PLANNING DESIGN ENVIRONMENT

The Hope And Anchor
Cellarhead
Ecological Assessment

April 2013
Version 1.0

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APPENDICES

EXECUTIVE SUMMARY

i. TEP was commissioned in April 2013 by Seddon Construction Limited to carry out an ecological assessment of The Hope and Anchor site.

ii. The site is dominated by modified neutral grassland and harstanding with areas of tall hedgerows, scattered trees and scrub.

iii. Current proposals indicate that the majority of the existing trees and scrub will be removed.

iv. No internationally or nationally designated sites will be directly or indirectly affected by development of the site.

v. There will be loss of a hedgerow which is a S41 priority habitat.

vi. Japanese knotweed, a non-native invasive species listed on Schedule 9, is present on site. If works are to be carried out in close proximity to this area a method statement will be required to ensure no spread of this species occurs.

vii. The lighting plan for the site must ensure that external lighting is minimised close to the southern and eastern boundary to avoid disturbance to foraging and commuting bats.

viii. The hedgerows, scrub and trees on site offer potential nesting habitat for birds. All wild UK nesting birds, their nests and eggs are protected under the *Wildlife and Countryside Act 1981* (as amended). It is an offence to intentionally or recklessly, damage or destroy nests and all vegetation work should be undertaken outside the bird nesting season (March to August inclusive). If this is not possible, a suitably qualified ecologist should check for nesting birds a maximum of 24 hours in advance of any site clearance works.

ix. The Arboricultural Impact Assessment (TEP Ref: 3925.001) must be referred to, to ensure that any trees to be retained and those in close proximity to the site are appropriately protected.

x. It is recommended that replacement trees and scrub are incorporated into the design layout in order to maintain and enhance biodiversity on the site. Replacement planting should include native species of trees and shrubs, ideally of local provenance.

xi. Green trellising, utilising ivy, honeysuckle or berry producing climbers, could be installed on buildings to provide foraging and sheltering opportunities for insects and birds.

xii. Opportunities for bats and birds could be provided through the inclusion of boxed eaves in the design of the new buildings and by the use of bird and bat boxes within the new buildings and/or on suitable trees. Examples of box designs are presented at Appendix C.

1.0 INTRODUCTION

1.1 TEP was commissioned in April 2013 by Seddon Construction Limited to carry out an ecological assessment of The Hope and Anchor site, which is proposed for housing development. Proposals include the construction of 25 new houses and associated soft and hard landscaping.

1.2 This report has the following objectives:

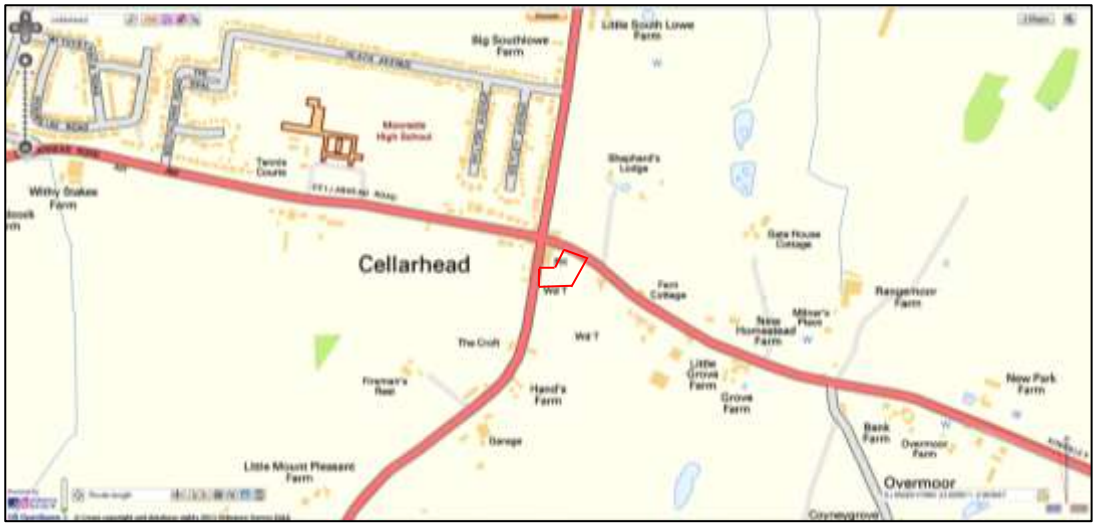
- to describe the existing vegetation and give an overview of the habitats present on the site;
- to identify whether there are any features of conservation value such as legally protected species or habitats of biodiversity importance that could be affected by the proposed development;
- to advise of further surveys or mitigation requirements that might be needed prior to development of the site; and
- to outline opportunities to provide biodiversity enhancement within site proposals.

2.0 SITE DESCRIPTION

2.1 The development site is located off Leek Road and Kingsley Road with the approximate central grid reference SJ 957 475. Historically the site was used as a car park for the neighbouring public house, The Hope and Anchor. Currently the site is dominated by modified neutral grassland and hardstanding with areas of scrub and scattered trees.

2.2 The site location is shown in Figure 1. The Hope and Anchor site is bounded by open fields to the south, Leek Road to the west, Kingsley Road to the north, and a residential property forms the eastern boundary.

Figure 1: Site location map of The Hope and Anchor site.



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3.0 METHODS

Desktop Study

3.1 Information regarding historic species records, protected sites, land allocation and relevant policies was requested/gathered from the sources listed in Table 1.

Table 1: Ecological information and consultations

CONSULTEE/SOURCE OF INFORMATION	NATURE OF INFORMATION
Staffordshire Ecological Record	Records of protected or notable species/habitats within 1km of the site boundary
Natural England –Nature on the Map	Maps showing legally protected areas/ protected sites
Google Maps	Satellite imagery
Where's the Path? (website)	Location Plan
National Biodiversity Network	Records for protected species
Section 41 list (NERC Act 2006) of Habitats and Species	Species/habitats of principal importance

Habitats and Flora

3.2 The phase 1 habitat survey of The Hope and Anchor site was carried out by Sarah Knowles on 25th April 2013. The survey and assessment were carried out in accordance with the Guidelines for Ecological Appraisal (IEEM 2012) and the Handbook for Phase 1 Habitat Survey (JNCC 2010).

Fauna

3.3 During the habitat survey, the habitats present were assessed for their potential to support species of conservation concern, particularly statutorily protected species or priority species.

4.0 RESULTS

Desktop Study

Protected sites

4.1 March Lane / Windycote Lane a Site of Biological Importance (SBI) is located approximately 470m east of the site boundary. This has been designated on the basis of its diverse road verge and associated ditch.

Protected species and species of conservation concern

4.2 No bat roosts have been identified within 1km of the site. However, data obtained from the Staffordshire Ecological Record identifies a number of bat field signs within 1km (the closest located 850m south west of the site boundary) and includes records of common pipistrelle (*Pipistrellus pipistrellus*).

4.3 The following protected species have also been recorded within 1km of the site; short eared owl, brambling, fieldfare, barn owl and bluebell.

4.4 Records were also provided of badger setts and field signs within 1km of the site.

4.5 Full desk-top study information is presented in Appendix A.

Habitat Survey

4.6 The Phase 1 habitat survey map (Drawing G3925.001) and target notes are presented in Appendix B.

4.7 The site is dominated by hardstanding in the form of the car park for the adjacent public house. This is of no ecological value.

4.8 There are large areas of species poor modified neutral grassland (Target Note TN1). This was previously amenity grassland that has been left unmanaged. These areas are dominated by red fescue (*Festuca rubra*), with abundant common bent (*Agrostis capillaris*), and Yorkshire fog (*Holcus lanatus*). There is frequent cow parsley (*Anthriscus sylvestris*), ribwort plantain (*Plantago lanceolata)*, creeping buttercup (*Ranunculus repens*), broad-leaved dock (*Rumex obtusifolius)* and willow herb species (*Epilobium sp.)*. A full species list can be found in the target note report (Appendix B.).

4.9 Along the south eastern boundary are areas of dense scrub and trees (Target Note TN2). Species present include Japanese knotweed (*Fallopia japonica*), an invasive, non-native, listed on Schedule 9 of the Wildlife and Countryside Act 1981, (as amended), bramble (*Rubus fruticosus agg)* and snowberry (*Symphoricarpos albus),* with frequent goat willow (*Salix caprea*), hawthorn (*Crataegus monogyna*) and occasional leylandii (*Cupressocyparis leylandii*), elder (*Sambucus nigra*) and lilac (*Syringa vulgaris*).

4.10 Along the southern boundary is a defunct hedge dominated by hawthorn with frequent bramble (Target Note TN3).

4.11 Towards the northern part of the site is a hedgerow (Target Note TN4) that has been left unmanaged. This is dominated by privet (*Ligustrum ovalifolium*) with hawthorn.

4.12 There are scattered trees throughout the site. Species present include Japanese rowan (*Sorbus commixta*), box elder (*Acer negundo*) and Lawson cypress (*Chamaecyparis lawsoniana*).

Fauna

4.13 No badger signs were recorded within the site.

4.14 The trees within the site do not provide roosting opportunities for bats. They lack suitable features such as cracks and cavities. They are classified as category 3 in accordance with the Bat Conservation Trust Guidelines (2012).

4.15 Vegetation within the site, such as the hedgerows and scrub, could provide suitable foraging habitat for bats. The site is located adjacent to a well-lit road and residential properties, therefore it is unlikely that the new development would introduce significantly greater light levels.

4.16 The trees, hedgerows and scrub within the site provide potential nesting habitat for birds.

4.17 Aerial imagery suggests that there are two ponds located within 500m of the site; one 320m south east and one 360m south east. Access to the ponds was not possible during the site survey so their suitability to support great crested newts could not be assessed. However, the site is dominated by hardstanding and there is an abundance of good quality habitat directly adjacent to the site, so it is highly unlikely that amphibians would be present within the site. In addition to this, there are no records of great crested newts within 1km of the site boundary.

4.18 No birds of conservation concern were recorded within the site during the habitat survey; however, the trees, hedgerows and scrub do provide nesting and foraging potential for a number of common birds.

4.19 The habitats within and surrounding the sites are generally of low suitability for reptiles.

5.0 CONCLUSIONS

5.1 There are hedgerows within the site which, although not qualifying as important under the Hedgerows Regulations 1997, are listed on S.41 of the Natural Environment and Rural Communities (NERC) Act 2006 as priority habitats, providing shelter and foraging opportunities for local wildlife.

5.2 No internationally, nationally or locally designated wildlife sites will be directly or indirectly affected by development on the site due to the distance from the site and the limited habitat connections between the two areas.

5.3 Current proposals indicate that the majority of the trees and scrub will be removed. Any vegetation that requires removal or pruning must consider nesting birds. All nesting birds are protected under the *Wildlife and Countryside Act 1981* (as amended). There is no provision under the licensing system for disturbance or destruction of nests to facilitate development, so there are potential timing implications for vegetation works with regard to nesting birds.

5.4 Japanese knotweed is present within the site (as shown on the Phase 1 Habitat Map: G3925.001). This species is listed on Schedule 9 of the *Wildlife and Countryside Act 1981 (as amended)* as a non-native invasive species. Under the Act it is an offence to cause the spread of this species in the wild. Due to the persistent and invasive nature of Japanese knotweed, failure to manage this species on a development site may also result in future structural damage, especially to tarmac surfaces.

5.5 Although identified within 1km of the site during the desktop study, there is no suitable habitat within the site for short eared owl, brambling, fieldfare or, barn owl and bluebell was not recorded during the survey. These species are therefore not considered further.

5.6 Bat species have been recorded within 1km of the site but no signs of roosts were recorded during the field survey and the trees and have negligible potential for roosting bats. However, the trees, hedgerows and scrub could provide suitable foraging and commuting habitat.

6.0 RECOMMENDATIONS

6.1 The hedgerows, scrub and trees on site offer potential nesting habitat for birds. All wild UK nesting birds, their nests and eggs are protected under the *Wildlife and Countryside Act 1981* (as amended). It is an offence to intentionally or recklessly, damage or destroy nests and all vegetation work should be undertaken outside the bird nesting season (March to August inclusive). If this is not possible, a suitably qualified ecologist should check for nesting birds a maximum of 24 hours in advance of any site clearance works. If nesting birds are present, a buffer zone will need to be set up around the nest until the young have fledged. The size of the buffer zone will depend on the species recorded. The ecologist will regularly monitor the nest and advise the contractors when works can proceed.

6.2 It is recommended that Japanese knotweed be eradicated from the site, even if the development proposals can avoid this area. We would recommend that a minimum buffer of 7m from this species is fenced off during the construction period (with warning signs erected) and treated with herbicides.

6.3 If works will be undertaken within 7m of Japanese knotweed a method statement should be produced detailing how the spread of this species will be avoided during works, and how the plant will be eradicated from the site. . Any waste containing this species is classed as controlled waste under the *Environmental Protection Act (Duty Of Care) Regulations 1991*, which requires all producers, carriers and disposers of waste to follow a code of practice and to keep records. Liability may also extend to situations where a landowner has knowingly permitted the spread of Japanese Knotweed onto neighbouring land.

6.4 If the proposed development will not come within 7m of the Japanese knotweed,

6.5 TEP is experienced in producing Japanese knotweed method statements and can provide a suitably experienced person to supervise removal works.

6.6 The majority of trees and scrub habitat will be removed for this scheme. It is recommended that this loss of habitat is compensated through replacement planting, which is incorporated into the design layout, in order to maintain and enhance the biodiversity of the site. Replacement planting should include native species of trees and shrubs, ideally of local provenance.

6.7 Any trees or natural features that are to be retained during development of the site, and trees within close proximity to the site boundary, should be protected using fencing, to prevent encroachment by machinery or storage of materials within the root protection zone. The Arboricultural Impact Assessment (TEP Ref: 3925.001) should be referred to for full details of protection methods.

6.8 Enhanced nesting and roosting opportunities for bats and birds could be provided through the inclusion of boxed eaves in the design of the new buildings and by the use of bird and bat boxes within the new buildings and/or on suitable trees. Examples of box designs are presented in Appendix C.

6.9 The lighting plan for the site will need to demonstrate how impacts on foraging and commuting bats will be minimised. It is particularly important to minimise light spillage onto the southern and eastern boundaries which represent a potential commuting and foraging corridor to the wider environment for bats.

6.10 Green trellising, utilising ivy, honeysuckle or berry producing climbers, could be installed on buildings to provide foraging and sheltering opportunities for insects and birds.

6.11 During the site clearance works, consideration should be given to chipping or composting vegetation for re-use on the new habitats on site or creation of brash piles on the periphery of the site as a further aid to increasing the biodiversity of the site.

7.0 REFERENCES & FURTHER READING

BAT CONSERVATION TRUST (2012) '*Bat Survey: Good Practice Guidelines*', The Bat Conservation Trust, London, 2nd Edition

IEEM. (2012) GUIDELINES FOR PRELIMINARY ECOLOGICAL APPRAISAL

JOINT NATURE CONSERVATION COMMITTEE (2010) Phase 1 Habitat Survey. JNCC. Peterborough

STACE, C. A. (2011) Flora of the British Isles, 2nd ed. Cambridge University Press

APPENDIX A:
Desktop Study Information

Desk Based Ecology Assessment

The Hope and Anchor PH, Cellarhead
Approximate Central Grid Reference: SJ 957 475

Contents

Site locations plan

Extract of Stoke-on-Trent City Council *Local Plan* (adopted 2001) and supporting key


Northern Half
city of stoke-on-trent
LOCAL DEVELOPMENT FRAMEWORK
CITY OF STOKE-ON-TRENT
PROPOSALS MAP
KEY
N

Extracts of relevant planning policies and supplementary planning guidance

Important Semi-Natural Habitats
NC6

In considering or formulating proposals for development or land use change, planning authorities will ensure, wherever possible, that damage to important semi-natural habitats or other features or sites of significant nature conservation or geological value is avoided. Particular care will be taken to safeguard and consolidate the integrity of linear and other landscape features which are of major importance for wild fauna and flora. Where damage is unavoidable, measures to mitigate or compensate through establishment of replacement habitat or features should be taken, wherever possible.

Sites of International Nature Conservation Importance
NC7A

Proposals for development or land use change which are likely to have significant effects on an existing or proposed site of international importance for nature conservation will be subject to the most rigorous examination. Proposals not directly connected with or necessary to the management of the site, and which are likely (either individually or in combination with other plans or projects) to have an adverse effect on the integrity of the site, will not be permitted unless the planning authority is satisfied that there is no alternative solution, and there are imperative reasons of overriding public interest for the development or land use change.
Where the site concerned hosts a priority natural habitat type and/or a priority species, development or land use change will not be permitted unless the planning authority is satisfied that it is necessary for reasons of human health or public safety or for beneficial consequences of primary importance for nature conservation.

Sites of National Nature Conservation Importance
NC7B

Proposals for development or land use change in or likely to affect Sites of Special Scientific Interest will be subject to special scrutiny. Where such proposals are likely to have an adverse effect, directly or indirectly, on the SSSI, they will not be permitted unless there are no reasonable alternative means of meeting that development need and the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites.
Where the site concerned is a National Nature Reserve (NNR) or a site identified under the Nature Conservation Review (NCR) or Geological Conservation Review (GCR), particular regard will be paid to the individual site's national importance.

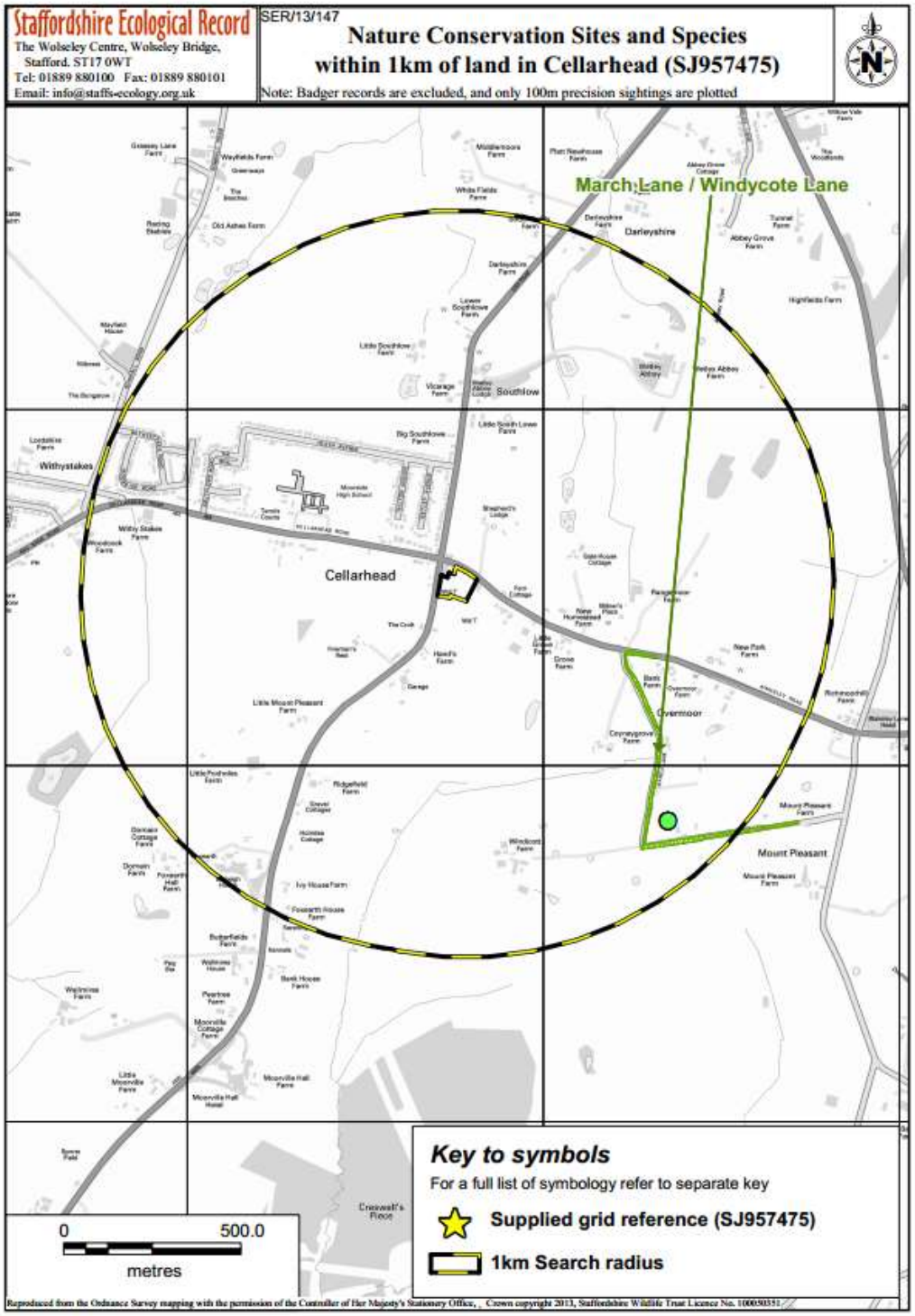
Sites of Local Nature Conservation Importance NC7C

Development or land use change likely to have an adverse effect on a Local Nature Reserve or a Site of Local Nature Conservation Importance will not be permitted, unless it can be clearly demonstrated that there are reasons for the proposal which outweigh the need to safeguard the intrinsic nature conservation value of the site.

Protection of Trees, Hedgerows and Woodlands NC13

Measures to improve the management and conservation of existing woodlands and important trees and hedgerows, including those in urban areas, will be supported. Development or land use change will only be approved where it will not result in the loss of or significant damage to ancient woodlands, and will not have an unacceptable adverse effect on other woodlands or hedgerows which contribute significantly to landscape character and quality or to the meeting of biodiversity targets, unless it can be demonstrated that there are reasons for the proposal which clearly outweigh the need to safeguard the site. Where, exceptionally, such a woodland or hedgerow is lost to development, the developer should incorporate or provide for such compensatory planting as is appropriate and feasible in order to minimise the loss of an environmental resource. Schemes for the planting of a new woodland should include subsequent management.

Map provided by Staffordshire Ecological Record of site designations and species records within 1km



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Stafford. ST17 0WT
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Email: info@staffs-ecology.org.uk

A legend to the map showing Nature Conservation Sites and Species

Introduction

These colours are used on the site alert mapping within the SWT GIS, but SER cannot guarantee the same colours are used in any other mapping system, particularly those based on ArcView.

Statutory Designations from Natural England's web-site

- National Nature Reserves — NNR (boundary not available owing to OS restrictions)
- Sites of Special Scientific Interest — SSSI (boundary not available owing to OS restrictions)
- Local Nature Reserves — LNR (boundary not available owing to OS restrictions)

Non-statutory Designations from the Staffordshire Grading System (1995 onwards)

- Site of Biological Importance (ex Grade 1 SBI) equivalent to "Local Wildlife Site"
- Biodiversity Alert Site (ex Grade 2 SBI)
- Proposed/potential Site of Biological Importance

Geological Sites

- Regionally Important Geological/geomorphological Site (= Local Geological Site)

Staffordshire Wildlife Trust Sites

- SWT Nature Reserves

Other Nature Reserves

- Royal Society for the Protection of Birds

Ancient Woodland Inventory

- Ancient & Semi-natural Woodland
- Ancient Replanted Woodland

Species Information

- Mammals excluding those listed below
- Otter (Lutra lutra)
- Badger (Meles meles) - not normally supplied
- Water Vole (Arvicola terrestris)
- All bat species
- All bird species
- Any other protected species (precise to 100m)
- All Protected Species Records (precise to 1km)
- Amphibians and reptiles excluding those below
- Great Crested Newt (Triturus cristatus)
- Native Crayfish (Austropotamobius pallipes)
- Flowering plants except those below
- Bluebell (Hyacinthoides non-scripta)
- Butterflies and Moths
- BAP Species Records (precise to 100m)
- BAP Species Records (precise to 1km)

Notes:

The Local Nature Reserve and other nature reserve boundaries can overlay the current grading when both layers are actively visible

Where there are multiple species records for the same grid reference the dot for one species may obscure the dots for other species - all species records will be displayed in the accompanying spreadsheet

Not all the above categories may be present on the accompanying map

Version 2.0 July 2011

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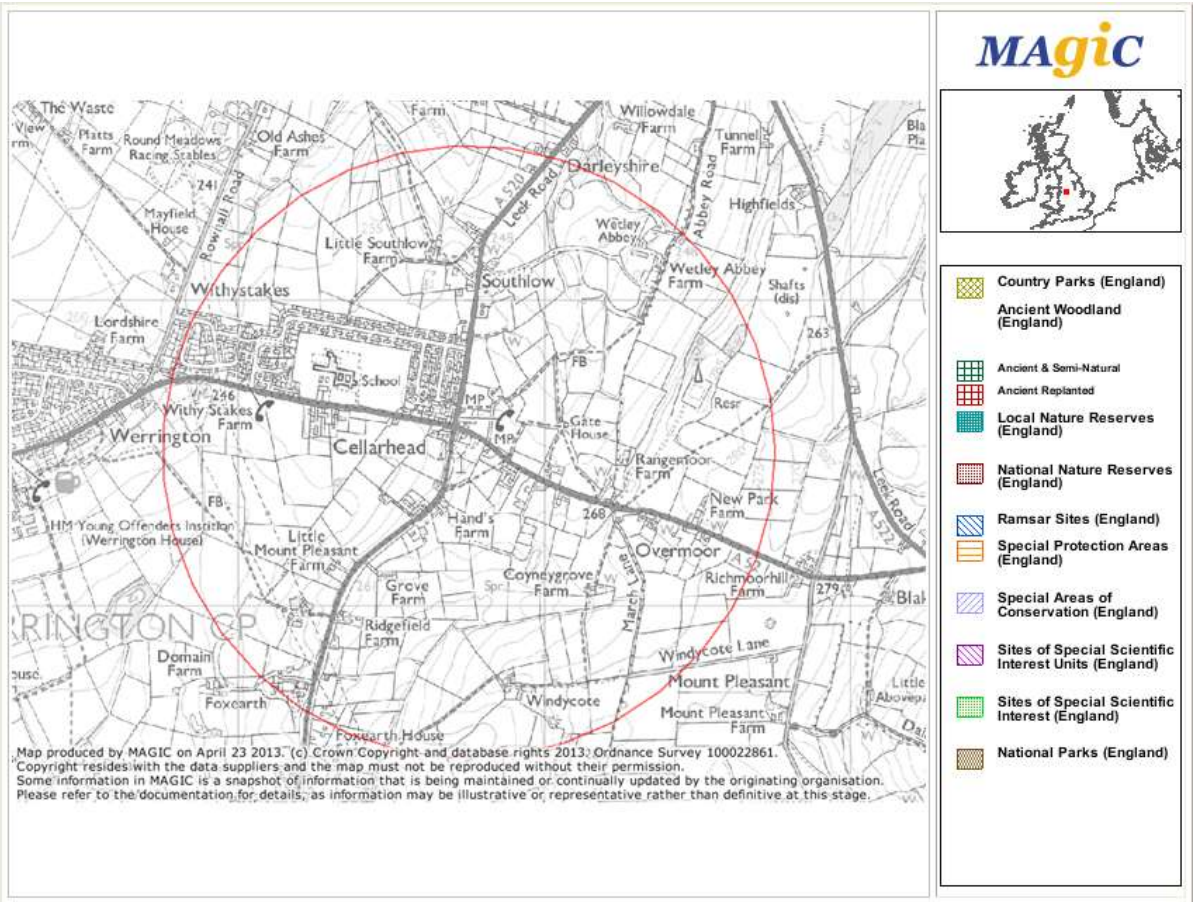
Extract of species data provided by Staffordshire Ecological Record within 1km

Scientific Name	Common Name	Informal Group	Location	Grid Ref.	Date	Dist. from Site (m)	European Protection	UK Protection	BAP	Rare
Alauda arvensis	Sky Lark	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	✓	✓
Apus apus	Common Swift	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	F	✓
Asio flammeus	Short-eared Owl	bird	Werrington CP	SJ9547	11/01/2012	257	✓	x	F	✓
Carduelis cannabina	Common Linnet	bird	Werrington CP	SJ9547	10/05/2003	257	x	x	T	✓
Dendrocopos minor	Lesser Spotted Woodpecker	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	T	✓
Emberiza schoeniclus	Reed Bunting	bird	Werrington CP	SJ9547	28/01/2008	257	x	x	✓	✓
Emberiza schoeniclus	Reed Bunting	bird	Werrington CP	SJ9547	30/03/2003	257	x	x	✓	✓
Falco tinnunculus	Common Kestrel	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	F	✓
Fringilla montifringilla	Brambling	bird	Werrington CP	SJ9547	30/03/2009	257	x	✓	x	✓
Gallinago gallinago	Common Snipe	bird	Werrington CP	SJ9547	28/01/2008	257	x	x	✓	✓
Numenius arquata	Eurasian Curlew	bird	Werrington CP	SJ9547	May 2001	257	x	x	✓	✓
Numenius arquata	Eurasian Curlew	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	✓	✓
Phylloscopus trochilus	Willow Warbler	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	x	✓
Picus viridis	Green Woodpecker	bird	Werrington CP	SJ9547	2001	257	x	x	x	✓
Prunella modularis	Dunnock	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	✓	✓
Pyrrhula pyrrhula	Common Bullfinch	bird	Werrington CP	SJ9547	30/03/2009	257	x	x	✓	✓
Pyrrhula pyrrhula	Common Bullfinch	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	✓	✓
Scolopax rusticola	Eurasian Woodcock	bird	Werrington CP	SJ9547	28/01/2008	257	x	x	x	✓
Sturnus vulgaris	Common Starling	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	✓	✓
Sylvia communis	Common Whitethroat	bird	Werrington CP	SJ9547	10/05/2003	257	x	x	x	✓
Sylvia communis	Common Whitethroat	bird	Werrington CP	SJ9547	10/05/2003	257	x	x	x	✓
Turdus pilaris	Fieldfare	bird	Werrington CP	SJ9547	26/03/1995	257	x	✓	x	✓
Turdus viscivorus	Mistle Thrush	bird	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	x	✓
Tyto alba	Barn Owl	bird	Cheddleton CP	SJ9547	March 2011	257	x	T	✓	✓
Tyto alba	Barn Owl	bird	Werrington CP	SJ9547	24/03/2008	257	x	T	✓	✓
Tyto alba	Barn Owl	bird	Cheddleton CP	SJ9547	14/12/2011	257	x	T	✓	✓
Bombus	insect - hymenopteran	insect - hyme	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	885	x	x	✓	x
Ecliptopera silaceata	Small Phoenix	insect - moth	Consall Country Park	SJ955484	02/07/2005	962	x	x	✓	x
Hepialus humuli	Ghost Moth	insect - moth	Consall Country Park	SJ955484	02/07/2005	962	x	x	✓	x
Spilosoma lubricipeda	White Ermine	insect - moth	Consall Country Park	SJ955484	02/07/2005	962	x	x	✓	x
Pipistrellus pipistrellus	Pipistrelle	mammal - bat	Caverswall CP	SJ9546	03/12/1984	1042	✓	✓	✓	x
Pipistrellus pipistrellus	Pipistrelle	mammal - bat	Cheddleton CP	SJ9547	23/08/1994	257	✓	✓	✓	x
Pipistrellus pipistrellus	Pipistrelle	mammal - bat	Cheddleton CP	SJ9547	25/04/1996	257	✓	✓	✓	x

Erinaceus europaeus	West European Hedgehog	mammal - ins	Cheddleton CP	SJ947477	2009	1033	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Werrington CP	SJ948478	23/07/2006	967	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Werrington CP	SJ948478	17/05/2006	967	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Werrington CP	SJ948478	31/07/2006	967	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Cheddleton CP	SJ949047	27/07/2010	914	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Caverswall CP	SJ9546	24/06/2007	1042	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Caverswall CP	SJ9546	10/08/2006	1042	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	A520 (road corridor)	SJ9547	02/07/2006	257	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Werrington CP	SJ9547	05/11/2009	257	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	A520 (road corridor)	SJ9547	17/05/2006	257	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Werrington CP	SJ9547	17/07/2007	257	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Staffordshire Moorlands District	SJ9547	29/09/2003	257	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	A520 (road corridor)	SJ9547	18/06/2004	257	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Staffordshire Moorlands District	SJ955466	31/03/2003	884	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	Staffordshire Moorlands District	SJ956475	09/07/2006	115	x	x	✓	x
Erinaceus europaeus	West European Hedgehog	mammal - ins	A52 (road corridor)	SJ965473	29/07/2006	805	x	x	✓	x
Lepus europaeus	Brown Hare	mammal - lag	Cheddleton CP	SJ953483	12/11/2000	933	x	x	✓	x
Lepus europaeus	Brown Hare	mammal - lag	Cheddleton CP	SJ953483	20/01/2001	933	x	x	✓	x
Lepus europaeus	Brown Hare	mammal - lag	Staffordshire Moorlands District	SJ956475	12/07/2006	115	x	x	✓	x
Lepus europaeus	Brown Hare	mammal - lag	Cheddleton CP	SJ956484	29/12/1998	945	x	x	✓	x
Lepus europaeus	Brown Hare	mammal - lag	A52 (road corridor)	SJ965473	21/04/2007	805	x	x	✓	x

Scientific Name	Common Name	Location	Grid Ref.	Date	Abundance	Dist. from Site (m)	European Protection	UK Protection	BAP	Rare
Asio flammeus	Short-eared Owl	Werrington CP	SJ9547	11/01/2012	1 Count	257	✓	x	x	✓
Fringilla montifringilla	Brambling	Werrington CP	SJ9547	30/03/2009	3 Count	257	x	✓	x	✓
Turdus pilaris	Fieldfare	Werrington CP	SJ9547	26/03/1995	250 Count	257	x	✓	x	✓
Tyto alba	Barn Owl	Cheddleton CP	SJ9547	14/12/2011		257	x	✓	✓	✓
Tyto alba	Barn Owl	Werrington CP	SJ9547	24/03/2008	2 Count	257	x	✓	✓	✓
Tyto alba	Barn Owl	Cheddleton CP	SJ9547	March 2011		257	x	✓	✓	✓
Hyacinthoides non-scripta	Bluebell	March Lane / Windycote Lane	SJ963468	April 2003 - September 2003	locally frequent Count	885	x	✓	x	x
Pipistrellus pipistrellus sens. lat.	Pipistrelle	Caverswall CP	SJ9546	03/12/1984	1 Count of roosting; 2 Count of dead; 6 Count of Adult	1042	✓	✓	✓	x
Pipistrellus pipistrellus sens. lat.	Pipistrelle	Cheddleton CP	SJ9547	23/08/1994	1 Count of in flight	257	✓	✓	✓	x
Pipistrellus pipistrellus sens. lat.	Pipistrelle	Cheddleton CP	SJ9547	25/04/1996	1 Count of Male	257	✓	✓	✓	x

Magic Map 1km search zone for designated wildlife sites - Map



Magic Map 1km search zone for designated wildlife sites – Report

Site Check Report

Report generated on April 23 2013.
You clicked on the point:
Grid Ref: SJ 957 475
Full Grid Ref: 395755 , 347503

The following features have been found within 1,000 metres of your search point:

Counties, Metropolitan Districts and Unitary Authorities (GB)

Name	Geographic Level
STAFFORDSHIRE	COUNTY

NUTS1 - Government Office Regions (GB)

Name	Reference	Hotlink
WEST MIDLANDS	UKG	http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/european/west-midlands/index.html

Country Parks (England)
There are no features within your search area.

Ancient Woodland (England)
There are no features within your search area.

Local Nature Reserves (England)
There are no features within your search area.

National Nature Reserves (England)
There are no features within your search area.

Ramsar Sites (England)
There are no features within your search area.

Special Protection Areas (England)
There are no features within your search area.

Special Areas of Conservation (England)
There are no features within your search area.

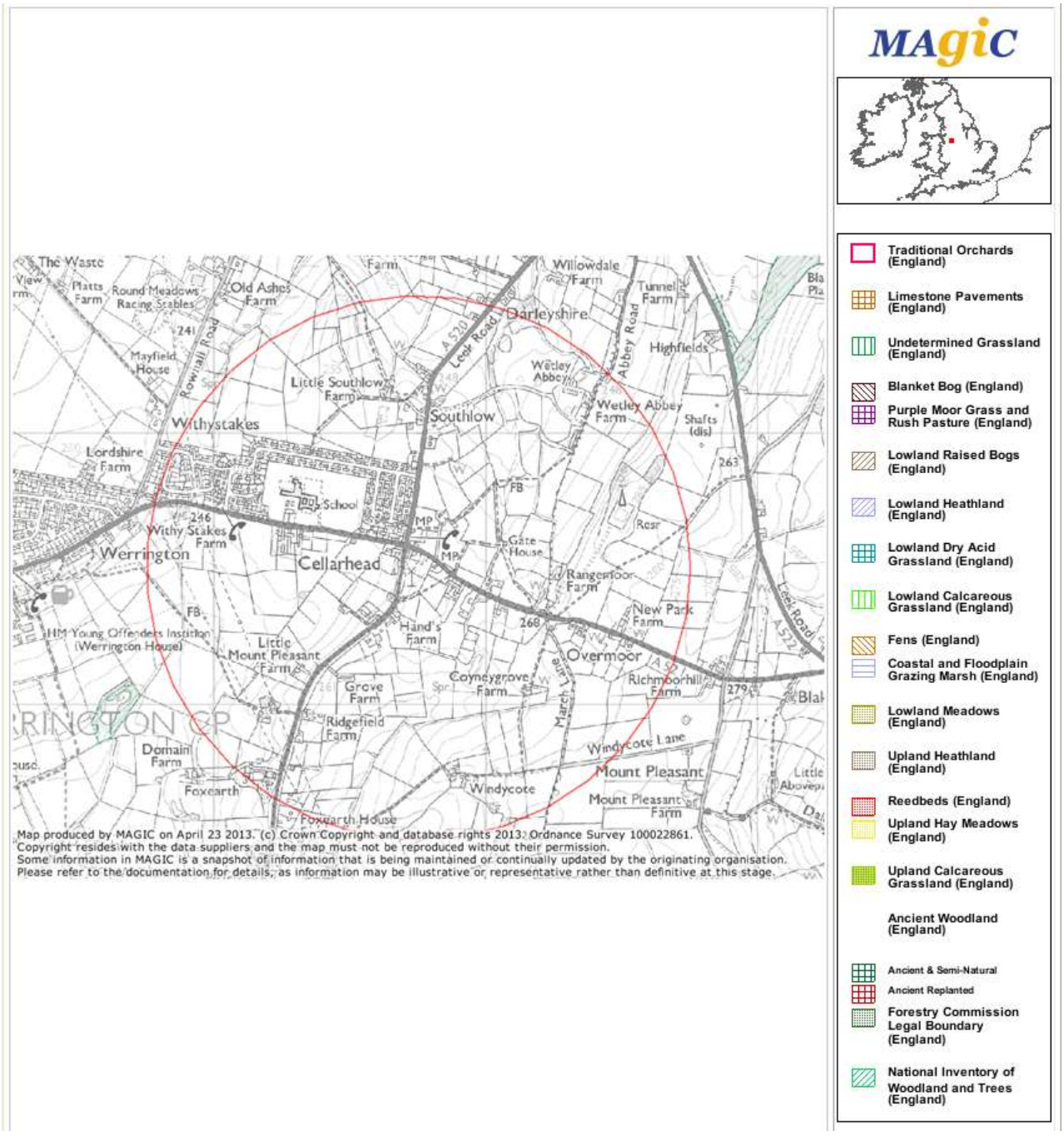
Sites of Special Scientific Interest Units (England)
There are no features within your search area.

Sites of Special Scientific Interest (England)
There are no features within your search area.

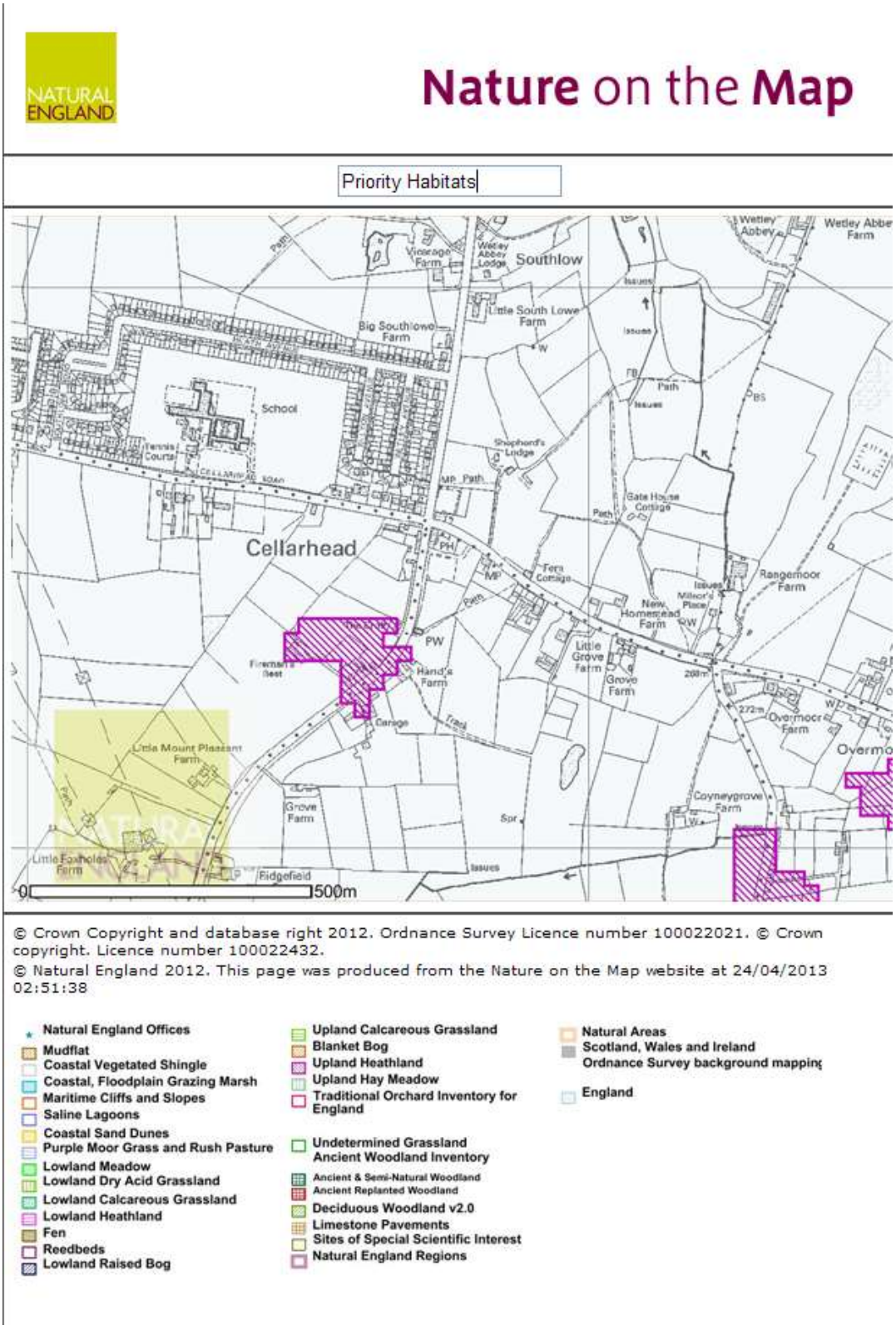
Areas of Outstanding Natural Beauty (England)
There are no features within your search area.

National Parks (England)
There are no features within your search area.

Magic Map 1km search zone for habitat inventory data



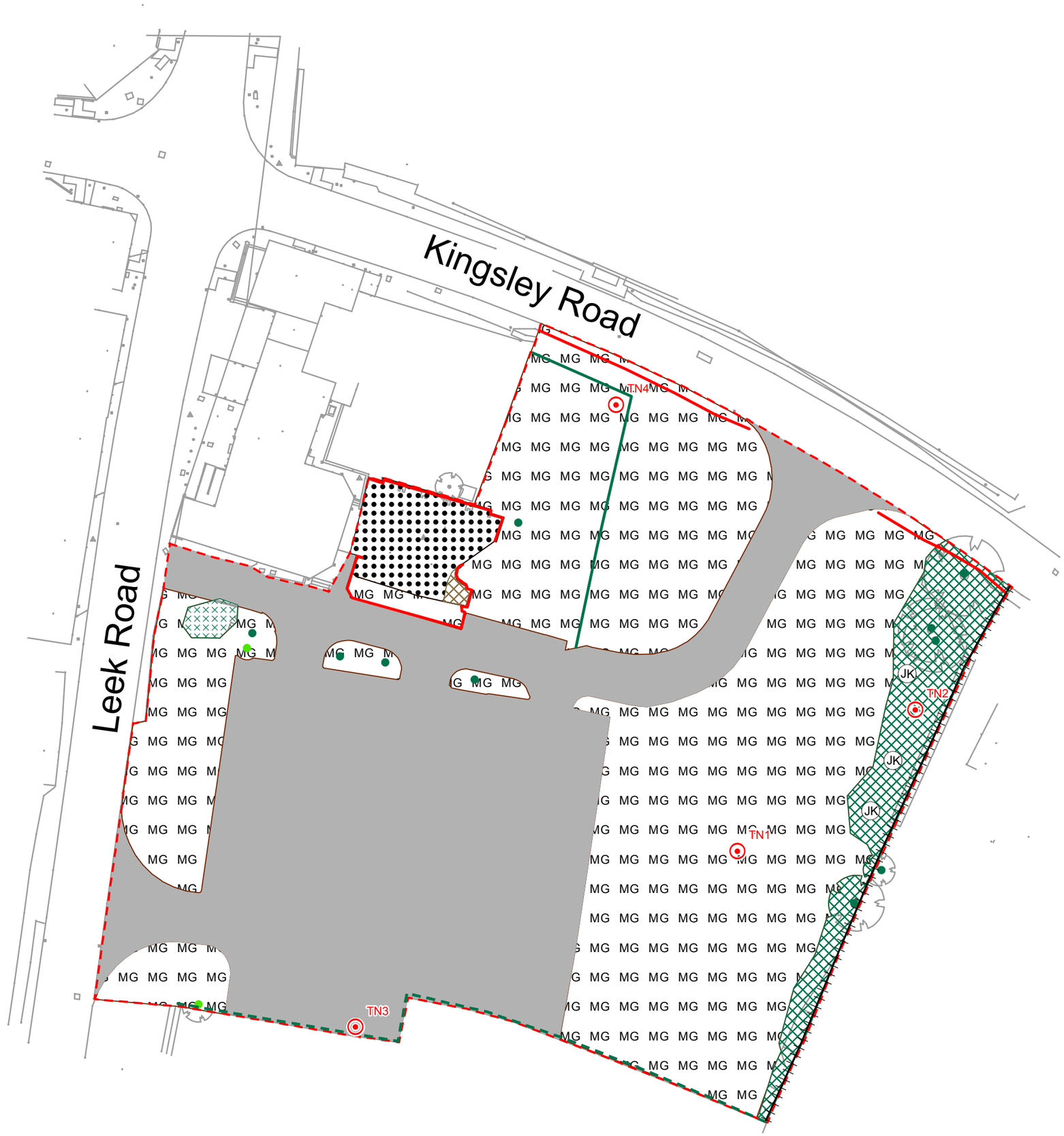
Nature on the Map Biodiversity Action Plan Priority Habitats



Wildlife Site Descriptions

SiteID	Grid Ref.	Site Name	Status	Year	Abstract
94/66/38	SJ963468	March Lane / Windycote Lane	Local Wildlife Site (SBI)	2006	A diverse road verge with an associated ditch.

APPENDIX B:
Phase 1 Habitat Survey Map and Target Note Report



Legend

- Japanese knotweed
- Target notes
- Scattered broad-leaved trees
- Scattered coniferous trees
- Survey boundary
- Species-poor intact hedge
- Species-poor defunct hedge
- Fence
- Wall
- Dense/continuous scrub
- Scattered scrub
- Species-poor modified neutral grassland
- Introduced shrub
- Bare ground
- Hardstanding

CAD drawing supplied by client

Rev	Description	Dwn	Appvd	Date

TEP
Genesis Centre
Birchwood Science Park
Warrington WA3 7BH
Tel 01925 844004
Fax 01925 844002
email tep@tep.uk.com

Project:
The Hope and Anchor, Cellarhead

Title:
Phase 1 Habitat Map

Map No.
G3925.001

Scale:	Date:
1:450 @ A3	25/04/13

Drawn:	Checked:	Approved:
SK	LS	LS

Target Notes Report

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note TN1

Species poor Modified Neutral Grassland

Festuca rubra	Red Fescue	D
Agrostis capillaris	Common Bent	A
Holcus lanatus	Yorkshire-fog	A
Anthriscus sylvestris	Cow Parsley	F
Epilobium sp.	Willowherb species	F
Plantago lanceolata	Ribwort Plantain	F
Ranunculus acris	Meadow Buttercup	F
Ranunculus repens	Creeping Buttercup	F
Rumex obtusifolius	Broad-leaved Dock	F
Taraxacum officinale agg.	Dandelion	F
Achillea millefolium	Yarrow	O
Cirsium vulgare	Spear Thistle	O
Dactylis glomerata	Cock's-foot	O
Hyacinthoides hispanica	Spanish Bluebell	O
Ranunculus ficaria	Lesser Celandine	O
Senecio jacobaea	Ragwort	O
Carex sp.	Sedge species	R
Digitalis purpurea	Foxglove	R
Juncus effusus	Soft Rush	R
Narcissus pseudonarcissus	Wild Daffodil	R
Rumex acetosa	Common Sorrel	R
Trifolium repens	White Clover	R

Target Note TN2

Dense scrub and scattered trees

Fallopia japonica	Japanese Knotweed	A
Rubus fruticosus agg.	Bramble	A
Symphoricarpos albus	Snowberry	A
Crataegus monogyna	Hawthorn	F
Galium aparine	Cleavers	F
Ilex aquifolium	Holly	F
Salix caprea	Goat Willow	F
Urtica dioica	Nettle	F
Cupressocyparis leylandii	Leyland Cypress	O
Hyacinthoides hispanica	Spanish Bluebell	O
Sambucus nigra	Elder	O
Syringa vulgaris	Lilac	O

Target Note TN3

Species – poor defunct hedgerow

Crataegus monogyna	Hawthorn	D
Rubus fruticosus agg.	Bramble	F

Target Note TN4

Species – poor hedgerow

Ligustrum ovalifolium	Garden Privet	D
Crataegus monogyna	Hawthorn	A

APPENDIX C:
Examples of Habitat Enhancement Measures for Bats and Birds

Bat Conservation Trust

Below is a list of bat related products that may be used for bat enhancement. However, please be aware that BCT does not endorse any particular product or brand as very little evidence is available to demonstrate that they are successful.

Bat Boxes	In situ	Description	Company	Estimated price
For external surfaces of buildings:				
		**Schwegler 1 WQ Summer & Winter Roost** Dimensions: 580 H x 380 W x 120 D Weight: 22Kgs	Alana Ecology Jacobi Jayne The Code Store	£90 to £139
		**Schwegler 1 FQ Bat Roost** Dimensions: 600H x 350W x 90D mm Weight: 15.8 Kgs	Alana Ecology Jacobi Jayne NHBS The Code Store	£70 to £90
	Internal or external 	**1 Schwegler FE Bat Access Panel** with optional back plate External Dimensions: H 30 x W 30 x D 8 cm Weight: 7.8 kg	Alana Ecology Jacobi Jayne NHBS The Code Store	£38 to £49
To integrate into walls:				
		**Schwegler 1FR Bat Tube** Dimensions: H 475 x W 200 x D 125 mm Entrance W 150 x D 20mm Weight: 9.5kg	Alana Ecology Jacobi Jayne NHBS	£72 to £75

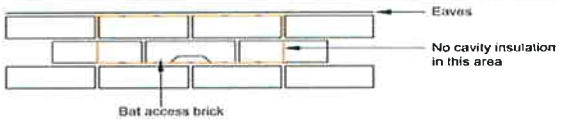
Bat Conservation Trust

		**2 Schwegler FR Bat Tube** The 2FR bat box is based on the same design as the 1FR, but with the addition of holes in the sides. This allows multiple tubes to be placed next to each other to form a much larger bat roost.	Alana Ecology Jacobi Jayne NHBS	£72 to £76
		**Ibstock enclosed bat box**	Ibstock	
	Can be built with timber, brick or stone facing to match walls. *BCT will be using the Ecosurv bat box as a research tool in the next year.	**Eco Surv Bat Box** Dimensions: 215 x 215 mm Or 215 x 290 mm	Alana ecology	£82
For trees:				
	Trees or flat surfaces	**Schwegler 1FF Bat Box** Dimensions: 430H x 270W x 140D mm. Entrance hole: 120 x 240mm	Alana Ecology Jacobi Jayne NHBS	£56 to £60

Bat Conservation Trust

	Trees	**Schwegler 2F Bat Box** (General Purpose) Woodcrete 33cm H x diameter 16cm	Alana Ecology NHBS	£27.95
	Trees	**Schwegler 2FN Bat Box** The 2FN Bat Box has two entrances - one at the front and one at the rear against the tree. It has a domed roof to form clusters and an increased internal height. 36cm H x diameter 16cm 4.3kg	NHBS Nature Counters	£34.95
	Trees	**Schwegler 1FD Bat Box** The 1FD is a large general purpose bat box. Effectively it is a larger version of the Schwegler 2F bat box, with the addition of two roughened wood panels inside the box which simulate crevices. This large capacity box is attractive to the smaller British bats.	Alana Ecology NHBS	£49 to £55
		Wooden bat boxes		
	Fitted to walls, other flat surfaces or trees	**Kent Bat Box** Materials to be made from untreated rough-sawn timbers. Timber should be 20mm thick. The box should be rainproof and draught-free. Crevices can be between 15 & 25mm wide	Self constructed. Instructions from BCT.	

Bat Conservation Trust

Access tiles or bricks	In situ	Description	Company	Estimated price
		**Tudor Bat access tile set**	**Tudor Clay Roof Tiles**	
		Ventilation tiles that can be adapted for bat access	Aspect Roofing	
		**Bat access brick**	Tamworth Property Services t) 01827 310475 chris@bat-survey.co.uk	
		**Ibstock bat roost entrance arch brick**	**Ibstock**	
		**Bat access slate**	**Owens Slate Service**	

Bat Conservation Trust

Positioning considerations:

Aspect

Temperature is known to be the major factor influencing successful uptake of artificial roost by bats. In general, bats seek warm spaces to help them with rearing young. For this reason, bat boxes should be located where they will receive the maximum amount of sunlight. In the northern hemisphere this will be the southerly aspects/orientation (south, south-west and south-east). However, it is helpful to install bat boxes in more than one aspect to allow a choice of roosting conditions. Bat boxes located on a shady side will remain cooler and will be more suitable for use during the hibernation period (winter) or by male bats all year round.

Height

Position the bat boxes a minimum of 2 meters above ground. Avoid placement above windows, doors and wall climbing plants, thereby reducing the likelihood of predation by cats. A position near the eaves or gable apex of the property would be preferable.

Other considerations

To make the bat box a potential roost for a wider range of bat species, it is helpful to consider whether there is nearby linear vegetation features such as hedges. This is because some bat species use these features for navigation between their roosting site and feeding ground and to avoid flying in open and exposed areas.

Resources:

- Williams, C. 2010. *Biodiversity for low and zero carbon buildings: a technical guide for new build*. RIBA Publishing, UK
- Bat Conservation Trust, 2010. *Bats in Buildings*. Bats and the Built Environment Series: Volume 1. http://www.bats.org.uk/publications_download.php/247/Bats_and_Buildings_finalDec2010.pdf
- BCT webpages: http://www.bats.org.uk/pages/bats_and_buildings.html

BIRD BOX SPECIFICATIONS

Suppliers:

Alana Ecology
The Old Primary School
Church Street
Bishop's Castle
Shropshire
SY9 5AE

Tel: +44 (0)1588 630173
Fax: +44 (0)1588 630176
Email: sales@alanaecology.com

Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance

BOXES TO FIT FENCES, WALLS and TREES

Schwegler 1B Bird Box, natural brown The most popular box for garden birds, the 1B appeals to a wide range of species, and is the official nest box of National Nest Box Week. The box can be nailed to the trunk of a tree, or hung from a branch. Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance. Woodcrete, 23cm high x 16cm diameter. With standard 32mm diameter entrance hole	
The Bird House A decorative yet practical nest box designed for fixing to a tree trunk, wall or fence using the bracket on the back. It will attract similar species to the standard 1B box. Robust and durable Schwegler woodcrete construction A02084 The Bird House	
Gable Nest Box A substantial wooden bird box with a gable roof and 28mm entrance hole. Made of 15mm thick softwood, external dimensions 14.5cm x 14.5cm x 26cm high (to top of gable). Suitable for the smaller garden birds. A03008 Gable Nest Box	

Wooden Bird Box, A simple wooden bird box with sloping roof, suitable for the smaller garden birds. Made from substantial 2cm thick softwood. 14cm w x 18cm d x 26cm h (backplate 33.5cm h). The standard model has a 32mm diameter entrance hole attractive to a wide range of smaller garden birds. A03004 Wooden Bird Box	
Roosting Pockets. These attractive roosting/nest pockets can be used by wild birds in autumn, winter and spring. The birds can save energy during the colder months by roosting in a sheltered place. These pockets also provide a warm nesting place in the spring for smaller birds such as wrens. Made from natural materials. The pockets have a wire at the back to fix onto a branch, or they can be stapled or nailed to a fence or trellis with plant cover. Pack of 3 assorted roost pockets (styles may vary). A02090 Roosting Pockets