Skyline Ecology

Monckton Coke Works

Phase 1 Habitat Survey

FINAL

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Appendix A Desk Study Information

1 Executive Summary

1.1.1 The site is a former coke works, located on Lund Hill Lane (B6428), to the east of Royston at ordnance survey grid reference SE 374121. The site comprises of a large area of predominantly bare ground where coke processing and storage would have taken place. Many of the buildings which would have once been on site have been demolished leaving numerous piles of building rubble. Around the perimeter of the site are areas of developing woodland and scrub. A number of buildings remain on site which are associated with storage or former office/work usage. Other habitats noted within the site include water bodies and settling tanks, marshy grassland, tall ruderals and semi-improved grassland.

1.1.2 There are limited roosting opportunities for bats within the site. Only Building 1 has any bat roosting potential. The site offers good foraging and commuting opportunities for bats, especially around the northern, southern and western boundaries. Links with other habitat such as the former Barnsley canal to the west and the railway line may allow bats to unitise specific area of the site for feeding such as the open water habitat, woodland and marshy grassland.

1.1.3 Previous surveys carried out on the site by AES Ltd. recorded a single grass snake in the north eastern corner of the site. The site provides ideal habitat for reptiles. Much of the southern part of the existing coke works has numerous rubble piles as a result of building being demolished, this provides excellent refugia and basking opportunities. Ponds which are located to the north of the coke works also have rubble piles adjacent,these features also link directly to the rail corridor, broad-leaved woodland and Barnsley Canal (where records of grass snake have been previously recorded).

1.1.4 Previous surveys undertaken by AES Ltd. Identified that in 2013 the open water/marshy grassland in the north eastern corner contained a small population of great crested newts. It should be noted that since this survey the dynamics of the site have changed dramatically. This pond identified in 2013 is now more akin to marshy grassland due to the encroachment of willow saplings within the pond. In addition, a new pond has been recorded on site which was not present in 2013 (Pond 5) which may have the potential to support great crested newts. According to AES Ltd the repeat survey for great crested newts undertaken in 2015 did not find great crested newts within the study site, although were recorded adjacent to the site..

1.1.5 The results of the HSI show that two ponds have excellent suitability to support great crested newts, two good potential to support great crested newts and one below average potential to support great crested newts. Terrestrial habitats around all of the ponds on site are ideal.

1.1.6 SBRC provided 7689 records of birds for the search area consisting of 129 different species. The majority of these records are for Carlton Marsh Nature reserve located 1.5km to the south of the study site and Rabbit Ings Country Park whose boundary is located 50 metres to the east of the site.

1.1.7 Evidence of birds was recorded within building 4. Barn owl pellets were recorded close to the eastern entrance and a barn owl flew out of the building during the survey (Target Note 2).

1.1.8 The scrub habitat and surrounding woodland provide good nesting and feeding opportunities for birds. The dense scrub made observations of nests difficult and the weather resulted in birds not being very active. Other birds recorded during the survey include magpie and blackbird.

1.1.9 No invasive species were recorded within the site boundary, however a stand a Japanese knotweed was recorded on the western side of the semi-improved grassland to the south west of the site.

1.1.10 The north of the study site however forms part of the Barnsley District Boundary. It is unlikely therefore that records obtained from both the SYBG and SBRC cover this area and a further data search is recommended with the appropriate biological records centre.

1.1.11 At present a full botanical species list could not be compiled for the site due to the time of year the survey was carried out. It is recommended that a follow up botanical survey is undertaken during the summer months in order to clarify and update the Phase 1 habitat survey.

1.1.12 Building 1 has been identified as having low potential to support small numbers of bats, as such a single dusk/dawn survey is required during the summer months to ascertain if bats are using this building for roosting.

1.1.13 To understand how bats are using the study site (so as to reduce impacts during and after the development), current guidance set out by the Bat Conservation Trust (2016) states that bat activity surveys should be carried out where development proposals are likely to impact on commuting and foraging bats.

1.1.14 Great crested newts have been recorded close to and on the site during previous surveys however, these works were carried out over 4 years ago. To ascertain presence/absence of species, as well as local populations, it is recommended that a great crested newts survey is carried out. This survey will need to include all ponds within the development site as well as those within a 500-metre radius. It is recommended that prior to surveys being carried out visits to all ponds within this area are undertaken and the ponds assessed as to their suitability to support great crested newts.

1.1.15 Although no reptiles have been recorded during the survey works, reptiles have been recorded in the past on the site and are present on land adjacent to the study site. It is therefore recommended that an updated survey is undertaken to establish if reptiles are still present within the site and to establish the population. Survey methods include the installation of temporary refugia (reptile tins and felts) which should be checked in the morning or early evening between April and May or in September.

2 Introduction

2.1 Site Description

2.1.1 The site is a former coke works, located on Lund Hill Lane (B6428), to the east of Royston at ordnance survey grid reference SE 374121.

2.2 Description of Project and Background to Commission

2.2.1 This ecological report has been prepared by Skyline Ecology on behalf of the client. It is understood that the report is to form a planning application for the development of the site for residential housing.

2.3 Aims of Study

2.3.1 The objectives of the desk study and survey were as follows:

- Present evidence of, or any potential for, protected species supported by the site;
- Set out the legislative and/or policy protection afforded to protected species associated with the site;
- Present an assessment of any potential ecological impacts of development within the site based on the survey findings;
- Provide recommendations for any further surveys if considered necessary; and
- Provide recommendations on mitigation, compensation and/or enhancement measures that are likely to be required to ensure that the proposed development will be acceptable in planning terms and will comply with current wildlife legislation.

2.3.2 This report sets out the results of the survey and, in the context of any known ecological interest identified as a result of the desk study, sets out the approach necessary to ensure that effects on any identified ecologically sensitive receptors are avoided or ameliorated. This will ensure that the proposed development will be acceptable with reference to the planning and legal framework relating to ecological resources.

3 Methods

3.1 Desk Study

3.1.1 Existing ecological information for the site and its surrounding area was requested from the Sheffield Biological Records Centre (SBRC), West Yorkshire Ecology, South Yorkshire Bat Group (SYBG) and West Yorkshire Bat Group (WYBG). Information relating to statutory and non-statutory designated sites, protected species and species of conservation importance was requested for the site and land up to 2 km from the site boundary. In this case, species of conservation importance were defined as species listed in accordance with Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). In addition, on-line resources including the Multi Agency Geographic Information for the Countryside (MAGIC) website (http://magic.defra.gov.uk/) and aerial photography of the area were also reviewed.

3.2 Phase 1 Habitat Survey

3.2.1 An extended Phase 1 Ecological Survey was undertaken on 5th November 2019. The weather during the surveys was cold with occasional heavy rain showers, and an approximate temperature of 7°C. Paul Howden-Leach MCIEEM walked the site and the habitats were described using the Phase 1 Habitat Survey methodology. Target notes were also prepared on features of particular ecological interest and an assessment was made of the site's potential to support protected and notable species.

3.3 Bats

3.3.1 An assessment of the site's potential to support roosting bats was carried out by licenced bat ecologist Paul Howden-Leach MCIEEM. Buildings were inspected internally (where safe to do so) and externally for evidence indicating the presence of roosting bats or for features with the potential to provide bat roost habitats. Evidence indicating the presence of bats would normally include droppings, characteristic staining, scratch-marks or the presence of live or dead bats.

3.4 Amphibians

3.4.1 All ponds within the study site, were assessed for the presence of great crested newts. As part of the survey a Habitat Suitability Index (HSI) assessment was undertaken, which is a measure of the ponds suitability to support great crested newts (Oldham *et al,* 2000). HSI assessments consider the following:

- Geographic location
- Pond area
- Pond drying
- Water quality
- Shade
- Presence of water-fowl
- Presence of fish
- Number of local ponds
- Terrestrial habitat
- Macrophyte coverage

3.4.2 The assessment was carried out by licenced great crested newt ecologist Paul Howden-Leach MCIEEM on the 5th November 2019.

3.5 Limitations to Methods

3.5.1 The initial Phase 1 habitat survey was undertaken at a suboptimal time of year however, as this report recommends further visits to be made in the spring and summer with updates to be added to the report, it is considered that this constraint will be removed.

4 Results and Interpretation

4.1.1 This section sets out the findings of the desk study and survey work. Whilst every effort was made to provide a comprehensive description of the site during the field survey, no investigation can provide a complete assessment as the natural environment is difficult to predict and can therefore be subject to potential change.

4.1.2 The results of the surveys should be read in conjunction with the figures and data located in Section 8 and Appendix A of this report.

4.2 Designated Sites

4.2.1 This section should be read in conjunction with the data search records located in Appendix A of this report.

International & National Designated Sites

4.2.2 There are no international or national designated sites within the search area

Locally designated sites

4.2.3 Barnsley Canal, Local Wildlife Site (LWS) and site of Scientific Interest (SSI), is located approximately 65m to the west of the study site. The site has a mix of wetland habitats including open water and swamp, broad-leaved woodland, hedgerows and scrub. Species including grass snake *Natrix natrix*, reed bunting *Emberiza schoeniclus* and willow tit *Poecile montanus* have been recorded breeding on site.

4.2.4 Ellis Laithe LWS is located along the northern boundary of the coke works and on the eastern side of the woodland to the north. The site is a former open cast quarry subject to a restoration scheme. The site has been designated for its areas of open grassland and areas of mature oak and wet woodland. In addition, adders tongue fern *Ophioglossum vulgatum* has been recorded within the site.

4.2.5 Carlton Marsh Local Nature reserve and LWS (LNR) is located 1.5km to the south west of the site and is designated for its wetland and bird assemblage. Water voles *Arvicola terrestris* are present within the reserve and extend to the neighbouring Rabbit Ings Country Park located 100 metres to the west of the study site. Birds such as bittern *Botaurus stellaris*, grey partridge *Perdix perdix*, yellowhammer *Emberiza citrinella*, reed bunting, grasshopper warbler *Locustella naevia*, willow tit, dunnock *Prunella modularis*, bullfinch *Pyrrhula prrrhula* and song thrush *Turdus philomelos* have been recorded on the reserve.

4.3 Habitat Description

4.3.1 The study site comprises of a large area of predominantly bare ground where coke processing and storage would have taken place (Image 1). Many of the buildings which would have once been on site have been demolished leaving numerous piles of building rubble (Image 2). Around the perimeter of the site are areas of developing woodland and scrub. A number of buildings remain on site which are associated with storage or former office/work usage. A number of water bodies and settling tanks were also noted.

4.3.2 Around the study site is Rabbit Ings Country Park to the east, young woodland to the north and south, and a railway and former canal to the west.

4.4 Phase 1 Habitat Survey

4.4.1 This section should be read in conjunction with Figure 1 located in Section 8.1 of this report.

Bare Ground

4.4.2 The majority of the study site is made up of bare ground (Image 1), with emergent vegetation emerging through some areas. The north of the site is the location of the former coke works and by its nature, is believed to be highly contaminated land resulting in very little vegetation around this part of the site. Species recorded in these areas include great mullein *Verbascum thapsus*, silver birch *Betula pendula* (saplings), spear thistle *Cirsium vulgare*, mugwort *Artemisa vulgaris*, dandelion *Taraxacum officianale* agg., St John's wort *Hypericum* sp., nettle *Urtica dioica* and buddleia *Buddleja davidii*.

Image 1: View of bare ground of former coke works



Image 2: Demolished structures



4.4.3 To the south of the site the bare ground consists of concrete pads which would have once housed buildings. Many of these have now been demolished leaving large piles of rubble (Images 2 and 3 and Target Note 3). Vegetation in this area consists of buddleia. Stands which are growing through cracks in the remnant buildings.

Image 3: Rubble piles located around the study site



Image 4: Birch dominated woodland to the north of the study site



Woodland

4.4.4 The majority of the broadleaved woodland is located around the perimeter of the study site and is generally young birch dominated woodland which has recently succeeded from a scrub habitat. To the north west of the site is a long strip of woodland (Image 4) which is dominated by silver birch, other species include dog rose *Rosa canina*, bramble *Rubus fruticosus* agg., broad-leaved willowherb *Epilobium montanum,* cocksfoot *Dactylis glomerata*, oak *Quercus*

robur, willow *Salix* Sp.*,* hawthorn *Crataegus monogyna,* hazel *Corylus avellana*, field maple *Acer campestre*, Yorkshire fog *Holcus lanatus* and young pine *Pinus* sp. This part of the site links directly with the rail corridor and the neighbouring former canal.

4.4.5 The woodland located on the northern boundary and north eastern corner of the main coke works is similar in make up to the woodland above (Image 5). The woodland is again dominated by silver birch with white poplar *Populus alba* being present in the north, which is more akin to a planting buffer*,* and willow becoming more prevalent to the east, where the site appears to be wetter. Other species associated with these wet areas include pendulous sedge *Carex pendula* and hard rush *Juncus inflexus*. Also, within the eastern section of the woodland there are species within the ground flora which suggest that this part of the site has recently succeeded from grassland habitat with species such as cow parsley *Anthriscus sylvestris* and Yarrow *Achillea millefolium* being present within the understory. Other species recorded include bramble, hawthorn, nettle, cocksfoot, dog rose and ivy *Hedera helix*.

Image 5: Woodland on the northern boundary



Image 6: Wetter willow woodland at the northeast corner.



4.4.6 To the south of the study site located close to the water treatment works is an area of plantation woodland (Image 7). The woodland was planted approximately 25 years ago and has been done so for wildlife purposes rather than commercial timber. As such there is a wide mix of tree species within the plantation. Species recorded include Alder *Alnus gomerata,* silver birch, pine, European larch *Larix decidua*, willow, blackthorn *Prunus spinose* and dog rose. Other species recorded include cocksfoot, cleavers *Galium aparine*, herb Robert *Geranuim robertianum* and cotoneaster *Cotoneaster* sp. Much of this part of the site is densely vegetated and therefore access into all areas of the site could not be fully gained.

Image 7: Plantation woodland to the south



Image 8: Scattered scrub around the site



Scrub and hedgerows

4.4.7 Throughout the areas of rubble are a number of areas of scattered scrub (Image 8), these are predominantly dominated by buddleia.

4.4.8 The main area of scrub is located within a steep valley to the south of the site, to the north west of the water treatment works (Image 9). The scrub bank was too steep and scrub too dense to assess in detail and therefore was assessed from a distance. The bank was mainly dominated by hawthorn and blackthorn scrub.

4.4.9 Along the western boundary of the site is a line of stacked tyres which appear to have been used as planters (Image 10). The tyres continue for a length of approximately 150 metres and have been vegetated by a scrub/ hedgerow type of feature, which is mainly dominated by silver birch, hawthorn and blackthorn.

Image 9: Bank of dense scrub



Image 10: Tyre wall and scrub



Tall ruderals

4.4.10 Where the soil layers have either been undisturbed of have begun to develop, areas of tall ruderals have been recorded. In the north eastern corner of the site is a grassland area which is succeeding into tall ruderal and scrub (Image 11). This area is probably the most botanically diverse part of the site because of the mix of habitats. Species recorded in this area include black knapweed *Centaurea nigra*, yarrow, ribwort plantain *Plantago lanceolate,* creeping thistle *Cirsium arvense*, creeping buttercup *Ranunculus repens*, weld *Reseda luteola*, daisy *Bellis perennis*, selfheal *Prunella vulgaris*, St John's wort, False oat grass *Arrhenatherum elatius*, canary reed grass *Phalaris arundinacea,* ragwort *Senecio jacobaea* and teasel *Dipsacus fullonum.*

4.4.11 To the south of the bare ground and coke works is a bank dominated by tall ruderals. This is located adjacent to the plantation woodland to the south of the site. Species recorded include cocksfoot, creeping thistle, broad-leaved dock *Rumex obtusifolius*, teasel, nettle, rosebay willowherb *Chamerion angustifolium*, coltsfoot *Tussilago farfara* and ribwort plantain.

4.4.12 Towards the west of the site, close to the mobile phone mast is a mosaic of tall ruderal and scatter scrub (Image 13). Species recorded in this area include tansy *Tanacetum vulgare*, broad-leaved dock, mugwort *Artemisia vulgaris*, daisy, silverweed *Argentina anserine*, bramble, nettle, silver birch and cocksfoot.

Image 11: Tall ruderals and marshy grassland



Image 12: Bank of tall ruderals to the south of the study site.



Image 13: Tall ruderal and scrub mosaic



Image 14: Former amenity grassland



Grassland

4.4.13 Grassland is limited within the study site, this is likely due to lack of management on site and as such the majority of grassland is currently succeeding into tall ruderal or scrub habitat. The north east corner of the site has small patches of marshy grassland which is succeeding into tall ruderals and scrub (Image 11).

4.4.14 To the east of the site what would have once been formal amenity grassland have now become rank grasslands (Image 14). These two small patches of grass are made up of cocksfoot, false oat grass *Arrhenatherum elatius*, spear thistle, cat's ear *Hypochaeris* sp., yarrow, great mullein, mugwort, creeping buttercup and ragwort *Senecio jacobaea.*

4.4.15 At the south western corner of the study site (separated by the railway track), is an area of semi-improved grassland (Image 15). It appears that this is part of a former tip and has been capped. The grassland appears to have been grazed as the sward is extremely short, making identification of species difficult. Species recorded in this area include selfheal *prunella vulgaris,* ribwort plantain, white clover, bent grass *Agrostis* sp., Yorkshire fog, spear thistle, ragwort, creeping buttercup and oxeye daisy *Leucanthemum vulgare*.

Image 15: Semi-improved grassland



Image 16: Pond 1



Open water

4.4.16 There are three main open water habitats within the study site. All three of these are located to the north of the coke works. There are two former settling lagoons which are separated by scattered scrub and tall ruderals (Pond 1, Image 16 and Pond 2). The lagoons have steep sided brick walls and are fenced on all sides. Vegetation within the ponds was limited to broad-leaved pondweed *Potamogeton natans*, although due to the time of year the survey took place it is possible that more species may be present.

Image 17: Pond 3



Image 18: Pond 5



4.4.17 To the west of this is another pond (Pond 3) which is more natural than the above lagoon, the pond did not have any vegetation at the time of survey (Image 17).

4.4.18 Other water bodies on site include an area of wet grassland to the north east which did hold a small amount of water at the time of survey (Image 11 and Pond 4) and a small pond located within the south of the coke works (Pond 5, Image 18). Both of these may have only been present due to recent extensive rain fall prior to the site visit.

Buildings

4.4.19 A full detailed building description can be found in section 4.5. Figure 2 located in section 8.2 shows the location of each of the buildings.

4.5 Species

Bats

4.5.1 SYBG provided a total of 71 bat records for the search area. A large proportion of these are for records associated with Carlton Marsh and were for Pipistrelle species *Pipistrellus* Sp. and noctule bats *Nyctalus noctule*. The largest roost within the search area is for 57 bats located approximately 200 metres to the east of the study site. Species recorded within the search area include Leisler's bat *Nyctalus leisleri,* common pipistrelle bat *Pipistrellus pipistrellus,* Whiskered/Brant's bat *Myotis mystacinus/brandti*, Daubenton's bat *Myotis daubentonii* and brown long-eared bat *Plecotus auritus.*

4.5.2 SBRC provided 140 records of bat within the search area. The majority of these are for Carlton Marsh LNR located approximately 1.5km to the south of the site, Rabbit Ing's Country Park located 150 metres to the east of the site and Cudworth, approximately 240 metres to the east. A number of roosts were recorded within the search area. Only three roosts were recorded by SBRC, the closest of which is for a single unknown bat species 600 metres to the west of the study site.

4.5.3 West Yorkshire Bat Group (WYBG) provided eight records for the search area the closest of which is for a common pipistrelle maternity roost located approximately 750 metres south of the study site. Only Pipistrellus and vespertilionidae species were identified within the data search.

4.5.4 Each building on site was assessed for its potential to support roosting bats. A full internal and external assessment was carried out where access allowed. Figure 2 located in Section 8.2 of this report shows the location of each of the buildings described below.

Building 1

4.5.5 A brick building with a flat concrete roof. This building has been in constant use until September 2019 as an engineering workshop and stores (Image 19). Since that time doors and windows and been boarded and access restricted. The building is steel framed and well-sealed, with no access points noted within the main building itself. All external masonry is well pointed with no potential access points for bats. On the southern and western aspects of the building is an area of felt which has lifted slightly along the roof line, this may have some limited potential for small numbers of summer roosting bats. The assessment of this building under current guidance is of low potential to support roosting bats.

Image 19: Building 1



Image 20: Lifted felt on western side of Building 1



Building 2

4.5.6 Building 2 is a detached single-story brick building with a concrete pitched roof (Image 21). All windows and doors have been boarded with either wooden or metal shutters and as such no

access could be gained inside the building. All facias and soffits are well-sealed with no gaps or cavities (Image 22) and there are no access points within the roof or within the masonry. The building has been classed as having negligible potential to support roosting bats.

Image 21: Building 2



Image 22: Sealed facias in Building 2



Building 3

4.5.7 Building 3 is a steel framed brick building which currently has no roof (Image 23). The building has no obvious roosting features and has negligible potential for roosting bats.

Image 23: Building 3



Image 24: Building 4



Building 4

4.5.8 Building 4 is a brick and corrugated steel building with a concrete frame (Image 24). There are numerous holes within the roof and walls and the eastern elevation is completely open. No obvious roosting features were recorded within the building and as such the building as negligible potential to support roosting bats.

Image 25: Building 5



Image 26: Collapsed brickwork



Building 5

4.5.9 Building 5 is a structure associated with the coke process. The structure is approximately 30 metres tall and 20 by 20 metres in diameter. The majority of the structure is made from concrete with steel supports and some brickwork (Image 25). The structure is difficult to assess due to the height, however using close focusing binoculars there do not appear to be any obvious areas suitable for roosting bats. On the northern elevation at the western side there is an area of brick work which has collapsed resulting in a number of cracks in the masonry (Image 26), however much of this area was very wet during the daytime survey and it is unlikely that bats would be using this structure for roosting. Building 5 has negligible roosting opportunities for bats.

Building 6

4.5.10 Building 6 is a flat roofed brick structure which is currently being used as an electricity substation (Image 27). An internal inspection of the building could not be carried out as all windows and doors had either been reinforced or sealed, resulting in no potential access points. Building 6 has negligible roosting opportunities for bats.

Image 27: Building 6



Image 28: Building 7



Building 7

4.5.11 Building 7 is a large portacabin which has been extensively vandalised (Image 28). The majority of the windows have been smashed and all doors are open. Building 7 has no

features which would support roosting bats and therefore the bat roosting potential is considered to be negligible.

Building 8

4.5.12 Building 8 is a steel framed former workshop with breezeblock and corrugated steel walls (Image 29). The building has no roof and as such is open and exposed. No bat roosting features were noted and as such the bat roosting potential of this building is negligible.

Image 29: Building 8



Image 30: Rubble piles suitable for reptile and amphibian refugia



4.5.13 The site offers good foraging and commuting opportunities for bats, especially around the northern, southern and western boundaries. Links with other habitat such as the former Barnsley canal to the west and the railway line may allow bats to unitise specific area of the site for feeding such as the open water habitat, woodland and marshy grassland.

Reptiles

4.5.14 SBRC provided 32 records of reptile for the search area, all of which are for grass snake, the majority of these are for Carlton Marsh LWS located approximately 1.5KM to the south of the study site. The closest records are for Rabbit Ings Country Park located 150 metres to the east and a single record for Barnsley Canal located approximately 900 metres to the south. It should be noted that the former Barnsley canal is located approximately 50 metres from the western boundary of the study site, and it is likely that reptiles would use the length of both the rail and canal corridor.

4.5.15 Previous surveys carried out on the site by AES Ltd. recorded a single grass snake in the north eastern corner of the site, where there is an area of marshy grassland present, no other reptile records were noted as part of the survey.

4.5.16 The site provides ideal habitat for reptiles. Much of the southern part of the existing coke works has numerous rubble piles as a result of building being demolished (Image 30), this provides excellent refugia and basking opportunities. Ponds which are located to the north of the coke works also have rubble piles adjacent (Image 31), these features also link directly to the rail corridor, broad-leaved woodland and Barnsley Canal (where records of grass snake have been previously recorded).

4.5.17 Further to the refugia recorded on site, some of the rubble piles have been mixed with soil and are now becoming vegetated (Image 32). These piles make ideal hibernacula for reptiles. The majority of these are located within the areas of bare ground.

Image 31: Rubble pile adjacent to ponds 1, 2 and 3



Image 32: Potential hibernacula for reptiles and amphibians



Amphibians

4.5.18 SBRC provided 100 records of amphibian for the search area, of these 47 are for common toad *Bufo bufo*, and seven are for great crested newts *Triturus cristatus* the closest of which appears to be 50 metres to the east of the site at Rabbit Ings Country Park.

4.5.19 Previous surveys undertaken by AES Ltd. Identified that in 2013 the open water/marshy grassland in the north eastern corner contained a small population of great crested newts. It should be noted that since this survey the dynamics of the site have changed dramatically. This pond identified in 2013 is now more akin to marshy grassland due to the encroachment of willow saplings within the pond. In addition, a new pond has been recorded on site which was not present in 2013 (Pond 5) which may have the potential to support great crested newts. According to AES Ltd the repeat survey for great crested newts undertaken in 2015 did not find great crested newts within the study site.

4.5.20 As well as the above survey in 2009 a European Protected Species Licence (EPSL) was granted within Rabbit Ings Country Park to translocate great crested newts. According to AES Ltd 156 great crested newts were moved as part of this licence. Further monitoring visits in 2013 found great crested newts to be present within ponds associated with Rabbit Ings Country Park.

4.5.21 As stated in section 4.4 the study site has three main waterbodies which are all located to the north west of the main coke works. In addition, an area of marshy grassland to the north east and a seasonal pond have been recorded on site. A full habitat suitability index (HSI) assessment of these features has been undertaken to ascertain if these water bodies are suitable to support great crested newts (Table 1). A plan of the location of the ponds can be found in section 8.3 (Figure 3) of this report.

4.5.22 The results of the HSI show that ponds 1 and 4 have excellent suitability to support great crested newts, ponds 2 and 3 good potential to support great crested newts and pond 5 below average potential to support great crested newts.

Table 1: HSI score for five waterbodies recorded on site

Pond ref	Pond 1	Pond 2	Pond 3	Pond 4	Pond 5
SI1 - Location	1	1	1	1	1
SI2 - Pond area	0.8	0.6	0.5	0.2	0.1
SI3 - Pond drying	0.9	0.9	1	1	0.1
SI4 - Water quality	0.33	0.33	0.33	0.67	0.33
SI4 - Shade	1	1	1	1	1
SI6 - Fowl	0.67	0.67	1	1	1
SI7 - Fish	1	1	1	1	1
SI8 - Ponds	1	1	1	1	1
SI9 - Terr'l habitat	1	1	1	1	1
SI10 - Macrophytes	0.5	0.3	0.3	0.8	0.3
HSI	0.78	0.72	0.74	0.80	0.50

4.5.23 Terrestrial habitats around all of the ponds on site are ideal. Ponds 1, 2 and 3 all have rubble piles adjacent to them (Image 31) as well as young birch woodland and abandoned tyres which have now become densely vegetated. Pond 4 is surrounded by dense scrubby vegetation and is close to rubble piles within the wider landscape. There is also an underpass bridge here which connects the site directly with Rabbit Ings Country Park. Pond 5 which is the least suitable of all the water bodies is surrounded by rubble, tall ruderals and has direct links to the railway line and neighbouring Barnsley Canal.

4.5.24 Ponds outside of the study site have not been formally assessed as part of this report. From previous reports it is believed that an additional seven ponds exist within the surrounding area.

Birds

4.5.25 SBRC provided 7689 records of birds for the search area consisting of 129 different species. The majority of these records are for Carlton Marsh Nature reserve located 1.5km to the south of the study site and Rabbit Ings Country Park whose boundary is located 50 metres to the east of the site. Both tawny owl *Strix aluco* and barn owl *Tyto alba* have been recorded within the search area. In addition, a number of moorland species have also been recorded, of curlew *Numenius arquata*, grey partridge *Perdix perdix*, Lapwing *Vanellus vanellus* and snipe *Gallinago gallinago*. In addition, there are a number of birds associated with woodland habitat such as tree pipit *Anthus trivialis*, tree creeper *Certhia familiaris* and great spotted woodpecker *Dendrocopos major*. Other species of interest which may colonise a site such as this include Peregrine *Falco peregrinus*, kestrel *Falco tinnunculus*, Merlin *Falco columbarius* and buzzard *Pernis apivorus.*

4.5.26 Evidence of birds was recorded within building 4. Barn owl pellets were recorded close to the eastern entrance and a barn owl flew out of the building during the survey (Target Note 2). Pigeons were recorded nesting within Building 4. As many of the buildings are either well-sealed or have no roof, nesting opportunities within these features are limited.

4.5.27 Building 5 has the potential for nesting peregrine as the building is not subject to any disturbance and replicates the birds natural nesting preferences. It should be noted that peregrine have been recorded within the data search.

4.5.28 The scrub habitat and surrounding woodland provide good nesting and feeding opportunities for birds. The dense scrub made observations of nests difficult and the weather resulted in birds not being very active. Other birds recorded during the survey include magpie and blackbird.

Image 33: Barn owl pellets within Building 4



Image 34: Japanese knotweed



Badgers

4.5.29 SBRC provided two records of badger *Meles meles* for the search area, the closest of which is associated with Rabbit Ings Country Park. An exact grid reference has not been provided for these records.

4.5.30 No evidence of badger was recorded during the survey.

Other Protected Species

4.5.31 SBRC provided 497 records of water vole *Arvicola terrestris* within the search area. The majority of these are associated with Rabbit Ings Country Park and Carlton Marsh LNR. No streams or running water have been recorded on site and the open water areas such as settling ponds are suboptimal for water voles due to their limited vegetation and burrowing potential.

4.5.32 SBRC have provided 16 record for harvest mouse *Micromys minutus* for the search area. All of these records are associated with the reed beds at Rabbit Ings Country Park and Carlton March LNR. Whilst the study site does have a marshy grassland area it is believed that this is too small to support harvest mouse. A number of small stands of canary reed grass were recorded in this area (a favoured plant for nest building) however the plant is not abundant enough to allow for nest building.

4.5.33 SBRC have provided 46 records for brown hare Lepus europaeus for the search area. The majority of these are for Rabbit Ings Country Park and Carlton Marsh LNR. It is possible that brown hare use the site, especially areas to the north east which connect directly with Rabbit Ings Country Park. The study site is however suboptimal for brown hare and is unlikely to support breeding.

Non-native/invasive Species

4.5.34 No invasive species were recorded within the site boundary, however a stand a Japanese knotweed *Fallopia japonica* was recorded on the western side of the semi-improved grassland to the south west of the site (Target Note 9). The plant is growing at the back of a series of garages (Image 34) and is within 5 metres of the site boundary.

5 Legislation and Impacts

5.1 Planning Policy Context

5.1.1 The National Planning Policy Framework (NPPF) came into effect in March 2012. It states that the planning system should seek to contribute to and enhance the natural and local environment by minimising impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity.

5.1.2 The Government launched new Planning Practice Guidance to support the NPPF in March 2014. The new Guidance on the Natural Environment (ID:8) states that information on biodiversity impacts and opportunities should inform all stages of development; it refers to guidance given in the Government Circular 06/2005 (ODPM, 2005) with regards to advice on protected species. Paragraph 99 of the Circular states "It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision."

5.1.3 The new Planning Practice Guidance reiterates section 40 of the NERC Act 2006, which places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity. Paragraph 117 of the NPPF also states that local authorities should seek to promote the preservation, restoration and re-creation of priority habitats and recovery of priority species populations, linked to national and local targets, through planning policies. Priority habitats and species referred to in the NPPF relate to species and habitats of principle importance listed in accordance with section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

5.2 Habitats

5.2.1 UK Biodiversity Action Plan (BAP) priority habitats and species are those that have been identified as being the most threatened and hence require conservation action under the UK BAP. The 'UK Post-2010 Biodiversity Framework' superseded the UK BAP in July 2012, however the lists of priority habitats and species are still in place.

5.2.2 Barnsley Biodiversity Trust has developed Local Biodiversity Action Plans (LBAPs) which identify habitats and species of principal importance which are present in their region and which need to have specific conservation objectives and actions prepared, in line with the UK Post-2010 Biodiversity Framework (JNCC and DEFRA, 2012[25]). These LBAPs for habitats and species are referred to where relevant in this assessment to assist with determining the level of importance/ evaluation of ecological features.

5.2.3 Three UK BAP and LBAP Priority habitats are relevant to this site. These include Ponds, hedgerows and Open mosaic Habitats on Previously Developed land.

5.2.4 It is likely that some of the habitats mentioned above will be lost as a result of the proposed development and therefore these would need to be replaced or compensated for to comply with current planning policy.

5.3 Bats

5.3.1 Bats and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended), and by the Conservation of Habitats and Species Regulations 2012. Taken together, these make it an offence to:

a) Deliberately capture, injure or kill a bat;
b) Deliberately disturb any bat, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the

case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.

c) To be in possession or control of any live or dead bat or any part of, or anything derived from a bat;

d) Damage or destroy a breeding site or resting place of a bat;

e) Intentionally or recklessly obstruct access to any place that bat uses for shelter or protection;

f) Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.

5.3.2 A bat roost may be any structure a bat uses for breeding, resting, shelter or protection. It is important to note that since bats tend to re-use the same roost sites, current legal opinion is that a bat roost is protected whether or not the bats are present at the time.

5.3.3 Seven bat species are listed in the UK Biodiversity Action Plan and are listed as Species of Principal Importance under the provisions of the NERC Act 2006.

5.3.4 Building 1 has the potential to support small numbers of summer roosting bats. As a result, the demolition of the building may result in the destruction of potential roosting sites, which would result in an offence under the legislation highlighted above.

5.3.5 In addition, habitats associated with commuting and feeding bats may be affected which may result in an offence being caused under the legislation highlighted above.

5.4 Reptiles

5.4.1 All British reptiles are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000). Grass snake, slow worm, common lizard, and adder, are protected against intentional killing or injury and against sale. In addition, all British reptiles are UK Biodiversity Action Plan species and are listed as Species of Principal Importance under the provision of the NERC Act 2006.

5.4.2 Reptiles have been recorded on and close to the site in the past and as such the proposed development may result in an offence under the legislation highlighted above.

5.5 Great Crested Newts

5.5.1 Great crested newts and their habitats in water and on land are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and under the Conservation of Habitats and Species Regulations 2010. Taken together, these make it an offence to:

a) Deliberately capture, injure or kill a great crested newt;

b) Deliberately disturb any great crested newt, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.

c) To be in possession or control of any live or dead great crested newt or any part of, or anything derived from a great crested newt;

d) Damage or destroy a breeding site or resting place of a great crested newt;

e) Intentionally or recklessly obstruct access to any place that a great crested newt uses for shelter or protection;

f) Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place that it uses for shelter or protection.

5.5.2 In addition, great crested newt is a UK Biodiversity Action Plan species and is listed as a Species of Principal Importance under the provisions of the NERC Act 2006.

5.5.3 Great crested newts have been recorded on and adjacent to the site in the past and as such the proposed development may result in an offence under the above legislation.

5.6 Badgers

5.6.1 Badgers are protected under the Badgers Act 1992. This makes it an offence to willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. Removal of significant areas of badger foraging habitat may also contravene the Act, as it could be regarded as cruelty.

5.6.2 No evidence of badgers was recorded during the survey however badgers are highly mobile animals and may colonise the site and as such a precautionary approach should be undertaken to ensure that an offence will not occur under the above legislation.

5.7 Birds

5.7.1 All nesting birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rare species (listed on Schedule 1 of the Act), it is an offence to disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

5.7.2 A number of bird species are also listed as Species of Principal Importance under the provisions of the NERC Act 2006. The National Planning Policy Framework (NPPF) (paragraph 117) encourages that local authorities to take measures to “promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species” linking to national and local targets through local planning policies. Planning authorities have a duty under Section 40 of the NERC Act to have regard to priority species and habitats in exercising their functions including development control and planning.

5.7.3 Evidence of nesting birds has been recorded within Buildings 4 (barn owl) and it is likely that the woodland and scrub habitat on site will support other species of nesting birds. Other birds may use some of the other structures and habitats for nesting and therefore, should the site undergo major redevelopment during the breeding bird season, then an offence will occur under the legislation above. In addition, without further survey it is not possible to comply with the NPPF to encourage the recovery of priority species within the site and surrounding area.

5.8 Invasive Species

5.8.1 Under the Section 14(1) of the Wildlife and Countryside Act 1981it is illegal to plant or otherwise cause to grow in the wild any plant listed in Schedule 9. Plants listed under schedule 9 including Japanese knotweed.

5.8.2 Although no Japanese knotweed has been recorded on the site a stand has been noted close to the site boundary. It is possible that the root system falls within the site and any disturbance may cause the plant to recolonise and spread resulting in an offence under the legislation highlighted above.

6 Impacts and Recommendations

6.1 Habitats

6.1.1 At present a full botanical species list could not be compiled for the site due to the time of year the survey was carried out. It is recommended that a follow up botanical survey is undertaken during the summer months in order to clarify and update the Phase 1 habitat survey. This survey will likely inform any management of existing or newly created habitats within the study site and give clear recommendations for ecological mitigation and compensation.

6.1.2 It should be noted that within the site there are a number of habitats which fall within the UK and Local BAP, these include ponds and open mosaic habitats on previously developed land. Both of these habitats should be considered when designing mitigation and compensation. Recommendations for these cannot be given at this stage as mitigation and compensation should also include protected species found on or adjacent to the study site.

6.2 Bats

Roosts

6.2.1 Building 1 has been identified as having low potential to support small numbers of bats, as such a single dusk/dawn survey is required during the summer months to ascertain if bats are using this building for roosting.

Commuting and foraging

6.2.2 To understand how bats are using the study site (so as to reduce impacts during and after the development), current guidance set out by the Bat Conservation Trust (2016) states that bat activity surveys should be carried out where development proposals are likely to impact on commuting and foraging bats.

6.2.3 The site has been classified as having moderate potential suitability to support commuting and foraging habitats on site. This is due to existing habitats which connect directly to the wider landscape which could be used by commuting or foraging bats, specifically, scrub woodland and open water habitats.

6.2.4 Table 8.3 taken directly from the Bat Conservation Trust Bat Survey Guidance (2016) identifies that a single transect and the installation of two data loggers between the months of April and October will be necessary to identify how bats are using the site and will give enough information to provide suitable mitigation and compensation.

Table 8.3 Guidelines on the number of bat activity surveys recommended to achieve a reasonable survey effort in relation to habitat suitability.

Survey type	Low suitability habitat for bats[a]	Moderate suitability habitat for bats	High suitability habitat for bats
Transect/spot count/timed search surveys	One survey visit[b] per season (spring – April/May, summer – June/July/August, autumn – September/October)[c] in appropriate weather conditions for bats Further surveys may be required if these survey visits reveal higher levels of bat activity than predicted by habitat alone	One survey visit[b] per month (April to October)[c] in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period.	Up to two survey visits[b] per month (April to October)[c] in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period.
AND			
Automated/static bat detector surveys[d]	One location per transect, data to be collected on five consecutive nights per season (spring – April/May, summer – June/July/August, autumn – September/October)[c] in appropriate weather conditions for bats	Two locations per transect, data to be collected on five consecutive nights per month (April to October)[c] in appropriate weather conditions for bats	Three locations per transect, data to be collected on five consecutive nights per month (April to October)[c] in appropriate weather conditions for bats

6.3 Amphibians

6.3.1 Great crested newts have been recorded close to and on the site during previous surveys however, these works were carried out over 4 years ago. To ascertain presence/absence of species, as well as local populations, it is recommended that a great crested newts survey is carried out. This survey will need to include all ponds within the development site as well as those within a 500-metre radius. It is recommended that prior to surveys being carried out visits to all ponds within this area are undertaken and the ponds assessed as to their suitability to support great crested newts.

6.3.2 Surveys can be undertaken in two ways, either through an eDNA sample taken of each pond from mid-April to June (it should be noted that this technique will only give presence or absence and is unlikely to satisfy Natural England Licencing), or through more traditional methods using a combination of techniques including bottle trapping (traps set during the evening and checked the following morning), torch survey (evening survey or ponds at night using torches), egg search (searching pond vegetation for eggs) and netting. This second technique requires a minimum or four visits during March to June (two of which need to be between mid-April and mid-May) and will need to utilise three of the above methods per survey. In order to estimate great crested newt populations a minimum of six survey visits will need to be undertaken with three of these visits falling between mid-April and mid-May.

6.4 Reptiles

6.4.1 Although no reptiles have been recorded during the survey works, reptiles have been recorded in the past on the site and are present on land adjacent to the study site. It is therefore recommended that an updated survey is undertaken to establish if reptiles are still present within the site and to establish the population. Survey methods include the installation of temporary refugia (reptile tins and felts) which should be checked in the morning or early evening between April and May or in September.

6.4.2 Current guidance suggests that 7 surveys would be sufficient to establish presence or absence of reptiles on site however 10 surveys would be required to establish the population and to provide enough information to inform mitigation or compensation recommendations.

6.5 Badgers

6.5.1 Although no direct evidence of badger has been recorded on site, they are known to be within the surrounding area. It is therefore recommended that, prior to any development, a check for badgers is undertaken to ensure that they have not colonised the site prior to works. In addition, any open trenches should be graded to allow any animals that may fall in to escape.

6.6 Birds

6.6.1 To fully understand the bird assemblage within the site and to give appropriate mitigation and compensation recommendations a breeding bird survey should be undertaken between March and June. This initial survey may result in further survey recommendations based on findings, especially with the potential of Schedule 1 species being present on site.

6.6.2 Breeding bird surveys will require a suitably qualified ecologist to walk a pre-determined transect in the morning or early evening between five and seven times during the breeding bird period (March to June). The result of the survey will provide information of species present and potential breeding location and territories.

6.7 Invasive Species

6.7.1 Japanese knotweed has been recorded just outside of the site boundary. Should this area be developed it may be worth considering removal of this species or placing a barrier to stop the plant from spreading onto the site. Further information should be sought from a specialist contractor.

7 References

Bat Conservation Trust (BCT) and Institute of Lighting Engineers (ILE) (2008) Bats and Lighting in the UK. Bats and the Built Environment Series. Version 2, May 2009.

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Oldham R S, Keeble J, Swan M J S, Jeffcote M (2000) Evaluating the suitability of habitat for the great crested newt (Triturus cristatus). Herpetological Journal, 10, 143-155

Sewell D, Griffiths R A, Beebee T J C, Foster J and Wilkinson J W (2013) Survey Protocols for the British herpetofauna.

8 Figures

8.1 Figure 1: Phase 1 Habitat Survey Plan



Target Notes

Target Note 1

Wall made from stacked, discarded truck tyres. Trees and shrubs have colonised these as large plant pots.

Target Note 2

Building 4 contained a single Barn owl at the time of survey. Barn owl pellets were present at the entrance.

Target Note 3

Rubble piles. These are too numerous throughout the site to record them all, however the major piles have been labelled at TN3

Target Note 4

Area of wet grassland and likely a former pond.

Target Note 5

Two settling lagoons with potential to support great crested newts.

Target Note 6

Small naturalised pond with potential to support great crested newts.

Target Note 7

Small pond, possibly not permanent, has limited potential to support great crested newts.

Target Note 8

Dense scrub and steep bank leading to railway cutting. Limited access to this part of the site for health and safety reasons.

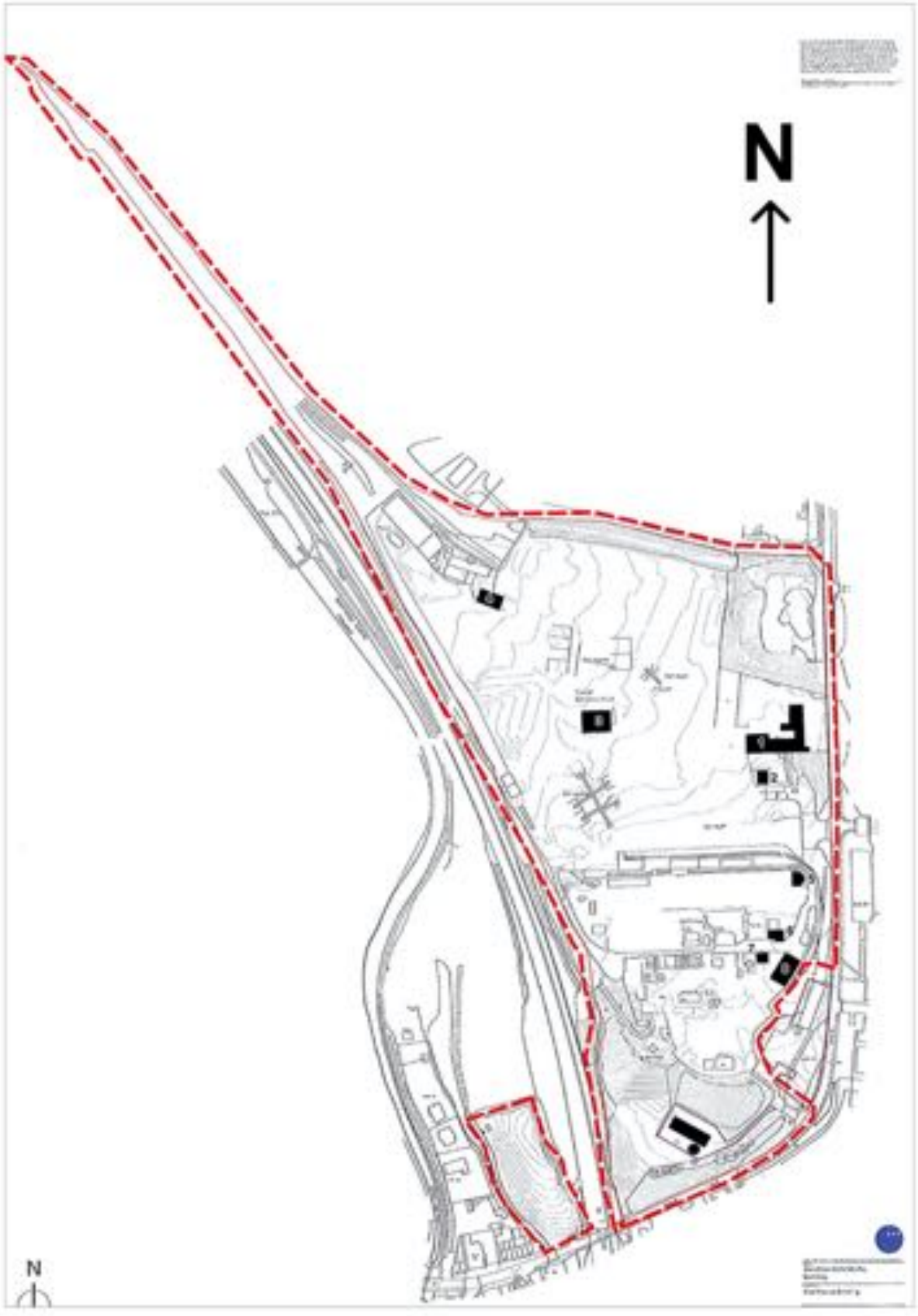
Target Note 9

Stand of Japanese knotweed

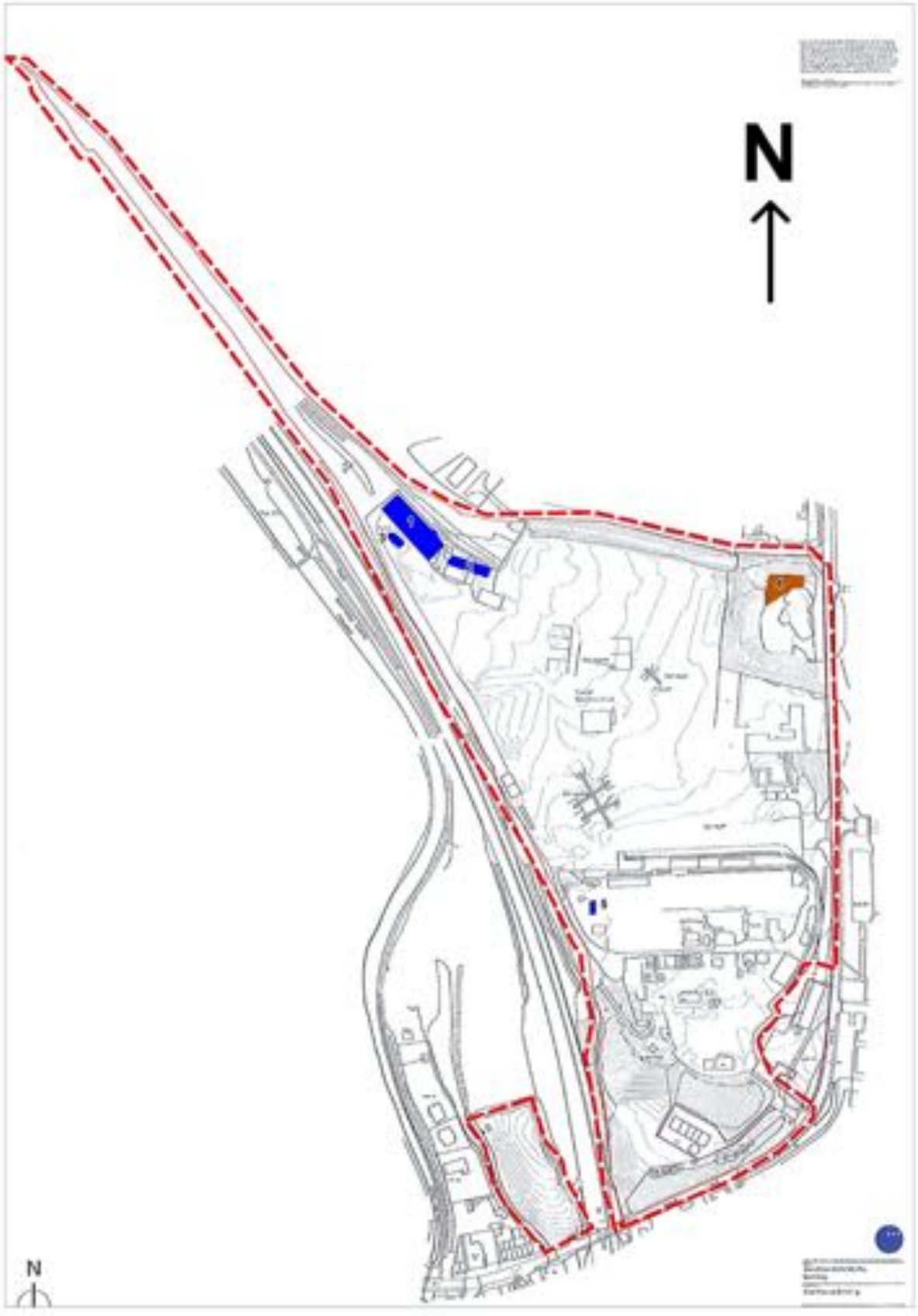
Target Note 10

Water treatment works, limited access.

8.2 Figure 2: Building Numbers



8.3 Figure 3: Pond Numbers within the site boundary



Appendix A Desk Study Information

A.1.1 SBRC provided too may results to display in this report (8665), a bird species list for the search area has been included. In addition, many of the records are of a sensitive nature and should not be placed in the public domain. These results have therefore been omitted from this report.

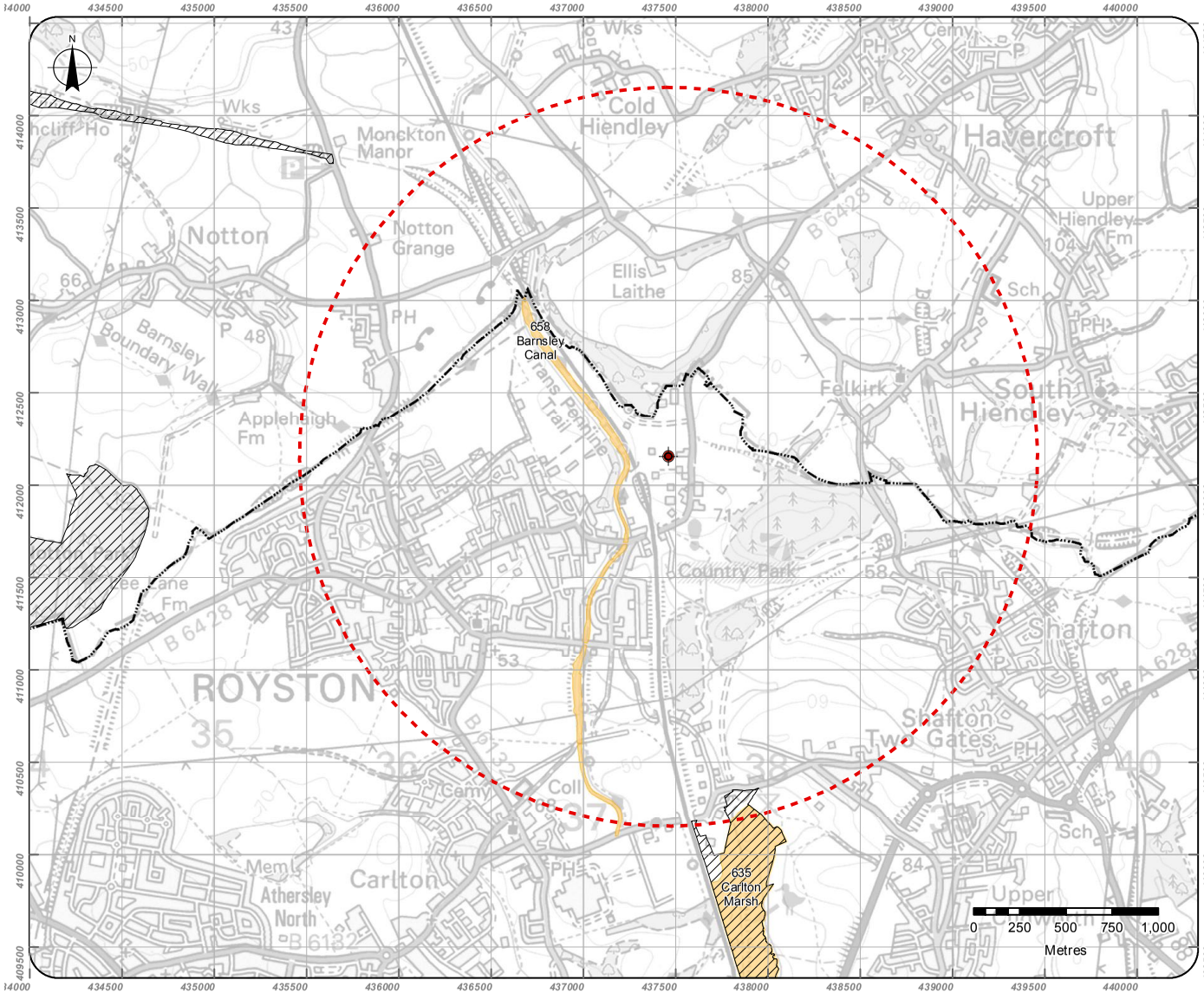
A.2 Bird Species recorded within the search area, provided by SBRC.

Common Name	Scientific Name	Common Name	Scientific Name
Arctic Skua	Stercorarius parasiticus	Manx Shearwater	Puffinus puffinus
Arctic Tern	Sterna paradisaea	Marsh Harrier	Circus aeruginosus
Bar-tailed Godwit	Limosa lapponica	Marsh Tit	Parus palustris
Barn Owl	Tyto alba	Meadow Pipit	Anthus pratensis
Barnacle Goose	Branta leucopsis	Mealy Redpoll	Carduelis flammea subsp. flammea
Bewick's Swan	Cygnus columbianus	Mediterranean Gull	Larus melanocephalus
Bittern	Botaurus stellaris	Merlin	Falco columbarius
Black-Headed Gull	Larus ridibundus	Mistle Thrush	Turdus viscivorus
Black-Tailed Godwit	Limosa limosa	Mute Swan	Cygnus olor
Blackbird	Turdus merula	Osprey	Pandion haliaetus
Brambling	Fringilla montifringilla	Oystercatcher	Haematopus ostralegus
Brent Goose	Branta bernicla	Peregrine	Falco peregrinus
British Lesser Black-Backed Gull	Larus fuscus subsp. graellsii	Pied Flycatcher	Ficedula hypoleuca
Bullfinch	Pyrrhula pyrrhula	Pink-Footed Goose	Anser brachyrhyncus
Common (Mealy) Redpoll	Acanthis flammea	Pintail	Anas acuta
Common Gull	Larus canus	Pochard	Aythya ferina
Common Sandpiper	Actitis hypoleucos	Quail	Coturnix coturnix
Common Scoter	Melanitta nigra	Red Kite	Milvus milvus
Common Tern	Sterna hirundo	Redpoll	Carduelis flammea
Cormorant	Phalacrocorax carbo	Redshank	Tringa totanus
Corn Bunting	Miliaria calandra	Redstart	Phoenicurus phoenicurus
Crane	Grus grus	Redwing	Turdus iliacus
Cuckoo	Cuculus canorus	Reed Bunting	Emberiza schoeniclus
Curlew	Numenius arquata	Ring Ouzel	Turdus torquatus
Dartford Warbler	Sylvia undata	Ringed Plover	Charadrius hiaticula
Dunlin	Calidris alpina	Ruff	Philomachus pugnax
Dunnock	Prunella modularis	Sand Martin	Riparia riparia
Fieldfare	Turdus pilaris	Sandwich Tern	Sterna sandvicensis
Firecrest	Regulus ignicapillus	Shelduck	Tadorna tadorna
Gadwall	Anas strepera	Short-eared Owl	Asio flammeus
Garganey	Anas querquedula	Shoveler	Anas clypeata
Glaucous Gull	Larus hyperboreus	Skylark	Alauda arvensis
Goldcrest	Regulus regulus	Snipe	Gallinago gallinago
Golden Plover	Pluvialis apricaria	Snipe	Gallinago gallinago
Goldeneye	Bucephala clangula	Song Thrush	Turdus philomelos
Goldfinch	Carduelis carduelis	Spotted Crake	Porzana porzana
Goshawk	Accipiter gentilis	Spotted Flycatcher	Muscicapa striata
Grasshopper Warbler	Locustella naevia	Spotted Redshank	Tringa erythropus
Great Black-backed Gull	Larus marinus	Starling	Sturnus vulgaris
Green Sandpiper	Tringa ochropus	Stock Dove	Columba oenas
Green Woodpecker	Picus viridis	Storm Petrel	Hydrobates pelagicus
Greenshank	Tringa nebularia	Swallow	Hirundo rustica
Grey Partridge	Perdix perdix	Swift	Apus apus
Grey Plover	Pluvialis squatarola	Tawny Owl	Strix aluco
Grey Wagtail	Motacilla cinerea	Tree Pipit	Anthus trivialis
Greylag Goose	Anser anser	Tree Sparrow	Passer montanus
Hawfinch	Coccothraustes coccothraustes	Treecreeper	Certhia familiaris
Hen Harrier	Circus cyaneus	Tufted Duck	Aythya fuligula
Herring Gull	Larus argentatus	Turtle Dove	Streptopelia turtur

Common Name	Scientific Name	Common Name	Scientific Name
Hobby	Falco subbuteo	Water Pipit	Anthus spinoletta
Honey Buzzard	Pernis apivorus	Water Rail	Rallus aquaticus
House Martin	Delichon urbica	Waxwing	Bombycilla garrulus
House Sparrow	Passer domesticus	Wheatear	Oenanthe oenanthe
Iceland Gull	Larus glaucoides	Whimbrel	Numenius phaeopus
Jack Snipe	Lymnocryptes minimus	Whinchat	Saxicola rubetra
Kestrel	Falco tinnunculus	Whooper Swan	Cygnus cygnus
Kingfisher	Alcedo atthis	Wigeon	Anas penelope
Kittiwake	Rissa tridactyla	Willow Tit	Poecile montana
Lapwing	Vanellus vanellus	Willow Warbler	Phylloscopus trochilus
Lesser Black-Backed Gull	Larus fuscus	Wood Sandpiper	Tringa glareola
Lesser Redpoll	Acanthis cabaret	Woodcock	Scolopax rusticola
Linnet	Carduelis cannabina	Yellow Wagtail	Motacilla flava
Little Egret	Egretta garzetta	Yellow-legged Gull	Larus michahellis
Little Ringed Plover	Charadrius dubius	Yellowhammer	Emberiza citrinella
Little Tern	Sterna albifrons		

Statutory and Non Statutory Local Wildlife Sites Within the Search Area

Monkton Coke Works

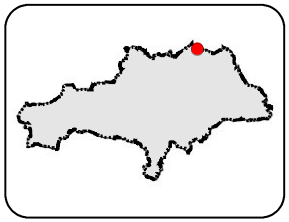


Key

- Centre of Search Area
- 2 km buffer
- SSSI
- Local Nature Reserve
- Local Wildlife Sites
- Local Wildlife Sites
- Barnsley District Boundary

BARNSLEY Metropolitan Borough Council

Sheffield Biological Records Centre



Map Created - 19 Nov 2019

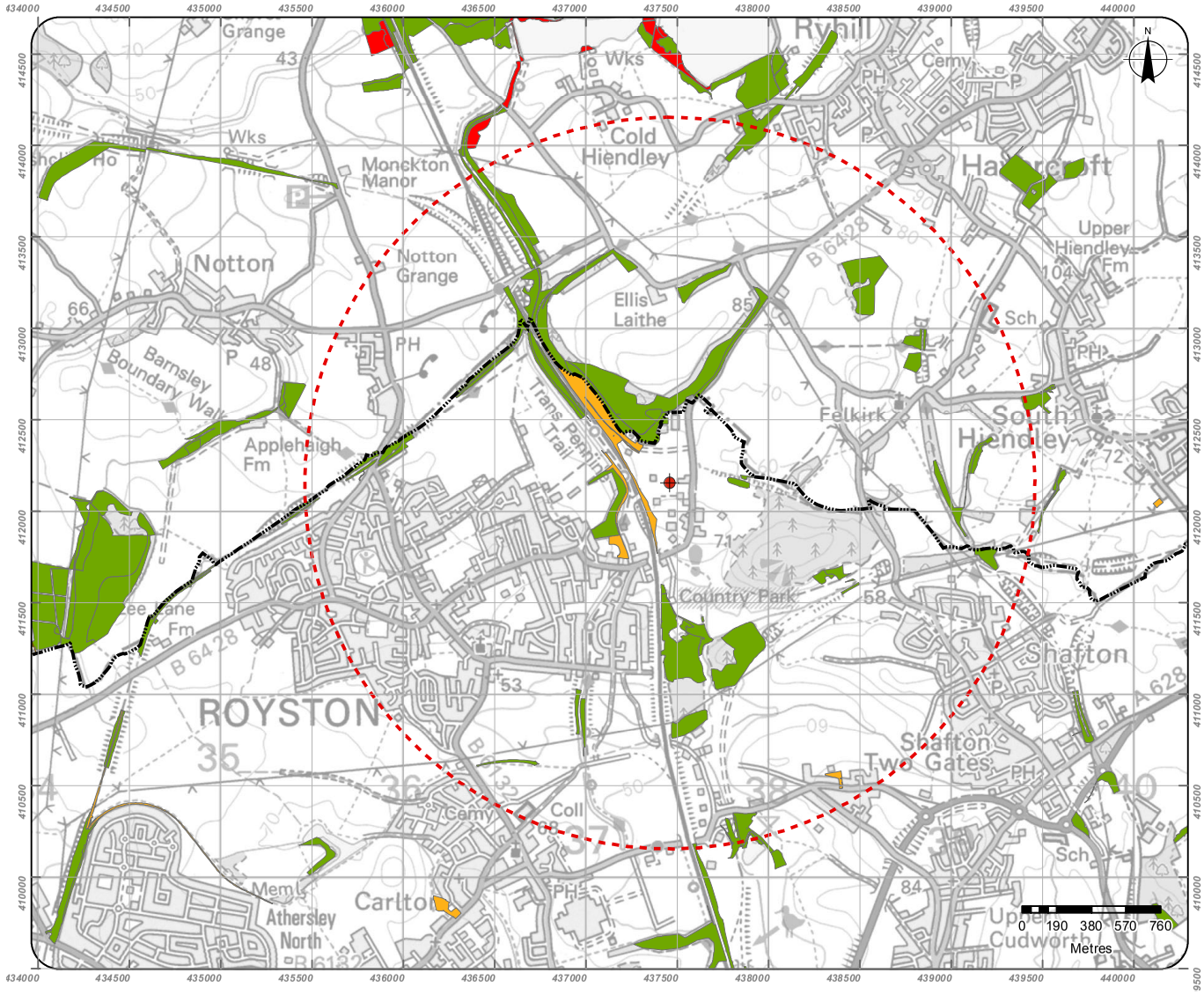
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Known Distribution of LBAP Habitats within the Search Area



Monckton Coke Works

BARNSLEY Metropolitan Borough Council

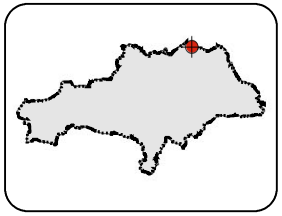
Key

- Centre of Search Area
- 1.5km Radius
- Barnsley District Boundary

Main Habitat

- Deciduous woodland
- Lowland fens
- No main habitat (other habitats present)

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Map Created - 20 Nov 2019

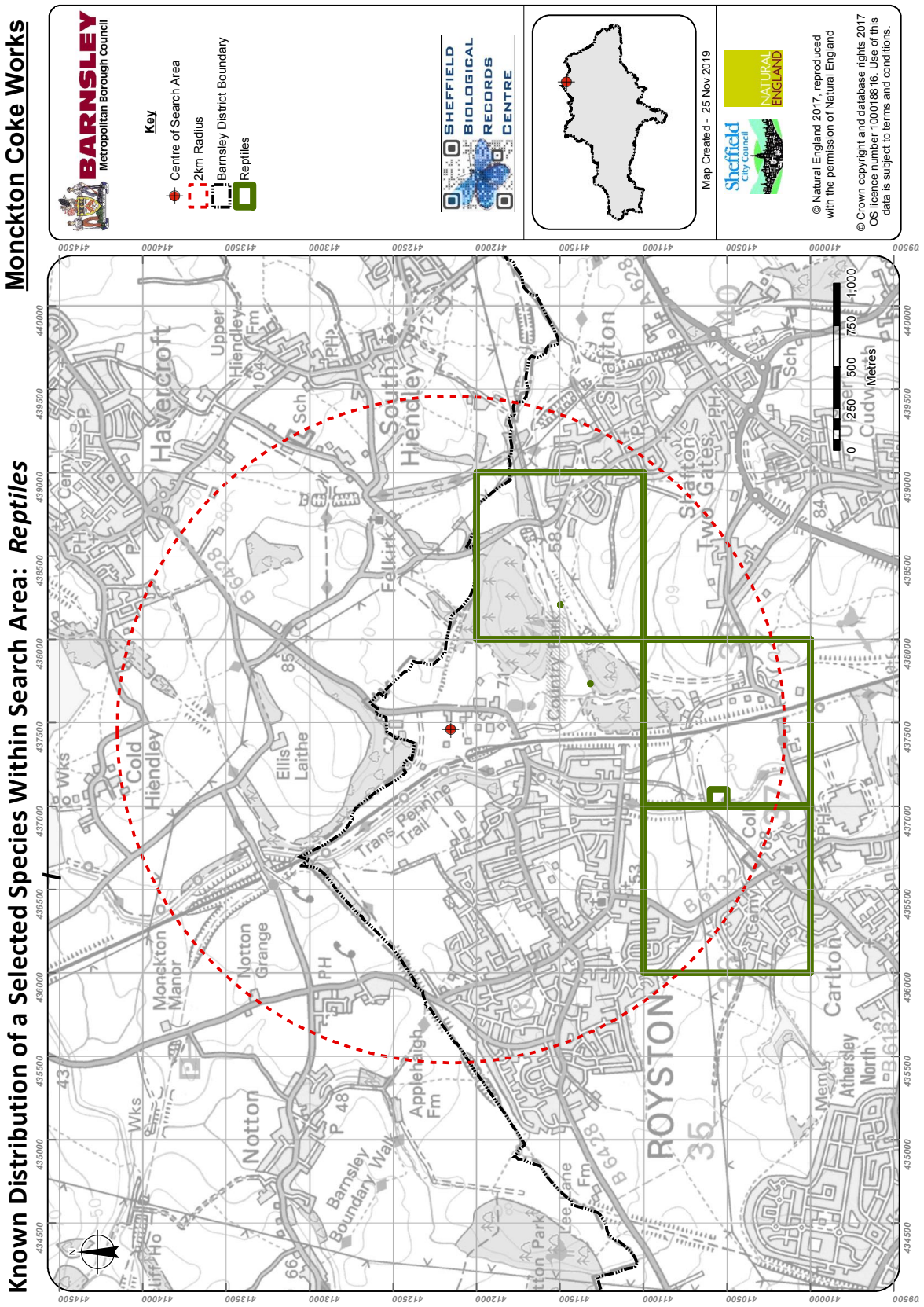
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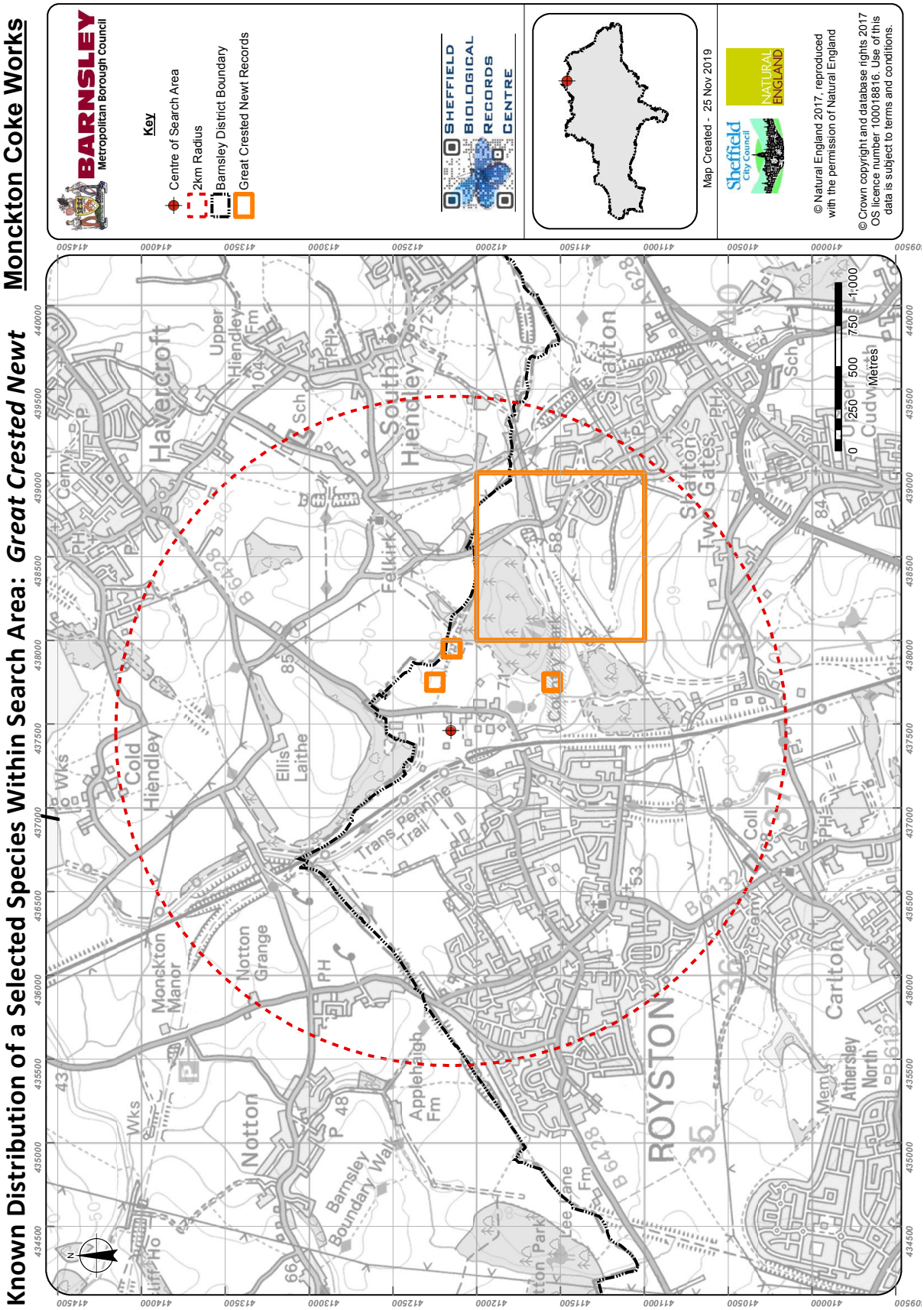
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A.5 Known Reptile Records Provided by SBRC



A.6 Known Amphibian Records Provided by SBRC



A.7 Results Provided by South Yorkshire Bat Group

Date	GridRef6Fig	Species_UNI	Number
09/07/2012	SE357117	Common pipistrelle	1
07/08/2012	SE357117	Common pipistrelle	1
09/07/2014	SE359113	Common pipistrelle	1
31/05/1994	SE350115	Noctule	1
31/05/1994	SE350115	Pipistrelle sp.	3
31/05/1994	SE350115	Pipistrelle sp.	3
02/08/2000	SE354118	Vespertillionidae	+ Dr
02/08/2000	SE354118	Vespertillionidae	Unknown
29/09/2015	SE357117	Pipistrelle sp.	1
11/01/2016	SE357117	Pipistrelle sp.	1
16/06/2005	SE357118	Pipistrelle sp.	1-2
16/06/2005	SE357118	Vespertillionidae	Unknown
31/08/2010	SE358113	Vespertillionidae	Unknown
27/04/2006	SE351129	Vespertillionidae	Unknown
22/05/1989	SE350131	Leisler's bat	23
27/08/2015	SE360109	Pipistrelle sp.	1
19/04/1988	SE360100	Pipistrelle sp.	1
01/08/1990	SE360100	Pipistrelle sp.	1
27/07/1991	SE360100	Pipistrelle sp.	1
29/04/1998	SE360100	Pipistrelle sp.	1
20/07/1991	SE363106	Pipistrelle sp.	1
20/11/1995	SE363106	Pipistrelle sp.	1
20/06/1992	SE364104	Pipistrelle sp.	1
17/07/2016	SE366102	Whiskered bat	1
2004	SE367100	Vespertillionidae	Present
	SE367100	Vespertillionidae	1
21/04/2018	SE360110	Common pipistrelle	1
27/08/2014	SE362114	Common pipistrelle	1
27/08/2014	SE362114	Common pipistrelle	1
29/09/2014	SE362114	Whiskered bat	1
06/12/2009	SE362119	Pipistrelle sp.	dr
18/05/1988	SE363116	Pipistrelle sp.	1
06/11/2009	SE362119	Pipistrelle sp.	0
15/04/1990	SE379103	Daubenton's bat	5
02/08/1990	SE370100	Pipistrelle sp.	1
16/04/1987	SE379103	Noctule	1
16/04/1987	SE379103	Pipistrelle sp.	3
22/04/1987	SE379103	Pipistrelle sp.	4
19/06/1987	SE379103	Noctule	1
19/06/1987	SE379103	Pipistrelle sp.	3
16/09/1987	SE379103	Pipistrelle sp.	1
06/07/1988	SE379103	Noctule	2
06/07/1988	SE379103	Pipistrelle sp.	2
16/05/1989	SE379103	Noctule	2
16/05/1989	SE379103	Pipistrelle sp.	1
05/07/1989	SE379103	Noctule	1
05/07/1989	SE379103	Pipistrelle sp.	1
12/04/1990	SE379103	Pipistrelle sp.	1
15/04/1990	SE379103	Pipistrelle sp.	1
22/04/1990	SE379103	Pipistrelle sp.	1
01/05/1990	SE379103	Noctule	1

29/04/1993	SE379103	Pipistrelle sp.	4
10/05/1995	SE379103	Daubenton's bat	2
28/04/2001	SE379103	Daubenton's bat	5
02/07/1995	SE370111	Pipistrelle sp.	42
02/07/1995	SE370111	Vespertillionidae	42
03/07/1995	SE370111	Pipistrelle sp.	4
14/06/2011	SE371114	Bat (species unknown)	2
28/06/2012	SE371114	Vespertillionidae	2
28/06/2012	SE371114	Bat (species unknown)	2
17/07/2014	SE371114	Bat (species unknown)	2
31/05/2007	SE372111	Pipistrelle sp.	Unknown
14/07/2006	SE373112	Vespertillionidae	Unknown
17/09/2002	SE377113	Vespertillionidae	Unknown
19/09/2002	SE377113	Vespertillionidae	Unknown
11/08/2000	SE373131	Vespertillionidae	Unknown
05/06/2006	SE381130	Common pipistrelle	Unknown
02/07/2004	SE383141	Pipistrelle sp.	1 + dr
01/06/2015	SE391113	Common pipistrelle	1
04/07/2011	SE397125	Vespertillionidae	57
23/04/2009	SE390127	Brown long-eared bat	5