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Leekbrook Otter Survey Report

Moorland & City Railways

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Quality Management

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1. Summary

Capita Ecologists were commissioned by Moorland & City Railways to undertake an otter *Lutra lutra* survey at the former Leekbrook Railway Junctions site (hereafter referred to as 'the site'), Leekbrook, Staffordshire. The site has been identified for a potential residential housing development and the survey was commissioned as part of a wider study area in order to establish the ecological baseline conditions at the site. In addition to the proposed development site, the survey also focussed upon a section of the River Churnet.

The habitats present both on site and immediately adjacent to the site have the potential to support otter, which is both a UK and a European Protected Species (EPS), as well as a UK Species of Principal Importance and local BAP Priority Species. **Both otter prints and otter couches were recorded adjacent to the proposed development site during the course of the survey, but there were no holts observed. Thus, whilst otter utilise the adjacent watercourses and associated riverine habitat, it is believed that they have a transitory presence, only.** Based upon the current proposed development details and the findings of the otter survey, **no form of shelter used by otter will be disturbed, damaged or destroyed as a result of construction activity associated with the development. There will also be no obstruction of access to any form of shelter based on the buffer zone created by the extent railway line and associated vegetation.** Therefore, these potential offences would not be a consequence of the development at the present time.

On site activities associated with construction have the potential to disturb any otter adjacent to the site. It is also possible that any otter entering the site may become injured or killed as a result of the onsite activities. Both of these impacts would also constitute offences under the legislation protecting otters. In addition, vegetation clearance undertaken as part of construction has the potential to cause the loss of habitat used by otter as migration routes through the area, which may fragment the suitable habitat available and limit dispersal/home range of local otter populations. Recommendations are included within *Section 5.1.3* of this report that, if implemented, would avoid these adverse impacts and assist the management of the development to conform to current best practice.

2. Introduction

2.1 Background

Capita Ecologists, Blackburn, were commissioned by Moorland & City Railways in July 2013 to undertake an Extended Phase 1 Habitat Survey of a site in Leekbrook, Staffordshire. The site has been identified for a potential residential housing development and the Extended Phase 1 Habitat Survey was commissioned as part of a wider feasibility study in order to establish the ecological baseline conditions at the site. Based on the results of the Extended Phase 1 Habitat Survey and a review of previous consultation data, a number of further ecology surveys were recommended. One of these was a survey for otter *Lutra lutra*. This report details the aims, methodology and findings of the otter survey. It also includes advice, interpretation (of results) and recommendations in relation to managing the development to avoid impacts to otter.

2.2 Site Location

The Leekbrook Junction site (hereafter referred to as 'the site') is a triangular area of disused land approximately 2.9 km to the south of the Town of Leek, Staffordshire (Grid Ref.: SJ 398179 354102).

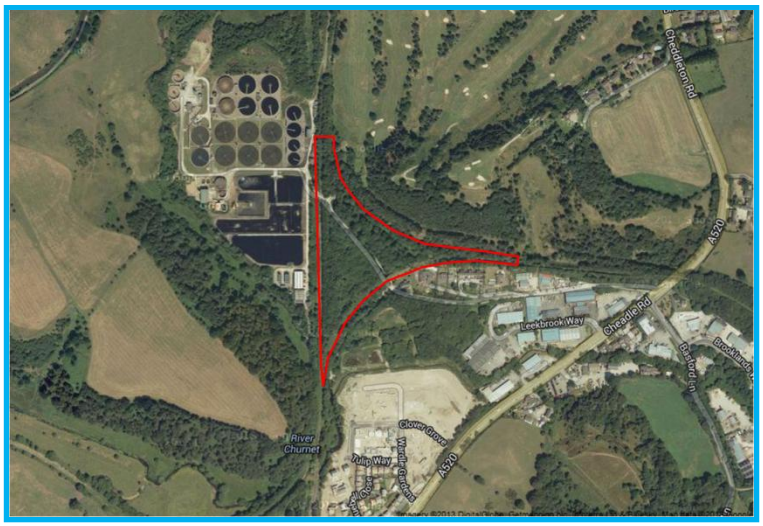

Figure 1: The Site Boundary

2.3 Legislation

2.3.1 The Conservation of Habitats and Species Regulations 2010 (as amended)

Otters and their habitats are protected under the *EC Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora Habitats Directive (The Habitats Directive)*, which was transposed into UK law by the Conservation of Habitats and Species *Regulations 2010 (as amended)*. Otter is listed within *Schedule 2* of *The Regulations* and is classified as a European Protected Species (EPS). As such, it is also an offence to:

- Deliberately capture, injure or kill otter,
- Deliberately disturb wild otter, or
- Damage or destroy a breeding site or resting place used by otter.

The purpose of the legislation is to maintain and restore otter populations within their natural range. This requires that the habitats on which otter rely and the ecology of its life cycle should not be compromised by human activities. Where activities have the potential to compromise otter populations, measures are required to be put in place to avoid impacts or compensate and mitigate for those impacts. It is not the intention of the law to prevent all activity in areas used by otter, but the legal protection does require that due care and attention is paid to the presence of otter and that appropriate actions are taken in order to safeguard the places that this species uses for shelter, protection or breeding (see *Section 3.4* for more details).

2.3.2 Wildlife & Countryside Act 1981 (as amended)

Otter is fully protected under *Schedule 5* of the *Wildlife & Countryside Act 1981 (as amended)* and is awarded protection under *Section 9*, *Sub-sections 4b*, *4c* and *5* under which it is an offence to intentionally:

- Disturb any animal included in *Schedule 5* while it is occupying a structure or place that it uses for shelter or protection; or
- Obstruct access to any structure or place that any animal included in *Schedule 5* uses for shelter or protection.
- Sell, offer or expose for sale, or has in their possession or transports for the purpose of sale, any live or dead wild animal included in *Schedule 5*, or any part of, or anything derived from, such an animal; or
- Publish or cause to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things.

2.4 Planning Policy

In March 2012, the *National Planning Policy Framework (NPPF)* was published and replaced the previous *Planning Policy Statement 9 (PPS9)*, although the guidance document '*Planning for Biodiversity and Geological Conservation: A Guide to Good Practice*' (ODPM 06/2005) was not replaced by the *Framework*.

The NPPF promotes plan-making and decision-taking with a presumption in favour of **sustainable development.** Sustainable development is achieved where developments are designed to address the mutually dependent threads of sustainability: **economic, social and environmental needs**. In terms of biodiversity, sustainable development should **not only achieve no net loss of biodiversity but incorporate proposals that achieve net gains for nature** alongside the other social and economic needs of society.

Protected sites and species are a material consideration in determining planning applications, therefore all information relating to protected sites and species must be submitted with planning submissions for determination of the whole application. The *NPPF* promotes the approval of plans where applications can demonstrate that they are in accordance with up-to-date local plans and have addressed material considerations. In accordance with the *Staffordshire Moorlands Local Plan (1998)*, the following local planning policies are relevant to the site:

- Policy N3: Infilling Within the Greenbelt;
- Policy N15: Nature Conservation Sites; and
- Policy H14: Meeting Housing Demand.

2.5 Biodiversity Policy

Section 41 (S41) of the *Natural Environment & Rural Communities (NERC) Act 2006* requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. This list is the up-to-date list of Habitats of Principal Importance or Species of Principal Importance requiring action in the UK Biodiversity Action Plan (BAP) and is used as a guide to decision makers, such as pubic bodies and including planning authorities, to implement their duty of having regard to biodiversity when carrying out their functions.

Local BAPs have also been written and adopted to develop plans for species of nature conservation importance at regional and local levels. The Ecosystem Action Plans (EAPs) of the Moorlands Biodiversity Action Plan (BAP) covers the area surrounding Leekbrook. The action plans that are considered to be relevant to the site include the 'Otter *Lutra lutra* Species Action Plans' and the 'River, Stream & Canals Habitat Action Plan'.

2.6 Personnel & Quality Assurance

All ecologists employed by Capita are members of, or are under application for, membership of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the institute's code of professional conduct when undertaking ecological work. All fieldwork is carried out in accordance with current best practice guidelines under the supervision of senior staff and appropriately licensed ecologists.

Neil Page is a Full Member of CIEEM and has been an Ecological Consultant for the last five years. Neil has a broad range of professional experience in consulting services, including ecosystem management, design, planning, protected species mitigation and environmental research projects. Neil also has experience of a range of habitats and species, coupled with habitat creation and management, which has enabled him to mitigate both social and environmental issues on a wide variety projects and schemes. Neil is an experienced surveyor of reptiles and amphibians and he holds a *Natural England Science & Education Great Crested Newt Licence*.

Megan O'Brien is an Assistant Ecologist who has one year of professional experience in ecology consultancy. In this time, Megan has gained experience in great crested newt, reptile, bats, water vole and otter surveys, as well as in reptile translocations. Megan also has experience in supervising destructive searches for reptiles.

3. Methods

3.1 Survey & Report Objectives

The objectives of the otter survey and this report are to:

1. Identify any existing records of otter within 2 km of the survey site.
2. Identify and record the location and status of any previously unidentified habitat features within the survey area that may be used by otter.
3. Identify and record any commuting routes or territorial boundaries within the survey area that are used by otter.
4. Establish an ecological baseline in relation to otter in order to determine the importance of the site for any local otter populations.
5. Establish an ecological baseline in order to inform any subsequent assessment of any potential impacts upon otter that may occur as a result of the proposed development.
6. Obtain sufficient field data to determine and advise the client on appropriate working methods and/or mitigation measures (if required).

3.2 Desk Study

A desk study was carried out and involved a review of the existing survey data that was available at that time, a review of online resources and a consultation exercise. Species records pertaining to otter (within a 2 km radius of the site boundary) were requested from the local records centre, Staffordshire Ecological Record Centre (SERC).

The aim of the desk study was to establish whether any records were available to assess the presence and distribution of otter both on the site and within the surrounding area in order to support the subsequent field survey.

3.3 Camera Trapping

3.3.1 Equipment Used

In order to support the field survey, camera trapping was carried out using an 'Acorn ltl-5210a wildlife trail camera 12mp ® Capture 3.0 megapixel camera trap'. This digital camera uses sensors to detect motion and to measure changes in temperature within a 20 m detection zone. The operating time and the triggering interval of the camera were set-up to best suit the season and the site conditions, respectively. The detecting sensibility was set to 2 to 3 infrared beams triggering within a 5 to 8 second time period. As an animal passes in front of the camera, the sensors detect the movement and increase in temperature and activate the camera to take a still photograph that includes a time and date stamp.

3.3.2 Installation

The camera-trap was installed at a pinch point where the River Churnet and Leek Brook merge. This location was chosen to maximise the probability of the camera recording the passage of any otter using the watercourses. The pinch-point acted as a natural funnel in the landscape that increased the chance of any individuals passing in front of the camera by there being no obvious alternative routes present (see *Appendix A*).

The camera was left in situ and active for seven consecutive days from 2nd October through to the 9th October.

3.4 Field Survey

In accordance with best practice survey methods such as those listed in the DMRB volume 10 1999*, the field survey included the recording of any evidence/field signs of otter present along the River Churnet and upon the site. Any evidence observed can be used to determine activity and behaviour patterns of otters within the study area (i.e. through the recording of couches, feeding remains, footprints, holts, slides** or spraints) and identifies particular stretches of watercourses that may be important to otter.

There are a number of different resting places used by otter. The following text provides an outline of their differences:

- **Holt -** These are structures used for shelter on a permanent basis. They are covered and usually comprise a hole/burrow situated amongst the riparian vegetation present along a river bank, the root system of riverside trees or behind boulders set into a bank. Holts may have more than one entrance and be connected to couches. There may also be secondary evidence (e.g. prints or feeding remains) of otter present at the entrance(s).

- **Couch (a.k.a. lying-up area) -** These are temporary areas used for resting, grooming or feeding. Rather than being fully covered, they are usually comprised of partially hidden shelves or nest-like structures situated amongst the grass/reed riparian vegetation. There may be secondary evidence of otter present.

- **Natal Dens -** These are holts used to birth and rear young. They usually have inconspicuous entrances and may be situated within woodland or amongst log piles, tree roots, rubble or reedbeds up to 5 km from the watercourse. There is often little to no evidence of otter activity around the entrance.

The otter survey focused along the River Churnet. The survey consisted of an inspection of a single bank, where accessible, and extended 250 m either side of the proposed development site boundary. At each potential camera installation point, a length of approximately 1 km was surveyed for any evidence of otter.

3.5 Survey Constraints

Observations during the day of the survey were limited by dense vegetation that reduced visibility. This included tall ruderal vegetation on the ground that may have obscured evidence or field signs. However, professional ecological judgement and interpretation has been presented in this report to assess how this species are likely to use the area based on the available evidence at this time and as such is deemed sufficient to inform this assessment.

*The Highway Authorities: Design manual for roads and bridges volume 10 survey for mammals 1999

** Created when otters pass back and forth at the water edge.

4. Results

4.1 Site Description

The land within the site boundary (see *Figure 1*) formerly housed an engine shed and coaling plant for locomotives that were demolished in 1946. Since then, the site has been left unmanaged and, as a result, vegetation has colonised the site through natural succession. The River Churnet runs north-west to south-east and passes the site at its southern end. Leek Brook runs east to west and merges with the River Churnet at the site's southern end. The river supports common freshwater fish, such as bream *Abramis brama*, perch *Perca fluviatilis* and brown trout *Salmo trutta.* There is also a foul water channel present next to the site that forms part of the nearby Severn Trent Sewage treatment facility.

4.2 Desk Study

The species records obtained from SERC include three records of otter within 2 km radius of the site. These are detailed within Table 1, below:

Location	Grid Ref.	Date	Source
River Churnet, Cheddleton	SJ973,525	03/03/2005	Staffordshire Mammal Group
River Churnet, Cheddleton	SJ973,525	1989	Staffordshire BRC data
Ladderedge Country Park	SJ979,551	10/04/2002	OARP Surveys

Table 1: SERC Species Records

4.2.1 Camera Trapping

The trap was triggered four times during this period, but the images obtained did not include any evidence to confirm to the presence of otter (see *Appendix A*).

4.3 Field Surveys

The field survey identified habitat suitable for otter within 250 m of the proposed development site. This included bridges adjacent to the River Churnet, mature bank-side trees and scrub and wood-covered banks. The channel of the river, itself, varied between 5 and 10 m wide in places and included a range of riparian characteristics suitable for otter, such as deep pools, riffles and runs. The river supports common freshwater fish and unidentified fry observed at the time of survey. These may serve as a suitable food resource for otter in the local area.

The field survey recorded evidence of otter activity along the River Churnet and land adjacent (i.e. within 250 m) to the site. These included fresh, recent and old otter spraints, otter footprints and couches. The locations of the field signs and resting places recorded are detailed within *Appendix A* of this report. Figures 2 to 4 illustrate the evidence recorded and Table 2 details the grid references and type of each otter sign recorded.

Figure 2 illustrates a fresh spraint that was observed on a stone located beneath a bridge spanning the watercourse. The presence of small fish scales within the spraint and the distinctly sweet smell indicative of otter were also recorded.

Figure 3 illustrates a couch (on the right of the image) that was observed on an inaccessible bank-side and a slide (on the left of the image) near to the water's edge.

Figure 4 illustrates otter prints* that were observed within sandy sediment at the base of a railway bridge buttress and in close proximity to fresh spraint.

The entrance to the couch was set amongst willow scrub and was lined with stands of Himalayan Balsam *Impatiens glandulifera*. The slide was located adjacent to the couch entrance. The couch was also linked to a series of other couches set amongst the scrub and beneath the overhanging vegetation via a number of pathways. Some of the other couches included additional field signs in the form of otter slides.

All field signs were located to the west of the proposed development site.

Figure 2: Fresh Spraint

Figure 3: Couch + Slide

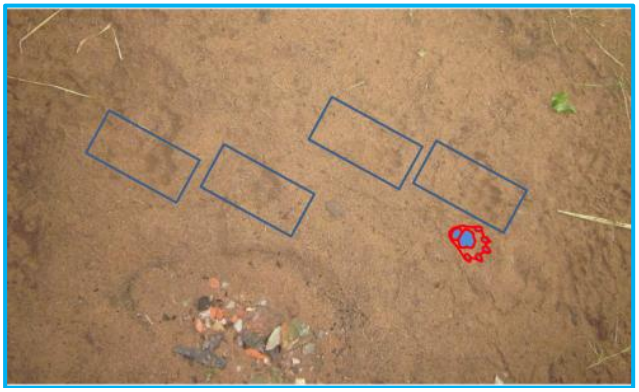

Figure 4: Prints

*** An 'example' print is also illustrated for comparison and is highlighted in red**

Table 2: Evidence/Field Signs Recorded

Field Ref.	Field Sign / Evidence	Grid Ref.	Evidence of recent activity
1	Spraint	SJ981539	Found on standing rock within water course
2	Foot prints	SJ981539	Row of footprints found in soft sand under bridge buttress
3	Slide	SJ980540	A number of well used paths and slides to the water's edge
4	Slide	SJ978542	A number of well used paths and slides to the water's edge
5	Couch	SJ978543	Sited within dense willow scrub, in close proximity to slide. Vegetation flattened to form natural bay

5. Interpretation & Evaluation

5.1 Advice, Interpretation & Recommendations

5.1.1 Advice

Otter receive legal protection under both the *Conservation of Habitats and Species Regulations 2010 (as amended)* and the *Wildlife & Countryside Act 1981 (as amended)*. As previously stated within *Section 2.3*, it is an offence to disturb, capture or kill an otter or to obstruct access, damage or destroy a site used for breeding, resting or shelter.

5.1.2 Interpretation

Based upon the current proposed development details and the findings of the otter survey, **no form of shelter used by otter is present on the proposed development site. Therefore no otter habitat used for shelter or protection will be disturbed, damaged or destroyed as a result of construction activity associated with the development. There will also be no obstruction of access to any form of shelter.**

Construction activity does have the potential to disturb otter whilst individuals move through habitat adjacent to the site, which would constitute and offence under the legislation protecting otters. It is also possible that otter may enter the site once construction has begun and be subsequently injured and/or killed as a result of on site activities. This would also constitute and offence under the legislation, if appropriate precautions are not incorporated and implemented within site working methods.

Vegetation clearance undertaken as part of the construction works also has the potential to cause the loss of habitat used by otter as migration routes (i.e. runs) through the area. This may adversely impact on local otter populations by fragmenting the suitable habitat available and limiting dispersal or home ranges. Whilst the loss of this habitat would not directly constitute an offence, it would be considered best practice to avoid it wherever possible.

It should be noted that otters are a mobile species and may move on to and occupy areas of the site in the future.

5.1.3 Recommendations

The potential disturbance of individuals moving through habitat adjacent to the site as a result of construction activity associated with the proposed development may be avoided through the adoption of precautionary working methods. For example, this could include establishing an appropriately-sized* exclusion zone along the river boundary to prevent any construction plant and/or personnel from entering the area. This would reduce the risk of disturbance to any otter in this area by allowing otters a safe zone within which to pass unhindered through the area. The exclusion zone would need to be adopted and enforced throughout any works on site.

To avoid the potential for otters to be harmed on site during works appropriate* preventative measures could be implemented, such as:

- Ensuring that a means of escape (e.g. a plank of wood) is placed in any excavations to allow any otter that accidentally falls in to them is able to climb out; and
- Any equipment and/or plant left on site should be fenced-off with otter-proof fencing in order to prevent individuals from climbing in/under them and becoming injured or killed when they are next used.

* Advice should be sought from a suitably experienced/qualified ecologist.

In order to ensure that all staff and contractors working on site are aware of the legislation protecting otters and their habitats and the methods of working that are required to avoid offences, all staff and contractors should be been made aware of any adopted methods of working that are in place through site induction and toolbox talks.

The scheme design should also consider incorporating sympathetic design elements to further reduce the risk of disturbing otter within the area and/or deterring otter from the area. For example, this could include:

- Retaining as much existing bank-side/riparian vegetation wherever possible;
- Enhancing bank-side/riparian vegetation through new planting wherever possible; and
- Preventing light-spillage onto the river corridor.

Should the proposed scheme design change and could impact on otters, and/or otter subsequently move on to the site and any adverse impacts and potential offences are anticipated as a result, an EPS Licence would need to be applied for from Natural England (NE). The licence would need to include specific mitigation measures designed to avoid, reduce or remove any adverse impacts of the development. In addition, the licence must be applied for and be in place prior to any affecting works commencing.

The results of this survey provide an assessment of otter presence at this time and the likely impacts of the development of the site. Otters are mobile species and their distribution can change frequently. Therefore, it is recommended that if several months pass between this survey and commencement of development, a further pre-commencement survey is undertaken by a suitably experienced ecologist to address the risk of otters establishing holts on the site. By adopting this recommendation the client can demonstrate that a precautionary approach to development as required by the legislation protecting otters is being implemented.

6. References

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- UK Biodiversity Action Plan. Available: www.ukbap-reporting.org.uk/plans/national.asp

Appendix A - Survey Plan

NOTES:-

Site Boundary

X Otter Evidence Locations

REV	DESCRIPTION	DRAWN	CHK	APP	DATE
REV	DESCRIPTION	DRAWN	CHK	APP	DATE
REV	DESCRIPTION	DRAWN	CHK	APP	DATE

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Do Not Scale From This Drawing

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