Daimler Chrysler site, Wentworth Industrial Park
Tankersley

Badger survey

Version 2

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B Introduction

B1 Background to the development

Wentworth Industrial Estate is located in Tankersley, Barnsley (SK 334 996). Access to the site can be gained from Wentworth Way, just off the A61. Daimler Chrysler owns the site and it is currently used as a truck storage depot. Gladmans Ltd. wish to purchase the site and construct four new warehouses and associated car parking within the site.

B2 Consideration of alternative solutions

N/A

C Survey and Site Assessment

C1 Objectives of the survey

The objectives of the survey were:

- To determine if badgers were using the setts that had been found on site.
- To investigate the potential impacts of the proposed development on the population of badgers.

C2 Survey Area

The site is located within the Coal Measures character area that is characterised by dense populations centred on a number of towns and cities, which developed largely as a result of underlying coalfields. The topography of the Natural Area is gently undulating and the network of towns and cities is characterised by a matrix of acidic ancient and secondary woodlands, valley wetlands, neutral and acid grasslands, and mixed agriculture. Canals, mill-ponds and natural rivers are also important features.

The industrial site comprises a large area of hard standing with undeveloped areas including woodland, scrub, rough grassland and disturbed ground around the perimeter. There are two ponds within the industrial site, two others (including Sowell Pond) to the south of the site and another to the west of the site.

C3 Field Survey

C3.1 Methods

The whole of the development site was walked and searched thoroughly for badger setts, trails, dung pits, tracks and other typical signs. Badger sign were mapped using a hand held GPS and an attempt was to be made to track backwards towards main setts in order to attempt to understand the social interaction between badgers on this site. The site boundary was thoroughly inspected for signs of movement to and from

the site by badgers. A brief assessment was also made of the suitability of the surrounding land for badger foraging activity.

C3.2 Timing

The site was surveyed on 13th January and 1st May 2006.

C3.3 Weather

Conditions on the May survey were good, being mild and overcast.

C3.4 Personnel

Paul Lupton and Mary Toomey compiled this report from field survey work carried out by them. Paul Lupton holds an MSc in ecology and is a director of Argus Ecological Services. He has carried out numerous faunal surveys including work on Great Crested Newt, badgers, bats, otters and other protected species. Paul has held several badger licenses for development work. Mary Toomey is an employee of Argus Ecological Services and holds an MSc in Wildlife Management and Conservation. She has also carried out numerous faunal surveys.

C4 Results

The winter survey identified two setts. These were both visible and active at the time of the second survey in May 2006.

Sett 1 appears to be a main sett with five active entrances and three disused entrances at the time of survey. The sett is centred around 33184 99772. It was surrounded by numerous latrines and two of the entrance holes had bedding material deposited close to the entrance perhaps indicating breeding activity. Strong tracks and trails lead east, west and south from the sett with the majority of movement appearing to be in a westerly direction towards the woodland. Trails pass through the woodland at least eight holes under the security fencing leads us to believe that the grassland to the west of the development site is a major foraging areas for the badger population. A single trail passes off site to the north.

Sett 2 is in the woodland at the very edge of the proposed development site (at 33121 99623). It consists of a single hole with good connectivity with sett 1 indicating that it is used by the same social group. Strong trails also lead from this sett to the boundary fence to the west and these trails can be followed into the grassland.

There are numerous latrines and feeding signs present on the site. All badger signs are mapped (drawing no. ES06-009/05). In the course of the winter survey evidence of foraging was found throughout the woodland with bluebells appearing to be a favourite food at that time of year.

C5 Interpretation and Evaluation

Badgers are protected under the 1992 Protection of Badgers Act; this legal protection includes intentional damage to setts, and disturbance of badgers. At Tankersley the main sett appears to be very close to the development area, and to the south of the development area, an outlier. There is a great deal of evidence of badger activity over the whole site with most movement from the main sett appearing to be to the west. The presence of bedding material found around the main sett may suggest breeding activity.

Sett 2 is a single hole outlier, once again on the edge of the development area. A number of visits to this sett indicate that it is in occasional use and that trails lead from this sett back to the main sett across the development site.

If a development such as this requires disturbance to a sett, then a licence must be obtained from the relevant statutory nature conservation agency, which in this case is Natural England. Such licences are unlikely to be issued during the breeding season, which is normally considered to extend from the beginning of December to the end of June. Any works affecting setts should therefore be carried out between July and the end of November.

The definition of 'disturbance' when applied to developments is normally defined as operations occurring within 20m of a sett. The current proposals will involve significant construction activity much closer than this with earth moving and piling estimated to pass within about 10m of the main sett and closer still to the outlier. It is not going to be possible to protect the setts during the development process. We are therefore working on the principle that exclusion from existing setts will be necessary during the construction process. Given the absence of other setts on and around the development site we are proposing the provision of an artificial sett. Fencing the construction site above and beyond existing levels is not recommended, as current data strongly infers that badgers cross the route as part of their normal foraging activities. Fencing should be limited to the protection of any deep excavations.

Positive habitat enhancement methods

Landscaping of the new development site offers opportunities for providing feeding opportunities. When additional planting is carried out, fruit trees such as crab apple (*Malus sylvatica*) provide an additional seasonal food source for badgers, as well as benefiting other wildlife.

C6 Photographs

Pl. 1 – Badger trail in scrub along northern site boundary



Pl. 2 – Badger trail leading under western boundary fence



Pl. 3 – Main sett with bedding material at entrance



Pl. 4 – Active sett with bedding



D Impact Assessment

D1 *Pre- and Mid-development impacts.*

Based on current plans for four industrial units on the site, the largest potential impact is damage to the setts and interference with the activity of the social group. As they stand, the development proposals will impact directly on the outlier sett and will produce significant disturbance to the main sett with the potential to destroy sections of it. Given that these are the only two setts in the vicinity we would assess the impacts as being **major negative**.

D2 *Long term impacts*

In the absence of an appropriate mitigation strategy it is anticipated that a reduction of available habitat would 'squeeze' the population through a reduction in foraging opportunities and result in a reduction in population size. In the long term this will produce a **moderate negative** impact. A suitable mitigation plan will reduce the long scale impact of the development.

D3 *Post-development interference impacts*

Increase in traffic in this part of the site may have the potential for increasing traffic mortality and an increase in lighting may disturb the activity of the social group, perhaps impacting on emergence times. Given the high level of existing industrial activity across the site these factors are likely to produce a **minor negative** impact.

D4 *Other impacts*

No further impacts anticipated

D5 *Summary of impacts at the site level*

There will be some major direct risks to badgers during the development which must be addressed in the mitigation strategy. There will be a net loss of terrestrial habitat as a result of the development including 0.3 ha of existing woodland and 0.85ha of neutral grassland and scrub which provide good terrestrial habitat for badgers. An additional 1.3 ha of lower quality habitat, which comprises mainly disturbed ground plus a larger area of hard standing will also be lost. Given that there will be a loss of a significant area of terrestrial habitat and a direct risk to both setts on the site, this development can be classed as potentially having a **major negative** impact upon the population.

D6 *Summary of impacts in a wider context*

Under normal circumstances the loss terrestrial habitat much of which is hard-standing, would be regarded as being of low importance. Given the quality of the woodland section that will be lost and the potential for direct impacts upon the setts, the development proposals must be considered as having a **medium** scale impact upon the species within the area.

E Mitigation and Compensation

E1 Mitigation strategy

The mitigation proposals are designed to remove the risk of killing or injuring individual badgers and to ensure that the site maintains its suitability for use by badgers. There will be the need to temporarily move the population and the focus of the mitigation strategy will also to be to focus on improving the quality of existing habitat,increasing the proportion of high quality habitat relative to less favourable areas, as well as increasing the connectivity of high quality habitats and important features. Work so close to a badger sett will require a license.

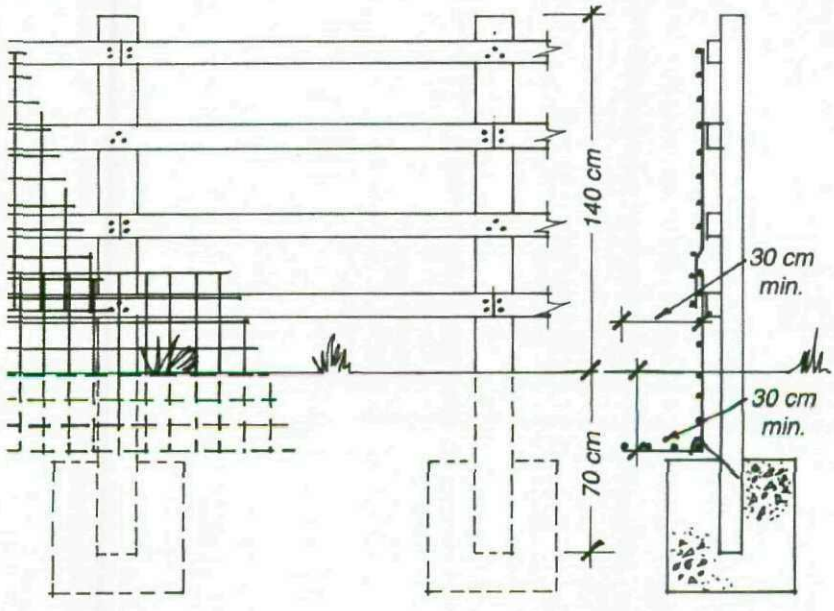
Given the risk to the main sett we are proposing the construction of a artificial sett to act as a temporary main sett during the construction work. The process will be as follows –

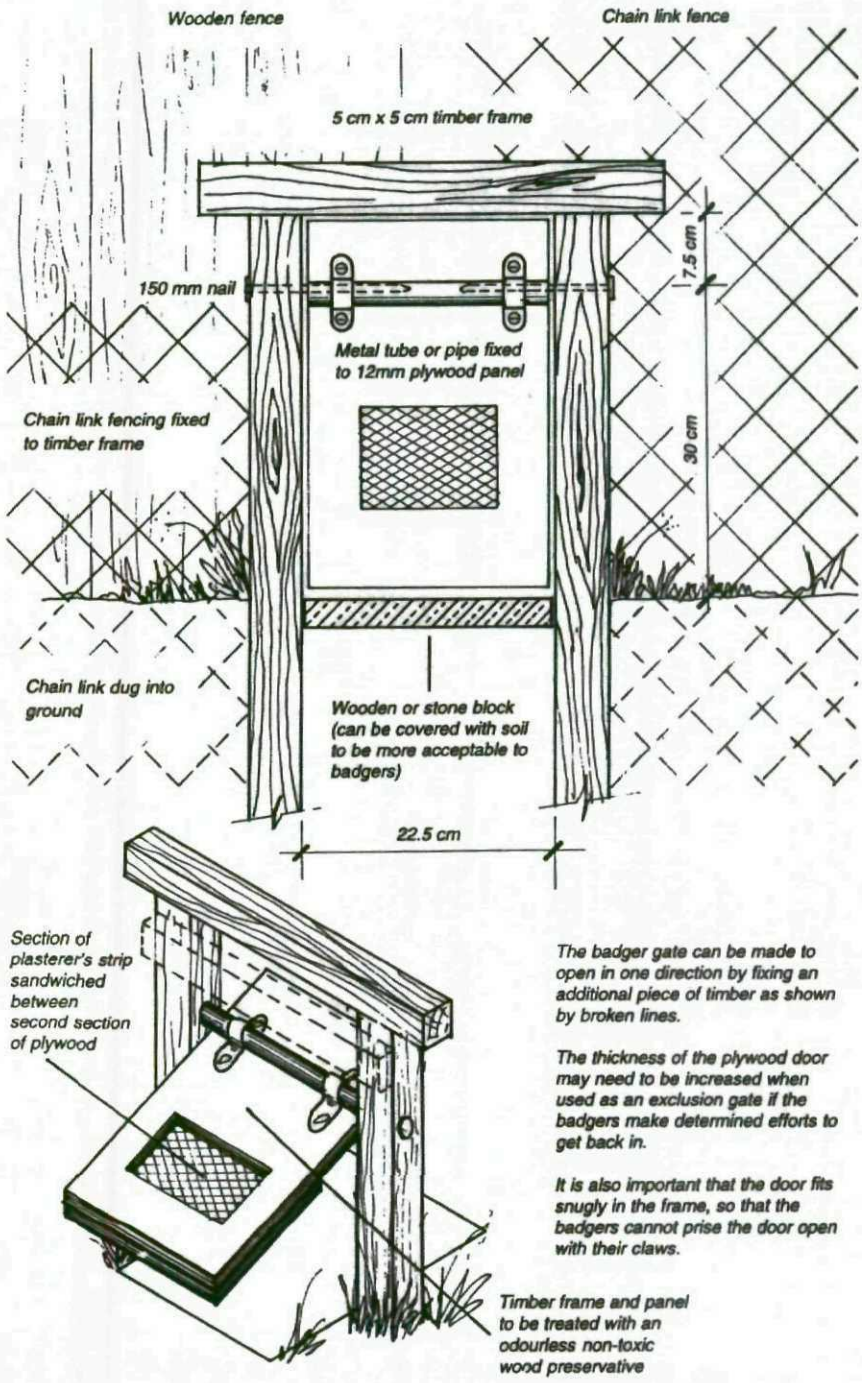
a) An area of land at 33179 99775 will be cleared, having at first been hand searched due to Great Crested Newt issues (separate license application pending). The position of the artificial sett in relation to the existing setts is shown in figure ES06-009/05b.
b) Turves will be kept in order to cover the sett, post construction.
c) An artificial sett will be constructed using natural materials (see fig 1 for example). Precise specification will be determined by the topography of the site at this point though it is anticipated that due to the relatively small social group on this site a medium sized artificial sett (approx 4 chamber 5 exits) should be sufficient. Construction will be carried out under the supervision of a badger worker.
d) The artificial sett will be baited to encourage the social group to use the new sett.
e) Prior to the construction work on the site, badgers will be excluded from the existing setts using fencing and one way gates (fig 2).
f) Setts 1 & 2 will be monitored to ensure that they have been vacated prior to development work starting.
g) Exclusion fencing will be kept in place until the development work is completed. After that time, fencing can be removed and the badgers will be free to re-occupy their old setts or to remain in the artificial sett.
h) A monitoring programme will be implemented for three years following the development to assess the efficacy of the mitigation.

Fig. 1 – Example of artificial badger sett



Fig 2 – badger fencing and gate (outline specs. based on DMRB)





The badger gate can be made to open in one direction by fixing an additional piece of timber as shown by broken lines.

The thickness of the plywood door may need to be increased when used as an exclusion gate if the badgers make determined efforts to get back in.

It is also important that the door fits snugly in the frame, so that the badgers cannot prise the door open with their claws.

E2 *Habitat creation, restoration and/or enhancement*

Ecological enhancement measures are proposed for the site with the objective of increasing habitat quality for the badger population. The woodland that is being lost is being replaced by a larger woodland area on land to the west of the site as shown on Fig. ES06-009/01.

The provision of ponds and wet grassland off site to the west (within the current foraging area) will also provide a vital clean water resource for the badgers as well as maintaining the land area for foraging.

F Summary

Two badgers setts have been found in close proximity to the proposed industrial estate at Wentworth. Both setts are at the edge of the development site and there is a risk of both direct impact during construction and the removal of foraging ground. In addition, current trails will be disrupted by the development. Any works on the development site must be covered by a Natural England license.

The mitigation strategy is based on the construction and utilisation of an artificial sett to protection the badgers during construction work and the provision of high quality habitat off site to the west. At the end of the construction period fencing will be removed and badgers will be allowed to reoccupy setts 1 & 2.

G References

Harris, S (1984). Ecology of urban badgers *Meles meles*: Distribution in Britain and habitat selection, persecution, food and damage in the city of Bristol. *Biological Conservation,* **28,** 349-375.

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