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*Phase 1 Habitat Survey &  
Protected Species Scoping Report*

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*Dove Way,  
Uttoxeter, Staffordshire*

**Final Report**



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26 April 2011

# Staffordshire Ecological Services Ltd.



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## Quality Assurance

Title:  
Phase 1 Habitat Survey &  
Protected Species Scoping Report

Dove Way,  
Uttoxeter  
Staffordshire

Economic Regeneration  
Growth Point and Housing Service  
East Staffordshire Borough Council  
Town Hall, Burton upon Trent, DE14 2EB

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And  
Protected Species Scoping Report**

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**Approved:**

Principal Ecologist

**Checked:**

**Senior Ecologist**

## *Executive Summary*

### *Background*

- Staffordshire Ecological Services Ltd. undertook a Phase 1 Habitat and Protected Species Scoping Survey on an area of land at Dove Way, Uttoxeter. This land, covering approximately 8 ha, is proposed for the first phase of a mixed-used development planned to encompass about 20 ha in total.
- The 8 ha application site consists of former agricultural land and dismantled railway which have undergone disturbance presumably from the late 20<sup>th</sup> century construction of the A518 Dove Way through the site as well as from more recent tipping and recreational disturbance.

### *Habitats*

- The fields which make up the site are comprised of relatively species-poor semi-improved grassland and typical brownfield vegetation of low botanical value that offers minimal contribution to surrounding habitats.
- The main value of the site lies in its ability to support wildlife as well as two BAP habitats, a watercourse and hedgerows.
- The small watercourse onsite is heavily silted and show distinct signs of pollution from nutrient run-off and possibly from other sources. The hedgerows are over-grown and species-poor.
- The risk posed by the scheme to any sites designated for their ecological value is considered to be negligible.
- Two invasive botanical species, Himalayan balsam and Japanese knotweed, were found on the site. Japanese knotweed was also found on the access road into the site from the west.

### *Protected and notable species*

#### *Water Vole*

- As the habitat quality was low for this species and no signs of water vole were found, the impact of the development on water vole is considered negligible and no further surveys are required.

#### *Otter*

- No definitive signs of otter were found and habitat quality was poor for otter, but as this species is recorded in the wider area and as they are wide-ranging, the development will need to take into account habitat

connectivity for otters to avoid potential impacts to this species. No further surveys are considered necessary at this stage.

#### *Freshwater White-clawed Crayfish*

- Due to heavily-silted beds and poor water quality, the stream was not considered suitable habitat for native crayfish.

#### *Great Crested Newt*

- There are no great crested newt records within 2km of the site. There is only one known pond within 500m of the application site that is not separated from it by major barriers. Two very small potential ponds appear on some OS maps in fields to the east. An initial assessment of these ponds for the likelihood of great crested newts is recommended, particularly as the site offers good terrestrial habitat quality for great crested newts.

#### *Bats*

- The fallen crack willow (marked as T8 on Figure 4.2: Phase 1 Habitat Map) has some potential as a bat roost due to its size, location and number of holes, cavities and fissures. This tree should be retained within any development proposals. If this tree is to be removed, dusk/dawn bat surveys and the implementation of a relevant mitigation strategy may be required.
- The site is likely to be used by foraging bats, and as this proposal would be part of a multi-phased development which would occupy a larger area of suitable foraging bat habitat, bat activity surveys are advised.

#### *Reptiles*

- There are no reptile records within 2km and the site is quite isolated by road systems and built-up areas with some of the site undergoing occasional disturbance from dog-walkers. However, as habitats onsite include rough grassland and potential basking areas, the presence of isolated populations of reptiles cannot be discounted and reptile surveys are recommended.

### *Nesting birds*

- The impact of the development on nesting birds and foraging barn owl needs to be considered, and additional breeding bird surveys are recommended.

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# ***1 Background***

## **1.1 Survey brief**

Staffordshire Ecological Services Ltd. was commissioned in March 2011 to undertake a Phase 1 Habitat and Protected Species Scoping Survey including an assessment of the site for the likelihood of protected species presence at Dove Way, Uttoxeter, Staffordshire.

The purpose of the survey was to assess the potential impacts on habitats and protected species from the mixed-use development of the site.

Survey Brief:

- Map habitats on the site
- Describe habitats on the site
- Record dominant botanical species (check for invasive species)
- Assess the potential for protected species presence
- Where appropriate, recommend further, more detailed surveys or actions



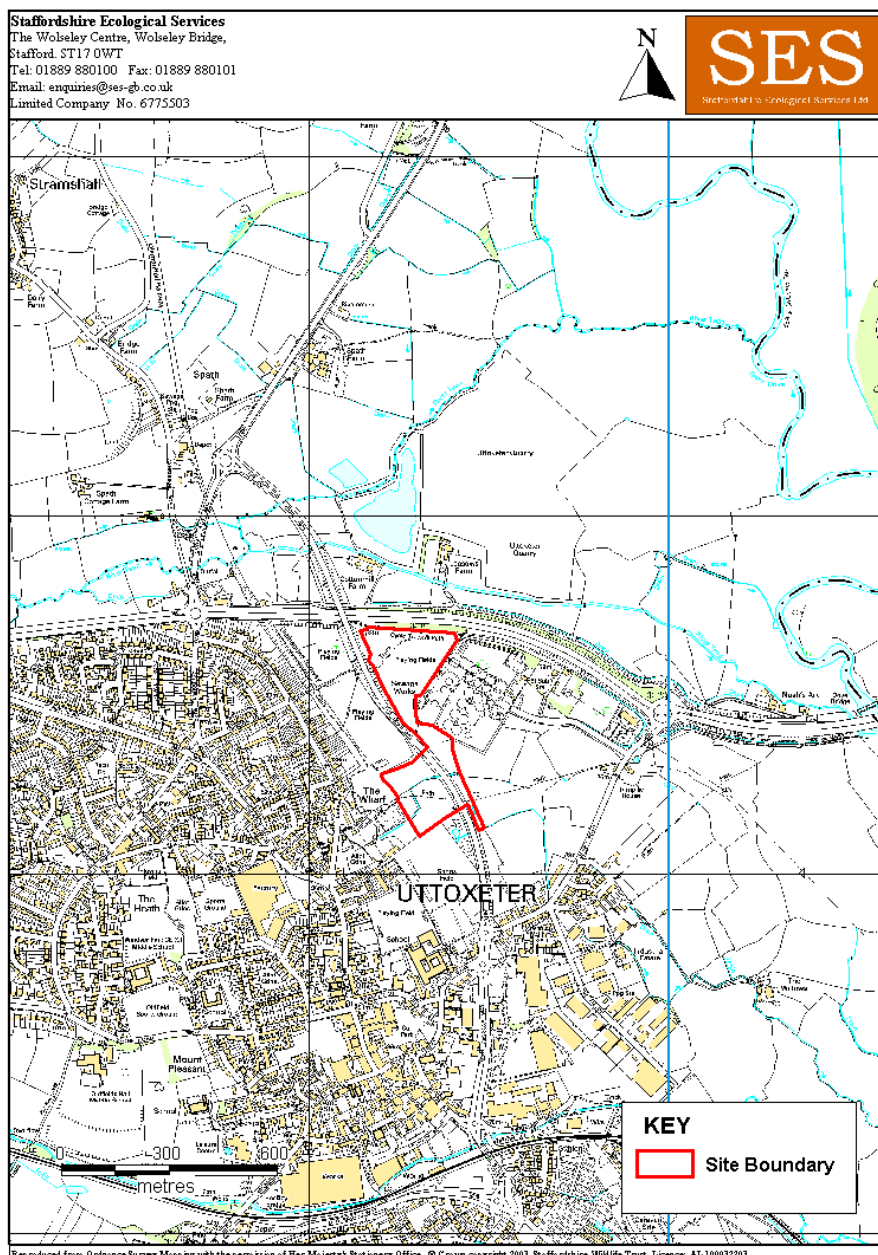
## 2 Site Description

### 2.1 General information

#### 2.1.1 Location

The application site surveyed, hereafter referred to as ‘the site’, is located on the north-western fringe of Uttoxeter, Staffordshire OS grid Ref SK 093 344. The site is divided by Dove Way (A518) into two parcels: the northern parcel is bounded by the A50 embankment and sewage works and the southern parcel is bounded by playing fields off Pennycroft Lane and by the playing fields of Thomas Alleyne's School. The boundary of the site is presented in *Figure 2.1*.

Figure 2.1: Survey area boundary



### *2.1.2 Development description*

The proposed development for the site, which is the subject of this report, would comprise the first phase (covering approximately 8 ha) of a larger mixed use development scheme (employment, commercial & residential sites) covering an area of 20ha. Proposed access would be via Dove Way to both the eastern and western sites.

The site is made up of former agricultural land and a dismantled railway which has undergone disturbance, tipping of spoil and other waste material. The planning application for this first phase is planned to be submitted in the summer 2011.

### 2.1.3 Surrounding Habitats

Using aerial photography (*Figure 2.2*), the broad habitat types within 500m of the site boundary were determined to be:

- Semi-improved Grassland
- Scrub
- Tall herb and fern
- Standing open water (pond, shallow ditch)
- River, streams (Running water)
- Boundaries & linear features
- Built-up areas

Figure 2.2: Aerial photography



### **3 Survey Methodology**

The survey was carried out on the 6<sup>th</sup> April 2011 by Holly Bowler BSc and Richard Pearce BSc who have 10 years of collective experience in habitat and protected species survey work. Surveys were carried out using standard methodologies from relevant established publications (Natural England, etc).

#### **3.1 Designated Sites & Ecological Records Search**

Staffordshire Ecological Record (SER) was commissioned to provide information on designated sites and carry out an ecological records search within 2km of the site boundary.

#### **3.2 Extended Phase 1 Habitat Survey**

The site survey was carried out in accordance with the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Survey Methodology (JNCC, 1990). Along with the description of habitat types on the site, a representative flora species list was compiled for each notable habitat type.

#### **3.4 Water Vole**

The stream was surveyed for the length of the development area. The survey section was mapped and surveyed for any water vole signs. These include physical sightings of voles, latrines, burrow entrances and runs through vegetation on the banksides.

If water voles have been noted as present along a section, a more in depth study would be required to find evidence of breeding. This would include the presence of gardens or lawns where a breeding female will graze an area of vegetation around the burrow entrance.

#### **3.5 Otter**

The stream was surveyed for the length of the development area. Signs of otter presence include spraints on hard surfaces and tree limbs, holt areas and feeding remains. The results of the survey were used to determine whether more in-depth study would be required.

#### **3.6 White-clawed Crayfish**

During the survey of the stream, features favourable and/or unfavourable as crayfish habitat were noted on a plan. Crayfish habitat preferences would include good water quality, slow-flowing sections, debris dams, boulder riffles, submerged tree roots and other characteristics. The results of the survey were used to determine whether more in-depth study would be required.

#### **3.7 Other Species**

As there were no ponds onsite, terrestrial habitat quality was assessed for suitability for great crested newts. The only known pond within the vicinity (north of Thomas Alleyne's School) was not accessible at the time of survey and

will require a habitat suitability assessment due to its position near the site boundary. Two other potential ponds within the fields to the east of Dove Way should also be assessed for GCN habitat quality.

The surveyed habitats within the development area were assessed for their likelihood to support other protected species such as bats, barn owls, breeding birds, and reptiles. Any signs of these species or favourable habitat were noted on a plan.

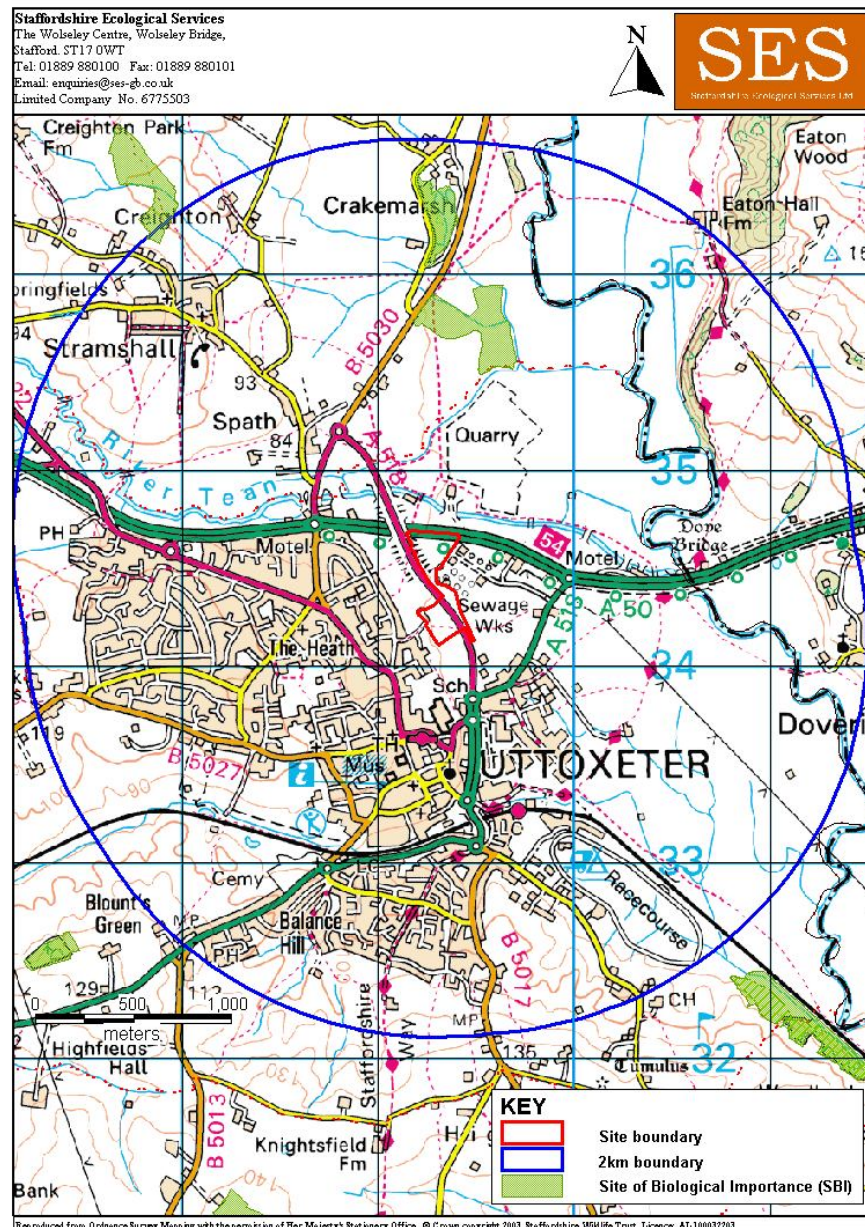
## 4 Results

### 4.1 Habitats

#### 4.1.1 Designated sites

There are two designated sites of county importance (Sites of Biological Importance) within 2km of the site boundary (Figure 4.1)

Figure 4.1: Designated sites within 2km



#### Designated site descriptions

- **Uttoxeter Quarry Site of Biological Importance (SBI)** – Designated in 2009 covering 10 hectares. A series of meadows, woodland and associated features situated within Uttoxeter Quarry

- **Crakemarsh Pool Site of Biological Importance (SBI)** - Designated pre-1970s and covering 6.5 hectares. Pool used for fishing with some emergent/submerged species and surrounded by tall herb vegetation and yew woodland to west.

There are no sites statutorily designated for nature conservation within 2km of the application site.

#### *4.1.2 Phase 1 Habitat survey of the development site*

The following habitats were recorded on the site:

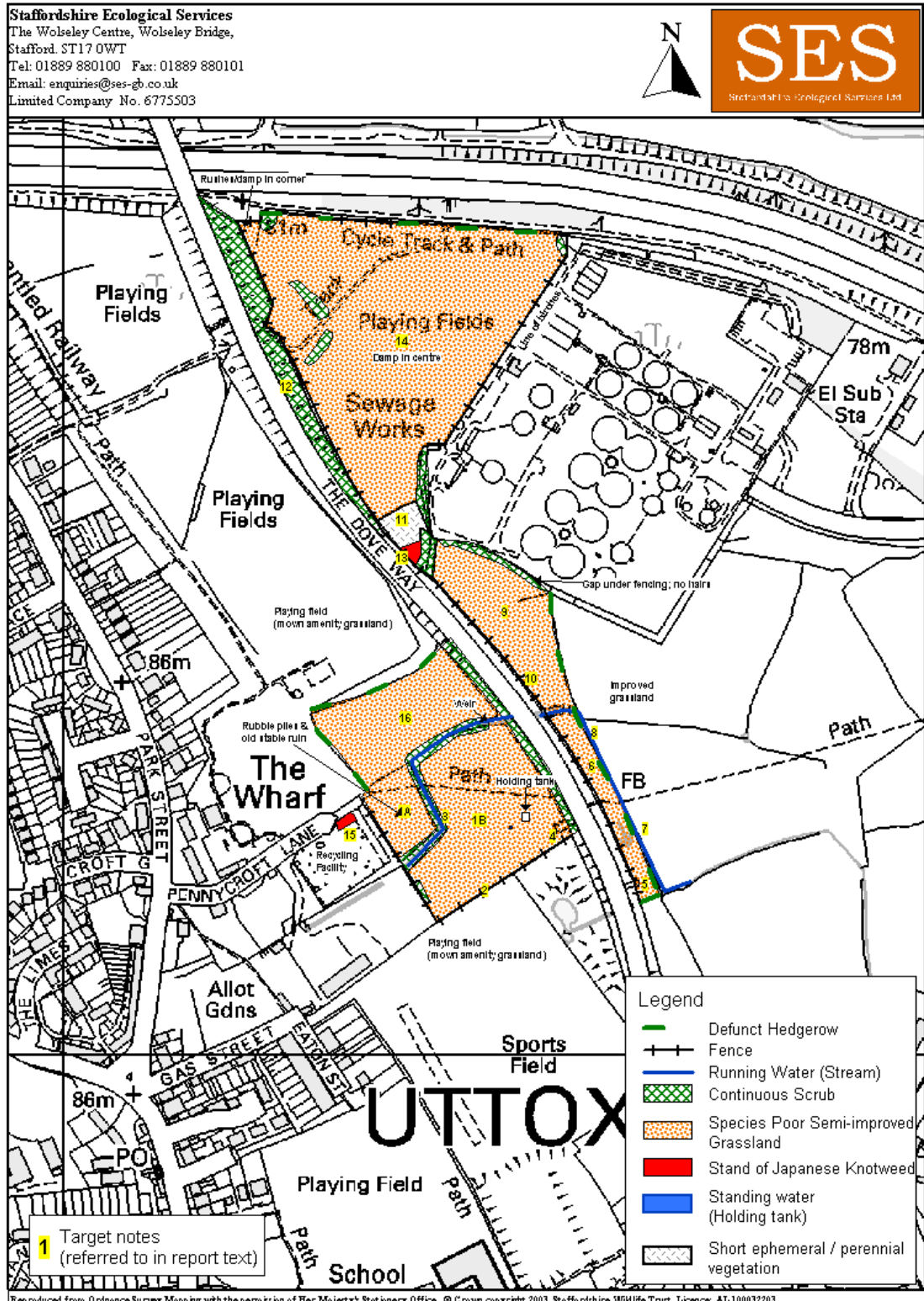
- Semi-improved Grassland (neutral, mostly species-poor).
- Scrub (scattered along field boundaries and watercourse)
- Tall ruderal (scattered or along field boundaries)
- Introduced shrub (Invasive)
- Stream (running water)
- Ditch (mostly dry, very shallow standing water in places)

In addition to the above:

- Small building foundation
- Brownfield vegetation on pebble/cobble substrate

A phase 1 habitat map of the site is provided in *Figure 4.2*. Target notes on the map are referred to in the text.

Figure 4.2: Phase 1 Habitat Map



*Phase 1 habitat descriptions*

*Semi-Improved Grassland (predominantly species-poor) and Tall Ruderal*  
 (See Appendix 4; Photos 1, 2 & 4).

Semi-improved grassland occupied the majority of the site with a total area of 6.9ha and it was characterised primarily as species-poor. This habitat varied to



some extent within each field with field T1A having a more ruderal and herb-dominant sward whereas the other fields within the site (T1B, T6, T9, T14 & T16) were grass dominant. The site's grassland has developed into species-poor, rank grassland sward and varies relatively slightly in its species composition throughout these areas. The lack of management has resulted in the dominant grass sward consisting of cock's-foot (*Dactylis glomerata*) and false oat-grass (*Arrhenatherum elatius*). Other grass species such as creeping red fescue (*Festuca rubra*) were locally abundant.

Within the sward, tall ruderals such as nettle (*Urtica dioica*) were locally abundant with hogweed (*Heracleum sphondylium*), broad-leaved dock (*Rumex obtusifolius*), and rosebay willow-herb (*Epilobium angustifolium*) frequent or locally frequent. Cleavers (*Galium aparine*), cow parsley (*Anthriscus sylvestris*) and creeping buttercup (*Ranunculus repens*) were also frequent, and ribwort plantain (*Plantago lanceolata*), black knapweed (*Centaurea nigra*) and creeping thistle (*Cirsium arvense*) were occasional. Within the slightly more diverse field T1, Germander speedwell (*Veronica chamaedrys*), hedge crane's-bill (*Geranium pyrenaicum*), wavy bitter-cress (*Cardamine Flexuosa*) and lesser celandine (*Ranunculus ficaria*) were occasional. Small local areas of damp grassland (T4 and parts of T6 and F14) contained species such as soft-rush (*Juncus effusus*), brown sedge (*Carex disticha*) and common reed (*Phragmites australis*).

Common invertebrate species noted included peacock and tortoiseshell butterfly, and insect activity levels were high.

#### *Scrub*

(See Appendix 4; scrub is present in a number of the photos).

Scrub field boundaries bordered some of the fields within the site. The dominant scrub species were hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*), which lined the fields and watercourse, and there were also small blocks of bramble (*Rubus fruticosus* agg.) within the field boundaries. The scrub was relatively young.

#### *Defunct Hedgerow*

Approximately 575 linear metres of defunct hedgerow form part of the site boundaries. These are comprised of grown-out hawthorn, blackthorn and occasional bramble or ivy.

#### *Stream and Ditch*

The stream (T3), which ranged from 1 to 1.5m in width, was heavily-shaded for the majority of its length by hawthorn, blackthorn, holly (*Ilex aquifolium*) and some dog-rose (*Rosa canina*) with only a few more open areas nearer to the road. Bank vegetation included ivy (*Hedera helix*), nettle, cleavers and bramble and a few individual ferns e.g. hart's tongue fern (*Asplenium scolopendrium*) were seen. Water quality was poor and tipped rubbish and concrete rubble was present within the streambed, which was heavily silted. A grey coating was seen, particularly in the more accessible west end of the site, covering the streambed features. Pebbles and cobbles were occasional. No submerged plants were noted, but there were a few patches of reed canary -grass (*Phalaris arundinacea*) within the stream margin and occasional emergent grasses in other areas. A small weir was seen on the west side of the A518. Young Himalayan balsam (*Impatiens glandulifera*) was present sporadically along the stream in the south-east end of the site.

A ditch ran along the east boundary of the site toward the sewage works. It proved to be dry along most of its length, but very shallow standing water (<5cm) was seen in one short section.

#### *Additional Areas*

(See Appendix 4; Photos 3 & 5).

In field T1A, the brick-based foundation of a small stable building was noted.

At the south of T14 was an area of brownfield vegetation on a pebble/cobble substrate (T11). The area had colonised with goat willow (*Salix caprea*), young Scot's pine (*Pinus sylvestris*), teasel (*Dipsacus sylvestris*) and various tall ruderals as well as a number of typical brownfield plants. A vegetated soil mound sat in the east of this area.

The A518 embankments were predominantly scrub or comprised of semi-mature and mature planted trees such as oak, alder and willow (T12).

#### *4.1.3 Invasive Species*

Young Himalayan balsam (*Impatiens glandulifera*) was thought to be seen in field T1B, but the plant was notably abundant at T5. As the plant was at seedling stage and less noticeable due to the timing of the survey, further checks to determine the extent of its spread would be advisable. A stand of Japanese knotweed (*Fallopia japonica*), which appeared to have undergone some eradication management, was seen at T13 as well as on the access road into the site from the recycling facility (T14).

## **4.2 Protected and notable species**

A full list of protected and notable species records within 2km of the site is included in Appendix 1.

#### *4.2.2 Water Vole*

Staffordshire Ecological Record (SER) holds 18 records for water vole, which have been recorded in two main areas. One area is approximately 200m north of the site opposite the A50 and near the River Tean; the other is roughly 1km to the south of the application site. Neither location has suitable habitat connections to the site.

The stream within the development area was surveyed for water vole (as well as otter, and habitat suitability for native crayfish) for a distance of 390m; see Figure 4.3 below. The water quality of the stream was very poor and no signs of water

vole were found; therefore the impact of the development on water vole is thought to be negligible and no further surveys are required.

#### *4.2.3 Otter*

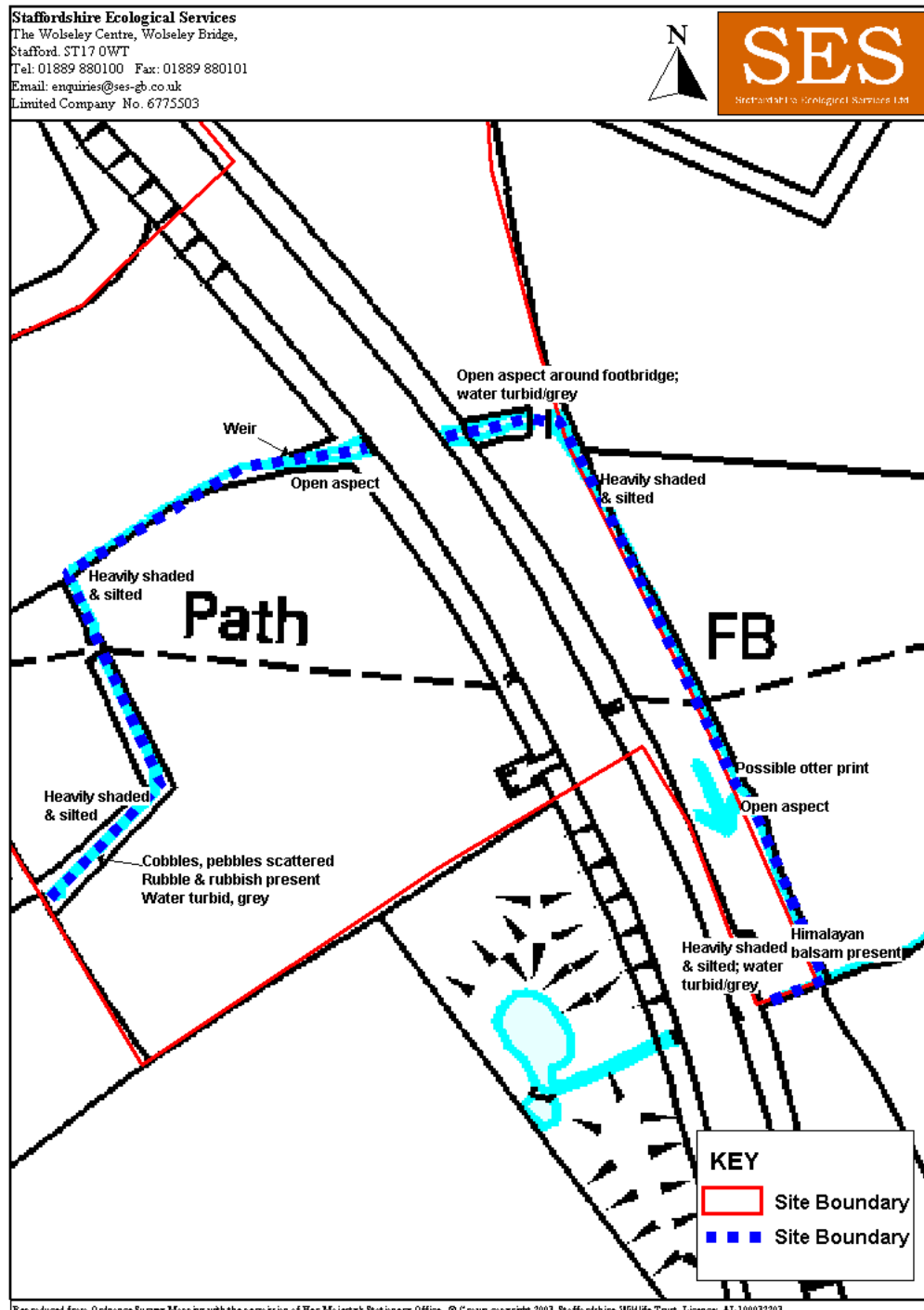
Staffordshire Ecological Record (SER) holds 7 records for otter, but habitat connections to the site are poor. The nearest of the records is located 1km to the east of the site along the River Dove and 1km to the south-east of the site along the Picknall Brook.

No otter spraint was found and no fish were observed; one footprint (T7) was noted, which could potentially be otter, but it was not possible to identify close-up. Because otters occupy large territories, as long as the integrity of the stream connection is maintained during and after the development, then impacts of the development on otter is thought to be negligible. No further surveys of the application site are required. For a route of the survey, see Figure 4.3 below.

#### *4.2.4 White-clawed Crayfish*

Staffordshire Ecological Record (SER) holds 2 records for white-clawed crayfish, but these are about 2km from the application site boundary. The stream habitat was considered to be of low quality for native crayfish. While there were some rubble and larger cobbles that could shelter this species in the west of the site, the water was considerably poor quality and heavily silted, which is not conducive to crayfish presence. No invertebrate life was observed in the stream at all. White-clawed crayfish are presumed to be absent.

Figure 4.3: Water Vole, Otter and White-clawed Crayfish Survey Area



#### 4.2.5 Great Crested Newt

There are no great crested newt records within 2km of the site, but there is a school pond less than 50m from the south boundary of the site, which appears from aerial photographs to have some potential for this species. Two potential ponds within fields east of the site appear on OS maps. None of the ponds were accessible during the survey, nor were any visible from the site boundary and therefore a visit to assess the habitat suitability is recommended to determine if further detailed surveys are required.

#### 4.2.6 *Bats*

Staffordshire Ecological Record holds 46 records bats (at least 4 species) within 2km of the site. The closest record is 370m away and numerous others are located in residential areas to the west.

The fallen crack willow tree (marked as T8 on Figure 4.2: Phase 1 Habitat Map) has potential as a bat roost due to its size, location and number of holes and cavities. This tree should be retained within any development proposals.

As the site supports common invertebrate species, bats may forage within the site along the scrub boundaries and over the grassland. As all of the habitats included in the proposed multi-phased mixed-use development (including those of current phase 1 application site) appear to offer excellent bat foraging habitat, then bat activity surveys are advisable to determine if any important commuting routes and foraging areas would be affected.

#### 4.2.7 *Reptiles*

Staffordshire Ecological Record holds no reptile records within 2km of the site. While there are opportunities for basking, the site is quite isolated by the road systems and built-up areas, and some of the site undergoes disturbance. However, as habitats onsite include rough grassland and potential basking areas, the presence of isolated populations of reptiles cannot be discounted and further surveys are recommended.

#### 4.2.8 *Barn Owl & Nesting birds*

Barn owls were recorded 560m to the east, the latest record in 2008. The barn owl's hunting range during the breeding season is 1km. Populations of common rodents appear to be quite high within some of the fields, and the site boundaries would provide foraging opportunities for this species. Therefore, it is recommended that dusk activity surveys include any note of barn owl foraging activity. No suitable barn owl nesting/roosting sites are present onsite.

Kingfisher has been recorded within 2km, but there is no suitable nesting habitat for this species onsite and no fish were observed within the stream corridor.

Due to human/dog disturbance in some areas of the application site, particularly in fields T1 and T14, the likelihood of ground nesting birds is low here. T16, while the terrestrial habitat is suitable, the high voltage power lines pole (possible raptor perches) overlooks this area which can deter nesting. However, there are less disturbed areas with fairly tufted grassland and ruderals such as T6 and T9, which could provide some opportunities for ground nesters. A presumably mating pair of common pheasants (T10) was present here during the survey.

Common bird species' activity was quite high within all of the scrub boundaries with nesting/foraging activity observed. Species noted included wood pigeon, jackdaw, house sparrow, chaffinch, grey wagtail, great tit, wren, robin, blue tit, blackbird, starling and an unidentified warbler species.

Further breeding bird survey is recommended. Generally, timing of works will need to avoid disturbance during the nesting and breeding period (March – August) and additionally, the development will need to consider opportunities to compensate for lost bird breeding habitat.

## 5 *Conclusion and recommendations*

Planning Policy Statement 9 promotes the inclusion and enhancement of biodiversity within developments.

**It should be noted that all recommendations are provided as information only and specialist legal advice may be required.**

### 5.1 Habitats

#### 5.1.1 Designated sites

Due to location, nature and scale of the proposed development, the risk to the designated sites appears to be negligible.

**Therefore, no further action regarding impact on designated sites is thought to be required.**

#### 5.1.2 Habitats

**The stream and hedgerows are the only BAP Priority habitats onsite.** The development offers opportunities to improve the habitat quality of, and avoid any net loss of, these two habitats.

Improvements to hedgerows through sympathetic, positive management such as re-planting (using native species), coppicing and laying need to be considered. Hedgerow management should consider frequency, time, shape of cutting, development of hedgerow trees and management of the base. One good source of information on hedgerow management can be found in this document entitled ‘*Field Boundaries*’ by the Department of Agricultural and Rural Development <http://biodiversityaction.org/Field%20Boundaries.pdf>, but other good sources would include organisations such as the Wildlife Trust, RSPB, Natural England, etc.

Improvements to the stream could include: the provision of well-vegetated margins; avoiding introduction of chemicals/pesticides into stream during construction and operational stages; cleaning out the rubbish, maintaining stream connectivity; tree and scrub management along the stream; re-grading of the bank to create shelving for aquatic plants (increases flow, reduces silt and provides fish spawning substrate); using soft engineering techniques to protect/stabilise banks; control of invasive species, avoid building close to stream, ensure the watercourse if a ‘feature’ of the development, etc. The above-mentioned organisations should also be able to provide advice on improvement of stream habitat.

**One tree (T8) has been identified as having a medium-high potential to support bats. This tree should be retained within any development proposals.**

In addition to the above, the scrub habitats and less disturbed grassland areas could support nesting birds. **Further breeding bird survey is recommended.**

Generally, timing of clearance works and other disturbance activities should be carried out outside the bird nesting season (1 March – 31 August) or if works are required in these areas, it must be inspected prior to the works to check for nesting birds. A suitable landscaping scheme should incorporate nesting habitat into the

development to avoid net loss; this could include the provision of bird nesting boxes in addition to the planting of native shrubs and hedgerows of suitable density and width.

### 5.1.3 *Invasive species*

Himalayan balsam was noted onsite, but as it was quite young at the time of survey, the extent of its spread could not easily be defined. Japanese knotweed was also present (T13 and off-site at T15). **The applicant may wish to commission a further survey be carried out from which a method statement could be developed for works affecting, or near to, these two species.** The Environment Agency can provide the current best practice for the control of Himalayan balsam. The Environment Agency guidelines ‘*Guide for the control of invasive weeds in or near water*’ (Environment Agency, 2003) detail several options for the control of Himalayan balsam within a development site. As it is an offence to cause Japanese knotweed to spread i.e. ‘grow in the wild’ and as it is a controlled substance, it is advised that the applicant liaise with the Environment Agency on this matter. Further information can be found on their website at <http://www.environment-agency.gov.uk/business/sectors/31364.aspx>.

## 5.2 Protected and notable species

Where further surveys are recommended, Natural England’s expectations on the timing, methods and number of survey visits for individual species can be found on their website at

<http://www.naturalengland.org.uk/ourwork/planningtransportlocalgov/spatialplanning/standingadvice/specieslinks.aspx>

### 5.2.2 *Water Vole*

No evidence of water voles were found, therefore **no further action regarding impact on water voles is thought to be required.**

### 5.2.3 *Otter*

No definitive evidence of otter was found and the habitat quality for otters was considered low due to the notable lack of fish. **If the stream corridor is to remain unaffected by development, then no further action regarding impact on otter is thought to be required; however, if there would be any impacts to the watercourse then more detailed check in affected areas would be advisable.**

### 5.2.4 *White-clawed Crayfish*

As habitat quality is considered low for native crayfish, particularly due to silt and pollution, **no further action regarding impact on white-clawed crayfish is thought to be required.**



#### 5.2.5 *Great Crested Newt.*

**A habitat suitability assessment of the school pond and the other two potential ponds shown to be east of the site on OS maps would be advisable considering their proximity to the application site.**

#### 5.2.6 *Bats*

The proposed development could have some impact on foraging bats whose populations of fairly common species are recorded as present within the surrounding area. As this proposal would be part of a multi-phased development which would occupy a larger area of suitable foraging bat habitat, **bat activity surveys are advised.**

The crack willow tree (marked as T8 on Figure 4.2: Phase 1 Habitat Map) has potential as a bat roost due to its size, location and number of holes, cavities and fissures. However, if this tree is to be felled, dusk/dawn bat surveys and a relevant mitigation strategy should be put in place prior to felling. Part of the mitigation strategy may involve the application for a Natural England License for Development.

#### 5.2.7 *Reptiles*

As habitat quality is considered good for reptiles, **further reptile survey is recommended in accordance with good practice guidelines.**

#### 5.2.8 *Nesting birds*

It should be noted that section 1 of the Wildlife and Countryside Act 1981 (as amended) prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs.

**The site contains suitable, less-disturbed habitat for ground nesting birds, and the scrub supports common nesting bird species.** Further breeding bird survey is recommended from which additional provisos may arise. Generally, timing of clearance and other works which could disturb nesting habitat will need to avoid disturbance during the nesting and breeding period (March – August). If this is not possible, then SES should be contacted for advice.

Additionally, the development will need to consider opportunities to compensate for lost bird breeding habitat through an ecologically-sensitive landscaping scheme.

## 6 *References*

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## Appendix 1: Ecological Records Search

Protected Species					
Informal Group	Common Name	Scientific name	No of Records	First	Last
bird	Common Kingfisher	Alcedo atthis	51	1997	2009
mammal - bat	a bat	Chiroptera	4	1988	2008
bird	Barn Owl	Tyto alba	18	2001	2009
crustacean	Freshwater White-clawed Crayfish	Austropotamobius pallipes	2	1999	2006

mammal - bat	Pipistrelle	Pipistrellus pipistrellus sens. lat.	20	1985	2008
mammal - carnivore	European Otter	Lutra lutra	7	1997	2007
mammal - bat	Soprano Pipistrelle	Pipistrellus pygmaeus	6	2008	2008
mammal - bat	Pipistrelle Bat species	Pipistrellus	6	2008	2008
mammal - bat	Myotis Bat species	Myotis	2	2008	2008
mammal - bat	Nyctalus Bat species	Nyctalus	1	2008	2008
mammal - bat	Common Pipistrelle	Pipistrellus pipistrellus sens. str.	5	2000	2006
bird	European Golden Plover	Pluvialis apricaria	11	2005	2009
bird	Green Sandpiper	Tringa ochropus	190	2004	2010
flowering plant	Bluebell	Hyacinthoides non-scripta	2	1996	2004
amphibian	Common Frog	Rana temporaria	4	1981	2002
bird	Common Tern	Sterna hirundo	131	2005	2009
mammal - bat	Brown Long-eared Bat	Plecotus auritus	2	1986	1996
bird	Little Plover	Charadrius dubius	202	2005	2010
bird	Redwing	Turdus iliacus	48	2007	2009
bird	Little Egret	Egretta garzetta	14	2005	2010
bird	Peregrine Falcon	Falco peregrinus	10	2005	2009
bird	Barnacle Goose	Branta leucopsis	25	2008	2009
bird	Black-tailed Godwit	Limosa limosa	6	2009	2010
bird	Osprey	Pandion haliaetus	4	2005	2008
bird	Greylag Goose	Anser anser	65	2007	2009
bird	Arctic Tern	Sterna paradisaea	6	2008	2009
bird	Black Tern	Chlidonias niger	2	2008	2009
bird	Eurasian Hobby	Falco subbuteo	6	2004	2009
bird	Whimbrel	Numenius phaeopus	5	2008	2009
bird	Tundra Swan	Cygnus columbianus	1	2008	2008
bird	Common Scoter	Melanitta nigra	2	2008	2008
bird	Fieldfare	Turdus pilaris	46	2007	2009
bird	Whooper Swan	Cygnus cygnus	5	2008	2010
bird	Common Greenshank	Tringa nebularia	27	2008	2010
bird	Bar-tailed Godwit	Limosa lapponica	1	2009	2009
bird	Northern Pintail	Anas acuta	7	2008	2009
bird	Ruff	Philomachus pugnax	3	2009	2009
bird	Little Gull	Larus minutus	2	2009	2009
bird	Garganey	Anas querquedula	4	2009	2009
bird	Greater Scaup	Aythya marila	2	2008	2010
bird	Red Kite	Milvus milvus	2	2009	2009
amphibian	Common Toad	Bufo bufo	1	1990	1990
bird	Wood Sandpiper	Tringa glareola	3	2009	2009
bird	Eurasian Spoonbill	Platalea leucorodia	1	2009	2009
bird	Ruddy Shelduck	Tadorna ferruginea	2	2009	2009
bird	Common Goldeneye	Bucephala clangula	1	2008	2008
bird	Sandwich Tern	Sterna sandvicensis	1	2008	2008
mammal - rodent	European Water Vole	Arvicola amphibius	18	1997	2006

## ***Appendix 2. Legal Information***

### *1 Badger*

As a result of continued persecution, badgers are protected by primary legislation (the Protection of Badgers Act 1992) and as such planning authorities are required to take them into account when assessing planning applications.

The legislation makes it illegal (without licence) to:

- Wilfully kill, injure or take, or attempt to kill, injure or take, a badger.
- Cruelly ill-treat a badger, dig for badger, use badger tongs, use a firearm other than the type specified under the exceptions within the Act.
- Interfere with a badger sett by damaging, destroying, obstructing, causing a dog to enter a sett, disturbing an occupied sett - either by intent or by negligence.
- Sell or offer for sale a live badger, having possession or control of a live badger.
- Mark a badger or attach any ring, tag, or other marking device to a badger.

### *2 Bats*

All British bat species are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The most recent amendments introduced by the Conservation (Natural Habitats & c.) (Amendment) Regulations 2007 and 2009, removed some of the protection bats enjoyed under this Act where it was duplicated under the Habitats Regulations. Therefore they are subject to the provisions of Section 9:4 (b) and (c), and 5, which, in summary, makes it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection
- Intentionally or recklessly obstruct access to any structure or place which it uses for shelter or protection
- Sell, offer for sale or possess for the purpose of sale any bat or part of a bat or advertise sales or purchases of bats

The Countryside and Rights of Way [CRoW] Act 2000 makes most WCA offences into arrestable criminal offences, and includes offences committed 'recklessly' as well as deliberately.

All bat species are also included in Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (the Habitats Regulations 2010), which consolidates the Conservation (Natural Habitats & c.) Regulations 1995 and amendments in 2007, 2008 and 2009.

Regulation 41 makes it an offence to:

- (a) deliberately capture or kill a bat [Regulation 41(1)(a)]
- (b) deliberately disturb a bat [Regulation 41(1)(b)]
- (c) damage or destroy a breeding site or resting place of a bat [R. 41(1)(d)]

(d) Keep, transport, sell or exchange, or offer for sale or exchange a live or dead bat or any part of a bat [R. 41(3)]

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

(a) to impair their ability—

(i) to survive, to breed or reproduce, or to rear or nurture their young, or

(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

(b) to affect significantly the local distribution or abundance of the species to which they belong.

### 3 *Otter*

Otters receive protection under both the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010. Otters and their resting places are fully protected, it is an offence to deliberately, capture, injure or kill them or to damage, destroy or obstruct their breeding or resting places. It is also an offence to disturb otters in their breeding or resting places.

- Intentionally kill, injure or take an Otter
- Possess or control any live or dead specimen or anything derived from an Otter
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by an Otter
- Intentionally or recklessly disturb an Otter while it is occupying a structure or place which it uses for that purpose

### 4 *Water Voles*

On the 6 April 2008 water voles received an increased level of protection, becoming fully covered by the provisions of Section 9 of the Wildlife and Countryside Act 1981 (as amended). As such it is now an offence to:

- Kill, injure or take water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection
- Intentionally or recklessly disturb water voles whilst occupying a structure or place used for shelter or protection

### 5 *Nesting Birds*

Section 1 of the Wildlife and Countryside Act 1981 (as amended) prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs.

### Appendix 3: Species List.

The site survey was carried out in accordance with the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Survey Methodology (JNCC, 1990). Along with the description of habitat types on site, a representative flora species list was compiled for each notable habitat type. Each species recorded in a habitat is given a score on the DAFOR scale (*Figure 3.2.a*). DAFOR is used to assess the abundance of a given species in a given area.

DAFOR scale :

D	Dominant
A	Abundant
F	Frequent
O	Occasional
R*	Rare*

\*Rare indicates a species scarcity within the given site and is not a measure of its national or county status.

HABITAT	COMMON NAME	SCIENTIFIC NAME	FREQUENCY
	Hawthorn	<i>Crataegus monogyna</i>	D
	Blackthorn	<i>Prunus spinosa</i>	A
	Bramble	<i>Rubus fruticosus</i>	F
	Dog-rose	<i>Rosa canina</i>	O
	Holly	<i>Ilex aquifolium</i>	R
Grassland	Cock's-foot	<i>Dactylis glomerata</i>	D
	False Oat Grass	<i>Arrhenatherum elatius</i>	D
	Nettle	<i>Urtica dioica</i>	A
	Common Ragwort	<i>Senecio jacobaea</i>	R
	Broad leaved Dock	<i>Rumex obtusifolius</i>	F
	Cleavers	<i>Galium aparine</i>	F
	Hogweed	<i>Heracleum sphondylium</i>	F
	Cow Parsley	<i>Anthriscus sylvestris</i>	F
	Rosebay willowherb	<i>Epilobium angustifolium</i>	F
	Creeping Buttercup	<i>Ranunculus repens</i>	F
	Himalayan balsam	<i>Impatiens glandulifera</i>	O
	Red Fescue	<i>Festuca rubra</i>	O
	Perennial Rye-grass	<i>Lolium perenne</i>	O
	Ribwort Plantain	<i>Plantago lanceolata</i>	O
	Black Knapweed	<i>Centaurea nigra</i>	O
	Common Ragwort	<i>Senecio jacobaea</i>	R
	Creeping Thistle	<i>Cirsium arvense</i>	O
	Yarrow	<i>Achillea millefolium</i>	O
	Germander speedwell	<i>Veronica chamaedrys</i>	O
	Hedge cranesbill	<i>Geranium pyrenaicum</i>	O
	Wavy bittercress	<i>Cardamine flexuosa</i>	O
	Lesser celandine	<i>Ranunculus ficaria</i>	O
	White deadnettle	<i>Lamium album</i>	O
	Spear Thistle	<i>Cirsium vulgare</i>	O
	Soft rush	<i>Juncus effusus</i>	R
	Tufted hair-grass	<i>Deschampsia cespitosa</i>	R
	Brown sedge	<i>Carex disticha</i>	R
	Spear Thistle	<i>Cirsium vulgare</i>	R
	Common Reed	<i>Phragmites australis</i>	R

	White clover	<i>Trifolium repens</i>	R
	Smooth catsear	<i>Hypochaeris glabra</i>	R
	Common Ragwort	<i>Senecio jacobaea</i>	R
	Cut-leaved cranesbill	<i>Geranium dissectum</i>	R
	Silverweed	<i>Potentilla anserina</i>	R
	A vetch	<i>Vicia spp</i>	R
Stream banks (excluding scrub)	Nettle	<i>Urtica dioica</i>	A
	Cleavers	<i>Galium aparine</i>	F
	Ivy	<i>Hedera helix</i>	O
	Himalayan balsam	<i>Impatiens glandulifera</i>	O
	Harts tongue fern	<i>Asplenium scolopendrium</i>	R
	Canary reed-grass	<i>Phalaris arundinacea</i>	R

## ***Appendix 4: Site photographs***

1. Field T1B Grassland; scrub-bordered stream in background



2. Field 6 – view toward north; narrow south end with Himalayan balsam present





### 3. Scrub around Field 1A and building remains



### 4. Crack willow (T8) with cavities on opposite bank; extends onto site over stream



5. Rough brownfield vegetation over cobble substrate (T11)



6. Stream corridor with discoloured, grey water, rubbish and rubble



7. Stream where it passes beneath Dove Way (west side)

