locally important species that could be impacted by development. They can also identify local conservation priorities and when assessed against the baseline established through field survey build a more complete picture of the site's existing and potential ecological value.

Designated Sites

20. A search of the MAGIC website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Scientific Interest [SSSI's]) as well as many non-statutorily 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.
21. There are no internationally or nationally designated sites within 2km of the application site.
22. Not all locally listed (non-statutory) sites are available on MAGIC. Those not found are normally held at local Biological Record Centres. A request for locally listed sites has been made to the record holder, which in this case is Barnsley Biological Records Centre. At the time of writing no records have been returned.

Natural England Natural Area

23. The site falls within Natural Area 24 *Coal measures*
24. Based on shale and sandstone deposits natural area 24 is characterized by dense population centres such as Sheffield, Leeds and Wakefield. The area's ecology reflects the changing geology which underlies it and is typified by mixed agriculture, acidic / ancient woodlands, valley wetlands and acidic / neutral grasslands.
25. There are no nationally important conservation priorities. Local Conservation priorities for the area are;
 - Acid Grassland
 - Fen, Marsh and Swamp
 - Lowland Heathland
 - Neutral Grassland
 - Rivers and Streams
 - Standing and open water
 - Wet Woodland

Local Biodiversity Action Plan

26. Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Barnsley Biodiversity Action Plan'.
27. Table 2 lists the local Species Action Plans and, with reference to the field study presented later in this report, assesses a) whether the species potentially have any degree of dependence on the site, and b) if so whether development would be likely to have a significant bearing on the objectives of the UK/LBAP.

Table 1.2 Species Action Plans

Species/group	Potentially on site	Would development impact significantly on BAP objectives
Hedgehog	Yes	No
Barn owl	No	N/A
Skylark	No	N/A
Tree sparrow	No	N/A
Twite	No	N/A
Great crested newt	No	N/A
Salmon	No	N/A
Bullhead	No	N/A
White-clawed crayfish	No	N/A
Glow worm	No	N/A
Dingy skipper	No	N/A
Bats	No	N/A
Bluebell	No	N/A
Water vole	No	N/A
Otter	No	N/A
Grey partridge	No	N/A
Bittern	No	N/A
Kestrel	No	N/A
Little ringed plover	No	N/A
Lapwing	No	N/A

28. Table 3 lists local Habitat Action Plans and assesses a) whether habitats on site could represent valuable examples of the habitat type within the spirit of the BAP and b) whether loss of the habitat would have a significant bearing on the objectives of the BAP.

Table 1.3 Habitat Action Plans

Habitat	Valuable examples present on site?	Would development impact significantly on BAP objectives
Upland oakwood	No	N/A
Lowland heathland	No	N/A
Upland heathland	No	N/A
Blanket bog	No	N/A
Purple moor grass and rush pasture	No	N/A
Reedbeds	No	N/A
Ponds	No	N/A
Rivers	No	N/A
Open mosaic habitats	No	N/A
Lowland mixed deciduous woodland	No	N/A
Wet woodland	No	N/A
Wood pasture and parkland	No	N/A
Hedgerows	No	N/A
Arable field margins	No	N/A
Floodplain grazing marsh	No	N/A
Lowland meadows	No	N/A
Lowland dry acidic grassland	No	N/A

Aerial Photography and Detailed Map Study

29. 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. We use Promap Street + scale maps for this purpose.
30. The application site is found in a residential suburb of Barnsley. As such it is surrounded on all sides by residential development. A small area of open space is found approximately 300m east of the site where spring wood is located, beyond this further industrial development is reached.

Wildlife corridors

31. A disused railway line runs roughly north – south connecting open areas which include some semi-natural habitat. This is nearly 800m south west of the application site at its closest point and un-connected.

Ponds

32. There are no ponds or water bodies within 500m of the application site, the closest being a small garden pond c.550m south west.

Records

33. Barnsley Biological Records Centre has been asked to provide information on protected or notable species and locally designated sites within 2 km of the application site. At the time of writing no records have been returned. Should any records be returned which have any influence on the assessment made in this report an addendum will be issued immediately.

Evaluation and Recommendations

34. The part of the site which would be affected by development represents very low value land as a result of its poverty of habitat types and, until recently, continued management. For the purposes of CSH the site is assessed as of low ecological value.
35. There is little risk that development would impact upon any specially protected species or sites and no further surveys are thought necessary to demonstrate this.
36. The two oaks in the north east corner are the only features on site of any ecological value. While these two trees are isolated from other valuable habitat a single oak is capable of supporting a wide range of species making them worthy of retention and protection under the CSH.

General precautions

Nesting birds

- Even though the site presents very few opportunities the small number of shrubs and immature trees may support nesting birds. To prevent the proposed works impacting on nesting birds, site clearance will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any clearance that is required during the breeding bird season should be preceded by a nesting bird survey to ensure that the Wildlife and Countryside Act (1981) 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.

Part 2: Code for Sustainable Homes Assessment

37. The CSH assessment requires the following information from the Ecologist to demonstrate compliance:

Table 2.1: Compliance evidence from ecologist

Criteria	Criteria fulfilled?	Evidence presented
A site visit was carried out prior to construction	Yes	This report
Drawings or specification detailing how features will be protected	Standard tree protection measures are confirmed for two oak trees on site	Landscape architects plans
Confirmation that the ecologist is suitably qualified	Confirmed	This report
The features on site are low ecological value or there are no features present	Confirmed other than two trees discussed above	This report
Area of species per habitat or feature type	Confirmed	This report Table 1

38. To help with the planning of the project each CSH category is presented below showing either the points anticipated or those which may be achieved if recommendations are taken on board and evidence for such can be demonstrated.

Eco 1	Assessment Criteria	Credits available	Credits anticipated
	A suitably qualified ecologist assesses the site prior to development as being of low value. The site has been assessed as being of low ecological value.	1	1

Eco 2	Assessment Criteria	Credits anticipated
	The developer must adopt all of the key recommendations made below and at least 30% (in this case 1) of the additional recommendations	1
Note: Confirmation is required that these have or will be incorporated and should be provided to the assessor. Recommendations suitable for this site are set out in the section below this table. Recommendations carried out to comply with CSH must be in addition to the <u>requirement of the project to comply with UK and EU wildlife legislation.</u> Specifically, the need to carry out appropriate nesting bird surveys should site clearance be undertaken within the nesting season. If the site is extended to include the buildings of the chapel and presbytery there may be legal requirements to carry out bat surveys.		

Key recommendations (all of these should be incorporated)

Recommendation 1

39. Hedgerows are noticeably lacking in this urban area. While planting boundary hedgerows around this site would not provide useful connectivity or corridors they would provide vital habitats and food sources to a wide variety of birds, mammals and insects.
40. Plant a species rich boundary hedgerow, along at least the sites northern boundary, including native species such as hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), holly (*Ilex aquifolium*) and hazel (*Corylus avellana*).

Recommendation 2

41. Hedgehogs are in decline and act as important predators, ensuring a healthy ecosystem. Lack of suitable shelter in modern tidy gardens contributes to scarcity of this species.
42. Two hedgehog boxes could be installed in discreet locations among the landscaping. To increase the range of foraging habitat of any hedgehogs which visit the development site a single hole, c.15cm in diameter should be left at the base of each boundary fence.

Additional recommendations (Chose at least 1 of these)

Recommendation 3

- 43. Modern houses do not offer communal nesting sites for the declining bird species such as the house sparrow, swifts and starling.
- 44. Erect at least one box for each of these species; suitable boxes include 1SP Schwegler Sparrow Terrace, 17B Schwegler Swift Nest Box (Single Cavity) and Traditional Wooden Bird Nest Box with a hole diameter of 45mm (starling). These should be positioned in suitable locations beneath the eaves of buildings or in appropriate positions on other permanent features within the site boundary.

Recommendation 4

- 45. Bats are an important part of the functioning of ecosystems eating huge numbers of small insects. The design of modern houses can prevent them from roosting close to sources of insects but this can be remedied by erecting alternative roosting sites.
- 46. Incorporate 4 artificial bat roosting boxes suitable for bats in suitable locations beneath the eaves of buildings or within the structure of the buildings themselves; (Suggest Envisage code 0607 or equivalent*).

Recommendation 5

- 47. Ground water is often a limiting factor for native flora and flora in our urban environments.
- 48. Promote the retention of ground water in and near the site by use of porous surfacing where possible, the incorporation of bog gardens ponds and soak-aways and the use of appropriately sourced mulches on planted borders and beds.

*Products specified are for information and are available from www.wildcareshop.com or www.nhbs.com – other similar products are available elsewhere.

Eco 3	Assessment Criteria	Credits available	Credits anticipated
	Where all existing features of ecological value on site potentially affected by works are managed and protected. Trees for retention will be protected using standard tree protection measures inline with BS5837:2010.	1	1

Eco 4 Calculations

Eco 4	Assessment Criteria	Credits available	Credits anticipated
	The ecological value before and after development is measured and the overall change in species per hectare is: Minor negative (-9 to -3) Neutral (>-3 to +3) Minor positive (>+3 to +9) Major enhancement (>+9)	1 2 3 4	(2)
The site's previous ecological value has been calculated as 2.79 We do not have a post development plan for the site and can not at this stage calculate post development scores. However given the low value of pre-development habitats the site is likely to achieve a neutral rating and 2 credits. A landscape plan with planting schedules will be needed to calculate the post development score.			

Table 2.2 Calculations of ecological value pre-development

Habitat Type	Number of species	Area (m ²)	Species score
Rough grassland	4	3000	2.74
Hard standing	0	1300	0
Trees and shrubs	3	80	0.05
Total			2.79

Table 2.3 Calculations of ecological value post-development*

Habitat Type	Number of species	Area (m ²)	Species score

*Post development layout and planting schemes not available at time of writing.

49. In terms of increasing the sites ecological value (which can result in the award of extra credits in Eco 4), sites of a low value can offer a great opportunity. We have worked with clients in the past who have been able to maximise their credits in Eco 4 through the creation of green roofs, areas of low maintenance meadow planting (instead of standard turf) or wetland and pond features all of which can represent cost effective, sustainable solutions.

References

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