

# Ecological Appraisal

Hill Street, Elsecar,

South Yorkshire



**Produced by:** Protected Species Surveys

**Contact:** Telephone: 07909 4600610; email: [protectedspssurveys@gmail.com](mailto:protectedspssurveys@gmail.com)

**Client:** JVN Architecture Ltd

**Location:** Hill Street, Elsecar, South Yorkshire

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## CONTENTS

<b>1.0 INTRODUCTION</b> .....	3
<b>2.0 METHODOLOGY</b> .....	4
<b>3.0 RESULTS</b> .....	8
<b>4.0 CONCLUSIONS &amp; RECOMMENDATIONS</b> .....	13

## PHOTOGRAPHS

*Photograph 1:* Earth bund covered with grassland and scrub

*Photograph 2:* Large stand of Japanese knotweed in western section

## FIGURES

*Figure 1:* Site Location Plan

*Figure 2:* Phase 1 Habitat Plan

## APPENDICES

*Appendix A:* Botanical Species List

*Appendix B:* Response Email From South Yorkshire Badger Group

## **1.0 INTRODUCTION**

- 1.1 This report has been prepared by freelance Ecologist Jenny Wheeldon BSc (hons) MSc MIEEM who has over 10 years experience in the field of Ecological Consultancy. The author holds protected species licenses for bats, great crested newts and white clawed crayfish as well as being a competent all round Ecologist and Phase 1 surveyor. The surveys and report were completed on behalf of Protected Species Surveys in respect of proposals to commercially extract material from land off Hill Street, Elsecar, South Yorkshire (Central OS grid Ref: SE 379 001), hereafter referred to as 'the site'.
- 1.2 It includes an ecological assessment of the site and fulfils the request from the Local Authority's Ecologist that an ecological survey is carried out at the site to identify the potential for the site to support any protected species and to identify the presence of any invasive non-native plant species.

### **Site Description and Context**

- 1.3 The site consisted of a strip of land leading south west from Hill Street in Elsecar. It extended along the adjacent railway which formed the northern site boundary.
- 1.4 The redline boundary of the site includes the former Elsecar railway station office, a small building which fronts onto Hill Street in the north eastern corner of the site. However the building is not part of the current planning application and will be unaffected by the proposed works.
- 1.5 The north eastern section of the site consisted of an area of hard standing used for storage of building materials. Then a narrow strip of track featured small areas of short grassland and was bounded in some areas by scrub. In the western section the site widened out to include a wider area of grassland and scrub.
- 1.6 The north western boundary was formed by the adjacent railway with residential and amenity grassland areas beyond this. Along the southern boundary was a steep drop along the edge of the site below which was scrub and grassland with pastoral and arable fields beyond.
- 1.7 An ecological assessment of the site was undertaken on 28<sup>th</sup> April 2015 and updated during a site visit on 28<sup>th</sup> May 2015.

### **Proposed Works**

- 1.8 The proposed works comprise the removal of ash deposits within the site boundary.

## **2.0 METHODOLOGY**

### **Desk Study**

- 2.1 In order to compile existing baseline information, relevant ecological information was sought from Multi Agency Geographic Information for the Countryside (MAGIC) [www.magic.gov.uk](http://www.magic.gov.uk) and other open access ecological data sources.
- 2.2 Due to the small scale of the proposed development at this site the search area for biodiversity information was up to 1km and included a search for sites of international, national and local statutory importance.

### **Field Survey – Flora/Habitats**

- 2.3 The site was surveyed on the 28<sup>th</sup> April 2015 and again on 28<sup>th</sup> May 2015 using the standard Extended Phase I Habitat survey methodology (JNCC, 2010), as recommended by Natural England to identify specific habitats of ecological interest. A systematic walk over of the area was undertaken to classify each habitat by a suitably experienced ecologist with over 10 years survey experience and full CIEEM member.
- 2.4 Plant species were recorded and have been included in Appendix A. This is not a full list of the botanical species within the site but has been used to categorise the habitats. A plan has been included to show approximate extent of the habitats on site (Figure 1: Phase 1 Habitat Plan).

### **Field Survey – Protected Species**

- 2.5 During the survey of the site, signs of and/or suitable habitat for any species protected under part 1 of the Wildlife and Countryside Act 1981 (as amended), The Conservation of Habitats and Species Regulations 2010 (as amended) and the Protection of Badgers Act 1992 was recorded. Consideration was also given to the existence and use of the site by other notable fauna such as LBAP or RDB species.

### **Badgers**

- 2.6 The standard methodology as recommended by Harris, Creswell and Jefferies (1989) was followed to complete a thorough search for evidence which would indicate the presence of badgers both on the site and locally. Evidence of badger occupation and activity sought included:
  - *Setts*: including earth mounds, evidence of bedding and runways between setts;

- *Latrines*: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
- Prints and paths or trackways;
- Hairs caught on rough wood or fencing;
- Other evidence: including snuffle holes, feeding and playing areas and scratching posts.

2.7 Where setts are found, their status and level of activity is noted. Set status is broadly categorised as follows:

- *Main sett* – usually continuously used with many signs of activity around, a large number of holes and conspicuous spoil mounds;
- *Annexe sett* – usually located close to a main sett and connected to it by well used paths. Annexe's may not be continuously occupied;
- *Subsidiary sett* – lesser used setts comprising a few holes and without associated well-used paths. Subsidiary setts are not continuously occupied;
- *Outlier sett* – one or two holes without obvious paths. These are used sporadically.

2.8 Level of activity is described as:

- *Well used* – clear of debris, trampled soil mounds and obviously active, with signs of activity such as presence of prints, dislodged guard hairs around the entrances;
- *Partially used* – some associated debris or plants at the entrance. Could be used with minimal excavation and usually with signs of activity within the vicinity, for example, badger pathways;
- *Disused* – partially or completely blocked entrances.

## **Bats**

2.9 An external survey of the buildings present within the site boundary was carried out on the 28<sup>th</sup> April 2015 by a licensed bat worker from Protected Species Surveys (licence number 2015-10587-CLS). This involved examination of the exterior of the buildings to determine their potential as bat roost sites. From this, areas of likely / potential value for bats can be broadly identified and a decision made over the selection of locations for more detailed work if required. Any potential bat access points observed together with any suitable features were noted, in addition to evidence of occupation. These works were undertaken by a licensed bat worker and this methodology takes into account the statutory guidance from English Nature (now Natural England) and further guidelines introduced by the Bat Conservation Trust and JNCC.

- 2.10 Internal building inspections, including any roof voids, were carried out to determine if there was any evidence of previous or present occupation by bats or habitat available that might potentially support roosting bats. Evidence of occupation might comprise the presence of live or dead bats, droppings, urine staining, the conspicuous absence of cobwebs and grease / scratch marks on timbers.

## **Reptiles**

- 2.11 An assessment of habitat suitability for common reptile species was completed at the time of the habitat survey on 28<sup>th</sup> April 2015. In accordance with current guidance<sup>1,2</sup>, this assessment included a review of habitats and habitat structure for suitable shelter for reptiles such as areas of scrub and woodpiles, grassland with well-developed and varied structure, areas suitable for basking, large tussocks and structurally diverse 'edge' habitats.
- 2.12 A targeted reptile survey was undertaken during spring-summer 2015 to confirm the presence/absence of reptiles within the site. A total of 35 refuges comprising 50cm x 50cm roofing felt and tin tiles were positioned in suitable habitats for basking reptiles in May/June 2015. Refuges were set and left for a period of two weeks to bed in prior to the initial survey visit. These refuges and other, naturally occurring refugia were then subsequently checked on seven suitable survey occasions during the period May/June 2015.
- 2.13 Each area of suitable reptile habitat was also observed to try and identify basking common lizards. This species will often sit on top of grass tussocks, debris and felt, and will move quickly from sight following disturbance. Consequently spotting this species can be more effective than searching under refugia. Common lizards are often territorial and can be observed to regularly re-use favourite basking areas<sup>3</sup>. Once basking sites have been identified, spotting can represent a relatively successful method of lizard recording.
- 2.14 Surveys visits were undertaken in accordance with following guidelines where possible:
- At temperatures of between 9°C - 20°C;
  - On sunny / cloudy days with little or no wind;
  - Before 11:00 hours and after 16:00 hours.
  - Approaching refugia from downwind and avoiding casting a shadow and with care so as to not disturb basking animals when checking;

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<sup>1</sup> Gent, T. and Gibson, S. 1998. *Herpetofauna Workers' Manual*. JNCC, Peterborough.

<sup>2</sup> Froglife, 1999. *Reptile Survey: an Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation*. Froglife advice sheet 10. Froglife, Halesworth.

<sup>3</sup> Beebe, T. & Griffiths, R. 2000. *Amphibians and Reptiles – A Natural History of the British Herpetofauna*, HarperCollins, London

- That lifting and replacing tins, to check for the presence of reptiles underneath in hot weather is undertaken with care, to avoid potential harm to any animals underneath.

2.15 Reptile populations were assessed with reference to population level criteria as stated in the Key Reptile Site Register<sup>5</sup>. This system classifies populations of individual reptile species into three population categories assessing the importance of the population (Table 1). These categories are based on the total number of animals observed during individual survey occasions.

**Table 1 – Key Reptile Site Survey Assessment Categories<sup>5</sup>**

<b>Species</b>	<b>Low Population (Number of Individuals)</b>	<b>Good Population (Number of Individuals)</b>	<b>Exceptional Population (Number of Individuals)</b>
Adder	<5	5-10	>10
Common lizard	<5	5-20	>20
Grass snake	<5	5-10	>10
Slow worm	<5	5-20	>20

### **Great Crested Newts**

2.16 No waterbodies are present within the site boundary. Two ponds were highlighted as possibly being present within 500m of the site. Letters requesting access to survey the ponds were posted out to each landowner in order to undertake aquatic surveys.

## **3.0 RESULTS**

### **Desk Study**

#### Statutory Designated Sites

- 3.1 The Multi-Agency Geographic Information for the Countryside (MAGIC) website indicates that there are no international or national statutorily designated sites for nature conservation within 2km of the site boundary.
- 3.2 The only local statutory designated site within 2km of the site is Elsecar Reservoir Local Nature Reserve which lies approximately 600 metres to the south of the site boundary.

#### Non-statutory Designated Sites

- 3.3 Elsecar Reservoir is also the only non-statutorily designated site within 1km of the site boundary. Not only does the majority of the reservoir have LNR status, as mentioned above, but it is also designated as a Local Wildlife Site (LWS).

#### Other Designations

- 3.4 The site lies adjacent to an area of woodland covered by the South Yorkshire Forest Partnership (SYFP) which was formed in 1991 and is one of Englands Community Forests, a national partnership which aims to help economic and environmental regeneration projects. The SYFP initiate projects include tree planting to regenerate green spaces and improve biodiversity on sites previously used or developed.
- 3.5 The site also sits within the Dearne Valley Green Heart 'Nature Improvement Area' (NIA) with initiatives from the Yorkshire Wildlife Trust along with other organisations and the local people. The aims include habitat improvements and creation within the area including wildlife corridors.

#### Protected and Notable Species

- 3.6 Data returned from Sheffield Biological Records Centre (SBRC) showed that there are no known records of protected or notable species within the site or from land immediately adjacent to the site boundary.
- 3.7 No records of badgers were returned within the data received from SBRC which presumably means they have no records of this species within the search area. No response was returned from South Yorkshire Badger Group other than an email to say that they do not always provide records particularly for development purposes (included at Appendix B).

- 3.8 Data from South Yorkshire Bat Group indicates that there are no known bat roosts within or adjacent to the site. Two bat roosts had been recorded approximately 2km from the site boundary. The first was within a tree at Hillies Park, Wombwell (no species indicated) and the second in a building at Kirby Lane, Hoodhill.
- 3.9 No records of great crested newts were returned by SBRC from the search area and only one record of reptiles was provided. This record of a grass snake dated to 2008 and detailed a sighting at Elsecar Reservoir located approximately 600m to the south of the site boundary.

### **Field Study**

#### **Habitats/Flora**

- 3.10 Beyond the area of hard standing in the north east of the site the vegetation along the track leading west was a mosaic of short grassland with tall ruderal species, scrub and young trees along the edge.

#### Semi-improved Grassland

- 3.11 A narrow strip of grassland was recorded along the track leading into the site and also on the top and sides of an earthen bund which had been created across the site in the eastern section (TN1).
- 3.12 Common and widespread grass species were recorded including false oatgrass *Arrhenatherum elatius*, creeping bent *Agrostis stolonifera* and Yorkshire fog *Holcus lanatus*. Herbaceous species included daisy *Bellis perennis*, creeping thistle *Cirsium arvense*, ribwort plantain *Plantago lanceolata* and dandelion *Taraxacum officinale* which were frequent throughout the sward. Other plants including common nettle *Urtica dioica*, red clover *Trifolium pratense*, teasel *Dipsacus fullonum* and oxeye daisy *Leucanthemum vulgare* were locally abundant with hogweed *Heracleum sphondylium*, bird's-foot trefoil *Lotus corniculatus* and common vetch *Vicia sativa* recorded occasionally. Common mouse-ear *Cerastium fontanum*, hairy tare *Vicia hirsuta* and greater knapweed *Centaurea scabiosa* were also noted.
- 3.13 The species composition was similar upon the earth bund when compared with the trackside sward but with a few additional species including red fescue *Festuca rubra* and coltsfoot *Tussilago farfara*.



**Photograph 1 – Earth bund covered with grassland and scrub**

#### Tall Ruderal Vegetation

- 3.14 Localised areas of tall ruderal vegetation were recorded along the boundaries of the site particularly along the northern boundary adjacent to the railway line. Species including common nettle *Urtica dioica* and cow parsley *Anthriscus sylvestris* were noted with locally abundant rosebay willow herb *Chamerion angustifolium*.

#### Individual Trees and Scrub

- 3.15 Individual trees within the site were rare and restricted to the southern boundary. Young and semi-mature trees were also recorded just outside the site redline boundary along the railway. The trees were generally young or semi-mature with species restricted to ash *Fraxinus excelsior*, grey willow *Salix cinerea* and non-native sycamore *Acer pseudoplatanus*.
- 3.16 Scattered scrub was present within grassland areas including native species such as hawthorn *Crateagus monogyna*, silver birch *Betula pendula* and ash saplings. Sycamore saplings were also present. Bramble *Rubus fruticosus* agg. was widespread with common broom *Cytisus scoparius* and European gorse *Ulex europaeus* also recorded but very rarely.

#### Non-native Invasive species

The non-native and invasive species Japanese knotweed *Fallopia japonica* was found within the site boundary. A large stand of this species was noted in the western section at the end of the track where the site became wider and was fenced from the woodland beyond. This

stand was well established with shoots identified in areas up to 4m from the main stand.



**Photograph 2 – Ash substrate with large area of Japanese knotweed in western section**

## **Fauna**

### Badgers *Meles meles*

- 3.17 No signs of badgers including badger setts were recorded on the site during the survey.

### Bats

- 3.18 Three metal lorry containers were present on hard-standing within the east of the site currently used to store building equipment. These containers were metal sided and lacked any suitable features that could be utilised by roosting bats.
- 3.19 A two storey brick built disused ticket office was situated on the north eastern corner of site boundary. The building comprised a pitched slate tiled roof with two brick chimney. Gables, wooden barge boards and lead flashing were present. All windows and doors were bricked or boarded up. Potential bat access points comprised gaps within the slate tiled roof via gaps in missing/loose tiles and under lead flashing. No external evidence of a roost was identified during the survey. Due to exposed nature of the building and large area of surrounding hard-standing the building was identified as providing **low** potential to support roosting bats.

### Great Crested Newts *Triturus cristatus*

- 3.20 No signs of great crested newts (GCN) were recorded during the survey.
- 3.21 Letters requesting access to the two off-site ponds were posted to the two land owners of the off-site ponds. No response was received and therefore no aquatic surveys could be undertaken.
- 3.22 Pond 1 was located within the rear garden of an off-site residential property approximately 45m south of the site immediately adjacent an arable field boundary hedgerow with dense scrub and tree cover associated with the field boundary hedgerow. No access was granted to survey the pond.
- 3.23 Pond 2 was located approximately 312m south of the site separated from the site by a large arable field compartment. A ditch was present along the northern aspect of the arable field compartment with running water. Therefore, the presence of the ditch is considered to provide a barrier to dispersal to GCN if in the wider area. No access was granted to survey the pond.

### Reptiles

- 3.24 No evidence of reptile species was found on site during the site surveys. The majority of the site comprised of hard-standing and soft ash substrate with areas of edge grassland, scrub and bramble offering potential habitats for reptiles. On-site rubble piles and stored miscellaneous building plies provided alternative areas of potential hibernating, cover, sheltering, foraging and commuting habitat. The site is relatively isolated, located on the western edge of Elsecar.
- 3.25 A total of 35 artificial refugia were placed within the site in habitats considered most suitable for reptiles. All of the surveys were undertaken during May and June 2015 by a suitably experienced ecologist. Over this survey period reptile have not been confirmed within the site.

**Table 2: Reptile presence/absence survey results recorded in 2015**

Date	Weather	Results
16.05.15	15°C, cloudy, 80% cloud cover, slight breeze.	No reptiles recorded
20.05.15	13°C, Sunny spells, 70% cloud cover, dry no wind.	No reptiles recorded
24.05.15	14°C, Sunny, 60% cloud cover, no wind and dry.	No reptiles recorded
28.05.15	17°C, Sunny, 30% cloud cover, dry with slight wind.	No reptiles recorded
31.05.15	12°C, Sunny spells, 80% cloud cover, light breeze.	No reptiles recorded
05.05.15	13.5°C, cloudy, 80% cloud cover, dry with slight wind	No reptiles recorded
12.05.15	14.5°C, cloudy, 50% cloud cover, no wind and dry	No reptiles recorded

## 4.0 CONCLUSIONS & RECOMMENDATIONS

### Statutorily Designated Sites

- 4.1 The Multi-Agency Geographic Information for the Countryside (MAGIC) website indicates that there are no international or national statutory sites within 2km of the site.
- 4.2 Elsecar Reservoir Local Nature Reserve (LNR) and Local Wildlife Site (LWS) is located approximately 600m to the south of the site boundary but as the two sites are separated by pastoral fields, roads and housing it is considered unlikely that the working proposals for this site will have any impact upon the LNR.

### Habitats

- 4.3 The site included areas of hard standing, disturbed ground and a thin strip of grassland and scattered scrub which was wider in the western section. The habitats offered little floristic interest as the species present were neither notable nor rare and are therefore considered to be of limited nature conservation value.
- 4.4 In order to compensate for the loss of scattered scrub and grassland within the west of the site enhancements will be provided within the western corner of the site comprising an area of species rich grassland Tree planting and creation of a single hibernacula suitable for amphibians (Figure 3). Such features will mature to provide further structural diversity and new corridors of movement and potential foraging and nesting habitat for a range of local fauna.
- 4.5 Tree species such as field maple, silver birch *Betula pendula*, wild cherry, bird cherry *Prunus padus*, holly, crab apple *Malus sylvestris* and rowan *Sorbus aucuparia* will be planted within the western corner of the site and along the soil bund of the northern boundary. Should any hedgerows be incorporated within the scheme species for inclusion should include: hawthorn, blackthorn *Prunus spinosa*, hazel *Corylus avellana*, beech *Fagus sylvatica*, holly, dog rose, honeysuckle *Lonicera periclymenum* and wild privet *Ligustrum vulgare*. These species will enhance the foraging opportunities of local wild fauna including birds and invertebrates.
- 4.6 This will improve some areas of existing habitat and mitigate for any loss in line with the ethos of the Dearne Valley Green Heart Nature Improvement Area.

### Non-native Invasive Species

- 4.7 A large stand of Japanese knotweed was recorded within and adjacent to the woodland area.

- 4.8 Japanese knotweed is classified as an invasive weed under the Wildlife and Countryside Act 1981 (as amended). In addition any waste containing Japanese knotweed is classified as controlled waste under the Environmental Protection Act (Duty of Care) Regulations 1991.
- 4.9 Under provisions made within the Wildlife and Countryside Act 1981 (as amended), it is an offence to spread Japanese knotweed. Therefore a detailed assessment for the Japanese knotweed should be undertaken by an experienced knotweed specialist during the growing season and an appropriate and detailed mitigation strategy drawn up to ensure the safe removal of this species from the site as it is likely to be disturbed during works. This may include chemical treatment and/or mechanical removal with material disposed of appropriately to prevent its spread.

#### Badgers

- 4.10 No signs of badgers were recorded within the site during the survey. Opportunities for the creation of setts and foraging areas were limited given the size of the site and the nature of the habitats within it. Therefore, badgers are not considered a statutory constraint to the proposed works.

#### **Bats**

##### Buildings

- 4.11 During the external building assessment, no evidence of bats was recorded in association with the metal lorry containers or the disused two storey ticket office within the north eastern corner of the site boundary. The building provided some limited potential via missing and loose roof tiles and lifted lead flashing. The building was therefore considered to have low potential to support roosting bats.
- 4.12 However, the two storey disused ticket office is not affected by the proposed
- 4.13 During the survey no bats were observed emerging or entering the building. Bat activity was limited to passes by common/widespread species. From the assessment the presence of a bat roost has not been identified as a statutory constraint to the proposed works.
- 4.14 The site for the most part comprised bare-ground, hard-standing and semi-improved grassland and tall ruderal vegetation within the west of the site that generally provided low quality foraging and commuting habitat for bats. Neighbouring habitats to south of the site included arable fields with boundary hedgerows connected to off-site woodland plantation.

- 4.15 None of the habitats to be lost under the working proposals are considered to provide suitable roosting potential for bats. Although the disused ticket office is within the site boundary no works are proposed for the building and unlikely to be affected by the proposed works. Therefore, bats are not a statutory constraint to the proposed works.

#### Breeding birds

- 4.16 Specific surveys for breeding birds were not considered necessary for a small site with limited habitats. Only a small number of common bird species were noted during site surveys with no notable species recorded. However the removal of vegetation such as scrub and trees should be done outside of the bird breeding season (March to September inclusive) as all birds are protected whilst on the nest under the Wildlife and Countryside Act 1981 (as amended). If this is not possible the affected vegetation needs to be checked by an experienced ecologist prior to removal.

#### Great crested newts

- 4.17 There are no waterbodies present within the site. The site does include suitable terrestrial habitat for this species but lacks access to suitable aquatic habitat. There are no ponds to the north or east of the site with optimal terrestrial habitats associated with the field boundary hedgerow adjacent the off-site pond and immediately west. Furthermore, there are no existing local records for this species. It is therefore considered very unlikely that this species would be present within the proposed application area, or that works would impact negatively upon GCN, and the presence of this species is not identified as a statutory constraint to the proposed development.

#### Reptiles

- 4.18 The mosaic of bare ground, grassland and scrub within the site and adjacent to the site boundary were considered to offer some suitable habitat for reptiles including common lizard. However no signs of any reptiles were noted during the initial survey or during the subsequent presence/absence surveys carried out during May and June 2015. Due to the absence of reptiles during the May and June survey period reptiles are not a statutory constraint to the proposed works.

## APPENDIX A

### Botanical Species List

Common Name	Latin Binomial
Alkanet	<i>Alkanna tinctoria</i>
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus agg.</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Butterfly bush	<i>Buddleia sp.</i>
Cleavers	<i>Galium aparine</i>
Cock'sfoot	<i>Dactylis glomerata</i>
Coltsfoot	<i>Tussilago farfara</i>
Common ash	<i>Fraxinus excelsior</i>
Common bent	<i>Agrostis capillaris</i>
Common broom	<i>Cytisus scoparius</i>
Common ivy	<i>Hedera helix</i>
Common mouse-ear	<i>Cerastium fontanum</i>
Common nettle	<i>Urtica dioica</i>
Common vetch	<i>Vicia sativa</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Creeping bent	<i>Agrostis stolonifera</i>
Creeping thistle	<i>Cirsium arvense</i>
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum officinale</i>
Dog rose	<i>Rosa canina</i>
Dogwood	<i>Cornus sanguinea</i>
English oak	<i>Quercus robur</i>
European gorse	<i>Ulex europaeus</i>
False oat-grass	<i>Arrhenatherum elatius</i>
Greater knapweed	<i>Centurea scabiosa</i>
Grey willow	<i>Salix cinerea</i>
Guelder rose	<i>Viburnum opulus</i>
Hairy tare	<i>Vicia hirsuta</i>
Hawthorn	<i>Crateagus mongyna</i>
Hazel	<i>Corylus avellana</i>
Hogweed	<i>Heracleum sphonylium</i>
Horsetail	<i>Equisetum sp.</i>
Japanese knotweed	<i>Fallopia japonica</i>
Lesser burdock	<i>Arctium minus</i>
Mugwort	<i>Artemisia vulgaris</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Pineapple weed	<i>Matricaria discoidea</i>
Red clover	<i>Trifolium pratense</i>
Red dead nettle	<i>Lamium purpureum</i>
Red fescue	<i>Festuca rubra</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rosebay willowherb	<i>Chamerion angustifolium</i>
Rowan	<i>Sorbus aucuparia</i>
Silver birch	<i>Betula pendula</i>
Sycamore	<i>Acer pseudoplatanus</i>

Teasel	<i>Dipsacus fullonum</i>
Yorkshire Fog	<i>Holcus lanatus</i>

# Figure 1: Site Location and off-site pond plan

**Client:** Date: JVN Architecture Ltd

**Site Location:** Hill Street, Elsecar,  
South Yorkshire

**Date:** June 2015

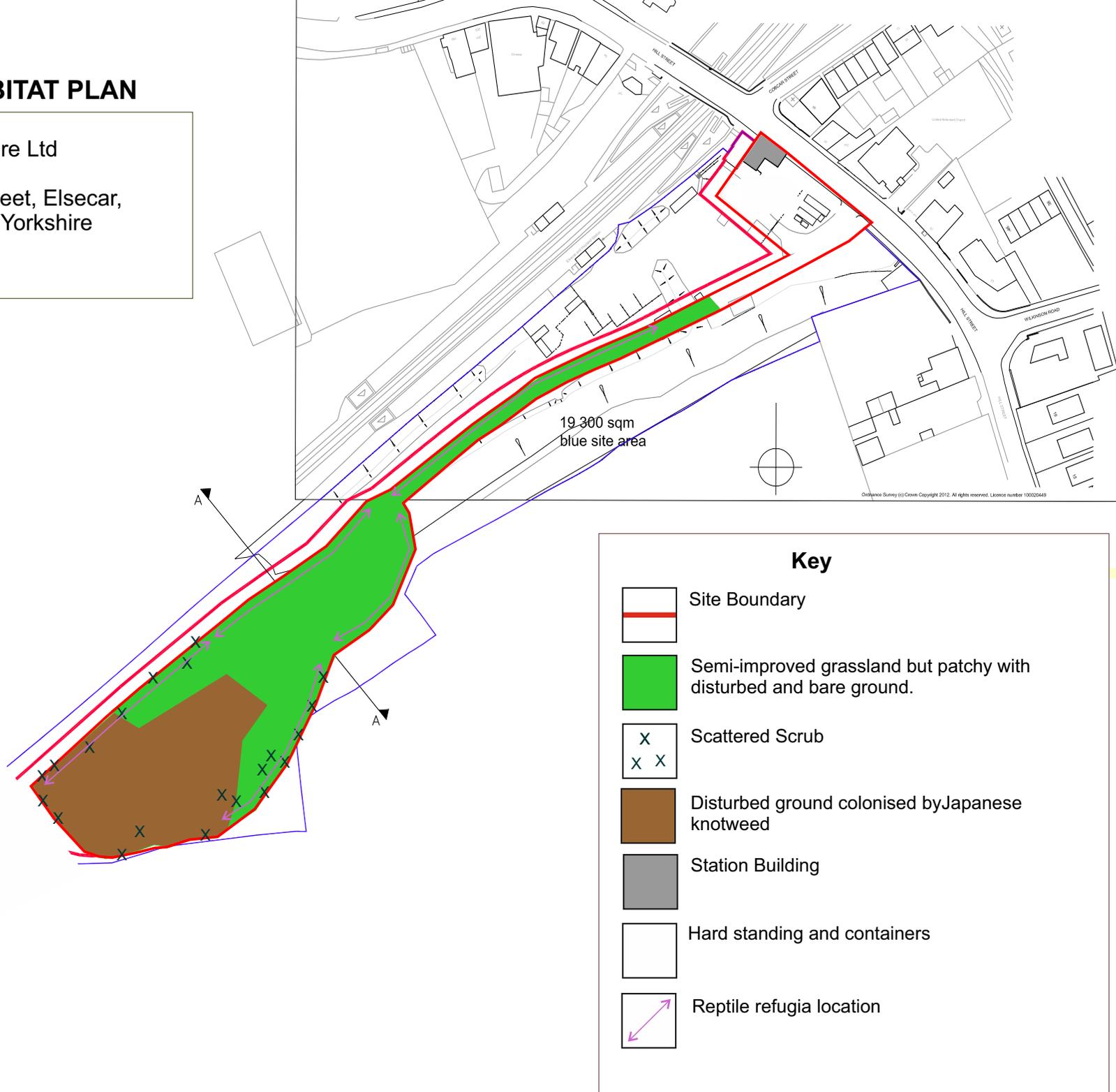


# FIGURE 2: HABITAT PLAN

**Client:** JVN Architecture Ltd

**Site Location:** Hill Street, Elsecar,  
South Yorkshire

**Date:** June 2015



### FIGURE 3: HABITAT ENHANCEMENTS

**Client:** JVN Architecture Ltd

**Site Location:** Hill Street, Elsecar,  
South Yorkshire

**Date:** October 2015

