White Young Green

Ecological Assessment

Little Houghton

for
UK Coal Mining Ltd.

November 2008

thinking beyond construction

White Young Green

Ecological Assessment

Little Houghton

for
UK Coal Mining Ltd.

November 2008

Reference: *N:\Projects\A035001-A035500\A035220-2\Ecology*				
Issue		**Prepared by**	**Checked by**	**Verified by**
V1	March 2008	[redacted]		
V2	April 2008			
V3	November 2008			
V4	-	Sally Fraser	Tony Stones	Peter Harrison
V5	-	**Senior Ecologist**	**Principal Ecologist**	**Regional Director**
File Ref: N:\Projects\A035001-A035500\A035220-2\Ecology				

WYG Environment Planning Transport Ltd, Arndale Court, Headingley, Leeds. LS6 2UJ.
Telephone: 0113 278 7111 Facsimile: 0113 275 0623 E-Mail: enviro.leeds@wyg.com

UK COAL MINING LTD.

LITTLE HOUGHTON

ECOLOGICAL ASSESSMENT

NOVEMBER 2008

CONTENTS

		Page No
1.0	**INTRODUCTION**	**2**
1.1	**Background**	**2**
1.2	**Site Description**	**2**
1.3	**Development Description**	**2**
1.4	**Survey Objectives**	**2**
2.0	**METHODOLOGY**	**3**
2.1	**Desk Study**	**3**
2.2	**Site Walkover Survey**	**3**
2.2.1	Flora	3
2.2.2	Fauna	3
3.0	**BASELINE CONDITIONS**	**3**
3.1	**Pre-existing ecological information**	**4**
4.0	**RESULTS**	**5**
4.1	**Habitats**	**5**
4.2	**Protected Species Assessment**	**6**
4.2.1	Amphibians	6
4.2.2	Reptiles	6
4.2.3	Birds	7
4.2.4	Mammals	7
4.2.5	Invasive plant species	7
5.0	**DISCUSSION OF POTENTIAL ECOLOGICAL CONSTRAINTS TO DEVELOPMENT**	**8**
5.1.1	Designated sites	8
5.1.2	Habitats	8
5.1.3	Legally Protected/BAP species	8
6.0	**RECOMMENDED SURVEYS**	**10**
7.0	**RECOMMENDATIONS FOR NATURE CONSERVATION ENHANCEMENT**	**11**
8.0	**REFERENCES**	**12**

APPENDICES

Appendix A **Site Location Plan**

Appendix B **Figures**

Appendix C **Target Notes**

Appendix D **Plates**

Appendix E **Criteria for Calculating Bat Roost of Trees**

Appendix F **Report Conditions**

1.0 INTRODUCTION

1.1 Background

WYG (previously White Young Green Environmental (WYGE)) was commissioned by UK Coal Mining Ltd in March 2008 to undertake an ecological assessment of land at Little Houghton, Barnsley, South Yorkshire, in relation to the proposed development of a mixed use housing and employment scheme.

1.2 Site Description

The proposed development site (approximate central Grid Ref: SE 421059) is 4.46 ha in size and situated towards the northern edge of the settlement of Little Houghton (see Site Location Plan, Appendix A). In a wider context this is approximately 11km east of Barnsley town centre and 1km north of the town of Darfield (Figure 1, Appendix B).

Pre-1890 the site was developed into an open cast mine and formed part of the former Houghton Main Colliery. The Houghton Main Colliery Rail Line, was located in the north-west of the site. The mine became disused approximately 25 years ago and has been compacted and back filled. Consequently the site at present remains undeveloped and has reverted to grassland with bordering areas of scrub and trees.

The site is bordered to the west by the A6195 Coalfields Link Road and to the south by Ings and Middlecliffe Lane with residential buildings beyond. To the east is an electricity sub-station and to the north the land is grazed grassland. The north-west of the site is bordered by the grounds of an unoccupied warehouse building.

1.3 Development Description

It is proposed for the site to be developed into a mixed use housing and employment scheme. The site is located in Barnsley Dearne. *'A Strategy for the Barnsley Housing Market Renewal Area': Masterplan Framework'* sets out a development strategy for this area with a specific focus on housing.

1.4 Survey Objectives

The principal objectives of this study were to undertake a site walkover survey to identify habitats present and to make an assessment of the site's potential to support legally protected species or other species of nature conservation importance. The survey also aimed to identify any invasive non-native plant species, e.g. Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum)* on the site.

Based on the results of these studies potential ecological constraints and opportunities relating to the proposed development have been identified and recommendations for further work have been made as appropriate.

2.0 METHODOLOGY

2.1 Desk Study

Consultation with the Rotherham and Sheffield Biological Records Centers and the Doncaster Museum Environmental Records Service, identified that there is currently no local records centre for Barnsley. Colin Howe of the Doncaster Museum provided contact details for the local Herptile, Badger and Bat Groups.

Consultation was undertaken with the Barnsley Metropolitan Council Countryside Department and with the local Herptile Group, South Yorkshire Badger Group and the South Yorkshire Bat Group to obtain existing biological records relating to the site and its surrounding area (within c. 2km of the site).

2.2 Site Walkover Survey

The site walkover survey was conducted on 4th March 2008.

2.2.1 Flora

Habitats on site were identified according to standard Phase 1 Habitat Survey (JNCC, 2003) definitions. Any legally protected habitats and/or other habitats of nature conservation importance, e.g. UK Biodiversity Action Plan (BAP) or Barnsley BAP priority habitats, were recorded. The site was also searched for the invasive, non-native plant species Japanese knotweed and Giant Hogweed which are both listed in Schedule 9, Part II of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence 'to plant or otherwise encourage' the growth of these plant species.

2.2.2 Fauna

In conjunction with the habitat surveys, the potential for the site to support any legally protected faunal species and/or other faunal species of nature conservation importance, e.g. UK BAP or Barnsley BAP priority species was assessed. Detailed faunal surveys were not undertaken at this time, rather the potential for the site to support each species / species group was assessed based on the known range of each species / species group and the suitability of the habitats within the site. In addition, any field signs or sightings of such species were recorded.

3.0 BASELINE CONDITIONS

A search on the MAGIC website (www.magic.gov.uk) (07/03/08) identifed ancient re-planted woodland at Little Park (central grid reference: SE 424070) and ancient semi-natural woodland also at Little Park (central grid reference SE 424070) located approximately 1km and 0.8 km north of the site boundary respectively. The Dearne Valley RSPB Nature reserve is located approximately 0.8 km north west of the site.

There are no statutory nature conservation designations on or adjacent to the proposed development site.

The nearest water course is the River Dearne which lies approximately 0.2 km from the western boundary of the site, and is separated from the site by the A1695 Coalfield Link Road.

The site falls within the Barnsley Metropolitan Borough Council (BMBC's) administrative boundaries. The Barnsley BAP provides a practical plan for the conservation and enhancement of wildlife and habitats in the borough. Priorities for nature conservation in Barnsley are identified within the BAP and comprise Action Plans for the following 19 species and 18 habitats:

Species Action Plans

- Bluebell (*Hyacinthoides non-scriptus)*;
- Otter (*Lutra lutra);*
- Pipistrelle Bat (*Pipistrellus pipistrellus*);
- Brown Hare (*Lepus europaeus)*;
- Water Vole (*Arvicola terrestris)*;
- Great Crested Newt (*Triturus cristatus)*;
- White-Clawed Crayfish (*Austropotamobius pallipes*);
- Glow Worm (*Lampyris noctiluca*),
- Barn Owl (*Tyto alba*);
- Bittern (*Botaurus stellaris*);
- Corn Bunting (*Miliaria calandra*);
- Grey Partridge (*Perdix perdix*);
- Lapwing (*Vanellus vanellus*);
- Linnet (*Carduelis cannabina*);
- Little Ringed Plover (*Charadrius dubius*);
- Skylark (*Alauda arvensis)*;
- Song Thrush (*Turdus philomelos*)
- Tree Sparrow (*Passer montanus*); and
- Twite (*Carduelis flavirostris*).

Habitat Action Plans

- Upland Oak Woodland;
- Upland Mixed Ash Woodland;
- Wet Woodland, Parkland;
- Ancient & Species-Rich Hedgerows;
- Cereal Field Margins;
- Floodplain Grazing Marsh;
- Lowland Meadows;
- Lowland Dry Acidic Grassland;
- Lowland Heathland;
- Upland Heathland;
- Rush Pasture;
- Reedbeds;
- Ponds & Canals;
- Running Water;

- Standing Water;
- Urban Built-Up Areas; and
- Post-Industrial Derelict Degraded Land.

3.1 Pre-existing ecological information

Barnsley Metropolitan Borough Council Countryside Department identified two Natural Heritage Sites (NHSs) near the site:

- a wetland co-managed by Barnsley Council and the RSPB approximately 0.8km north west off site by the Coalfields Link Road (approximate Grid Reference SE 413068);
- an ancient woodland approximately 1.3 km north of the site (approximate Grid Reference SE 425085).

NHSs are non-statutory wildlife sites, which are important in a local context. In Barnsley they are identified in accordance with criteria agreed with English Nature.

The South Yorkshire Bat Group provided records of bat species and bat roosts recorded within 2km of the site. The results of the data search are summarised below in Table 1. No bat records or roosts were recorded on site. The closest record to the site was the record of an unspecified bat species at Cliff Edge, Cliff Road in 2000, approximately 1km south of the site.

Table 1: South Yorkshire Bat Group Data Search Records

Site Name	Approximate distance from site	Roost Type	Species	Count	Date recorded
Snape Hill Road	~2km south-west	House	Unidentified	1	08/05/83
Monks Retreat, School Street	~1.5km south	House	Unidentified	Possible maternity roost	01/06/97
Cliff Edge, Cliff Road	~1km south	House	Unidentified	?	2000
Apple House, Middlewood Hall	~1.5km south	House	Pipistrelle sp.	114	23/07/97
Atlee Crescent	~1.5km south	House	Pipistrelle sp.	85	08/07/01
Riverside Close	~1.5km south	House	Pipistrelle sp.	104	29/07/91

Richard Sunter, the Yorkshire Naturalists Union Herptile Recorder, conducted a search for records within 1 km of the site which revealed no records.

The South Yorkshire Badger Group conducted a search of their records within 1 km of the site and also made enquiries with members of the group who live in the area. No records of badgers exist in the area around Little Houghton, grid ref SE 421 059. The nearest two setts recorded are north of Great Houghton, grid ref SE 424 076 and these have been recently dug. This part of South Yorkshire is apparently a poor area for badgers, partly because of persecution and partly because of mining in the area in the past. In addition the group hold no reports of badger road traffic accidents in this area.

4.0 RESULTS

A description of the site and assessment of its potential to support key faunal groups is given below.

4.1 Habitats

The results of the habitat survey undertaken on 4th March 2008 are described below.

Figure 2 (Appendix B) shows the Phase 1 Habitat map, Appendix C the associated Target Notes and Appendix D photographs of the habitats present. These should be read in conjunction with the text below.

The following habitat types were identified on the site:

- Poor semi-improved grassland
- Dense and scattered scrub
- Standing water

The site is predominantly poor semi-improved grassland dominated by bent (*Agrostis sp.)* with other grassland species present including cocksfoot (*Dactylis glomerata*), meadow grass (*Poa sp.*), red fescue (*Festuca rubra*) and species characteristic of disturbed ground including thistle (*Cirsium* sp.), broad-leaved dock (*Rumex obtusifolius*) and rosebay willowherb (*Chamerion angustifolium*). The grassland is interspersed in places with scattered broadleaved tree saplings, including alder (*Alnus glutinosa*), and pine (*Pinus sp.*) (refer to Plate 1, Target Note 8).

The eastern border of the site (Plate 2, Target Note 2) is characterised by dense continuous native and non-native scrub, approximately 5m-20m in width, comprising hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus*), privet (*Ligustrum sp.*), rhododendron (*Rhododendron sp.)* and dog rose (*Rosa canina*). Semi-mature broadleaved trees are interspersed within the scrub including ash (*Fraxinus excelsior*), oak (*Quercus sp.*), alder and cherry (*Prunus avium*). A mature horse-chestnut tree (*Aesculus hippocastanum*), approximately 15-20m tall, is present on the western edge of the continuous area of scrub (refer to Target Note 1).

Towards the northern most corner of the site there is a line of semi-mature broad-leaved trees running east west comprised of common lime (*Tilia x vulgaris.)* and hybrid black poplar (*Populus x canadensis)* (Target Note 3) and an area of poor semi-improved grassland interspersed with alder tree saplings. The grassland here slopes east west and the land appears to have been terraced (see Plate 3). A dry ditch, heavily overgrown with dense hawthorn scrub runs just outside the northern site boundary. Two small ephemeral ponds are located just on the boundary of the northern most corner of the site (Target Notes 9 & 10 and Plates 5 and 6).

A screening bund is present along the outside of the north western boundary of the site. This looks to have been recently landscaped and planted with sapling coniferous trees.

In the western corner of site, a water-filled ditch emerges from a culvert (Target Note 11, see Plate 8 & 9) and exits the site in the north-west corner before running in a north-easterly direction parallel to, and approximately 20m outside, the site boundary. The average water depth is 30cm, the water being mainly standing but with slow flow in places.

The eastern boundary of the site is lined with hawthorn tree saplings which run parallel with the A1695 Coalfields Link Road (Target Note 4).

The south of the site is largely poor semi-improved grassland with an area of semi-mature cherry trees. There are a number of planted scattered broad-leaved silver birch saplings and young conifer saplings (Target Note 6). A partly open man-hole cover is also present in this area (Target Note 7, Plate 4).

5.0 DISCUSSION OF POTENTIAL ECOLOGICAL CONSTRAINTS TO DEVELOPMENT

5.1.1 Designated sites

No statutory designated sites were identified within 1 km of the proposed development site. A non-statutory NHS is located approximately 0.8km north west of the site but this is also separated form the site by the Coalfields Link Road and it is not considered that any development will impact upon this site. As such, designated sites are not considered to pose any constraint to the development.

5.1.2 Habitats

No rare, scarce or protected habitats or plants have been identified on site and therefore the habitats present on site pose no constraint to development. Ancient re-planted woodland (Little Park central grid reference: SE 424070) and ancient semi-natural woodland (Little Park: central grid reference SE 424070) are located approximately 1km and 0.8 km north of the site boundary respectively. Due to the distance of these ancient woodlands from the site, the development is not considered likely to have any impact upon them.

5.1.3 Legally Protected/BAP species

Great Crested Newts

Although no records of amphibians were found on or within 1km of the site, biological records for this area are scarce and a lack of records does not prove absence. The site was identified as supporting potential great crested newt terrestrial habitat in the form of woody scrub (Target Note 2). Of the water bodies assessed during the site walkover, three of the four scored as average and/or good habitat quality to support great crested newt, according to the Habitat Suitability Index (Oldham *et al.* 2002) (see section 4.2.1).

Additionally, a further three water bodies have been identified on the Ordnance Survey (OS) map within 500m of the development site (approx. central Grid Reference for each pond: SE 418059, west of the Coalfield Link Road, approximately 75m west of site; SE 421061 approximately 150m north east of the site; SE 420061, approximately 350m north of the site). Although not surveyed during this walkover there is the potential that these ponds along with those already assessed could potentially provide a network of ponds for great crested newts.

The great crested newt is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species.

Under the legislation, it is an offence to intentionally kill, injure or take a great crested newt as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt or disturb an animal while it is occupying a structure or place which it uses for that purpose. The legislation applies to great crested newts in both aquatic and terrestrial habitats and to all life stages.

Birds

The areas of dense continuous scrub and trees (Target Notes 1, 2, 3 & 5) identified on site provide potential habitat for nesting birds. In addition the poor semi-improved grassland provides potential habitat for ground-nesting birds such as the skylark.

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Although the site is considered very unlikely to support any rare bird species or large numbers of BAP-listed species, a range of common bird species and potentially some BAP-listed species are likely to nest in trees and scrub on site as well as within the grassland.

In order to ensure compliance with the relevant section of the Wildlife and Countryside Act 1981

(as amended), any works affecting potential bird nesting habitat should be carried out outside the breeding season (March to August inclusive). If this is not possible suitable nesting habitat should be checked for nests by a suitably qualified ecologist immediately prior to its removal. If nests are found, clearance of the relevant vegetation will need to be delayed until young have fledged and left the nest.

Reptiles

Although no records of reptiles were found on or within 1km of the site, the likelihood of their presence cannot be discounted. The presence of nearby water bodies and suitable scrub/grassland interface habitat makes the site suitable for reptiles, including grass snake and common lizard. All common native reptiles in the UK are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended). The common lizard, slow-worm *Anguis fragilis*, grass snake and adder *Vipera berus*, receive protection against deliberate killing, injuring and sale; covered under sections 9(1) and 9(5) of the Wildlife and Countryside Act, 1981 (as amended).

Water Voles

The onsite water-filled ditch provides potential habitat for water voles *(Arvicola terrestris)*. From the 6th of April 2008 water voles became subject to increased legal protection and are now fully covered by the provisions of Section 9 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally kill, injure or take a water vole as well as to intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a water vole or to disturb an animal while it is occupying a structure or place that it uses for that purpose.

Bats

No buildings were found on site to provide potential bat roosts. The trees surveyed on site for bat roost potential were also considered to have low potential. Consultation with the South Yorkshire Bat Group provided no bat records or roosts within the site. There is one record approximately 1km south of the site; however details of the record are not specified. The potential for roosting bats on site is considered to be low, however it is considered that the tree lines and scrub habitat on site may provide habitat for foraging bats.

All sixteen British bat species are fully protected through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as European protected species.

Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat or disturb an animal while it is occupying a structure or place which it uses for that purpose.

Badger

No records exist of badgers on or in close proximity to the site and the South Yorkshire Badger Group consider this area to be relatively poor for badgers. No signs of badger activity (setts, paths, hairs, signs of foraging) were observed in the areas accessible to the surveyor. However this survey was restricted in areas of dense scrub. Where working in these areas of dense scrub, works should proceed with caution and if any evidence of badger is found, works should stop immediately and a suitably qualified ecologist should be contacted.

Badgers receive strict protection under the Protection of Badgers Act 1992 which makes it an offence to wilfully kill, injure, take or attempt to kill, injure or take a badger or interfere with a badger sett by damaging a sett or any part thereof. It is also an offence to wilfully destroy a sett, obstruct access to a sett or disturb a badger while occupying a sett. The 1992 Act defines a badger sett as "any structure or place, which displays signs indicating current use by a badger".

Approximately 100m north of the site boundary is a balancing pond. This is set within the grounds of a nearby industrial development. This water body has three outfall pipes and appears to be greater than 1m in depth. The banks are ~45 degrees with limited marginal vegetation.

4.2 Protected Species Assessment

4.2.1 Amphibians

Three water bodies were found on site, and a further one within 100m of the site boundary was accessed during this survey. A Habitat Suitability Index (HSI), developed by Oldham *et al.* (2000) to measure the suitability of water bodies to support great crested newts, was carried out on these water bodies. The results of the HSI are summarised in the table below:

Table 2: Summary of Habitat Suitability Index (HSI)

Water-body	Description	HSI Score	Prediction (Likelihood of GCN)
1 - Pond 1 SE 42107 06027 (Target Note 9)	~40cm deep, 2m wide and 10m long. Duck weed (*Lemna sp.*) present with limited marginal vegetation. Shaded. No wild fowl/fish.	0.63	Average
2 - Pond 2 SE 42107 06027 (Target Note 10)	~10m x 2m, 20cm deep. Alder trees line the pond with marginal vegetation comprising rush *Juncas sp.* and bulrush *Typha latifolia*.	0.52	Below average
3 - Water-filled ditch SE 42004 06006 (Target Note 11)	Ditch with average water depth 30cm, water mainly standing but slow flowing in parts.	0.72	Good
4 – Man-made balancing pond SE 41971 06049	Balancing pond. with three outfall pipes and water depth >1m. Banks ~45 degrees with limited marginal vegetation.	0.68	Average

Great crested newts spend up to eight months of the year (July-February) in terrestrial habitat. Optimal great crested newt terrestrial habitat typically includes rough grassland, scrub, woodland, hedgerows and wasteground (English Nature, 2001).The dense continuous scrub on site therefore provides potential terrestrial great crested newt habitat within close proximity to the nearest potential aquatic habitat.

4.2.2 Reptiles

The presence of ponds and water-filled ditches on site provides potential for species such as grass snake (*Natrix natrix*). The area of grassland, scrub and woodland interface in the east and north-east of the site also provides potential for the presence of reptiles such as common lizard (*Lacerta vivipara*). However, as these areas of potentially suitable reptile habitat are relatively limited in area, any reptiles present are only likely to be present in low numbers.

4.2.3 Birds

Ground-nesting species such as skylark (*Alauda arvensis*) may nest in areas of the open grassland on site. Skylark is a UK BAP species and Red listed as a species of high conservation concern (Gregory *et al.* 2002).

The broadleaved semi-mature trees and dense scrub in the east and north-east of the site provides potential nesting habitat (Plate 2 shows an old nest present on site). The species present could include some UK BAP and Local BAP species (e.g. song thrush) although the numbers of any such species are likely to be small. The dense bramble scrub on site may provide nesting habitat for species such as wren (*Troglodytes troglodytes*).

4.2.4 Mammals

Water voles
The onsite water-filled ditch (Target Note 1, Plate 8) has soft earth banks and common reed (*Phragmites australis*) within the ditch provides both potentially good shelter and food for water voles *(Arvicola terrestris)*.

Bats
No buildings were present on site to provide potential bat roosting habitat.

A large horse chestnut tree on site (Target Note 1) is considered to have low bat roost potential as no visible bat access points (usually created by rotting bark or broken braches) were identified (see Appendix E for criteria by which bat roost potential has been assessed for trees). The scattered semi-mature trees within the area of scrub in the east of the site appeared to have no distinct cavities, ivy or dead branches which may potentially provide bat roosting locations.

An open culvert is located at the end of the water-filled ditch at the north of the site (Target Note 11, Plate 9). The culvert is lined with smooth cement and had approximately 30cm of water depth at the bottom at the time of survey. There were no cracks / crevices evident within which bats could potentially roost and therefore the bat roost potential of this culvert is considered to be low.

A partially open man-hole cover was found located towards the centre of the site (Target Note 7, Plate 4). Access could not be gained for Health and Safety reasons; however it could be seen from the entrance that the inside is smooth cement and there was water present at the bottom of the man-hole at the time of survey. Hence the bat roost potential is also considered to be low.

The area of dense scrub, scattered tree saplings and lines of trees on site provide potential bat foraging habitat.

Otters
The River Dearne flows within 100m of the site's western boundary; however the site is separated from the river by the Coalfields Link Road. The Barnsley Biodiversity Action Plan (2002) states that there has been evidence of otter activity along the Dearne Valley. The small section of ditch on site (Target Note 11) is generally open and is considered unlikely to be used by otters and the site is therefore considered to have low potential for otter.

Badger
No evidence of badger (*Mele meles*) was found during the site walkover. However, access to the areas of dense scrub towards the east of the site was restricted.

4.2.5 Invasive plant species

No invasive species were found to be present on site at the time of the survey.

6.0 RECOMMENDED SURVEYS

Great Crested Newts

It is recommended that great crested newt surveys are undertaken during the optimal breeding season, March – June, on the water-filled ditch, two ponds and man-made balancing pond, all assessed during this survey[1] (see section 4.2.1).

An HSI is recommended to be undertaken on the additional three water bodies located within 500m of the site[1] (see section 5.1.3). Following results from the HSI it will be decided whether these also require great crested newt surveys.

The *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) recommends four survey visits (temperature dependent, when minimum temperatures >5°C) should be undertaken between mid-March and mid-June **(two of these survey visits must be undertaken between mid-April and mid-May to meet the requirements of the methodology, as this is when peak populations of this species are typically present within water bodies)**. At least three survey methods should be used on each visit including searching by torchlight, bottle-trapping, egg-searches or netting. Should great crested newts be identified on the site, in accordance with the standard guidelines, two further survey visits are required (e.g. six visits in total, three of which must be undertaken between mid-April and mid-May), to accurately establish the population size present and inform mitigation requirements.

Reptiles

It is recommended that the area to the east and north-east of the site, where the scrub/grassland interface and area of terraced semi-improved grassland is present, be surveyed for reptiles as these are habitat areas considered suitable for reptiles.

Surveys should follow the standard methodology as described by Froglife (1999) and the Herpetofauna Groups of Britain and Ireland (HGBI) (1998). This involves placing several sheets of 0.5m^2 dark material (either black roofing felt or corrugated tin) in suitable habitat.

It is recommended that tins or felts be placed on the scrub/grassland interface towards the east and north-east boundary of the site and scattered within the area of terraced grassland in the northernmost corner of the site. A minimum density of 10 refuges per hectare, approximately therefore 10-15 reptile tins, is recommended.

The tins would be placed on visit 1 and left for approximately one week to allow any reptiles present to habituate to them. Subsequently a series of seven visits in suitable weather conditions (taken as air temperature between 8ºC - 18ºC, avoiding windy, rainy or excessively cloudy days) should be undertaken and reptile species (including gender where possible) and numbers recorded per refuge. In addition, existing refugia on site should also be examined for reptiles on each visit.

Recommended survey times are between March and October. Surveys are limited by high temperatures during July and August with optimal survey months being April, May and September.

Water Voles

It is recommended that the ditch on site and for the length it runs parallel to the site should be walked and surveyed in accordance with the methodology prescribed within Strachan and Moorhouse (2006). This survey work should be undertaken between March and October to provide reliable results

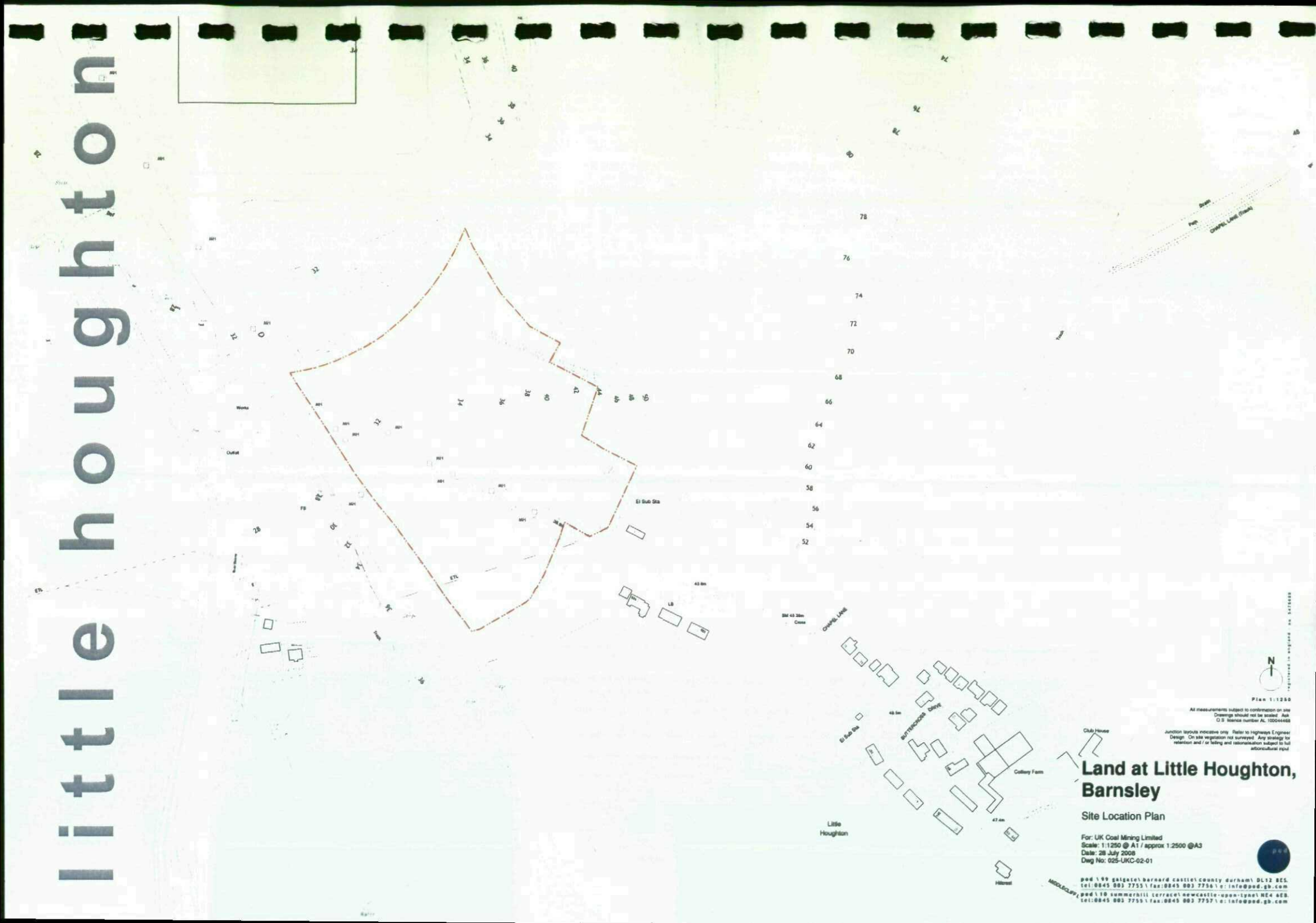
[1] For those water bodies located outside the site boundary, access permission will be required from the landowner(s) to conduct these surveys.

7.0 RECOMMENDATIONS FOR NATURE CONSERVATION ENHANCEMENT

Planning Policy Statement 9 (PPS9) sets out national planning policies for the protection of biodiversity and geological conservation through the planning system. The policies set out in PPS9 need to be taken into account by local planning authorities in the preparation of local level development documents, and may also be material to decisions on individual planning applications. A key principle of PPS9 is that, 'plan policies and planning decisions should aim to *maintain*, and *enhance*, *restore* or *add* to biodiversity conservation interests'.

Taking the requirements of PPS9 into account, opportunities should be sought where possible for nature conservation enhancement at this site.

Retaining the stretches of dense scrub and tree lines on site (e.g. Target Notes 1, 2, 3 and 5) would maintain potential foraging habitat for bats and potential nesting habitat for birds. Opportunities may exist to create/retain small habitat areas and to use native species in any landscape planting. Where shrub and trees providing cover, nesting and foraging habitat for birds within the site are lost to the development, alternative planting should be provided where possible to mitigate for this loss. It is recommended that any alternative planting on site should include native species such as sessile oak (*Quercus petrea*), pedunculate oak (*Quercus robur*), silver birch (*Betula pendula*), holly (*Ilex aquifolium*), rowan (*Sorbus aucuparia*) and hazel (*Corylus avellana*).


little houghton
Outfall
El Sub Sta
Chapel Lane
Butterbiggs Drive
Club House
Colliery Farm
Little Houghton
Hillcrest
Middlecliffe
Plan 1:1250
All measurements subject to confirmation on site
Drawings should not be scaled. Ask
O S licence number AL 100044466
Junction layouts indicative only. Refer to Highways Engineer
Design. On site vegetation not surveyed. Any strategy for
retention and / or felling and rationalisation subject to full
arboricultural input
Land at Little Houghton, Barnsley
Site Location Plan
For: UK Coal Mining Limited
Scale: 1:1250 @ A1 / approx 1:2500 @A3
Date: 28 July 2008
Dwg No: 025-UKC-02-01
pod \ 99 galgate\ barnard castle\ county durham\ DL12 8ES.
tel:0845 003 7755 \ fax:0845 003 7756 \ e: info@pod.gb.com
pod \ 10 summerhill terrace\ newcastle-upon-tyne\ NE4 6EB.
tel:0845 003 7755 \ fax:0845 003 7757 \ e: info@pod.gb.com

APPENDIX B

Figures

8.0 REFERENCES

Barnsley Biodiversity Action Plan (BAP, 2002) - http://www.barnsley.gov.uk/bguk/Development/Countryside/Biodiversity_Action_Plan (06/03/08)

DEFRA. (2008) - http://www.defra.gov.uk/news/issues/2008/biodiversity-0226.htm (12/03/08)

English Nature (2001) Great Crested Newt Mitigation Guidelines. Version: August 2001. English Nature: Peterborough.

Froglife (1999). Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife: Halesworth.

Gregory RD, Wilkinson NI, Noble DG, Robinson JA, Brown AF, Hughes J, Procter DA, Gibbons DW and Galbraith CA (2002). The population status of birds in the United Kingdom, Channel Islands and Isle of Man: an analysis of conservation concern 2002–2007. *British Birds* 95: 410–450.

Herpetofauna Groups of Britain and Ireland (HGBI) (1998). Evaluating local mitigation/translocation programmes: Maintaining best practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife: Halesworth.

Joint Nature Conservation Committee (JNCC) (2002) Fourth Quinquennial Review of Schedules 5 and 8 of the Wildlife and Countryside Act, 1981 Report and recommendations from the Joint Nature Conservation Committee. JNCC: Peterborough.

Multi Agency Geographic Information for the Countryside .- http://www.magic.gov.uk

Office of the Deputy Prime Minister (ODPM). 2005. *Planning Policy Statement 9: Biodiversity and Geological Conservation*. HMSO: London. 8pp

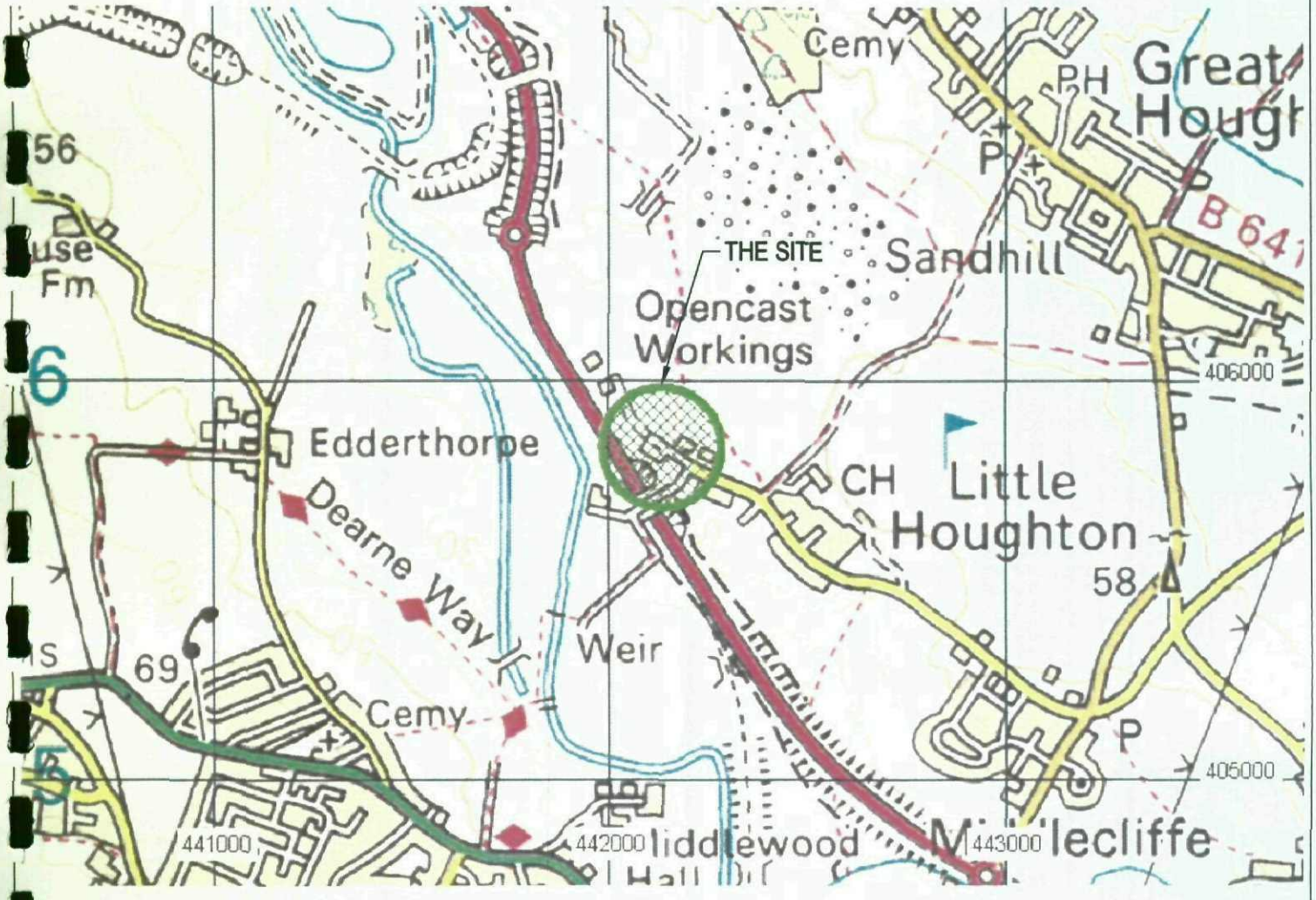
Oldham, R.S., Keeble, J., Swan, M.J., and Jeffcote, M. 2000. Evaluating the suitability of habitats for the great crested newt (*Triturus cristatus*). *Herpetological Journal*, 10: 143 – 155.

Strachan R. and Moorhouse, T. (2006). Water vole conservation handbook 2nd Edition. Wildlife Conservation research Unit.

APPENDIX A

Site Location Plan

DO NOT SCALE: Contractor to check all dimensions and report any omissions or errors



Reproduced from the Ordnance Survey Map with the permission of Her Majesty's Stationery Office, © Crown Copyright White Young Green License No. AL100017603.

Rev	Description	By	Chk	App	Date

Arndale Court
Headingley
Leeds
LS6 2UJ

Tel: 0113 278 7111
Fax: 0113 275 0623
e-mail: enviro.leeds@wyg.com

White Young Green
Environmental
Civil Electrical Environmental Health & Safety Highways Management Services Mechanical Rail Structural Town Planning Transportation

Project: A035220-2
LITTLE HOUGHTON DEVELOPMENT

Client:
UK COALS AGENCY LTD

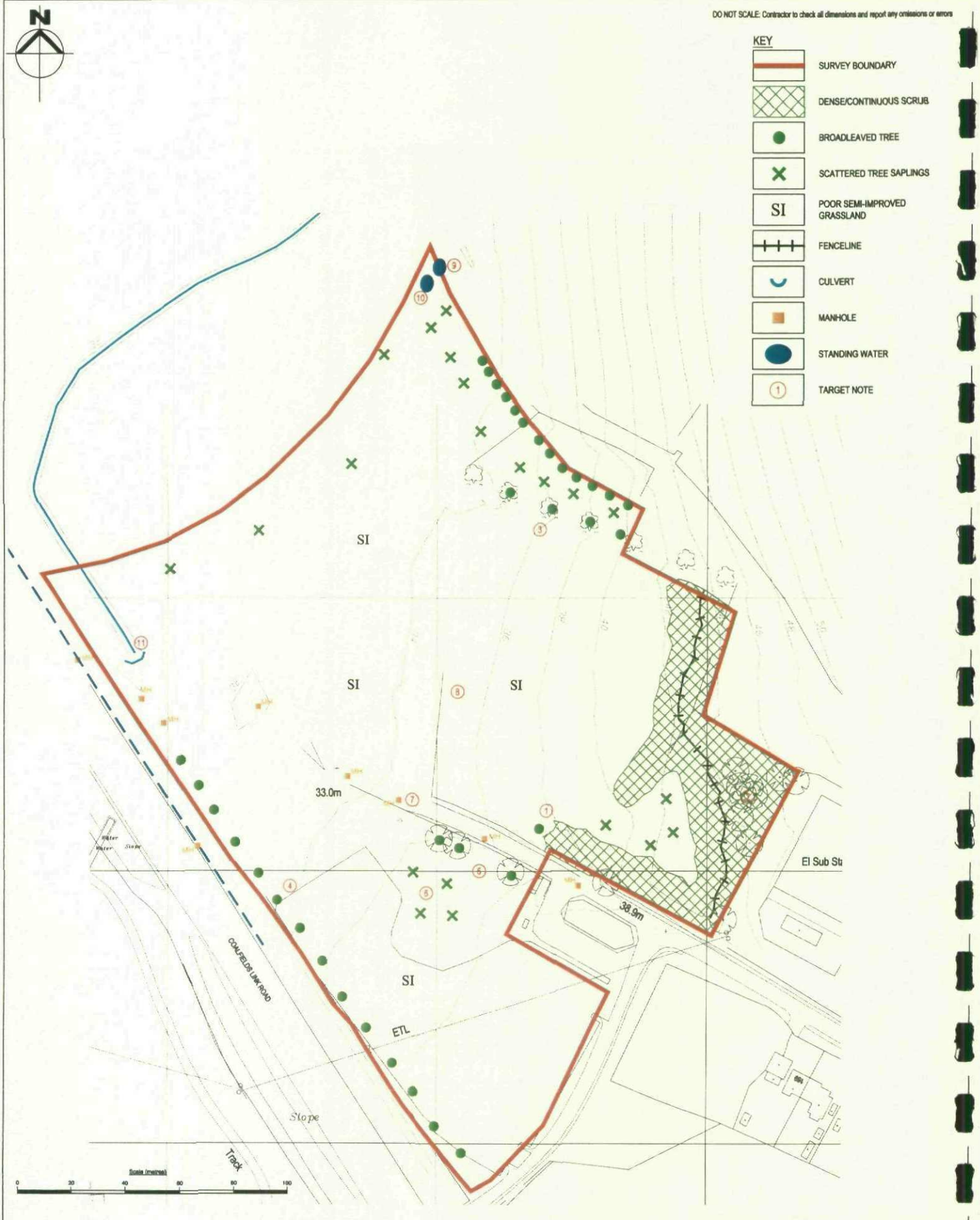
Drawing Title:
SITE LOCATION PLAN

Scale at A4	Drawn By	Date	Checked By	Date	Approved By	Date
N.T.S	CM	07.03.08	HP	17.03.08	TS	17.03.08

Project No.	Office	Type	Drawing No.	Revision
A035220-2	4104	584	01	

APPROVAL ☐ INFORMATION ☒ TENDER ☐ CONTRACT ☐ CONSTRUCTION ☐

DO NOT SCALE: Contractor to check all dimensions and report any omissions or errors



Rev	Description	By	Chk	App	Date
A	SITE BOUNDARY UPDATED	CM	SF	TS	07.11.08

Arndale Court
Headingley
Leeds
LS6 2UJ

TEL: +44 (0)113 278 7111
FAX: +44 (0)113 275 0623
e-mail: enviro.leeds@wyg.com

White Young Green

Project: A035220-2
LITTLE HOUGHTON DEVELOPMENT

Client:
UK COALS AGENCY LTD

Drawing Title:
PHASE 1 HABITAT MAP

Scale at A3	Drawn By	Date	Checked By	Date	Approved By	Date
1:1250	PMC	28.03.08	SF	28.03.08	TS	28.03.08

Project No.	Office	Type	Drawing No.	Revision
A035220-2	4104	584	02	A

APPROVAL ☐ INFORMATION ☒ TENDER ☐ CONTRACT ☐ CONSTRUCTION ☐

APPENDIX C

Target Notes

Target Notes

Target Note Number	Target Note
1	Large horse chestnut tree *Aesculus hippocastanum* ~15-20m tall. Snapped high branch but no noticeably exposed open cavities for bat roosting. Low bat potential.
2	Scrub area predominantly comprising hawthorn *Crataegus monogyna*, bramble *Rubus fruticosus*, cotoneaster *Cotoneaster sp.* with scattered rhododendron *Rhododendron sp.* and dog rose *Rosa canina*. Scattered semi-mature trees also comprise this area, such species included are ash *Fraxinus excelsior*, oak *Quercus sp.* and alder *Alnus glutinosa*. Areas of scrub more dense towards the east of the site bordering the electricity sub-station. Potentially suitable habitat for nesting birds. No evidence of badger however difficult to survey due to overgrown scrub. Suitable refuge/habitat for reptiles in places. Potentially suitable bat foraging habitat.
3	Line of planted broadleaved trees – lime *Tilia x vulgaris.* and hybrid black poplar (*Populus x canadensis)*
4	Planted young hawthorn trees along the west and south-western site boundary.
5	Line of mature cherry trees *Prunus avium.*
6	Scattered birch and conifer trees within open grassland.
7	A partially open man-hole cover. Access could not be gained inside for Health and Safety reasons. Surveying from entrance, some water present at the bottom (water depth unknown) and smooth cement-lined walls. No evidence of brick work present and/or open crevices. Considered to have low bat roosting potential.
8	Disturbed poor semi-improved grassland with species including – cock's foot (*Dactylis glomerata)*, meadow grass (*Poa sp).*, red fescue (*Festuca rubra)* and bent (*Agrostis sp.)*
9	Pond 1 ~40cm deep, 2m wide and 10m long. Duckweed (*Lemna sp.*) present with limited marginal vegetation. Shaded. No wildfowl/fish.
10	Pond 2 ~10m x 2m, 20cm deep. Alder trees line the pond with marginal vegetation comprising rush *Juncus sp.* and bulrush *Typha latifolia.*
11	Open drainage culvert. Smooth cement lining. No exposed brick work within. Bat roost potential low. Ditch with average water depth 30cm, the water being mainly standing but with slow flow in places. Great crested newt potential and water vole potential.

APPENDIX D

Plates



Plate 1- Poor semi-improved grassland (Target Note 8)



Plate 2 –East side of the site (Target Note 2)



Plate 3 – Northernmost corner of the site



Plate 4 – Partly open man-hole cover (Target Note 7)

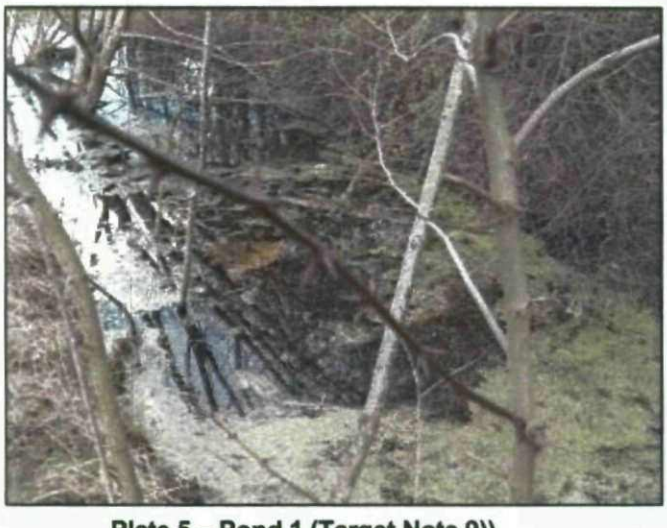


Plate 5 – Pond 1 (Target Note 9))



Plate 6 – Pond 2 (Target Note 10))



Plate 8 – Water-filled ditch (on site) (Target Note 11)



Plate 9 Open drainage culvert (Target Note 11)

APPENDIX E

Criteria for Calculating Bat Roost Potential of Trees

Criteria for Calculating Bat Roost Potential of Trees

This table is based on the English Nature's Bat mitigation guidelines (Mitchell-Jones 2004) and the experience of WYG ecologists.

Feature	Assessment
• No visual holes or crevices • No major dead branches • Flight lines to trunk highly obscured • No or very little ivy on the trunk	Low
• Visual holes or crevices or small superficial holes beginning to form • Minor dead limbs but no obvious cavities/lifting bark/splits • Flight lines to trunk slightly obscured • Lifting bark • Trunks covered by ivy on semi-mature trees / clean trunks	Medium
• Cavities and crevices present • Major dead limbs present • Good flight lines to trunk • Heavily ridged and lifting bark • Trunks covered by ivy on mature trees	High

APPENDIX F

Report Conditions

WYG ENVIRONMENT PLANNING TRANSPORT

C1 - REPORT CONDITIONS

LITTLE HOUGHTON, ECOLOGICAL ASSESSMENT

This report is produced solely for the benefit of UK Coal Mining Ltd and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to WYG. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYG using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to WYG by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors

August 2008
WYG Environment Planning Transport Ltd