



A CODE FOR SUSTAINABLE HOMES ASSESSMENT OF



TRINITY SOUTH, SOUTH SHIELDS



**Report No 2
Final
January 2013**



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Planning Group
Received 23/01/13
ST/0081/13/FUL

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Client	Revision	Status	Date	Author	Proof Read	Checked
Keepmoat Homes	R01	Draft	14.1.13	MEM	ADM	ADM
	R02	Final	21.1.13	MEM		JC
Job No. 3144						

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SUMMARY

E³ Ecology Ltd. was appointed by Keepmoat Homes to undertake an ecological assessment of buildings and land at Trinity South, South Shields, and to advise on credits available under Category 9 Ecology: Eco1-4 of the Code for Sustainable Homes. The site is proposed for the development of residential housing. Survey was undertaken in January 2013.

The site is bordered on all sides by residential and commercial development and roads, with the A194 forming the eastern boundary and smaller roads bounding north, south and west.

An Environmental Statement was produced for the site by Entec in 2008, which concluded that the overall site was, at most, of local value. Breeding bird and bat surveys were undertaken at that time. No bats and only a limited range of nesting birds were recorded. No other protected species issues were identified. There were records of water vole and brown hare within 4km of the site, but no other protected species records within this distance.

Extended phase 1 survey in 2013 indicated that the site is of low ecological value overall, comprising retail/residential development in poor condition, amenity grassland and ornamental planting. There is a row of semi-mature trees, principally lime, on the western boundary that is of local value due to its potential to be used by nesting birds.

The buildings on site are in poor condition, with numerous gaps associated with areas of brickwork and slates, some over-covered with roofing felt, which could provide bats potential access to suitable crevice roost sites. There is also a small, newly constructed sub-station to the west of the amenity grassland, but this was well sealed with no potential roosting opportunities. However, foraging habitat in the area is limited to small areas of amenity grassland with very few trees. Survey in 2008 recorded no bat activity on site. The risk of roosting bats being present is considered very low, although occasional pipistrelle bats may forage over the amenity grassland areas.

The relatively large area of amenity grassland forming the western half of the site was the location of a former factory, which had very recently been demolished prior to the 2008 survey. A shallow ditch runs around the majority of the grassland, with occasional areas of standing water. The grassland itself also has areas of inundated water and along the length of the southern boundary there is a wider area of standing water.

2013 survey was undertaken following an extremely wet autumn/winter in 2012. All of these areas of water had terrestrial vegetation growing in them and are likely to be dry/virtually dry for the majority of the year. The ditch does not link with any other waterway and there are no ponds on site, or shown on the OS map or Google Earth within 500m of the site. The amenity grassland would provide poor terrestrial habitat for great crested newt and is surrounded by urban development and roads. The risk of otter, water vole or great crested newt being present is therefore considered to be negligible.

A row of semi-mature trees along the western boundary and an area of ornamental planting to the south east corner of the site will provide some potential nesting habitat for a range of locally common birds. A small group of immature silver birch in the north west corner will provide some foraging habitat, but only poor nesting habitat.

The site lacks a suitable mosaic of habitats for reptiles and is isolated from any potential habitat suitable to support a badger population. The UK BAP species hedgehog may be present on the site at times.

Potential impacts of the development in order of conservation significance are:

- Disturbance/harm to nesting birds should vegetation clearance works be undertaken during the bird nesting period (March to August).
- Loss of limited bird nesting habitat through redevelopment
- Very low risk of harm to individual bats, should they be present at the time of works, through demolition of the residential/retail development on site.
- Loss of habitats of low ecological value
- Low risk of harm/disturbance to individual hedgehog.

Key mitigation measures include:

- The row of semi-mature trees to the west of the site should be retained if at all possible.
- Vegetation clearance works of dense shrub planting and the semi-mature trees (if required) will not be undertaken during the bird breeding season (March to August inclusive) unless a suitably qualified ecologist has carried out a checking survey and demonstrated active nests to be absent.
- Retained semi-mature trees to the west of the site will be protected by barriers, located as a minimum distance half tree height from the trunk or at the extent of branch spread. All trees will be protected from direct impact and from severance or asphyxiation of the roots.
- Landscape planting should include shrubs and trees of value to nesting birds and other species.
- Bird boxes should be provided within retained trees.
- Mitigation measures recommended within the Entec report should be adhered to as they relate to this site.

Additional enhancement recommendations

The following mitigation measures are recommended in order to further enhance the site for biodiversity:

- The planting of native species or those with a known attraction or benefit to local wildlife
- The adoption of horticultural good practice (e.g. no, or low, use of residual pesticides)
- The installation of bird, bat and/or insect boxes
- Provision of suitable habitat for hedgehog at appropriate locations on the site

Before this report can be used to support CSH accreditation it is recommended that -

- Full landscape proposals with area measurements and species list are provided to inform the credit assessment.

If you are assessing this report for a local planning authority and have any difficulties interpreting plans and figures from a scanned version of the report, E3 Ecology Ltd would be happy to email a PDF copy to you. Please contact us on 01434 230982.

A INTRODUCTION

E³ Ecology Ltd. was appointed by Keepmoat Homes to undertake an ecological assessment of buildings/land at Trinity South, South Shields, and to advise on credits available under Category 9 Ecology: Eco1-4 of the Code for Sustainable Homes. The site is proposed for the development of residential housing.

The credit rating indicated within this report should be taken as a guide only, the awarding of credits by the CSH assessor cannot be guaranteed.

A.1 Background to development

The site is situated in South Shields at an approximate central grid reference of NZ359661. Site location is illustrated below in Figure 1.

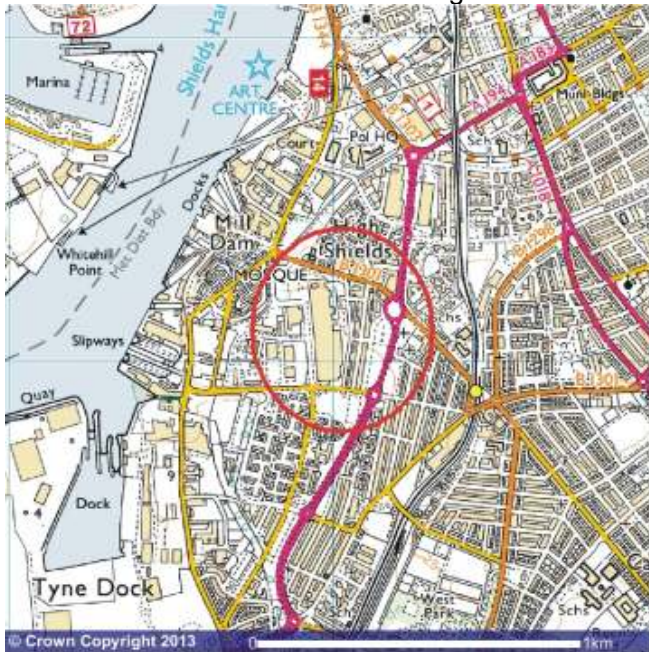
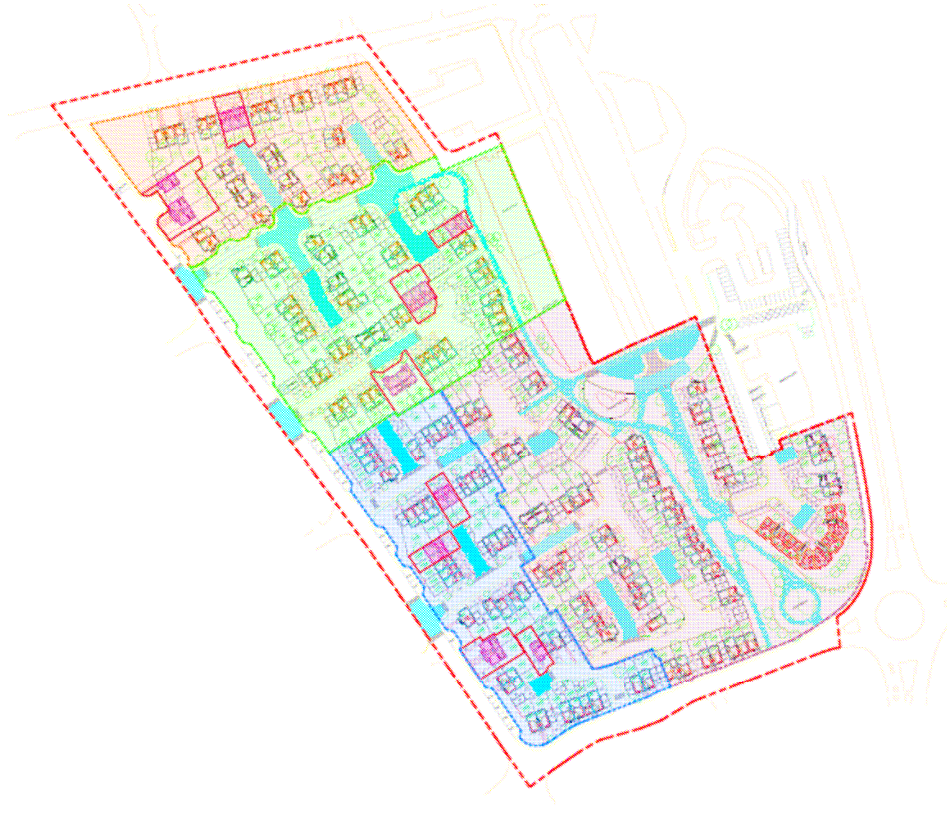


Figure 1 – Site Location (pre-factory demolition)

(Reproduced from the Ordnance Survey map with the permission of the controller of Her Majesty's Stationery Office. © Crown Copyright reserved. Licence number 100039392.)

It is proposed to demolish the existing residential/retail structures and redevelop the site for residential use.

Figure 2, below, illustrates the currently available plans for the proposed development.



A.2 Personnel

Survey work and reporting was undertaken by:

- Mary Martin BSc MIEEM

Details of experience and qualifications are available at www.e3ecology.co.uk.

A.3 Objectives of study

To provide a guide CSH credit rating. In addition, to determine the presence or otherwise of habitats of conservation value or protected species, the extent that they may be affected by the proposed development and, where necessary, to develop mitigation proposals that will allow development to proceed without significant adverse ecological effect.

B RELEVANT LEGISLATION AND PLANNING CONTEXT

B.1 National Planning Policy

The government National Planning Policy Framework (NPPF) states the following:

- Plan policies and planning decisions should be based upon up-to-date information about the natural environment (Paragraph 158 and 165).
- Plan policies should promote the preservation, restoration and recreation of priority habitats, ecological networks and the recovery of priority species (Paragraph 117).
- Local planning authorities should set out a strategic approach in their Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. (Paragraph 114).
- When determining planning applications in accordance with the Local Plan and the presumption in favour of sustainable development local planning authorities should aim to conserve and enhance biodiversity by applying a number of principles, including if significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused. (Paragraph 118).

B.2 Protected species legislation

The following protected species may be present on a site such as this:

Species	Relevant Legislation	Level of Protection
Bats (All species)	<ul style="list-style-type: none"> • Protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Classified as European protected species under Conservation of Habitats and Species Regulations 2010 • Bats are also protected by the Wild Mammals (Protection) Act 1996 	<p>The WCA (1981) and Habitat Regulations (2010) make it an offence to:</p> <ul style="list-style-type: none"> • Intentionally kill, injure, or take any species of bat • Intentionally or recklessly disturb bats • Intentionally or recklessly damage destroy or obstruct access to bat roosts
Birds	<ul style="list-style-type: none"> • Protection under the Wildlife and Countryside Act (1981) as amended with the exception of some species listed in Schedule 2 of the Act 	<p>The WCA (1981) makes it an offence to (with exceptions for certain species):</p> <ul style="list-style-type: none"> • Intentionally kill, injure or take any wild bird • Intentionally take, damage or destroy nests in use or being built (including ground nesting birds) • Intentionally take, damage or destroy eggs • Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst they are at their nests
<p><i>Under the Countryside and Rights of Way Act 2000 (CROW Act) the offence in section 9(4) of the Wildlife and Countryside Act 1981 of damaging a place of shelter or disturbing those species given full protection under the act is extended to cover reckless damage or disturbance.</i></p>		

Although not afforded any legal protection, species listed as Biodiversity Action Plan (UK or Local) priority species are a material consideration in the planning process and as such have been assessed accordingly within this report.

C SURVEY AREA AND METHODOLOGY

C.1 Survey area

Figure 3 illustrates the site boundary whilst Figure 4 illustrates the broad habitats present on site and within an approximate 500m buffer zone.



Figure 3 – Aerial photograph illustrating the extent of the site with a redline boundary (Reproduced under licence from Google Earth Pro.)



Figure 4 – Aerial photograph centred on the site with a 500m radius illustrating the setting and the habitats it supports (Reproduced under licence from Google Earth Pro.)

The study area includes the site and adjacent land to allow for possible secondary impacts in line with Natural England recommendations.

C.2 Methodology

C.2.1 Desktop study

Initially, the site was assessed from aerial photographs and 1:25000 OS plans. Following this, the MAGIC website was checked for any notable sites or habitat or species records.

C.2.2 Field survey

C.2.2.1 *Survey equipment*

The following items of equipment were utilised during survey work and analysis:

- Leica Ultravid 8 x 32 binoculars
- MP3/WAV digital recorder

C.2.2.2 *Phase 1 habitats*

The field survey of the proposed site was conducted using the methodology of Natural England's Phase 1 survey, as outlined in their habitat-mapping manual¹. Each parcel of land was assessed by a trained surveyor and classified as one of approximately ninety habitat types. These were then mapped and the habitat information supplemented by dominant and indicator species codes and target notes where appropriate.

Survey was undertaken on 10 January 2013.

C.2.2.3 *Protected species*

As part of the extended Phase 1 survey, the risk of protected species being present was assessed from the consultation responses, field signs and local knowledge. If present, any trackways regularly used by badger and deer were mapped, and any badger sett usage assessed by the presence of freshly dug earth and/or bedding at the entrance. Wetlands were reviewed for their potential use by great crested newt, otter and water voles, with particular attention paid to possible otter sprainting sites and resting areas. The risk of reptiles using the site was assessed based on the habitats present. Structures and trees were assessed for the risk of supporting roosting bats. Birds were assessed from the species seen during the survey, and the habitats present.

C.2.2.4 *BAP species*

The likelihood of certain BAP species (both UK and local designations) being present on site and affected by the development has also been assessed. The UK BAP species groups assessed are limited to birds, freshwater fish, herptiles, terrestrial mammals, butterflies and dragonflies. Where it is considered likely that there is a significant risk of UKBAP species from other species groups being affected, where habitats are of particularly high value and/or where statutory sites are present in the vicinity which name species from these groups as part of their designations, specialist survey work has been recommended. Relevant species, based on habitats present and consultation data, listed on LBAP lists have been assessed.

¹ Handbook for Phase 1 habitat survey, A Technique For Environmental Audit, English Field Unit, Nature Conservancy Council, 1990

D RESULTS

D.1 Desktop study

D.1.1 Pre-existing information

OS map & aerial photographs

Figures 1 (A1) and 3 (C1) show that the general land use in the surrounding area is retail/residential and commercial development.

The most recent aerial photograph of the site (Figure 2, C1, date) indicates that habitats on site are dominated by amenity grassland, hard standing and residential/retail development; however, the OS map shows that the large area of amenity grassland making up the western part of the site formerly supported a large structure.

The MAGIC website has no records of statutorily designated sites within 2km of the site.

Previous survey work by Entec in 2008 included an extended phase 1 survey, breeding bird surveys and bat transect surveys of the wider site, including this application area. No evidence of protected species were found; a small number of locally common birds were recorded nesting within the whole site including breeding starling, house sparrow (both red listed Birds of Conservation Concern BoCC), pied wagtail, goldfinch, blackbird and wren, with non-breeding amber listed BoCC common and herring gull also recorded. All breeding birds were single pairs with the exception of house sparrow (8) and blackbird (3).

D.1.2 Consultation


Consultation with Durham Wildlife Trust by Entec provided records of water vole (3.7/3.8km from the site) and brown hare (1.1km from the site).

D.2 Field survey

D.2.1 Habitats

The phase 1 map, Figure 5 below, illustrates the habitats present on site.



 Ecology Ltd Tel: 01434 239542	Am 1 T sp S sp Orn	Amenity Target Note Tree Tilia sp. Sorbus sp. Ornamental	Drawn By: MEM Date: 11.1.13 Revision: 01 Scale: NTS	Job No:- 3144 Title:- Trinity, Laygate, South Shields Phase 1 Survey	Figure No:- 5

Amenity Grassland

The western half of the site is dominated by species poor amenity grassland. Species recorded include perennial rye grass (*Lolium perenne*), meadow grass (*Poa sp.*) bent grass (*Agrostis sp.*) broadleaf dock (*Rumex obtusifolius*), creeping buttercup (*Ranunculus repens*), greater plantain (*Plantago major*), ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), dandelion (*Taraxacum sp.*), creeping thistle *Cirsium arvense*, daisy and groundsel (*Senecio vulgaris*). A

small section of amenity grassland also lies in the south eastern corner of the site. Species are similar though fewer in composition, comprising ryegrass, meadow grass, bent grass, buttercup, daisy and ribwort plantain.



Trees & Ornamental planting

A row of immature to semi-mature trees, principally lime (*Tilia sp*) with one rowan (*Sorbus aucuparia*), lies to the western edge of the main area of amenity grassland. A group of immature silver birch (*Betula pendula*) lie on the north western corner of the same grassland. The amenity grassland and car parking to the south east is bordered by ornamental planting/scrub largely comprising snowberry (*Symphoricarpos sp*), and *Cotoneaster sp.* Within this area of planting are individual hawthorn (*Crataegus monogyna*), weeping willow (*Salix babylonica*) and sea buckthorn (*Hippophae rhamnoides*). Four recently planted immature amenity trees lie to the northern end of the built development, in a paved walk-way between the two rows of terraced buildings.



Derelict Land

To the southern end of the row of housing/shops is a small area of derelict land. Approximately half of this area is largely bare ground partly (c20%) colonised by occasional pineapple weed (*Matricaria discoidea*), clover (*Trifolium repens*), ragwort (*Senecio jacobaea*), chickweed (*Stellaria sp.*), Yorkshire fog (*Holcus lanatus*) and mugwort (*Artemisia vulgaris*). The remainder has a greater area of colonisation including *Buddleia*, ryegrass and mugwort.



Built Development

Two rows of retail units, with residential flats over, lie to the south eastern corner of the site. The majority of the buildings appear empty. All are brick built, with slate roofs. Some roofs have been covered in roofing felt over the slates; many are in poor condition with numerous holes/slipped slates. Overall, brickwork is reasonably well pointed, but some buildings have missing sections of walls and removed leadwork creating crevices and access into the roof structure.



There is also a small electricity sub-station set between the trees to the west of the site. This is brick built with modern pantile roof and well sealed boxed in eaves, and appears to have been recently constructed.



Hard Standing

The site includes two tarmac car parks, one associated with the medical centre and one to the east of the large amenity grassland area, plus roads and footpaths.



D.2.2 Target Notes

Target Note 1

A group of c20 immature birch trees to the north west corner of the site.



Target Note 2

A ditch runs around the majority of the perimeter of large area of amenity grassland. This is c15-30cm deep and a similar width on average. Only small sections were holding water at the time of the survey, with terrestrial grass species present throughout. The ditch does not appear to be connected to any other water body and is surrounded by residential and commercial housing; it is likely that it has been created following demolition of the former factory, to aid water run off.



Target note 3

To the southern end of the large area of amenity grassland is an area of standing water extending beyond the ditch, and running the full width of the grassland. Grass species were present throughout and it is likely that this area dries out apart from during periods of very wet weather. There was no aquatic vegetation or invertebrates recorded. There are other shallow areas of inundated land across this area of the site, likely to be the result of the sustained period of wet weather in late 2012.



D.2.3 Species

Bats

The retail/residential buildings on site provide some potential crevice roost sites associated with both the brickwork and slates/felt covering, however foraging habitats in the surrounding area are poor, limited to small areas of amenity grassland and occasional trees/shrub planting. Survey in 2008 recorded no bat activity on site. The risk of roosting bats being present is considered very low, although occasional pipistrelle bats may forage over the amenity grassland areas.

Otter & Water Vole

The ditch surrounding the site lacks suitable cover for either species, is not connected to any other waterways and is surrounded by development. These species are therefore likely to be absent.

Great Crested Newt

The standing water to the south west of the site lacks aquatic vegetation and is likely to be ephemeral in nature. It is also only likely to have been formed following the demolition of the factory in 2007/2008. There are no ponds shown on the OS map or Google earth within 500m of the site boundary. Terrestrial habitats are poor for the species, being limited to areas of

amenity grassland. The risk of great crested newt being present is therefore considered to be negligible.

Birds

The semi-mature trees to the west of the site and the dense ornamental planting/shrubs around the south eastern corner will provide nesting habitat for a small number of common urban species. No evidence of nests or bird activity was recorded during the survey. The silver birch trees to the north west are too immature to provide any good nesting habitat.

Other Species

The site is isolated from any habitat suitable for badger sett creation and lacks a suitable mosaic of habitats to support a reptile population. The area is also highly disturbed, with the amenity grassland being used by pedestrians and dogs. No other protected species are considered likely to be present.

UK BAP species hedgehog may forage across the amenity grassland, and may be present within the area of shrub planting at times during the year.

E ASSESSMENT

The value and significance of the habitats and species found was assessed against the following criteria developed from the Guidelines for Ecological Impact Assessment produced by the Institute of Ecology and Environmental Management².

Level of Value	Examples
International	<ul style="list-style-type: none"> • An internationally designated site or candidate site. • A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. • Any regularly occurring, nationally significant population/number of any internationally important species.
National	<ul style="list-style-type: none"> • A nationally designated site. • A viable area of a priority habitat identified in the UK BAP, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring population of a nationally important species, which is threatened or rare in the region or county. • A regularly occurring regionally or county significant population/number of any nationally important species. • A feature identified as of critical importance in the UK BAP.
Regional	<ul style="list-style-type: none"> • Viable areas of key habitat identified in the Regional BAP or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • A regularly occurring, locally significant number of a regionally important species.
County	<ul style="list-style-type: none"> • County designated sites. • A viable area of a habitat type identified in the County BAP. • Any regularly occurring, locally significant population of a species which is listed in a County "red data book" or BAP on account of its regional rarity or localisation. • A regularly occurring, locally significant number of a species important in a County context.

² Institute for Ecology and Environmental Management (2006) Guidelines for Ecological Impact Assessment in the United Kingdom (Version 7 July 2006). <http://www.ieem.org.uk/ecia/index.html>.

Level of Value	Examples
District	<ul style="list-style-type: none"> • Areas of habitat identified in a District level BAP. • Sites designated at a District level. • Sites/features that are scarce within the District or which appreciably enrich the District habitat resource. • A population of a species that is listed in a District BAP because of its rarity in the locality.
Parish	<ul style="list-style-type: none"> • Area of habitat considered to appreciably enrich the habitat resource within the context of the Parish. • Local Nature Reserves.
Local	<ul style="list-style-type: none"> • Habitats and species that contribute to local biodiversity, could only be replicated in the medium term, but are common in the local area. • Loss of such habitats would ideally be mitigated if local biodiversity is to be conserved and enhanced.
Low	<ul style="list-style-type: none"> • Habitats of poor to moderate diversity such as established conifer plantations, species poor hedgerows and unintensively managed grassland that may support a range of Local BAP species but which are unexceptional, common to the local area and whose loss can generally be readily mitigated.

E.1 Habitat conservation value

The site is principally of low ecological value, comprising amenity grassland, areas of hard standing and built development. The semi-mature trees to the west of the site and areas of ornamental/shrub planting are of local ecological value due to their value to nesting birds.

E.2 Protected and BAP species

There is a very low risk that bats may use suitable crevices within the buildings at times during the year and may forage across the amenity grassland, although no bat activity at all was recorded during the 2008 surveys.

Nesting birds may be present in small numbers within suitable trees and dense areas of planting and may forage on the amenity grassland.

No other protected species are considered likely to be present due to a lack of suitable habitats to support species in isolation, and being separated from any other suitable habitats by dense built development and road networks. The UK BAP species hedgehog may be present at times.

E.3 Limitations

Only winter external inspection of the buildings was undertaken. However, active season surveys in 2008 failed to record any bat activity within this area. Taking into account the poor foraging habitat and numerous alternative roosting sites, this is not considered a significant constraint to survey. The winter survey may have limited the number of vegetative species identified, however, this is not considered to have impacted on the assessment of conservation value for the site.

E.4 Impacts

Potential impacts of the development in order of conservation significance are:

- Disturbance/harm to nesting birds should works be undertaken during the bird nesting period (March to August).
- Loss of limited bird nesting habitat through redevelopment
- Very low risk of harm to individual bats, should they be present at the time of works, through demolition of the residential housing on site.
- Loss of habitats of low ecological value
- Low risk of harm/disturbance to individual hedgehog.

F MITIGATION AND RECOMMENDATIONS

F.1 Further survey

No further survey of the site is necessary.

F.2 Mitigation requirements

- Retained semi-mature trees to the west of the site will be protected by barriers, located as a minimum distance half tree height from the trunk or at the extent of branch spread. All trees will be protected from direct impact and from severance or asphyxiation of the roots.
- Vegetation clearance works or dense shrub planting and the semi-mature trees (if required) will not be undertaken during the bird breeding season (March to August)

inclusive) unless a suitably qualified ecologist has carried out a checking survey and demonstrated active nests to be absent.

- Landscape planting should include shrubs and trees of value to nesting birds and other species.
- Bird boxes should be provided within retained trees.
- Mitigation measures recommended within the Entec report should be adhered to as they relate to this site.

Habitat Creation and Enhancement

- The planting scheme for the site will, where possible, include native species and be designed to create linkages across the development area for wildlife;

Good working practices

The following measures should be included as general good working practice:

- All ecological protection measures will be implemented prior to any preliminary construction or preparation works.

F.3 Additional enhancement recommendations

The following mitigation measures are recommended in order to further enhance the site for biodiversity:

- The planting of native species or those with a known attraction or benefit to local wildlife
- The adoption of horticultural good practice (e.g. no, or low, use of residual pesticides)
- The installation of bird, bat and/or insect boxes
- Provision of suitable habitat for hedgehog at appropriate locations on the site

F.3.1 Recommended planting

In order to gain credits under Eco4, only native floral/plant species, and/or those contributing to a local or UK Biodiversity Action Plan, or those with a known attraction or benefit to local fauna can be considered for the purpose of increasing the number of species on site, as well as general enhancement. There is a full list of the native flora recorded within this district (NE10) at the Natural History Museum website: <http://www.nhm.ac.uk/fff-pcp/glob.pl?report=pcflist&group=&sort=&inpostcode=NE33>

G CSH ASSESSMENT: GUIDE CREDIT RATING

G.1 CSH assessment: guide credit rating

The Code For Sustainable Homes Technical Guide (November 2010) was used as guidance for the ecological assessment of the site in order to suggest the probable credit rating³. These criteria are summarised in Appendix 1, and are addressed for the proposed development within this section of the report.

G.1.1 Credit reference Eco1: Ecological Value of the Site

Overall, the site is considered to be of low ecological value, comprising amenity grassland, hard standing and built development. The trees to the west of the site (lime and rowan) all have a dbh of greater than 10cm and are of value to nesting birds. The area of dense shrub planting in the south eastern corner is of low ecological value, and although of value to nesting birds is readily replicated through garden planting. The silver birch trees to the north west corner are all immature and of low ecological value in their current form.

The maximum of **one credit** may be awarded if the semi-mature trees to the west of the site are retained and protected during works.

G.1.2 Credit reference Eco2: Ecological Enhancement

All UK and EU legislation in relation to protected species has been met and recommendations go beyond these requirements. The site visit was undertaken before the onset of works.

It is recommended that development of the site will include features that will enhance the ecological value of the site for local wildlife.

The maximum of **one credit** may be awarded, subject to the implementation of all of the key recommendations outlined within this report (Section F2) and at least 30% of the additional recommendations (Section F3). Mary Martin is a full member of the Institute of Ecology and Environmental Management.

G.1.3 Credit reference Eco3: Protection of Ecological Features

The aim of this credit is to protect existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

The maximum of **one credit** may be awarded if the semi-mature trees to the west of the site are retained and protected during works.

³ Department for Communities and Local Government. 2009. *Code for Sustainable Homes. Technical Guide*. 294 pp.

G.1.4 Credit reference Eco4: Change in Ecological Value of Site

A phase 1 habitat survey of the site was conducted January 2013. Habitats recorded within the site are shown in the table below, along with the number of species of plant present within each habitat type.

Existing area values		
Habitat Type	Approximate Area (m ²)	Number of plant species present
Main area amenity grassland	40814	12
Small area of amenity grassland	408	6
Trees	470	2
Shrub/ornamental	721	5
Derelict land (c20% plant cover)	40	6
Derelict land	204	3
Built development/hard standing	15384	0

The number of credits achieved under 'Eco 4' is dependent upon the original area of habitat(s) and the number of species found for each habitat(s) in relation to the number of species to be planted and the area to be planted as a proportion of the total site area.

The number of credits achieved under 'Eco 4' can be determined once a final planting scheme for the site has been devised and the calculations completed.

The criteria for the number of credits are given below:

Criteria	
The ecological value before and after development is measured, and the overall change in species per hectare is:	
i)	Minor –ve change: between –9 and less than or equal to –3
ii)	Neutral: greater than –3 and less than or equal to +3
iii)	Minor enhancement: greater than 3 and less than or equal to 9
iv)	Major enhancement: greater than +9

Criteria	Credits
The ecological value before and after development is measured, and the overall change in species per hectare is:	
1. Minor –ve change: between –9 and less than or equal to –3	1
2. Neutral: greater than –3 and less than or equal to +3	2
3. Minor enhancement: greater than 3 and less than or equal to 9	3
4. Major enhancement: greater than +9	4

Calculation of ecological value of site before development (approximate area values):

$$= \frac{\sum \text{area of plot type} \times \text{species recorded}}{\text{total area of the site}} = \frac{(40814/12)+(408 \times 6)+(470 \times 2)+(721 \times 5)+(40 \times 6)+(204 \times 3)+(15384 \times 0)}{58041} = 8.57$$

The provision of planted areas such as heavy-duty flower containers have the potential to enhance the ecological value of the site as a whole, depending on the number of species planted.

Calculations can be completed once landscape plans with finalised areas of plantings are received. However, to provide a worked example, if 10% of the area was to be landscaped (5804m²), for example, then:

$$= \frac{\sum \text{area of plot type} \times \text{species recorded}}{\text{total area of the site}} = \frac{(52237 \times 0) + (5804 \times 0)}{58041} = - 8.57$$

According to the criteria set out above, **one credit** can be awarded even if no species of wildlife value are planted as even without planting, the result is a minor negative change. **Two credits** can be awarded if at least 56 species* are planted, as this would result in a neutral change in the ecological value of the site (-2.97). Given the limited area available for planting the likelihood of gaining more than 1 credit for Eco4 is considered to be low.

** the species must be native or of known value to wildlife*

If the landscaped areas are increased above the cited example of 5,804m², then the diversity of the species needing to be planted to attain each credit will be reduced, whilst if the areas are reduced, then the number will be increased. Regardless of the planting schemes proposed, it is considered unlikely that more than one credit would be attainable for this site.

G.1.5 Credit summary

Credit Reference	Maximum Points Available	Points Awarded
Eco1	1	1 subject to the retention and protection of the semi-mature trees to the west of the site
Eco2	1	1 subject to the acceptance of the ecological recommendations
Eco3	1	1 subject to the retention and protection of the semi-mature trees to the west of the site
Eco4	4	1, with a second possible but unlikely
Note: The credit rating indicated above should be taken as a guide only, the awarding of credits by the BREEAM assessor cannot be guaranteed.		

H APPENDICES

H.1 Appendix 1: Code For Sustainable Homes (November 2010) Assessment Criteria

The following criteria summarise the Code for Sustainable Homes Technical Guidance published in November 2010⁴:

Eco 1 - Ecological value of site

The aim of Eco 1 is to encourage development on land that already has limited value to wildlife and to protect existing ecological features outwith the construction area from damage during site preparation and the completion of construction works.

One credit can be awarded to the development site is confirmed as land of inherently low ecological value. This can be achieved by:

- *Meeting the criteria for low ecological value (using Checklist Eco 1 – Land of Low Ecological Value under Checklists and Tables below);*

OR

- *Being confirmed as such by a suitably qualified ecologist.*

OR

- *Where an independent ecological report of the site, prepared by a suitably qualified ecologist, confirms that the construction zone is of low or insignificant ecological value.*

OR

- *Producing an independent ecological report of the site, prepared by a suitably qualified ecologist, which confirms that the construction zone is of low or insignificant ecological value.*

AND

- *Land of ecological value outside the construction zone but within the development site will remain undisturbed by the construction works.*

Eco 2 - Ecological enhancement

The aim of this credit is to maintain and enhance the ecological value of the site.

It is possible to award one credit to the site where evidence is provided to demonstrate that the design team (or client) has:

- *appointed a 'suitably qualified ecologist' to advise and report on enhancing and protecting the ecological value of the site and recommend appropriate ecological features which will positively enhance the ecology of the site;*

AND

- *implemented professional recommendations for general enhancement and protection for site ecology. This includes the implementation of all the key recommendations, along with at least 30% of the additional recommendations for site enhancement.*

N.B. A site visit must be undertaken prior to the start of works to earn the credit, as this is a requirement of the CSH assessment. In addition, if a site visit is not undertaken prior to the start of works, it cannot be shown that all UK and EU legislative requirements with respect to wildlife have been met.

⁴ Department for Communities and Local Government. 2010. Code for Sustainable Homes. Technical Guide. 292 pp.

Eco 3 – Protection of Ecological Features

The aim of Eco 3 is to protect existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

One credit can be awarded where all existing features of ecological value on the development site potentially affected by the works, are maintained and adequately protected during site clearance, preparation and construction works.

The credit can be awarded by default where the site has been classified as being of *low ecological value* in accordance with credit Eco 1 AND no features of ecological value have been identified.

If a Suitably Qualified Ecologist has confirmed a feature can be removed due to insignificant ecological value or where an arboriculturalist has confirmed a feature can be removed due to poor health/condition (e.g. diseased trees which require felling, either for health and safety and/or conservation reasons), the credit can be achieved provided all other features are adequately protected in accordance with the ecologist's recommendations.

Eco 4 - Change of ecological value of site

The aim of this credit is to reward steps taken to minimise reductions and to encourage an improvement in ecological value.

Credits are awarded where the resulting change in ecological value is as follows:

- Minor negative change: between –9 and less than or equal to –31 credit
- Neutral: greater than –3 and less than or equal to +32 credits
- Minor enhancement: greater than 3 and less than or equal to 9 3 credits
- Major enhancement: greater than +9 4 credits

Details of the number of species per habitat type, which are present within the site prior to the start of works should be supplied by a suitably qualified ecologist. Only native species, or those known to attract local wildlife can be considered within the calculations, based on the advice and recommendations of a suitably qualified ecologist.

The actual number of species present within the site, as recorded by a *Suitably Qualified Ecologist* may be used to replace any of the figures within the table below:

Table : Cat 9.3 : Average Number of Species per Landscape and Vegetation Plot Type for Existing Habitats

Plot Type	Landscape Type									
	Arable	Pastoral	Marginal Upland	Upland	Existing Building/ Hard Landscaped Areas	Urban Mosaic	Industrial Derelict Land <1 year	Industrial Derelict Land <10 years	Industrial Derelict Land <20 years	Industrial Derelict Land ≥30 years
Crop Weeds	5.4	8.3	-	-	0	-	-	-	-	-
Tall grassland/herb	12.7	15.0	-	-	0	17.6	0	6.3	15.8	21.1
Fertile grassland	11.6	12.7	15.3	-	0	11.6	0	4.6	11.5	15.3
Infertile grassland	17.1	17.6	21.1	-	0	17.6	0	6.3	15.8	21.1
Lowland wooded	12.9	12.5	-	-	0	13.8	-	-	-	-
Upland wooded	-	12.7	13.8	20.4	0	13.8	-	-	-	-
Moorland grass/mosaic	-	2.0	20.4	21.0	0	-	-	-	-	-
Heath/Bog	-	-	14.3	20.0	0	-	-	-	-	-
Hard Landscaping	0	0	0	0	0	0	0	0	0	0
Buildings	0	0	0	0	0	0	0	0	0	0
Garden Planting (Typical)	tbe	tbe	tbe	tbe	tbe	tbe	-	-	-	-
Wildlife Garden Planting	tbe	tbe	tbe	tbe	tbe	tbe	-	-	-	-

' - 'insufficient data to produce national averages, as not all vegetation plot types are found in all landscape types. Values are data from: DEFRA "Digest of Environmental Statistics" No. 20. HMSO, 1998

tbe: To be evaluated by a Suitably Qualified Ecologist – otherwise assume 0

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