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Dear Tamara

Subject Water Vole Survey Results - Chesterton Bridge

1. INTRODUCTION

1.1 Background

M&H Ecology Limited were commissioned by Capita to assist Capita ecologist, Ann Sherwood, to undertake a water vole survey along a short section (approximately 80m, between NGR TL47390:60101 and TL47414:60171) of Coldham's Brook (within the Network Rail land), located within the Ditton Meadows, Fen Ditton, Cambridge. The survey was required to determine whether water voles were present and to recommend the most appropriate mitigation measures based on the results for the Chesterton Bridge project.

Historic surveys carried out by Atkins in 2015 and 2016 concluded that water voles were noted within the Coldham's Brook (within the Network Rail section) and the wider environment. However, water vole surveys carried out Capita in 2017 concluded that the lack of active field signs indicated that there was not as much evidence of water voles as reported in the Atkins survey report and that it is likely that the water vole population had declined across the site with only one old burrow recorded in Coldham's Brook and old droppings recorded in Ditch 2 within the meadows. No evidence of active water voles was found within the Coldham's Brook or the watercourses within the wider environment (Capita, 2017).

1.2 Survey Site

The survey site is located adjacent to the main railway line at Ditton Meadows near Chesterton in Cambridge and is formally known as Coldham's Brook. The surveyed section is shown in Figure 1 below:

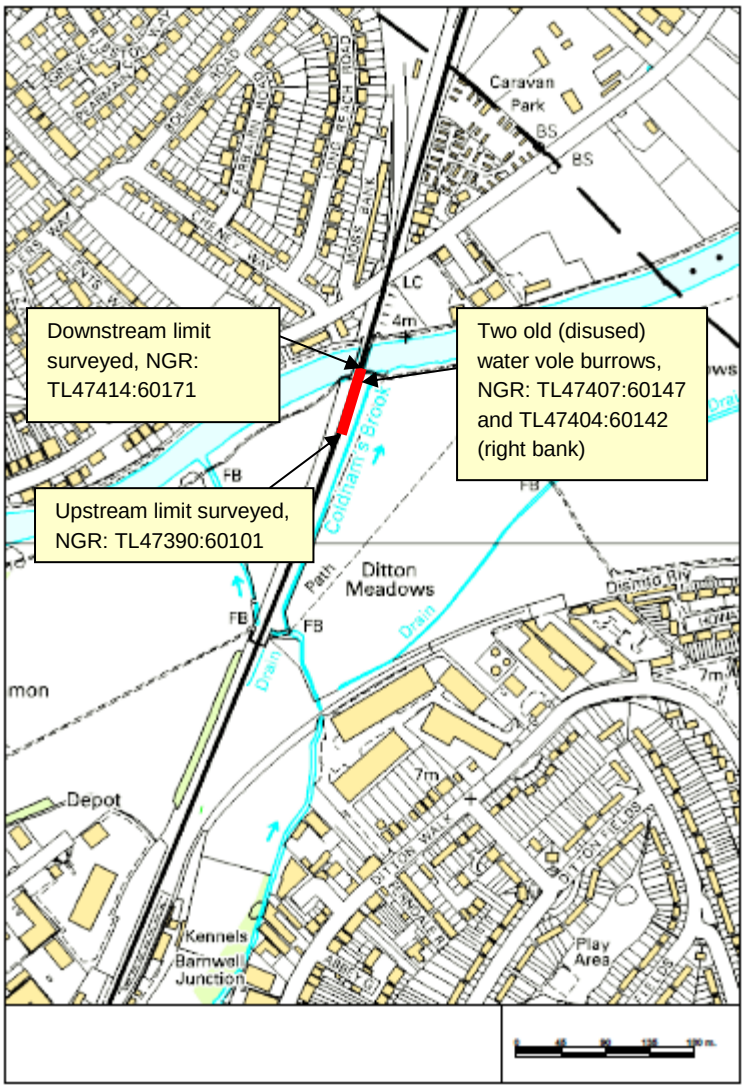

Figure 1: Location map showing section surveyed along Coldham's Brook (between NGR: TL47390:60101 to TL47414:60171) and the results of the survey.

1.3 Water Vole Legislation

In England and Wales water voles are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), receiving full protection since 2008. The provision for protection under the Wildlife and Countryside Act 1981 (as amended) is as follows:

- Intentionally killing, taking or injuring a water vole (Section 9(1))
- Possessing or controlling any live or dead water vole, or any part or derivative (Section 9(2))
- Intentionally or recklessly damaging or destroying a water vole's place of shelter or protection (Section 9(4)(a))
- Intentionally or recklessly disturbing a water voles whilst it is occupying a structure or place which it uses for shelter or protection (Section 9(4)(b))
- Intentionally or recklessly obstructing access to a water vole's place of shelter or protection (Section 9(4)(c))
- Selling, offering for sale, or possessing or transporting for the purposes of sale, any live or dead water vole, or any part or derivative, or advertising any of these for buying or selling (Section 9(5)).

2. METHODOLOGY

2.1 Desk Top Study

An ecological desk study was undertaken by obtaining the existing historic baseline information from the surveys carried out by Capita (2017) and Atkins (2015 and 2016).

2.2 Field Survey

The water vole survey was conducted on the 4th May 2018. The section surveyed included an 80m long section of Coldham's Brook as indicated within the map in Figure 1.

2.3 Water vole Field Signs

This involved identification of water vole activity within at least 5m of the channel of the watercourse. The survey applied the principles of the standard methodologies of Strachan and Moorhouse (2011) and The Water Vole Mitigation Handbook (Dean, M. et al, 2016). Field signs searched for included:

- Latrine sites: The presence of the water vole can be determined from its droppings, which provide the most distinctive field sign. They are roughly 8-12mm long and 4-5mm wide, cylindrical with blunt ends. Their colour ranges from black, brown and green, depending on age, diet and water content. Most droppings are deposited on latrine sites, which can be found at favoured areas where the voles leave and enter the water, at discrete sites near to their burrows and are used to mark territorial boundaries. Breeding voles use regular latrine sites along water margins, and often consist of a flattened mass of old droppings (drumming sites) with fresh ones on top.

- Feeding stations: Water voles foraging remains and feeding stations are usually noted along the water`s edge and at their burrow entrances. Feeding remains consist of neat piles of chewed off lengths of vegetation. These grazing remains typically measure 8-10cm, showing two large incisor marks. Grazing remains also double as food caches and are often accompanied by droppings.

- Burrows: Water vole burrows have an approximate hole size of 4-8cm. The burrows can appear as a series of holes along the water`s edge, some may open below the water line, whilst others can occur amongst the vegetation up to three metres from the toe of the bank. Burrows may also show evidence of a closely cropped grazed lawn.

- Prints: Imprints from water voles show four digits from the fore foot and five digits in the hind foot. The imprinted digits form a star shape of splayed-out toes. Water vole tracks are very difficult to distinguish between tracks made from the brown rat, particularly young animals. Generally, water vole prints tend to be much smaller than rat prints, but it is important to note that they cannot always be used as reliable indicators in the absence of other water vole field signs.

- Runways: low tunnels that are pushed through the vegetation and often leading to burrows or feeding stations.

3. RESULTS

3.1 Desk Top Study Results

The data obtained from the historic surveys were assessed to inform the desk top study.

3.2 Survey Results

The survey was carried out by M&H Ecology Limited and Capita on the 4th May 2018. The surveyors were Julia Massey, CEnv MCIEEM and Ann Sherwood, MCIEEM.

3.3 Survey Limitations

The marginal vegetation is very dense i.e. a monoculture of sedge (refer to photograph one), including an understorey of die back vegetation, which is very difficult to survey. However, the dense vegetation provides excellent cover for water voles. The downstream section is devoid of both bank and aquatic vegetation (refer to photograph two).

	
Photograph 1: View looking downstream along Coldham's Brook (view from the upstream limit of the survey).	**Photograph 2:** The lower downstream section of the surveyed section

3.4 Water vole survey results

No water vole activity signs were noted during the survey. Two old burrows were noted along the right bank at TL47407:60147 and TL47404:60142.

4. MITIGATION & RECOMMENDATIONS

As no active water vole signs were noted during the survey the vegetation should be removed to bare earth as soon as possible to ensure that water voles do not colonise the section. Otherwise there will be a high likelihood that water voles will colonise the section, if this occurs, then no works will be able to proceed until appropriate water vole mitigation has been carried out i.e. under a licence. Please note: the next water vole mitigation window will commence on the 15th September.

The recommendations below should be adopted:

- An ecologist must be present during the works.
- The section should be re-inspected for the presence of water voles prior to commencing work.
- The section should initially be strimmed to as close to the ground as possible, including the in-channel vegetation and up to 2 metres back from the top edge of the bank.
- The ecologist should re-inspect the section for water vole burrows.
- The two old burrows (at TL47407:60147 and TL47404:60142) should then be hand dug using hand tools i.e. a trowel, slowly exposing the burrow system. It may just be a short "bolt hole".

- Once the burrows have been exposed the excavator can remove all of the vegetation from the banks and in-channel to expose bare earth. The channel and banks must then be maintained as bare earth until the works commence to ensure that the watercourse remains untenable for water voles. Usually, if the bank substrate is suitable, the banks are sealed. However, the substrate may not be suitable for sealing along the section of Coldhams Brook.

If water voles are noted at any time the works must stop immediately and advice from a suitably qualified ecologist should be sought.

5.0 REFERENCES

Capita Property and Infrastructure Limited, 2017. Chesterton Bridge Water Vole Survey Report. Capita, Blackburn.

Rev	Date	Issue / Purpose/ Comment	Prepared	Checked	Authorised
0	30/05/18	First Issue	JM	AJS	TB

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