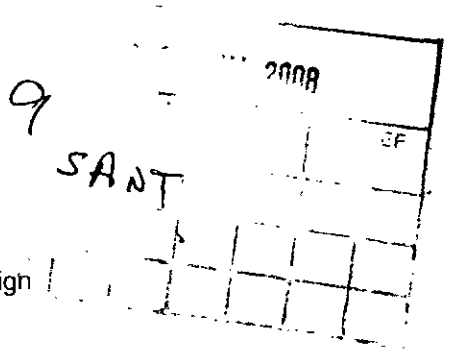


architecture ▪
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environmental assessment ▪
masterplanning ▪
urban design ▪

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Our ref: OJR/3718

27th November 2008

Mr Nolan Tucker
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Dear Nolan,

3718 - LITTLE HOUGHTON – WATER VOLE SURVEY

Further to our recent correspondence regarding this site, the following details the results of the Water Vole *Arvicola terrestris* survey undertaken by FPCR on 21st November 2008 Methods followed those described in Strachan & Moorhouse (2nd Edition 2007). The survey area and results are shown on the enclosed Figure E003 – Water Vole Survey Plan. In summary, some inconclusive evidence was observed and a 5m buffer zone around the ditch (on site portion only) is proposed along with further survey during the optimum survey period if the working area will fall within 5m of the ditch.

NATURE CONSERVATION STATUS AND LEGISLATION

Water voles are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This makes it an offence to:

- Intentionally kill, injure or take water voles
- Possess or control live or dead water voles or derivatives.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection.
- Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.
- Sell water voles or offer or expose for sale or transport for sale.
- Publish or cause to be published any advertisement which conveys the buying or selling of water voles.
- This species is a priority species on the UK Biodiversity Action Plan and is also listed on the Barnsley Local Biodiversity Action Plan.

METHODOLOGY

The water vole survey was undertaken on the 21st November 2008 using the standard methodologies of Strachan *et al.* (1998) as described in the Water Vole Handbook (Second edition, 2007). Although marginally beyond the recommended survey period for the species (April-October) weather conditions leading up to the survey date were clement and signs of activity often persist long into the winter months. The survey involved identification of evidence of activity including faeces, latrines, feeding stations, burrows, footprints and runways.

In addition to a search for field signs a qualitative assessment of the water bodies was also undertaken to assess their suitability for water voles. Suitable features were taken to include:

- Slower flowing water courses less than 3m wide and around 1m deep without extreme fluctuations in water depth.
- Permanent water during dry periods.
- Available suitable nest sites even during the most severe winter flooding.

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- Steep clay or earth banks (approximately 45° or steeper).
- Well developed lush marginal and emergent vegetation.
- Lack of heavy poaching/disturbance.

RESULTS

A search of the National Biodiversity Website (www.searchnbn.net) yielded several historical records for the area, however none were more recent than the 1970's and no fixed locations were given. Barnsley Biological Records Centre has not yet replied with any local records for the species.

All water bodies within the site boundary and within 100m of the boundary were surveyed. These comprised 2 ponds, 1 balancing lagoon (with island), and 1 ditch.

The 2 ponds within the site boundary were not deemed particularly suitable as water vole habitats, except possibly for foraging, should a population be present nearby. There was a lack of suitably steep banks for burrowing and no evidence was found of water vole presence associated with these 2 ponds.

The balancing lagoon (with island) was deemed more suitable as water vole habitat in line with the above qualitative assessment. The banks were steeper at between 10° to 45° however the substrate was not conducive for water vole burrowing and the marginal and emergent vegetation was less well developed than that found within the ditch. No evidence was found of water vole presence in this waterbody.

The ditch was considered the most suitable as water vole habitat for the following reasons:

- Slow flowing water 1-2m wide and less than 1m deep without extreme fluctuations in water depth.
- Available suitable nest sites even during the most severe winter flooding.
- Steep banks of >45° (however the substrate was poor).
- Well developed lush marginal and emergent vegetation, including dense common reed *Phragmites australis* and greater reedmace *Typha latifolia* beds.

Within the ditch, no definitive evidence of water voles was found however possible evidence of water voles were noted at the following numbered target notes shown on the enclosed Water Vole Survey Plan:

1. Burrow – possible water vole but more likely to be brown rat *Rattus norvegicus* due to the shape and lack of a neatly cropped lawn outside the entrance.
2. Footprints found on mud bank. These matched the characteristics of water vole however footprints of water vole are often indistinguishable from juvenile brown rat without further evidence.
3. Shallow burrow – no longer in use.
4. A bank vole *Clethrionomys glareolus* was sighted at point 4 on the Water Vole Survey Plan.

DISCUSSION

A rodent burrow and prints were found in the ditch; however it was not possible to definitively attribute these signs to either species of water vole or brown rat. Building C and its associated hardstanding, as shown on the Masterplan drawing (POD drawing No.: 025-UKC-08-02) is the closest proposed building to the ditch. As a precautionary measure a 5m buffer should be maintained and fenced off using HERAS/crash fencing around the ditch (within the site boundary only) to avoid any potential damage to water vole habitat and undue disturbance. Furthermore, where working areas fall within 5m of the ditch a reassessment should be made during the peak survey period of March – June, when water vole populations swell and are most active.

Please note that consultation responses are pending from Barnsley Biological Records Centre. Once received, a revised letter shall be issued if consultations have any bearing on the conclusions.

Habitat enhancements that could be made, particularly to the balancing lagoon, if feasible, include

- Planting with the following:
  i. Reeds e.g. canary grass (*Phalaris arundinacea*), common reed (*Phragmites australis*), reed sweet grass (*Glyceria maxima*).
  ii. Rushes e.g. hard rush (*Juncus inflexus*), soft rush (*J. effuses*).
  iii. Water plants e.g. Branched bur-reed (*Sparganium erectum*), watercress (*Nasturtium officinale*).
  iv. Wetland/edge plants e.g. purple loosestrife (*Lythrum salicaria*), fool's watercress (*Apium nodiflorum*).
- Altering small sections of bank profile to provide a more diverse edge to the waterbody
- Planting on the island and banks of the balancing lagoon with wetland/edge plants will also provide an excellent refuge habitat that would be of significant benefit to the local water vole population. We recommend Emorsgate EP1 Special Purpose Pond Edge Seed Mixture.

If you require any further information please give me a call.

Yours sincerely



Oliver Ramm
Ecologist

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Key

1	Target Notes for Water Vole Survey
P#	Waterbodies with reference

revisions

fpcr

architecture •
landscape •
ecology •
environmental assessment •
masterplanning •

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client White Young Green and UK Coal Mining Ltd

project LAND AT LITTLE HOUGHTON, BARNSLEY

title Water Vole Survey Plan November 2008

scale 1:2,000 @ A3

drawing 3718/E/003

status DRAFT