Extended Phase 1 Habitat Survey

Land off Barnburgh Lane, Goldthorpe

Andrew McCarthy Associates

AMA ecology & environment

Extended Phase 1 Habitat Survey

Land off Barnburgh Lane, Goldthorpe

Client: UK Coal Mining Ltd and Gleeson Homes
Project Number: A24.02437.00003
Revision: 00
Issue Date: 25 October 2010

Andrew McCarthy Associates Ltd

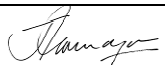
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Document Verification Table

File: Extended Phase I Habitat Survey of Land off Barnburgh Lane, Goldthorpe JFGO 25.10.10					
Revision	Date		Prepared by	Checked by	Approved by
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NON-TECHNICAL SUMMARY

UK Coal Mining Limited and Gleeson Homes commissioned Andrew McCarthy Associates to undertake an Extended Phase I Habitat Survey of agricultural land off Barnburgh Lane, Goldthorpe, Barnsley, on 7 October 2010. This was in connection with a proposal to develop the site for housing. The survey was accompanied by a desk study comprising of a request for information on protected species and statutory and non-statutory sites from the Barnsley Biodiversity Trust supported with an internet-based search. During the site visit habitats and land-use were mapped and target-noted and a botanical species list was compiled.

The desk study did not record protected species for the site, but there a number of recent records for the wider search area. No statutory or non-statutory sites for nature conservation were present within the search area (site plus 2 km radius).

The site comprised a mix of arable and grazing land with several species-poor hedgerows dividing or forming boundaries to the fields. No evidence of protected species was found within the site. However, two red-listed birds of conservation concern were recorded during survey – house sparrow and starling.

The survey also revealed that no ponds are present within the site boundary, but two off-site ponds were found within 500m of the site. Habitat Suitability Index (HSI) assessments were carried out on these to determine their potential to support great crested newt, and one of these (a relatively short distance to the south of the site) was found to have 'excellent' suitability for the species. Although the site itself does not contain any ponds, and therefore has no potential to support breeding great crested newt, it does potential to support this species during the terrestrial phase of its life-cycle, should it be present within one or more of the adjacent ponds. Great crested newt presence/absence surveys are therefore required, for the two off-site ponds, involving four visits between mid-March and mid-June inclusive.

The southern part of the site has potential to support common reptile species, namely grass snake and common lizard, and if the southern part of the site is due to be affected it is recommended that presence/absence surveys should be carried out during the spring/summer (involving the deployment of artificial refuges within suitable habitat across the site, and their subsequent inspection on seven occasions). If the southern part of the site, as defined by land south of the hedgerow running west-east across the larger of the two fields, is not to be affected, then such reptile surveys are not considered necessary.

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1 INTRODUCTION

1.1 Terms of Reference

Andrew McCarthy Associates (part of the SLR group) was commissioned by UK Coal Mining Ltd and Gleeson Homes to undertake an 'extended' Phase 1 Habitat Survey of land off Barnburgh Lane, Goldthorpe, Barnsley (approximate central OS grid reference SE466038).

1.2 Site Context

The site is located on the southeast edge of the township of Goldthorpe and comprises mainly arable land, delineated and divided by hedges accompanied by shallow, mostly dry ditches. Most of the western boundary of the site is adjacent to residential development, whilst land to the east and south is a mix of arable and some improved grazing fields. In terms of its geology the site lies just within the South Yorkshire Coal Measures, with the Southern Magnesian Limestone only several hundred metres to the east.

2 METHODOLOGY

2.1 Desk Study

The following organisation was contacted for archive data on designated sites[1] and species of conservation concern at a national, regional and/or local level[2]:

- Barnsley Biodiversity Trust

The data search was conducted within a 2 km radius of the site for bats and statutory designated sites, and within a 2 km radius for non-statutory designated sites and all other species of conservation concern. The data received from the Trust is included in Appendix 4 of this report

The following websites were accessed to search for statutory designated sites and legally protected taxa within 2 km of the proposed development site:

- Multi-Agency Geographic Information for the Countryside - www.magic.gov.uk
- National Biodiversity Network Gateway – data.nbn.org.uk

2.2 Field Survey

2.2.1 Flora

2.2.1.1 Habitats

The habitat survey and mapping exercise was carried out by Jim Flanagan, AIEEM on 7 October 2010, using standard Phase 1 Habitat survey methodology (JNCC, 2003).

Ponds found on or within 500m of the site were subjected to a Great crested newt Habitat Suitability Index (HSI) assessment. In this a range of scores are calculated using ten parameters, to assess the likely value of any given water body to support breeding great crested newt. The parameters used for the assessment are: site

[1] Designated sites include those protected under national or international legislation, such as Sites of Special Scientific Interest (SSSI), and local sites afforded protection under the planning system, such as County Wildlife Sites (CWS) and Regionally Important Geological and Geomorphological Sites (RIGS).

[2] This includes species protected under international and national legislation as well as species included in the UK and/or local Biodiversity Action Plans, Red Data Book taxa, and Red or Amber listed birds of conservation concern.

location; pond area; pond drying; water quality; shade; waterfowl; fish; presence of other ponds in the area; terrestrial habitat; and macrophyte communities. Each parameter scores a value of between 0.01 and 1. These scores are then multiplied and then 'rooted' to produce a geometric mean score, of between 0 and 1. The following categorical scale is then used to estimate the overall suitability of the water body concerned:

HSI score	**Pond suitability**
<0.5	Poor
0.5-0.59	Below average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

Generally, ponds assessed as being of 'below average' or better (i.e. having a HSI score of 0.5 or above) are then subject to great crested newt presence/absence surveys[3].

2.2.1.2 Species

In addition to general habitat classification and mapping, a botanical species list was also compiled[4], with the abundance of each species being estimated for each main habitat-type using standard 'DAFOR' codes: **D**ominant, **A**bundant, **F**requent, **O**ccasional, **R**are (**L**ocally is used as a prefix where appropriate). Particular searches were undertaken for the presence of invasive species such as Japanese knotweed.

2.2.2 Fauna

Habitats and features with potential to support protected and/or conservation priority fauna species, together with any field signs of such species, were recorded on the field map using target notes (relevant details are reproduced on the digitised plan in Figure 1).

Amongst others, a search was undertaken for the following key habitats and/or field signs for protected or conservation priority species (see Table 1).

[3] For further information refer to Oldham, R.S., Keeble, J., Swan, M.S.S, and Jeffcote M. (October 2000) Evaluating the suitability of habitat for the great crested newt *Triturus cristatus* in *The Herpetological Journal* volume 10, number 4, British Herpetological Society.

[4] Botanical nomenclature follows Stace (2nd edition, 1997).

Table 1: Key habitats & field signs or protected & priority species

Taxon	Indicative Habitat(s)	Field Signs (in addition to sightings)
Bats	Roosts – Trees, buildings, bridges caves etc. Foraging areas – e.g. parkland, water bodies and streams, wetlands, woodland edge, hedgerow Commuting routes – linear features (e.g. hedgerows, water courses, tree lines)	In or on potential roost sites: Droppings stuck to walls; urine spotting in roof spaces; oil from fur staining round roost entrances; feeding remains (e.g. moth wings under a feeding perch)
Badger	Found in most rural and many urban habitats	Excavations and tracks: sett entrances, latrines, hairs, well worn paths; prints; scratch marks on trees
Birds	Trees, scrub, hedgerow, field margins, grassland, buildings	Nests; droppings below nest sites (especially in buildings of trees); tree holes
Reptiles	Rough grassland, log and rubble piles	Sloughed skins
Great Crested Newt	Ponds within 500 m of suitable habitat within the site boundary. Suitable (terrestrial) habitat includes rough grassland, scrub and woodland, log and rubble piles and other debris, animal burrows	No specific field signs
Invertebrates	All terrestrial habitats are likely to support an invertebrate assemblage, but the richest sites are ancient semi-natural habitats (e.g. woodland, grassland and heath) and some sites of anthropogenic origin, in particular those with the widest range of habitat-types, such as bare ground, ecotone (edge) habitat, wetlands etc. Such sites include former rail yards and sewage works, sand pits and quarries etc.	Few specific field signs, but could include solitary bee and wasp burrows etc

2.3 Limitations

2.3.1 Desk Study

Desk study data is not exhaustive and is intended mainly to set a context for the study. It is therefore possible that protected species not identified during the data search do in fact occur within the vicinity of the proposed development site.

2.4 Quality Assurance & Environmental Management

The surveyor is a member of the Institute of Ecology and Environmental Management (IEEM) and follows the Institute's code of professional conduct when undertaking ecological work.

3 RESULTS

3.1 Habitat Descriptions

3.1.1 Overview

The results of the Phase 1 Habitat Survey are illustrated in map form (Figure 1, Appendix 1) with associated target notes listed in Appendix 2. All of the plant species recorded during the field survey are listed in Appendix 3, and scientific names provided in this Appendix (English names only have been provided in the main text). The site comprises a mix of fields under agricultural cultivation – both cultivated and abandoned arable occupy the northern half of the site horse-grazed pasture in southern half. Arable cultivation and pasture occur along the east and southern boundaries. An allotment lies in the extreme north-western corner of the site, which is immediately abutted by residential properties (off-site). Barnburgh Lane forms the northern boundary. The site is located on the south-eastern fringe of Goldthorpe and is just within the South Yorkshire Coalfield.

3.1.2 Habitats

3.1.2.1 Grassland & Arable

The larger part of the site is made up of actively cultivated arable, with the western portion an abandoned field of oil-seed rape and now overgrown with locally abundant ruderals such as thistle and willowherb species and abundant creeping bent.



Plate 1: View of abandoned arable field forming north-western half of site now dominated by tall ruderals species and coarse grasses (view to the north).

Forming much of the southern end of the site was a field that had been used for the grazing of horses/ponies. The sward was largely improved and species-poor, although the south-eastern end of the field was found to support vegetation characteristic of highly moist soils such as marsh fox-tail and glaucous sweet-grass. In addition there were scattered clumps of hard rush and an occasional shoot of bulrush. Within this was a small area of very shallow standing water over muddy ground. All these indicators of wetness were observed to originate from water entering the area from the adjacent field to the south where a pond was present.



Plate 2: This picture shows land forming the eastern half of the site (view to north). In the foreground is a part of a horse-grazed pasture field and in the distance managed hedge and arable cultivation stretching up to Barnburgh Lane. The hedgerows in the extreme right of the picture run along the west side of Engine Lane.

3.1.2.2 Hedgerows & Hedgerow Trees

Hedgerows were predominantly species-poor and formed of managed and un-managed hawthorn. Additional species were (in order of frequency) elder, dog rose, field maple, blackthorn, Wych elm and ash. No length of hedgerow was seen to fulfil the criteria for importance under ecology as set out in the Hedgerow Regulations (1997). None of the hedges contained mature trees – only a few semi-mature specimens (wych elm and field maple).

3.1.2.3 Streams, Ditches & Water Bodies

Many of the hedges within or along their margins of the site had associated shallow ditches, and these were almost all found to be dry. No water bodies were found within the site boundary. However, two ponds exist within 500m of the site boundary; these are not shown on the latest OS 1:25,000 maps. One of these was located within 20m of the southern site boundary and was a moderately sized pond, some 40 x 40m in area, and containing large stands of bulrush (Target Note 2).



Plate 3: This is a view of the pond located to the south of the site and shows well-vegetated marginal areas comprising mostly rushes and bulrush (view to the southwest).

There was much open water present within this pond, and a moorhen *Gallinula chloropus* was noted calling from the denser stands of bulrush. A ditch to the west of this was also inundated and formed an extension of the pond. In this area the water was generally shallower and mixed in with heavily waterlogged ground. The ditch followed a route directly south and entered another field (arable) as a dike. This dike was observed to be heavily vegetated and un-managed. The condition of this dike appears to have prevented water from draining away from the field resulting in the consequent impoundment of water, resulting in the creation of the pond. Other plants noted within the pond included a raft of floating broad-leaved pondweed as well as occasional emergent water plantain, and much hard rush and celery-leaved buttercup in shallower and more water-logged ground. The HSI carried out on this

pond gave a score of 0.81 which indicates 'excellent' suitability for great crested newt (refer to Appendix 5).

Another off-site pond was located 160 metres north of Barnburgh Lane (Target Note 4). The pond was irregular in shape but perhaps covered an area of about 50 square metres and comprised shallow open water as well as marginal/emergent vegetation with some willow scrub (see Plate 2 below). The pond appeared to be partly or wholly ephemeral and potentially dries up completely in hot summers. The HSI score for this pond was calculated at 0.56 which is indicative of 'below average' suitability for great crested newt (refer to Appendix 5).



Plate 4: This is a view of the pond located some 160m north of the site on the north side of a disused railway line over which the Barnsley Boundary Walk crosses. This pond is only a few metres away from the footbridge across the railway line. In the distance new housing developments are in the process of being completed.

Two additional ponds, recorded on the relevant OS map a short distance to the south east of the site, were found to no longer exist, upon site inspection.

3.2 Designated/non-designated Sites

No statutory or non-statutory designated sites of nature conservation interest were recorded from the desk study, either for the site itself, or its immediate surroundings.

3.3 Protected Species

Relevant protected and conservation priority taxa likely to present a constraint to development are listed in Table 2. Inclusion in this table is based upon:

a) Presence of suitable habitat for a species and a national distribution which suggests its presence is likely;
b) Confirmed field evidence of individual species (e.g. presence of badger setts);
c) Records returned during the desk study, which confirm the presence of the species in the local area.
d) Potential for the proposed development to have an adverse impact upon the species.

Table 2: Key protected species

Species	Legal Protection/ Conservation Priority Status[5]	Present in Desk Study Results	Suitable Habitat Within or Near Site	Evidence Within or Near Site	Notes
Bats					
Daubenton's *Myotis daubentonii*	HR, WCA, LBAP	Y (not on site)	Y	N	Desk study records for R. Dearne to south of site
Common pipistrelle *Pipistrellus pipistrellus*	HR, WCA, LBAP	Y (not on site)	Y	N	Possible roosts within 2km of desk study search area
Soprano pipistrelle *Pipistrellus pygmaeus*	HR, WCA, UKBAP, LBAP	Y (not on site)	Y	N	As above
Noctule *Nyctalus noctula*	HR, WCA, UKBAP, LBAP	Y (not on site)	Y	N	As above
Other Mammals					
Badger *Meles meles*	PBA	Y (not on site)	Y	N	Desk study indicated activity in Bella Wood to NE of site - 5 years ago
Birds					
Starling *Sturnus vulgaris*	UKBAP, Red	N	Y	Y	Possible breeding sites in domestic properties to west of site
House sparrow *Passer domesticus*	UKBAP, Red	N	Y	Y	Possible breeding sites in domestic properties to west of site
Barn owl *Tyto alba*	WCA, UKBAP, LBAP	Y (not on site)	Y (abandoned arable)	N	Desk study indicates a regular breeding pair

[5] See Section 4 on relevant legislation and policy for further information on the terms used here.

Species	Legal Protection/ Conservation Priority Status[5]	Present in Desk Study Results	Suitable Habitat Within or Near Site	Evidence Within or Near Site	Notes
					5-600m east of site (under road-bridge across disused railway line at SE474036)
Reptiles					
Grass snake *Natrix natrix*	WCA, UKBAP	N	Y	N	
Common lizard *Zootoca vivipara*	WCA, UKBAP	N	Y	N	
Amphibians					
Great crested newt *Triturus cristatus*	HR, WCA, UKBAP, LBAP	Y (not on site)	Y	N	Desk study indicates possible presence in fishing ponds at Bolton 550m distance to SW at SE460034

Key to protection/status:

HR	Habitat Regulations
WCA	Wildlife & Countryside Act
PBA	Protection of Badgers Act
UKBAP	UK Biodiversity Action Plan
LBAP	Local (or Regional) Biodiversity Action Plan
Red	Red list bird of conservation concern (Eaton *et al.*, 2009)

3.4 Other Species of Conservation Concern

Of the small range of additional bird species recorded on the site, bullfinch *Pyrrhula pyrrhula* and snipe *Gallingo gallingo* (amber-listed birds of conservation concern) were the most notable.

3.5 Non-native invasive species

No invasive species were found to be present within the site but at the northern end of Engine Lane were two stands of Japanese knotweed (see Figure 1, Target Note 6 in Appendix below). These were both elongate and about 1-1.5m wide and ran parallel with the adjacent defunct hedge. One stand was 30m long and another, located nearby further south, was 10m long. Both appeared to show strong re-growth from previous attempts at control.



PLATE 5: This is a view of southernmost and smaller of the two stands of Japanese knotweed located on the east side of Engine Lane showing fairly vigorous/healthy growth (view to northeast).

4 RELEVANT LEGISLATION & POLICY[6]

4.1 Legislation

4.1.1 Habitat Regulations

The Conservation of Habitats and Species Regulations 2010 transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb[7] wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

4.1.2 Wildlife & Countryside Act

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CRoW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

4.1.3 Natural Environment & Rural Communities Act

The NERC 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

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[6] Please note that this legal information is a summary and intended for general guidance only. The original legal documents should be consulted for definitive information. Web addresses providing access to the full text of these documents are given in the References & Bibliography section.

[7] Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

4.2 Policy

4.2.1 Planning Policy Statement 9

PPS9 and its accompanying document ODPM 06/2005 sets out current government policy on biodiversity and nature conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications. PPS9 also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within a development.

4.2.2 Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels.

4.2.3 Local Structure Plans

County, District and Local Councils have Structure Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

5. DISCUSSION & RECOMMENDATIONS

5.1 Potential Ecological Issues

5.1.1 Amphibians - Great crested newt

Two ponds within 500m of the site have potential to support great crested newt. One pond, located 20m to the south of the site, has 'excellent' potential to support this species, another pond, 160m to the north of the site, has 'below average' potential. Furthermore, desk study data from the Barnsley Biodiversity Trust reveals that great crested newt may be present within fishing ponds at Bolton, 550m from the site boundary. Great crested newt are known to use hedgerow habitats and long grassland as winter refugia, and as these habitats are present within the site it is recommended that both off-site ponds are subject to full presence absence surveys, between March and June (refer to 5.2.1).

5.1.2 Reptiles

The southern part of the site (as defined by land to the south of the hedgerow which divides the larger of the two fields) has potential to support common reptile species, namely grass snake Natrix natrix, and common lizard *Zootoca vivipara*. If the southern part of the site is likely to be affected, presence/absence surveys, involving the deployment of artificial refuges and their checking on seven occasions between April and September inclusive, would be recommended. However, if the southern part of the site shall remain unaffected, then reptile presence/ absence surveys will not be required (refer to 5.2.2).

5.1.3 Japanese knotweed

There may be potential for the two stands of Japanese knotweed, on the east side of Engine Lane, to be inadvertently spread. Underground rhizomes of Japanese knotweed can occur several metres from the edge of the stands and, although no Japanese knotweed was found on the west side of Engine Lane, there is the possibility that rhizomes may actually occur within the site boundary. Further advice should be obtained from the Environment Agency with regard to management/eradication, if earth-moving operations are to take place close to this part of Engine Lane.

5.2 Recommendations for Further Survey

5.2.1 Amphibians – Great Crested Newt

It is recommended that great crested newt presence/absence surveys be undertaken on both off-site ponds previously described. This involves four survey visits between mid-March and mid-June inclusive, with two of these four visits taking place between mid-April and mi-May. Survey techniques, used on each visit, must comprise at least three of the following four methods: bottle-trapping; torch-light survey; netting and egg-search. If great crested newt are found to be present, 'size class assessment' surveys need to be carried out (to support a subsequent European Protected Species Licence EPSL, see overleaf), and this involves an additional two visits, which should be completed by mid-June (making six visits in total).

5.2.2 Reptiles – Grass snake and Common lizard

As the southern part of the site has potential to support grass snake and common lizard, both of which are protected against killing and injury under the Wildlife and Countryside Act 1981 (as amended) it is recommended that presence/absence surveys are carried out. This would involve the deployment of artificial refuges (in this instance at least 50 should be deployed), such as metal 'tins'; large wooden boards, and sections of heavy-duty roofing felt and ondoline, and their subsequent checking on seven occasions between April and September inclusive. If the southern part of the site is not due to be affected, then these presence/ absence surveys are not considered necessary.

5.3 Summary

The ecological issues pertaining to the proposed development and the associated recommendations for further survey and mitigation are summarised in Table .

Table 3: Ecological issues summary

Site/Species	Potential Development Impacts	Further Survey Requirements
Great crested newt	Direct loss of potential winter refugia and killing/injuring of individual animals	Survey of two off-site ponds in accordance with standard survey practice (Foster, J, 2001) during March-June, which involves a minimum of four visits
Reptiles	Direct loss of potential habitat and potential killing/injuring of individual animals, if the southern part of the site is due to be affected	Survey of habitats in the southern part of the site, involving the deployment of 50 artificial refuges and their subsequent checking (on 7 occasions)
Japanese knotweed	Disturbance of areas close to off-site stands along Engine Lane	None

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www.ukbap.org.uk (Accessed 21/10/2010)

www.barnsleybiodiversity.org.uk (Accessed 21/10/2010)

Web addresses for access to full UK legislation and policy text:

Conservation of Habitats and Species Regulations 2010:
http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Habitats Directive:
www.europa.eu.int/eur-lex/en/lif/dat/1992/en_392L0043

Birds Directive:
eur-lex.europa.eu/LexUriServ/site/en/consleg/1979/L/01979L0409-20070101-en

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www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

Countryside and Rights of Way Act 2000:
www.legislation.hmso.gov.uk/acts/acts2000/20000037

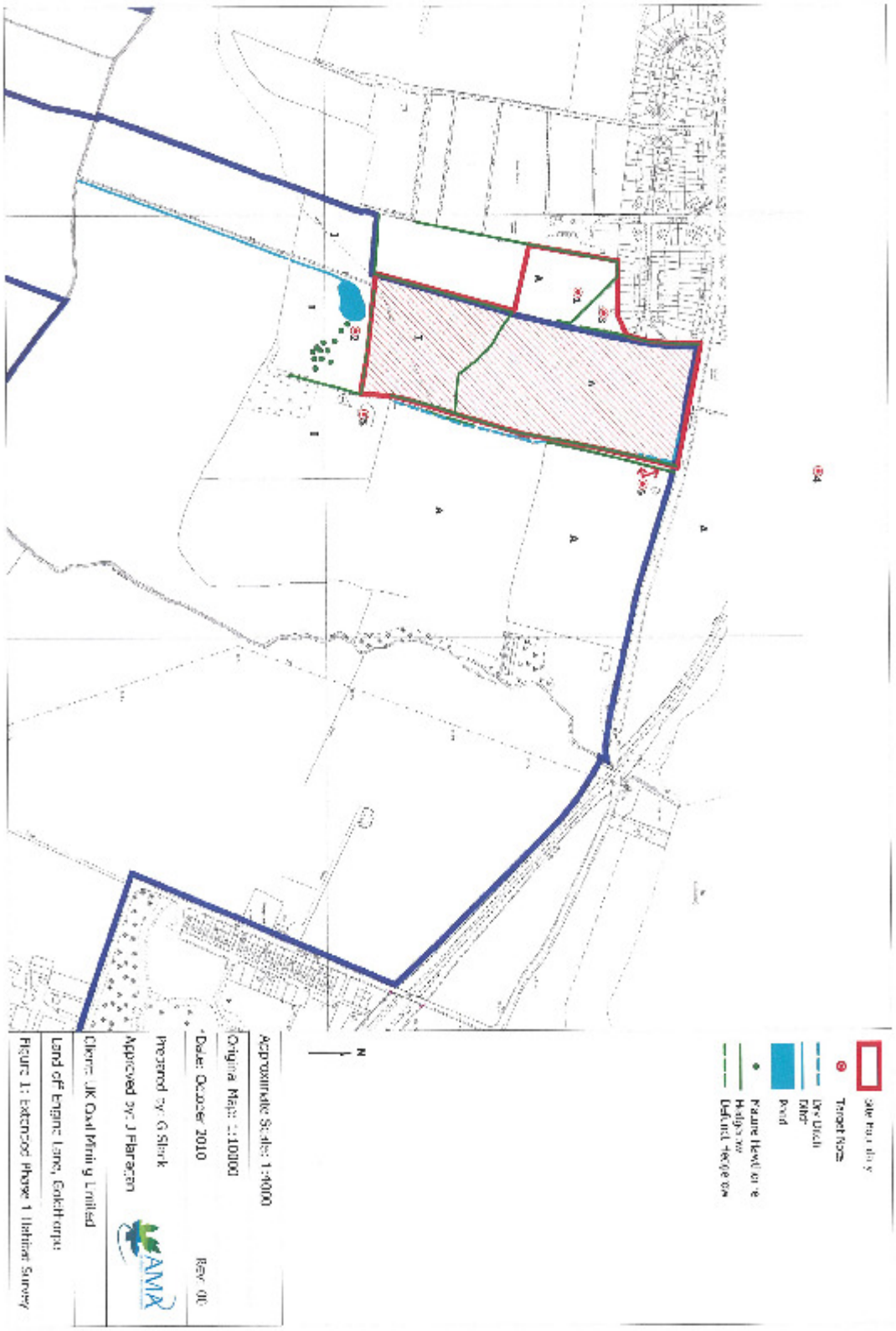
Natural Environment and Rural Communities Act 2006:
http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

Protection of Badgers Act 1992:
http://www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1

National Parks and Access to the Countryside Act 1949:
http://www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1949/cukpga_19490097_en_1

Planning Policy Statement 9:
www.communities.gov.uk/documents/planningandbuilding/pdf/147408

APPENDIX 1 – EXTENDED PHASE 1 HABITAT MAP


Approximate Scale: 1:4000
Original Plot: 1:10000
Date: October 2010
Rev: 00
Prepared by: G Slevin
Approved by: J Flaherty
Client: UK Coal Mining Limited
Land off Engine Lane, Goldthorpe
Figure 1: Extended Phase 1 Habitat Survey
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APPENDIX 2 – TARGET NOTES

Number	Note
1	Abandoned/neglected arable field formerly occupied by oil-seed rape/cabbage crop. Now heavily overgrown with tall herbs (mostly thistles) and abundant creeping bent.
2	Pond 20 metres from site boundary, with open water and a limited variety of marginal wetland plants - mainly stands of bulrush and rushes (but also some eater plantain and some locally frequent celery-leaved buttercup) and there is a small area of floating broad-leaved pondweed. A single snipe was flushed from the northern margins of pond during site visit and flew over the site northwards.
3	Location of a triangular piece of land used as allotments and for the keeping of domestic animals (including a pony).
4	Location of a small irregular and shallow pond 160 metres from site boundary, with open water and small stands of bulrush. Slightly shaded by nearby willow scrub.
5	Former location of two ponds shown on recent Ordnance Survey 1:25,000 maps. There is evidence that these became dried up some considerable time ago and are completely vegetated over – only shallow hollows provide any evidence that they were once ponds – none of the vegetation present is indicative of wetland habitats.
6	Two stands of Japanese knotweed were found on the east side of Engine Lane (at Barnburgh Lane end). These stands were circa 3m from the site boundary and appear to have been subject to control in the past. Stand 1, the northernmost and nearest to Barnburgh Lane was about 30m long and 1.5m wide and was no more than 1.0-1.25m high. Stand 2 a little further south along the lane was about 10m long and 1.4m wide and was more vigorous in growth with a height of 1.6m (on average). A meticulous search was made of hedge vegetation located on the west side of Engine Lane but this resulted in no Japanese knotweed being found.

APPENDIX 3 – BOTANICAL SPECIES LIST

Scientific Name	*Common Name*	*DAFOR*
Grasses, sedges and rushes		
Agrostis capillaris	Common bent	Occasional
Agrostis stolonifera	Creeping bent	Occasional
Alopecurus geniculatus	Marsh foxtail	Occasional
Arrhenatherum elatius	False oat-grass	Frequent
Bromus sterilis	Barren brome	Rare
Carex sp.	Sedge	Locally frequent
Dactylis glomerata	Cock's-foot	Frequent
Deschampsia cespitosa	Tufted hair-grass	Occasional
Elytrigia repens	Common couch	Locally frequent
Festuca rubra	Red fescue	Rare
Glyceria declinata	Glaucous sweet-grass	Locally frequent
Holcus lanatus	Yorkshire fog	Abundant
Hordeum murinum	Wall barley	Locally frequent
Juncus inflexus	Hard rush	Occasional
Lolium perenne	Perennial rye-grass	Locally abundant
Poa annua	Annual meadow-grass	Locally frequent
Herbs		
Alisma plantago-aquatica	Water plantain	Occasional
Alliaria petiolata	Garlic mustard	Locally frequent
Anthriscus sylvestris	Cow parsley	Rare
Arctium minus	Lesser burdock	Rare
Artemisia vulgaris	Mugwort	Locally frequent
Brassica sp.	Cabbage	Frequent
Capsella bursa-pastoris	Shepherd's-purse	Locally frequent
Chamerion angustifolium	Rosebay willowherb	Frequent
Chenopodium album	Fat-hen	Locally frequent
Cirsium arvense	Creeping thistle	Occasional
Cirsium vulgare	Spear thistle	Occasional
Epilobium hirsutum	Great willowherb	Locally frequent
Epilobium montanum	Broad-leaved willowherb	Frequent
Epilobium hirsutum	Great willowherb	Frequent

Geranium pyrenaicum	Hedgerow Crane's-bill	Rare
Geranium robertianum	Herb Robert	Locally frequent
Galium aparine	Cleavers	Rare
Hedera helix	Ivy	Locally dominant
Heracleum sphondylium	Hogweed	Occasional
Lamium purpureum	Red dead-nettle	Occasional
Lapsana communis	Nipplewort	Rare
Lunaria annua	Honesty	Rare
Matricaria discoidea	Pineappleweed	Locally frequent
Persicaria maculosa	Redshank	Rare
Picris echioides	Bristly ox-tongue	Rare
Plantago lanceolata	Ribwort plantain	Locally frequent
Plantago major	Greater plantain	Locally frequent
Polygonum aviculare	Knotgrass	Locally frequent
Potamogetan natans	Broad-leaved pondweed	Occasional
Potentilla repens	Creeping cinquefoil	Rare
Ranunculus repens	Creeping buttercup	Frequent
Ranunculus sceleratus	Celery-leaved buttercup	Occasional
Rumex obtusifolius	Broad-leaved dock	Locally frequent
Rubus fruticosus agg.	Bramble	Occasional
Senecio jacobaea	Common ragwort	Occasional
Senecio vulgaris	Groundsel	Occasional
Sisymbrium officinale	Hedge mustard	Occasional
Solanum dulcamara	Bittersweet	Occasional
Sonchus arvensis	Perennial sow-thistle	Rare
Sonchus oleraceus	Smooth sow-thistle	Occasional
Stellaria media	Common chickweed	Locally fequent
Stachys sylvatica	Hedge woundwort	Locally frequent
Tamus communis	Black bryony	Locally frequent
Taraxacum officinale agg.	Dandelion	Occasional
Trifolium repens	White clover	Locally frequent
Trifolium pratense	Red clover	Rare
Tripleurospermum inodorum	Scentless mayweed	Locally frequent
Urtica dioica	Common nettle	Frequent
Veronica persica	Common field speedwell	Occasional

Trees and shrubs

Acer campestre	Field maple	Occasional
Crataegus monogyna	Hawthorn	Abundant
Fraxinus excelsior	Ash	Rare
Prunus spinosa	Blackthorn	Locally frequent
Rosa canina	Dog rose	Occasional
Sambucus nigra	Elder	Frequent
Ulmus glabra	Wych elm	Occasional

APPENDIX 4 – DESK STUDY DATA

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Tel 01226 384694 home
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21st October, 2010.

Dear Jim,

DESK TOP STUDY – BARNBURG LANE/ENGINE LANE, GOLDTHORPE

Although The Trust is still not set-up with an ecological data-base the Trustees and members hold a vast amount of records for the Barnsley area and at some point we need to address the data-base issue if Barnsley Council are not going to fund and run a system.
However, i have been recently surveying the area south of your study area for the RSPB and can provide records which should be useful and with the addition of other members records will provide an up to date status of the area.

Schedule 1 Species

Bats
Noctule Bat *Nyctalus noctula* and Common Pipistrelle *Pipistrellus pipistrellus* are recorded throughout your study area and Daubenton's Bat *Myotis daubentonii* are recorded along the River Dearne. Although not on record with The Trust, it is likely that roosts will occur within a 2km radius from your study area.

Badger *Meles meles*
There has been some evidence of badger in Bella Wood to the south-east of Barnburgh Park in the past and a sett may be still active in this area but this is a

record from 5+ years ago. Probably best to check with South Yorkshire Badger Group on this if necessary.

Otter *Lutra lutra*
This species is becoming more active along the River Dearne in recent years and a survey last year found scats between Bolton and Harlington. It is thought that they are not breeding (yet) but they are exploring males.

Water Vole *Arvicola terrestris*
An extensive and intensive survey of the adjacent River Dearne and the linking dikes south of your study area this year found no evidence of water vole.

Great Crested Newt *Triturus cristatus*
May be present in the fishing ponds in Bolton at SE460034 and this is an area The Trust need to investigate for possible great crested newt.

Barn Owl *Tyto alba*
One pair breeds each year under the road bridge where Westfield Lane crosses the disused railway at SE474036

Kingfisher *Alcedo atthis*
They are seen regularly throughout the year along the River Dearne and on the dikes south of your study area. It is thought that they breed each year along the Rver Dearne between Adwick Bridge and Bolton.

The following detail provides a list of wintering birds found adjacent and south of your study area from the 2009/2010 surveys which may be useful.

Survey Results.
The following table gives a list of all important species recorded on the site during the three surveys and totals from each visit. It also gives the status of the species which fit into the following category: Schedule 1, UK BAP and LBAP, and "Red List" and "Amber List" species from Species of Conservation Concern 2009-2012.

Table 1

Species	**1st Survey**	**2nd Survey**	**3rd Survey**	**Status**
Mute Swan *Cygnus olor*	2	0	0	
Greylag Goose *Anser anser*	0	0	7	Amber List
Mallard *Anas platyrhnchos*	4	2	7	Amber List
Common Teal *Anas crecca*	1	0	1	Amber List
Tufted Duck *Aythya fuligula*	0	0	1	Amber List
Goosander *Mergus merganser*	0	0	1	
Grey Partridge *Perdix perdix*	13	9	0	Red List; UK BAP;

				LBAP
Little Grebe *Tachybaptus ruficollis*	2	0	0	Amber List
Grey Heron *Ardea cinerea*	0	0	2	
Sparrowhawk *Accipiter nisus*	0	0	2	
Kestrel *Falco tinnunculus*	1	2	0	Amber List
Peregrine Falcon *Falco peregrinus*	0	0	1	Schedule 1
Northern Lapwing *Vanellus vanellus*	6	0	35	Red List; UK BAP; LBAP
Redshank *Tringa totatus*	1	0	0	Amber List
Black-headed Gull *Chroicocephalus ridibundus*	0	20	44	Amber List
Stock Dove *Columba oenas*	8	6	6	Amber List
Kingfisher *Alcedo atthis*	3	0	0	Amber List; Schedule 1
Skylark *Alauda arvensis*	4	1	0	Red List; UK BAP; LBAB
Pied Wagtail *Motocilla alba*	0	20	20	
Dunnock *Prunella modularis*	2	1	1	Amber List
European Stonechat *Saxicola rubicola*	1	0	0	
Song Thrush *Turdus philomelos*	2	1	0	Red List; UK BAP; LBAP
Redwing *Turdus iliacus*	4	20	0	Red List
Fieldfare *Turdus pilaris*	50	130	4	Red List
Willow Tit *Poecile montanus*	0	2	0	Red List; UK BAP; LBAP
Starling *Sturnus vulgaris*	0	2	4	Red List; UK BAP; LBAP
House Sparrow *Passer domesticus*	4	2	0	Red List; UK BAP; LBAP
Linnet *Carduelis cannabina*	0	5	0	Red List; UK BAP; LBAP
Bullfinch *Pyrrhula pyrrula*	4	2	0	Amber List; UK BAP; LBAP
Reed Bunting *Emberiza schoeniclus*	4	0	2	Amber List; UK BAP: LBAP
Yellowhammer *Emberiza citrinella*	1	1	0	Red List;

				UK BAP: LBAP

The following detail provides a list of breeding birds found adjacent and south of your study area from the 2010 survey which may be useful.

Survey Results - Lowland Wader, Red List or other species of Conservation Concern including Schedule 1, Red or Amber List species.

Table 1

Species	Ist Survey	2nd Survey	3rd Survey	Maximum Population
Gadwall	1 pair			1 pair
Mallard		1 female	1 female with young	1 pair
Grey Partridge		2 pair		2 pair
Ringed Plover	1 bird			0
Northern Lapwing	16 birds	4 birds (3 territories)	12 (flocks)	8 pair
Common Snipe		1 bird "chipping"	1 drumming male	1-2 territories
Kestrel	1 bird hunting			1
Hobby		1 bird hunting		0
Stock Dove		1 pair	8 (flock)	1 pair
Cuckoo	1 territorial male			1 territory
Green Woodpecker	1 pair feeding			0
Skylark	10 singing birds	11 singing males	12 singing males	12 territories
Dunnock		2 territorial males	1	2 territories
Common Whitethroat		3 territorial males	5 territorial males	5 territories
Lesser Whitethroat	1 territorial male	1 territorial male	1 territorial male	1 territory
Sedge Warbler		5 territorial males	3 territorial males	5 territories
Grasshopper Warbler		3 singing males		3 territories
Reed Warbler		1 territorial male	2 territorial males	2 territories
Willow Warbler		5 territorial males	2 territorial males	5 territories

House Sparrow	2 males	10 (flocks)	12 (flocks)	0
Linnet	2 territorial males + flock of 12	4 territorial males	10 (flock)	4 territories
Bullfinch		1 pair	1 territorial male	1 pair
Reed Bunting	3 territorial males	9 territorial males	8 territorial males	9 territories
Yellowhammer	4 territorial males	1 territorial male	3 territorial males	4 territories

The above tables give an indication of populations adjacent and south of your study area although there is some overlap into your study area in places. Overall populations of "urban" red-list birds will be greater than what is indicated on the tables as the fringe of Bolton and Goldthorpe was not surveyed.

These records represent what The Trust know about at the present time but there may be other records we do not know about.

I hope this information is useful but if you need any clarification please do not hesitate to contact me.

Yours sincerely

Geoff Carr
Chairman
Barnsley Biodiversity Trust

APPENDIX 5 – HABITAT SUITABILITY INDEX SCORES FOR THE TWO OFF-SITE PONDS

Great Crested Newt Survey

1. Pond Details

Project	**Extended Phase I**
Project number	A24.02437.00003
Site	Land off Engine Lane/Barnburgh Lane, Goldthorpe

Pond number/reference	**Pond 1**
OS Grid reference	SE465035
Location details	<20m south of proposed development site
Access permission	NO
Access instructions	Via public bridleway running immediately west of the location

Landowner name	Harworth Estates
Address/email	Harworth Park, Blyth Road, Harworth, Doncaster, South Yorkshire, DN11 8DB
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	1.00
SI2.	Surface area	**rectangle/ellipse/irregular**	irregular	
		length (m)	40	
		width (m)	40	
		OR estimate (m^2) if irregular		
		area (m^2) =	1600	0.85
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	rarely	1.00
SI4.	Water quality	**good/moderate/poor/bad**	good	1.00
SI5.	Shade	% of margin shaded 1m from bank	0	1.00
SI6.	Waterfowl	**absent/major/minor**	minor	0.67
SI7.	Fish population	**absent/possible/minor/major**	possible	0.67
SI8.	Pond density	number of ponds within 1km	6	1.00
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	0.67
SI10.	Macrophyte cover	%	15	0.46

HSI = **0.81**

Use provisional HSI value if above 0.75

provisional HSI = 0.79

Date undertaken 11-10-10

Notes/comments

Pond is quite large and well vegetated for a body of such a recent origin - as a result of impoundment from a heavily vegated & un-managed outflowing dike to south. Much stands of bulrush and rushes along with some floating broad-leaved pondweed; also some celery-leaved buttercup in less deep areas - pond is thought not to be deeper than 1.25m.

% of shoreline accessible for torching/bottle trapping	100

Great Crested Newt Survey

1. Pond Details

Project	**Extended Phase I**
Project number	A24.02437.00003
Site	Land off Engine Lane/Barnburgh Lane, Goldthorpe

Pond number/reference	**Pond 2**
OS Grid reference	SE467040
Location details	c.160m north of proposed development site
Access permission	NO
Access instructions	Via public bridleway (Barnsley Boundary Walk)

Landowner name	Harworth Estates
Address/email	Harworth Park, Blyth Road, Harworth, Doncaster, South Yorkshire, DN11 8DB
Telephone	

Habitat Suitability Index

				SI value
SI1.	Map location	**A/B/C**	A	1.00
SI2.	Surface area	**rectangle/ellipse/irregular**	irregular	
		length (m)	10	
		width (m)	5	
		OR estimate (m^2) if irregular		
		area (m^2) =	50	0.10
SI3.	Dessication rate	**never/rarely/sometimes/frequently**	sometimes	0.50
SI4.	Water quality	**good/moderate/poor/bad**	poor	0.33
SI5.	Shade	% of margin shaded 1m from bank	40	1.00
SI6.	Waterfowl	**absent/major/minor**	absent	1.00
SI7.	Fish population	**absent/possible/minor/major**	absent	1.00
SI8.	Pond density	number of ponds within 1km	2	0.84
SI9.	Terrestrial habitat	**good/moderate/poor/isolated**	moderate	0.67
SI10.	Macrophyte cover	%	0	0.31

HSI =	**0.56**
provisional HSI =	0.53

Use provisional HSI value if above 0.75

Date undertaken	11-10-10

Notes/comments

Contains stands of bulrush and some rushes on the margins + young willow (Salix caprea) nearby. Water clouded but pond considered not to be deep

% of shoreline accessible for torching/bottle trapping	100