King Street, Elsecar

Preliminary Ecological Appraisal

Client: D J Atkinson Construction Ltd

Report Reference: RSE_741

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RammSanderson

ECOLOGY CONSULTANCY

Phoenix House
Merlin Way
Quarry Hill Industrial
Estate
Ilkeston
DE7 4RA
(Issuing Office)

Barn 4
Dunston Business Village
Stafford Road
Stafford
Staffordshire
ST18 9AB

[T] 0115 930 2493
[E] admin@rammsanderson.com
www.rammsanderson.com
Registered in England: 8999992

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Document Control				
Originated:	Mike Sims BSc (Hons) ACIEEM	Senior Ecologist		03/10/2016
Technical Reviewed:	Nick Sanderson BSc MSc MCIEEM	Director		03/10/2016
Issued to Client:	Nick Sanderson BSc MSc MCIEEM	Director		04/10/2016
Revisions:	Mike Sims BSc (Hons) ACIEEM	Senior Ecologist		05/10/2016

1. Executive Summary

RammSanderson Ecology Ltd was instructed by D J Atkinson Construction Ltd to carry out a Preliminary Ecological Appraisal of King Street, Elsecar, Barnsley, South Yorkshire, to inform a planning proposal for residential development of the site. This report provides ecological information to submit with a planning application.

The findings of the surveys are summarised below:

- The site was separated into two areas; within the north-east was a south-facing grassland with a margin of semi-mature and mature broad-leaved trees, and within the south-west an area of scrub, tall ruderals and semi-mature woodland.
- The site was initially assessed as potentially suitable habitat for reptiles, although targeted surveys carried out during 2016 did not record a reptile population at the site. However, due to the presence of suitable habitat features, the site does still retain some potential to support reptiles.
- Trees and scrub located around the site have been assessed as being potentially suitable habitat for nesting birds, although some of the more mature trees and a proportion of the scrub habitat will be retained in development proposals.
- Due to the site's position adjacent to both residential developments and a park and ride car park, both of which feature street lighting, there is likely to be light-spill onto the site. Due to this, the site has been assessed as 'low' potential bat foraging habitat. There are areas of arable farmland to the south of the site, featuring numerous hedgerows, which are likely to be utilised as foraging habitat for locally roosting bats. As such, there is the potential for the site to be used as part as a commuting route towards these habitats.
- No signs of badger activity were discovered at the site, although due to the site's close proximity to suitable woodland and farmland habitats, there is the potential that badgers will pass through the area.
- No features suitable for roosting bats were located within the site.
- A short section of watercourse was located 15m outside of the site's south-western extent, although this was assessed as unsuitable for use by water vole, freshwater white-clawed crayfish and otter.
- There were also no alien invasive plant species discovered within the site.

No Further surveys are considered necessary following this appraisal, below includes recommendations for precautionary methods of working, mitigation and compensation which are fully detailed within the subsequent sections of this report to negate or minimise potential ecological impacts of the proposed development:

Birds

The trees and scrub at the site are suitable habitats for nesting birds, given the sites location this is considered likely to be suitable for common garden species only. No further survey is recommended however, any vegetation clearance works should be completed outside of the bird nesting season (which is considered to be March to September inclusive). If this is not possible, the area should first be checked by a suitably qualified ecologist for any in-use nests. If any in-use nests are found, these should be protected from works until they are no longer in-use.

Reptiles

Although no reptiles were discovered during targeted surveys of the site, the site does still retain some potential for reptile to occur, due to the presence of suitable habitat features. Due to the mobile nature of the target species, their presence can never be categorically ruled out. However, the surveys do demonstrate the site is not used at present and not therefore locally important. To mitigate against the limited risk that transient individuals may occur (however unlikely this may appear), , it is recommended that a precautionary method of works for site clearance / preparation is put in place to prevent any unlikely impacts upon reptiles during the works. This includes careful site clearance in an appropriate manner to displace any individual animals off site to the west (open countryside).

Bats

The trees and scrub areas offer suitable foraging for bats. However, it is recognised here that the site is surrounded by residential properties and to the south lies the park and ride car park, impacting the area with street lighting. Whilst the proposals will result in some loss of trees and scrub and loose the grassland area, plans to retain some of the trees and compensation through inclusion of new trees and hedgerow habitats are included. Additionally, an area of land to the west of the site is retained and unaffected by the works. It is considered therefore, that these landscape measures, when augmented by a 'bat friendly lighting scheme' should prevent adverse impacts to bat foraging and commuting within the site. Consequently, further activity surveys are not considered necessary or proportionate for this site as any such surveys would likely result in recommendations for mitigation as already outlined within this report.

Due to the absence of suitable bat roosting habitats within the survey area, there will be no requirement to undertake nocturnal roosting surveys at the site.

Badgers

Badgers were not identified on site during this survey, however there is the potential for them to opportunistically pass through / forage within the area during the development. As a precaution, it is recommended that common best practice standards are implemented and that the site is made safe at the end of each shift, for the duration of the works. Safeguards should include capping the ends of pipes and ensuring that all excavations are ramped.

Habitats

Overall the habitats at site were of low ecological value, however, the retained mature trees within the north-east of the site have been assessed as being of conservation value. Fences should be erected 2m from these trees to ensure that they are protected during the works.

Additionally, there is an open water ditch located 15m off site. Whilst this is off site and will not be subject to direct disturbance, pollution prevention guidance should be followed during construction to prevent any adverse impacts such as excessive silt loading.

Enhancements

If removal of any of the scattered trees is required to facilitate the development, a planting scheme which features trees characteristic of the Barnsley Landscape Character Area should be incorporated and trees planted at least on a 1:1 ratio.

Additional planting / borders within the site could include native floral species of those with a known attraction or benefit to local wildlife in the landscaping scheme.

Ecological Constraints and Opportunities Plan

The ecological constraints and opportunities plan overleaf summarises the areas where further surveys and precautionary approaches are recommended as well as highlighting potential enhancement and retention of ecological corridors.



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***High Risk Item**: Further survey requirements or effect on European Protected Species requiring either mitigation or further survey*
***Moderate Risk Item:** Mitigation required for protected or notable species*
***Low risk Item**: Mitigation / Works procedures adopted for potential species which may pass through site during construction phases*
***Enhancement Possibilities**: possible enhancements suitable for this site given its context.*

<u>High Risk Item</u>

There are no High Risk Items within the survey area

<u>Moderate Risk Item</u>

Some semi-mature trees and scrub will be removed to facilitate proposals, this should be conducted outside of the bird breeding season of March to September, or should be preceded by a nesting bird survey.

No reptiles were discovered during surveys of the site, although it is recommended that a Precautionary Method of Works is followed to prevent unlikely impacts.

<u>Low Risk</u>

Three large trees within the northern section of the site will be retained as part of the development. Fences should be erected 2m from these trees to protect them during the works.

Pollution prevention guidance should be followed during construction due to the presence an open water course 15m off site.

<u>Enhancement Possibilities</u>

The planned planting scheme along the margins of the site should include native scrub, tree and meadow species. This will provide a corridor for flora and fauna to disperse locally and will provide a valuable ecological enhancement locally.

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2. Introduction and Background

Purpose and Scope of this Report

RammSanderson Ecology Ltd was commissioned by D J Atkinson Construction Ltd to assess the potential ecological impacts of a proposed residential development of land off King Street, Elsecar, Barnsley. To complete an ecological impact assessment of the proposals, a desk based assessment, Extended Phase 1 Habitat Survey, and a preliminary protected species assessment and reptile survey. Taken together, in common with the Chartered Institute of Ecology & Environmental Management's (CIEEM) 2012 publication this is termed as a Preliminary Ecological Appraisal (PEA). The results of protected species surveys have also been included in this report, and as such, this should be considered a final 'Ecological Appraisal', which can be used to lawfully determine a planning application in line with current planning policy[1].

The study area is defined as shown in the enclosed Site Location Plan and Phase 1 Habitat plan plus a buffer zone extended to include the Zone of Influence (see section below) of the proposals (hereafter referred to as the "Site").

This Appraisal is based on a review of the development proposals provided by the Client, desk study data (third party information) and a survey of the Site. The aims of this report are to:

- Classify the habitat types at the sites based on standard Phase 1 Habitat survey methodology;
- Evaluate any potential for protected species to be present;
- Identify any significant ecological impacts likely to result from the proposed development; and,
- Provide recommendations for any precautionary methods that should be followed during works to prevent impacts upon protected species, which should be followed in order for a planning decision to be concurrent with current planning policy.

This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RammSanderson Ecology Ltd.

The surveys and desk based assessments undertaken as part of this review and subsequent report including the Ecological Constraints and Opportunities Plan are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).

Zone of Influence

The term Zone of Influence is used to describe the geographic extent of potential impacts of a proposed development. The Zone is determined by the nature of the development and also in relation to individual species, depending on their habitat requirements, mobility and distances indicated in any best practice guidelines.

In relation to great crested newts (GCN) for example, the zone of influence is considered to be up to 500m from the site boundaries, as this is the distance that Natural England would require to be considered in relation to GCN licensing.

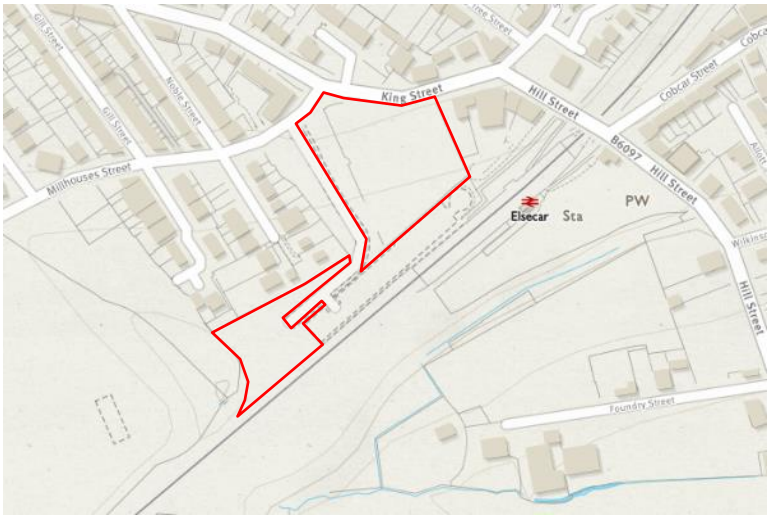
Site Context and Location

The site is located to the south of King Street, Elsecar, Barnsley, South Yorkshire, S74 9LL (Grid Reference SE 38013 00348). The site is divided into two areas, dissected by with a hardstanding road which is located between Millhouses Street in the north-west and a park and ride car park in

[1] Office of the Deputy Prime Minister Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System

the south-east. The north-eastern area of the site comprises a south-facing grassland field which has semi-mature broad-leaved trees located on its margins. The south-western area of the site includes an area of scrub and steep-sided woodland edge habitat. The site is located on the southern outskirts of Elsecar town, with a railway line and arable fields located further south. The site measured approximately 0.9 hectares.

Figure 1: Site Location Plan



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Figure 2: Site Context Plan



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3. Legislation and Planning Policy

Articles of British legislation, policy guidance and both Local Biodiversity Action Plans (BAPs) and the NERC Act 2006 are referred to throughout this report. Their context and application is explained in the relevant sections of this report. The relevant articles of legislation are:

- The National Planning Policy Framework (2012);
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2012);
- Local planning policies (Barnsley Metropolitan Borough Council);
- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- EC Council Directive on the Conservation of Wild Birds 79/409/EEC;
- National Parks and Access to the Countryside Act 1949;
- The Protection of Badgers Act 1992;
- The Countryside and Rights of Way Act 2000;
- The Hedgerow Regulations 1997;
- The Natural Environment and Rural Communities (NERC) Act 2006;
- Barnsley Biodiversity Action Plan.

Bats

All species of British bats are fully protected within UK Law under *Wildlife and Countryside Act 1981* (as amended) through their inclusion in Schedule 5. Under the Act, they are protected from:

- Intentional or reckless killing, injury, taking;
- Damage to or destruction of or, obstruction of access to any place of shelter, breeding or rest;
- Disturbance of an animal occupying a structure or place;
- Possession or control (live or dead animals);
- Selling, bartering or exchange of these species, or parts of;

This law is reinforced by the UK's transposition of the EU Habitats Regulations under *The Conservation of Habitats and Species Regulations* 2010 (as amended). These Regulations also prohibit:

- the deliberate killing, injuring or taking of bats;
- the deliberate disturbance of any bat species in such a way as to be significantly likely to affect:
    - their ability to survive, hibernate, migrate, breed, or rear or nurture their young; or
    - the local distribution or abundance of that species.
- damage or destruction of a breeding site or resting place (roost);
- the possession or transport of bats or any other part of.

Under the National Planning Policy Framework 2012 the presence of any protected species is a material planning consideration. The Framework states that impacts arising from development proposals must be avoided where possible or adequately mitigated/compensated for and that opportunities for ecological enhancement should be sought.

Birds

The Wildlife and Countryside Act 1981 (as amended) is the principle legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to recklessly or intentionally:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.

For birds listed on Schedule 1 of the Act, it is an offence to disturb any bird while it is building a nest, is at or near a nest with young; or disturb the dependant young of such a bird.

Species listed in Annex 1 of the EU Birds Directive 1994 (e.g. Barn Owl) are required to have special conservation measures taken to preserve their habitats and site to be classified as Special Protection Areas where appropriate.

Reptiles

All reptile species are partially protected under Schedule 5 (Sections 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended). This legislation protects these animals from:

- Reckless or intentional killing and injury;
- Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell a protected species.

Where these animals are confirmed as present on land that is to be affected by development guidance recommends that:

- The animals should be protected from injury or killing during construction operations;
- Mitigation should be provided to maintain the conservation status of the species locally

4. Methodology

Impact Appraisal

The overall ecological appraisal is based on the standard best practice methodology provided by the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2012). The assessment identifies sites, habitats, species and other ecological features that are of value based on factors such as legal protection, statutory or local site designations such as Sites of Special Scientific Interest (SSSI) or Local Wildlife Sites (LWS) or inclusion on Red Data Book Lists or Biodiversity Action Plans. Ecological value is considered in the context of international, national, regional or local scale and potential constraints to development are identified on that basis, with recommendations for further more detailed surveys made as appropriate, for example to fully investigate botanical value or to confirm presence / likely absence of a protected species.

In appraising any impacts, the review considers the Client's Site proposals and any subsequent recommendations made are proportionate and appropriate to the site and have considered the Mitigation Hierarchy as identified below:

- **Avoid:** Provide advice on how the development may proceed by avoiding impacts to any species or sites by either consideration of site design or identification of an alternative option.
- **Mitigate:** Where avoidance cannot be implemented mitigation proposals are put forward to minimise impacts to species or sites as a result of the proposals. Mitigation put forward is proportionate to the site.
- **Compensate:** Where avoidance cannot be achieved any mitigation strategy will consider the requirements for site compensatory measures.
- **Enhance:** The assessment refers to planning policy guidance (e.g. NPPF) to relate the ecological value of the site and identify appropriate and proportionate ecological enhancement in line with both national and local policy.

Desk Based Assessment

Data regarding statutory and non-statutory designated sites, plus any records of protected or notable species and habitats was requested from the local ecological records centre and online resources, details of which are provided in table 1 below.

Table 1: Consulted Resources

Consultee/Resource	Data Sought	Search Radius from Boundary
Sheffield Biological Records Centre	Non-Statutory Site Designations, protected/notable species records	2km
www.magic.gov.uk[2]	Statutory Site Designations	5km
	NERC Act (2006) Habitats	1km

NB: The desk study data is third party controlled data, purchased for the purposes of this report only. RammSanderson Ecology Ltd cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

[2] Multi Agency Geographic Information for the Countryside Interactive GIS Map.

Phase 1 Habitat Survey

An extended Phase 1 Habitat Survey of the Site was completed on the on the 1st September 2016. Habitats were described and mapped following standard Phase 1 Habitat Survey methodology (JNCC, 2010), which categorises habitat type through the identification of individual plant species.

Nomenclature follows Stace (Stace, 2010) for vascular plant species and the DAFOR scale for relative abundance was used in the field to determine dominant plants within habitats and communities (D = dominant, A = abundant, F = frequent, O = occasional and R = rare).

Protected / Notable Species Scoping Assessment

The habitats on Site were assessed for their suitability for supporting any legally protected or notable species that would be affected by the proposed development. This includes invasive non-native plant species such as Japanese knotweed, Giant Hogweed and Himalayan Balsam.

Any incidental sightings of individual species or field signs such as footprints, latrines or feeding remains discovered during the survey were noted. In the case of bats, specific quantitative assessment methodologies have been adopted industry wide and details of these are provided below.

Bats

The overall value of the site and its connectivity to the wider countryside was assessed in relation to bats. The likelihood of bats roosting at the site, or moving through the site between local roost sites and foraging/mating/hibernation habitats was considered. The trees and boundary trees were also assessed and classified as to their suitability for supporting roosting bats using criteria recommended in Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) *Collins, J. (ed.) (2016).*, an extract of which is provided interpreted in Table 2.

Table 2: Criteria for bat roost potential assessment of trees

Roost Potential	Description	Surreys Required (Trees)
Confirmed roost	Evidence of roosting bats found during initial daytime inspection.	3 – including 1 dawn as a minimum
High *	Structures with one or more features suitable for bat roosting, with obvious suitability for larger numbers of bats.	3 – including 1 dawn as a minimum
Moderate	Structure with one or more potential roost sites that could be used due to size, shelter and protection but unlikely to support a roost of high conservation status.	2– including 1 dawn as a minimum
Low	Structure with one or more potential roosting sites used by individual bats opportunistically. Insufficient space, shelter or protection to be used by large numbers of bats.	Precautionary Mitigation Approach, some instances may require further survey

Negligible	No or negligible features identified that are likely to be used by roosting bats	None

** Unless it is a confirmed roost, additional surveys are required of buildings to assess presence / likely absence of a roost. The number of surveys are indicative to give confidence in a negative result, i.e. where no bats are found, confidence in a result can be taken.*

Reptiles

During the preliminary appraisal, the site was also assessed as a site potentially suited to reptiles. Consequently, reptile surveys were commissioned by the client, with the results provide within this report. The reptile survey followed standard methodology as outlined in the 'Reptile Habitat Management Handbook' (Edgar Petal, 2010) and Froglife Advice Sheet 10 - 'Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation' (Froglife, 1999).

Reptile refugia were laid out on the 6th September 2016 and were placed in areas where the habitat was considered suitable for reptiles.

At the commencement of the surveys 18 artificial refugia, consisting of roofing felt of approximately 0.5m X 0.5m, were distributed within the suitable habitat. The survey site is approximately 0.9ha; current industry standards require a minimum of 5 refuges / ha, and as such the surveys carried out in exceedance of these standards.

The refugia were checked during appropriate weather conditions (dry, calm and an ambient temperature 9-18°C). During each survey visit, all other parts of the site were subject to a walkover survey looking for reptiles.

Surveyors

The initial Phase 1 Habitat Survey of the site was led by Mike Sims BSc (Hons) BSc ACIEEM (bat Class 2 licence number 2015-10617-CLS-CLS). Mike has been a professional ecologist for five years and is appropriately qualified and experienced to carry out this type of survey.

Reptile surveys at the site were carried out by Mike Sims, Amy Skuce, Lauri Leavers and Laura Allen, all of whom are suitably qualified to carry out these surveys.

Table 3: Summary of weather conditions

	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5	Survey 6	Survey 7	Survey 8	Survey 9
Survey type	PEA	Reptile setup	Reptiles 1	Reptiles 2	Reptiles 3	Reptiles 4	Reptiles 5	Reptiles 6	Reptiles 7
Date	01.09.16	06.09.16	12.09.16	14.09.16	16.09.16	20.09.16	23.09.16	25.09.16	29.09.16
Temp.	6°C	10°C	16°C	15°C	16°C	15°C	17°C	17°C	15°C
Wind Speed (Beaufort Scale)	3	3	3	1	0	0	2	1	1
Cloud cover	30%	30%	90%	20%	30%	40%	20%	40%	10%
Rain	0	0	0	0	0	0	0	0	0

Limitations

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment

Accurate lifespan of ecological data

The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for approximately 2 years, notwithstanding any considerable changes to the site conditions.

5. Results

Desk Study

A total of five statutorily designated sites were recorded within the search area, the details of which are summarised in Table 4 below.

Table 4: Summary of Statutory Designated Sites

Site Name	Designation	Location	Brief Description
Elsecar Reservoir	LNR[3]	0.81km SE	Willow carr and wetland
Potter Holes Plantation	LNR	3.4km W	Semi-ancient woodland and newly planted woodland
Woresborough Country Park	LNR	3.7km NW	Wetland habitat with meadowland and woodlands.
Stairfoot Brickworks	SSSI[4]	4.4km N	Geological interest of marine band.
Scholes Coppice and Keppel's Field	LNR	5.0km SE	Semi-natural grassland and ancient woodland.

Three non-statutorily designated sites were also identified within the search radius, details of which are provided in 5.

Table 5: Non-statutory Designated Sites

Site Name	Designation	Location
Elsecar Reservoir	LWS[5]	0.81km SE
Skiers Spring Wood	LWS	1.3km SW
Wombwell Wood	LWS	1.6km N

Protected species records were received from Sheffield Biological Records Centre. A summary of the records considered most relevant to the site and/or proposed development are provided in Table 6.

Table 6: Summary of Protected and Notable Species Records

Species	Records	Conservation Status
Amphibian		
Common toad	14 records; closest record 1.3km S	Partial protection WCA[6] & NERC[7]
Common frog	7 records; closest record 1.0km NNW	Partial protection WCA
Smooth newt	5 records; closest record 1.7km WNW	Partial protection WCA
Mammals		
Pipistrelle sp.	1 record; closest record 1.3km S	EPS[8], WCA5 & NERC

[3] LNR – Local Nature Reserve
[4] SSSI – Site of Specific Scientific Interest
[5] LWS- Local Wildlife Site
[6] WCA5 – Wildlife & Countryside Act (1981) Section 5 protecting against trade or sale of species.
[7] NERC – Natural Environment and Rural Communities Act (2006) Priority Species
[8] EPS – European Protected Species under the Conservation of Habitats and Species Regulations 2010 (as amended)

Species	Records	Conservation Status
Leisler's	1 record; closest record 0.3km S	EPS, WCA5 & NERC
Hedgehog	3 record; closest record 0.7km SE	WCA6[9]
Brown hare	2 records; closest record 1.3km S	NERC
Badger	1 record; closes record 0.5km SSE	PBA[10]
Water Vole	1 record; closest record 1.3km S	WCA5, NERC and LBAP[11]
Reptiles		
Grass snake	2 records; closest record 1.3km N	WCA & NERC
Invasive		
Japanese Knotweed	14 records; closest record 0.6km SW	WCA9[12]
Indian Balsam	23 records; closest record 0.9km S	WCA9
Bird		
Skylark	10 records; closest record 1.0km S	BoCCRed NERC
Kingfisher	4 records; closest record 1.1km ENE	BoCCAmber WCA1
Cuckoo	2 records; closest record 1.3km S	BoCCRed NERC
Lesser spotted Woodpecker	1 record; closest record 1.3km S	BoCCRed NERC
Reed Bunting	7 records; closest record 0.5km SSE	BoCCAmber NERC
Linnet	5 records; closest record 0.8km E	BoCCRed NERC
Grasshopper Warbler	1 record; closest record 1.3km S	BoCCRed NERC
Red Kite	1 record; closest record 0.3km S	BoCCAmber WCA1
Yellow Wagtail	4 records; closest record 1.3km S	BoCCRed NERC
House Sparrow	69 records; closest record 0.1km NW	BoCCRed NERC
Tree Sparrow	4 records; closest record 1.0km NNW	BoCCRed NERC
Willow Tit	6 records; closest record 1.2km S	BoCCRed NERC
Marsh Tit	2 records; closest record 0.8 E	BoCCRed NERC
Dunnock	9 records; closest record 0.7km SE	BoCCAmber
Bullfinch	11 records; closest record 0.8km E	BoCCAmber NERC
Starling	42 records; closest record 0.3km ENE	BoCCRed NERC
Redwing	1 record; closest record 1.3km S	BoCCRed WCA1
Song Thrush	20 records; closest record 0.5km NNE	BoCCRed NERC

[9] WCA6- Wildlife and Countryside Act (1981) Schedule 6 protecting against killing or taking animals
[10] Protection of Badgers Act 1992
[11] Local Biodiversity Action Plan Priority Species
[12] WCA9- Wildlife and Countryside Act (1981) Schedule 9 Section 14 growing invasive plant species in the wild

Species	Records	Conservation Status
Fieldfare	2 records; closest record 1.0km WSW	BoCCRed WCA1
Barn Owl	2 records; closest record 1.9km NW	BoCCAmber WCA1
Lapwing	9 records; closest record 1.3km S	BoCCRed NERC
Swift	8 records; closest record 1.0km NNW	BoCCAmber
Hawfinch	1 record; closest record 1.3km S	BoCCRed NERC
House Martin	11 records; closest record 0.6km SE	BoCCAmber
Kestrel	4 records; closest record 1.2km NE	BoCCAmber
Brambling	2 records; closest record 0.8km E	WCA1
Swallow	7 records; closest record 0.9km SSE	BoCCAmber
Grey Wagtail	4 records; closest record 0.8km E	BoCCAmber
Mistle Thrush	9 records; closest record 0.8km S	BoCCAmber
Yellowhammer	4 records; closest record 1.0km E	BoCCRed NERC
Willow Warbler	6 records; closest record 1.0km WSW	BoCCAmber
Green Woodpecker	4 records; closest record 0.3km S	BoCCAmber
Hedge Accentor	46 records; closest record 0.4km WNW	NERC
Little Grebe	3 records; closest record 1.3km S	BoCCAmber
Tern	2 records; closest record 1.3km S	BoCCAmber WCA1
Great Black-Backed Gull	1 record; closest record 1.3km S	BoCCAmber
Garganey	1 record; closest record 0.8km S	BoCCAmber WCA1
Scoter	1 record; closest record 1.3km S	BoCCRed NERC WCA1
Pochard	4 records; closest record 1.3km S	BoCCAmber
Tufted Duck	4 records; closest record 0.8km S	BoCCAmber
Goldeneye	3 records; closest record 1.3km S	BoCCAmber
Black-Necked Grebe	1 record; closest record 1.3km S	BoCCAmber WCA1
Lesser Black-Backed Gull	2 records; closest record 1.3km S	BoCCAmber
Black-Headed Gull	11 records; closest record 0.9km SSE	BoCCAmber
Little Gull	1 record; closest record 1.3km S	BoCCAmber WCA1

Full species records are available to view upon request.

Phase 1 Habitat Survey

The site comprised an area of poor semi-improved grassland to the north-east, interspersed with tall ruderal and scrub habitat, with semi-mature and mature broad-leaved trees located on the margins. To the south-east was an area of scrub, woodland edge habitat and amenity grassland roadside verge.

Full habitat descriptions and photos are provided below, the Phase 1 plan is provided in Appendix 1 and a full species list in Appendix 2.

The site habitat types are detailed below, and are listed in order of the JNCC (2010) Handbook. The species list provided in this report reflect only those taxa observed during the survey.

Broad-leaved woodland

Within the south-west of the site was an area of hawthorn *(Crategus monogyna)* woodland. Small numbers of ash *(Fraxinus excelsior)* and sycamore *(Acer pseudoplatanus)* were present here also.

Figure 3: Broad-leaved woodland



Broad-leaved scattered trees

Several scattered trees were found across the site. The largest of these trees were located around the margins of the site's north-eastern area, where mature common lime (*Tilia x europaea*), horse chestnut *(Aesculus hippocastanum)* and sycamore were located around the periphery of the field in this area. These specimens were all semi-mature or approaching maturity.

Figure 4: Broad leaved trees located within north-east of site



Dense scrub

Within the south-west of the site was an area of scrubby trees with an edge habitat of bramble *(Rubus fruticosus)*. The trees present included immature and semi-mature stands of hawthorn, ash, elder *(Sambucus nigra)* and sycamore.

Figure 5: Scattered trees within south-west of site



Poor Semi-Improved Grassland

A large area of rough, unmanaged grassland was present within the north-east of the site. This grassland was dominated by grasses, with a low density of wild flowers present. False oat-grass *(Arrhenatherum elatius),* perennial rye-grass *(Lolium perenne),* crested dog's-tail *(Cynosurus cristatus)* and Yorkshire fog *(Holcus lanatus)* were the dominant grass species present, with common couch *(Elymus repens)*, cock's-foot *(Dactylis glomerata),* annual meadow-grass *(Poa annua)* and red fescue *(Festuca rubra)* also recorded. Common knapweed *(Centaurea nigra)*, tormentil (Potentilla erecta), white clover *(Trifolium repens)*, red clover *(Trifolium pratense),* ribwort plantain *(Plantago lanceolate)* and broad-leaved dock *(Rumex obtusifolius)* were recorded as occasional in this area.

Poor semi-improved grassland was also located on the margins of the scrub vegetation within the south-west of the site, with herb species such as dandelion *(Taraxacum officinale)*, common hogweed *(Heracleum sphondylium)*, scentless mayweed *(Tripleurospermum inodorum)* and meadow vetchling *(Lathyrus pratensis)* present there.

Tall ruderal

Tall ruderal vegetation was recorded in several areas of the site. Within the north-east, this habitat occupied approximately half of the field in that area. Here, this habitat was dominated by common nettle *(Urtica dioica)*, with creeping thistle *(Cirsium arvense)* and broad-leaved dock also abundant.

Within the south-east of the site was another area occupied by tall ruderal habitat, with common nettle dominating and rosebay willowherb (*Chamerion angustifolium*), common hogweed and broad-leaved dock recorded as occasional.

Figure 6: Poor semi-improved grassland, within north-east of site



Figure 7: Tall ruderal habitat within north-east of site



Figure 8: Tall ruderal habitat within south-west of site



Preliminary Protected / Notable Species Assessment

The potential for protected species to be present on site and impacted by the proposals is discussed under the headings below.

Great Crested Newt (GCN)

Whilst the site provides a potential terrestrial foraging resource, there were no ponds present on site or within a 500m zone of influence from the site.

Reptiles

The grassland, tall ruderal and scrub habitats were identified as potential foraging and refuge resources for reptile species. Additionally, the site is adjacent to a railway corridor (a common dispersal route for reptile) and is open to the west with records for grass snake within 1.3km of the site.

Consequently, reptile surveys were recommended to the client and undertaken by RammSanderson as part of this appraisal. During the reptile surveys, optimal conditions were witnessed on all occasions, with surveys undertaken within the primary survey window. No reptiles were found to be on site.

Birds

The trees and scrub at the site have been assessed as potentially providing opportunities for bird nesting. Due to its location and context the site is considered likely to support a range of common garden bird species during the bird nesting season of March to September.

Bats

Several mature broad-leaved trees were located within the north-east of the site, although inspection of these revealed no features which could be utilised by roosting bats. As such, all trees on site were recorded as having negligible potential to support roosting bats (using BCT guidelines).

At the time of survey, there were no buildings on site, and as such, no associated potential roosting opportunities.

The site contains features potentially suitable for foraging bats, such as treelines and open grassland. However, due to the small size of this site and its position between well-lit residential areas to the north and open farmland in the south, the site is unlikely to attract large numbers of bats to forage through a night, although they may pass through the area to reach favoured foraging areas to the south. In line with the Bat Conservation Trust guidelines, this site has been assessed as 'low' potential foraging habitat.

Badgers

There was no field signs characteristic of badger activity found either on site or immediately surrounding the site. However, the woodland areas located outside of the site to the south-west, provide suitable foraging and sett digging opportunities.

Water Vole, Otter and White Clawed Crayfish

Approximately 15m south-west of the site boundary was a section of open ditch, approximately 4m in length. The banks of this were stone-lined and the channel was very shallow, and as such, it has been assessed as unsuitable habitat for water vole, otter and white-clawed crayfish. No other watercourses were located within the survey area.



Other Notable Fauna Species

The habitats on site provide suitable habitat for hedgehogs (*Erinaceus europaeus)*; hedgehogs are a LBAP Priority Biodiversity Species.

Due to a lack of suitable habitats, the site is not considered likely to support any other legally protected or notable species.

6. Discussion & Recommendations

Habitats on Site

The site was approximately 0.9 hectares and has not been previously developed. There was little botanical interest within the site, as the species found were both common and widespread. Their importance mainly resided in their capacity and potential to support nesting birds, small mammals such as hedgehogs and as low potential bat foraging habitat.

Current proposals show the sycamore trees within the north-east as being retained after development of the site. Due to their large size and mature stage of growth, these trees have been assessed as being valuable features and their retention will be of benefit for local wildlife. Where trees are to be removed to facilitate the development, removed stands should be replaced elsewhere on site by a minimum of 'Extra Heavy Standards', in keeping with the local surroundings. Such species could include silver birch *(Betula pendula),* pedunculate oak *(Quercus robur)* or field maple (*Acer campestre*), as these are species that feature in the Barnsley Landscape Character Area.

The short section of ditch located 15m south-west of the site will not be directly impacted upon by the works, due to its sufficient distance from the development footprint, although it is recommended that safeguards are put in place to prevent contamination of this watercourse. As such it, is recommended that all machinery used within the south-west of the site has drip trays positioned beneath, and that a spill kit is readily available to facilitate speedy clearance of spillages.

The table below identifies the habitat types on site, the proportion of the current site area and assesses ecological value and outcome of the proposal.

Table 7: Phase 1 habitat types

Habitat	JNCC Code	Area (m^2)	Proportion of Site Area	Ecological Importance & Outcome of Proposal
Semi-natural Broad-leaved Woodland	A1.1.1	1484	16%	Of low ecological value with some scope for terrestrial mammals and nesting birds. This will be partially retained within the proposals
Dense Scrub	A2.2	1128	12%	Not inherently important, but may support nesting birds. To be cleared to facilitate proposals.
Broad-leaved Scattered Trees	A3.3	1666	18%	The mature trees are of intrinsic value and provide potential for nesting birds. several of the trees are lost as a result of the proposals however plans include replacements throughout the site
Poor Semi-Improved Grassland	B6	2054	23%	May support common small mammal species, such as field mice, but of limited conservation value. To be cleared to facilitate proposals.
Tall ruderal	C3	2448	27%	May support small mammal and nesting bird species, but of limited conservation value. To be cleared to facilitate proposals.

Habitat	JNCC Code	Area (m^2)	Proportion of Site Area	Ecological Importance & Outcome of Proposal
Amenity grassland	J2	300	3%	Of very limited conservation value, may be removed to facilitate proposals.

Statutory and Non-Statutory Designated Sites

Elsecar Reservoir Local Nature Reserve is located 0.81km from the site, and is closest designated site from the planned development. Due to the large distance between the footprint of the planned development and the LNR, and the presence of intervening arable fields, roads and of an existing housing development, it has been assessed that there will be no associated impacts upon the LNR.

Fauna

Great Crested Newt

No records of GCN were recorded within 2km of the site boundary and no waterbodies were located on site or within a 500m zone of influence from the site. As such, it has been assessed that there is negligible potential for great crested newt to be present within the site and that no further survey or mitigation is considered necessary or proportionate.

Badger

Badger records were noted 0.5km from the site (Sheffield Biological Records Centre), however no badger setts or badger field signs, such as latrines or paths, were recorded during surveys of the site. The site does offer potential for sett digging and badger foraging, and there is the potential for badgers to pass through the area, so precautionary measures, such as capping pipes overnight and ensuring that trenches have ramps, are recommended during the works.

Bats

No buildings were present on site which could potentially be utilised as bat roosting habitat.

During the Phase 1 Habitat Survey, ground level tree inspections were carried out and all trees on site were assessed as having negligible potential for roosting bats.

The site's treelines, scrub and open grassland have been assessed as potentially providing suitable foraging and commuting resources for bats. However, due to the close proximity of the site to adjacent street-lighting (from adjacent residential dwellings and the park and ride car park), there is likely to be light-spill onto the site, which will reduce the potential value of the site as bat foraging habitat. The site's small size of 0.9ha also reduces the potential value of the site for foraging bats, which are likely to utilise the railway line, hedgerows and open fields located to the south. Due to these factors, this site has been assessed as 'low' potential bat foraging habitat, in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) *Collins, J. (ed.) (2016)*.

It is however important that the development does not create a barrier to bats commuting over the site. The current proposals seek the retention of some of the larger trees within the north-east area of the site and include provision for planting of further trees and hedgerows around the margins of this area, which will help maintain connectivity around this part of site. Furthermore, within the south-west, scrub vegetation located on the railway embankment will be retained, maintaining connectivity for commuting bats in this area. It is considered therefore that based on these current proposals, impacts to foraging and commute lines for bats would be limited. However, it should be recognised that the proposed housing's lighting could adversely impact foraging.

Consequently, to prevent impacts of lighting associated with the proposals a bat friendly lighting scheme should be implemented. These should follow the guidelines set out in Bats and Lighting in the UK (BCT, 2009). Therefore**,** associated site lighting proposals must consider the following:

- Avoid lighting where possible;
- Install lamps and the lowest permissible density;
- Install lamps with the shortest permissible column height;
- Lamps should be fitted with light spill accessories directing light to the road and avoiding upward spill and spill onto the neighbouring woodland;
- Use of low intensity bulbs to minimise light intensity and impacts to bats;
- The use of timers and dimmers to avoid lighting areas of the site all night is recommended.

With this in mind, it is also recommended that the use of lighting is minimised within the south-western area of the site, adjacent to existing woodland.. Any security lights should only be fitted with motion sensors and light scatter accessories fitted to avoid light spill on to the adjacent woodland.

Provided the above mitigation measures are adopted within the development proposals it is considered that the potential impact of the development on commuting bats will be negligible. As such, it has been assessed that further bat activity surveys of the site would be disproportionate as results of any such nocturnal surveys would more than likely only stipulate the mitigation requirements already identified within this report.

Birds

The trees and scrub at the site offered potential for nesting birds, however the site was considered unsuitable to support Schedule 1 bird species, due to the lack of suitable features on site and likely only to support common garden species. As such, it has been assessed as disproportionate to conduct a Breeding Bird Survey at the Site.

Any tree management works or vegetation clearance should take place outside the bird nesting season to ensure compliance with the general protection afforded to wild birds under the Wildlife and Countryside Act 1981 (as amended). If this is unavoidable, the trees and planting should be carefully checked, by a suitably qualified ecologist, prior to removal. Where active nests are found, working restrictions would be put in place until follow up survey can demonstrate that all chicks have fledged.

Reptiles

Certain species of reptile are protected (partially) by the Wildlife & Countryside Act (1981) as amended and listed as priority species under the NERC Act (2006) and Barnsley BAP. Reptile surveys of the site carried out during 2016 did not record any reptiles at the site, however, the presence of reptiles should not be completely ruled out, due to the presence of potential suitable habitat, although the persistence of reptiles on site is considered unlikely otherwise this would have been identified during the survey. It is therefore recommended that a precautionary method of works should be followed to prevent harm to any transient individuals that may potential be present on site.

The site grassland should be cleared via the use of handheld tools. This process involves multiple passes, working towards the peripheries, with implements such as strimmers, to reduce the sward height and encourage reptiles to vacate the area into the suitable surrounding habitat. Ideally works should be undertaken in summer months, when reptile species are more active and readily escape any disturbance. In the highly unlikely event reptiles are found, reptiles will be allowed to escape unharmed.

Enhancement Recommendations

The National Planning Policy Framework and local development plan encourages ecological enhancement of sites subject to development proposals. Where new landscape planting is proposed, it is suggested that species found within the Barnsley Landscape Character Area, such as oak (*Quercus spp.)* and silver birch (*Betula pendula),* could be used in order to make the site more ecologically in keeping with the woodland areas in the locality. Other species such as rowan (*Sorbus aucuparia)* or whitebeam (*Sorbus aria)* would also make attractive additions to the site. In particular rowan will provide a valuable source of berries late into the winter months and provide an important food source for native and migratory bird species. Ash and elm should currently be avoided due to the prevalence of 'Ash die-back' and 'Dutch elm disease', as stocks of these species cannot be guaranteed to be free from these afflictions.

The mature trees to be retained within the north-east of the site should be protected during development by the erection of temporary fences, located 2m from the trees.

Additional enhancements that could easily be met within the development scope include the incorporation of bird nest boxes and hedgehog boxes. Bird boxes could be placed either on new buildings or on retained trees within the site boundaries and hedgehog boxes within the ornamental planting and compost piles.

7. References

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Appendix 1 - Phase 1 Habitat Plan



RammSanderson
ECOLOGY CONSULTANCY

Legend

- Site Boundary
- Semi-natural Broad-Leaved Woodland
- Dense Scrub
- Scattered Broad-leaved Trees
- SI Poor Semi-Improved Grassland
- Tall Ruderal
- A Amenity Grassland

Client: D J Atkinson Construction Ltd
Drawing Title: Phase 1 Habitat Map
Site Address: King Street, Elescar
Drg No: 1
Drawn By: MS
Date: 03.10.2016
Scale: 1:1,800 @ A4

Phoenix House, Merlin Way, Quarry Hill Industrial Estate, Ilkeston, Derbyshire DE7 4RA
www.RammSanderson.com

Appendix 2 – Species List

Common Name	Scientific Name
Sycamore	*Acer pseudoplatanus*
Horse chestnut	Aesculus hippocastanum
Cow parsley	*Anthriscus sylvestris*
False oat-grass	*Arrhenatherum elatius*
Buddleia	*Buddleia sp.*
Pendulus sedge	Carex pendula
Common knapweed	*Centaurea nigra*
Rosebay willowherb	*Chamerion angustifolium*
Creeping thistle	*Cirsium arvense*
Spear thistle	Cirsium vulgare
Field bindweed	Convolvulus arvensis
Hawthorn	*Crataegus monogyna*
Crested dog's-tail	*Cynosurus cristatus*
Cock's-foot	*Dactylis glomerata*
Cock's-foot	*Dactylis glomerata*
Foxglove	*Digitalis purpurea*
Common couch	*Elymus repens*
American willowherb	Epilobium adenocaulon
Red fescue	*Festuca rubra*
Ash	*Fraxinus excelsior*
Cleavers	*Galium aparine*
Ivy	*Hedera helix*
Bristly oxtongue	*Helminthotheca echioides*
Common hogweed	*Heracleum sphondylium*
Common hogweed	*Heracleum sphondylium*
Yorkshire fog	*Holcus lanatus*
Meadow vetchling	*Lathyrus pratensis*
Laurel	Laurus sp.
Perennial ryegrass	*Lolium perenne*
Ribwort plantain	*Plantago lanceolate*
Annual meadow-grass	*Poa annua*
Tormentil	Potentilla erecta
Blackthorn	*Prunus spinosa*

Creeping buttercup	*Ranunculus repens*
Bramble	*Rubus fruticosus agg.*
Broad-leaved dock	*Rumex obtusifolius*
Broad-leaved dock	*Rumex obtusifolius*
Elder	*Sambucus nigra*
Dandelion	*Taraxacum officinale*
Common lime	Tilia × europaea
Red clover	*Trifolium pratense*
White clover	*Trifolium repens*
Scentless mayweed	*Tripleurospermum inodorum*
Common nettle	*Urtica dioica*