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Kingfisher Survey Report

(Technical Appendix II)

July 2024

United Utilities

Project: BRY0021 Aesthetics Screening
Pimhole Business Park
Bury



United Utilities Aesthetics Screen Development Project BRY0021
Pimhole Business Park, Bury – Technical Appendix II – Kingfisher Survey Report

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Appendix I – Biodiversity Enhancement: General Recommendations

1.0 Introduction & Context

- 1.1 As part of the United Utilities Aesthetics Screen Development Project **BRY0021**, Tyrer Ecological consultants were commissioned by Emerald Green Environmental Management Services Ltd. on behalf of Bethell Group PLC to undertake breeding kingfisher surveys of the River Roch (refer to **Figure 1.1**).



Figure 1.1 – *Identified burrow*

- 1.2 The kingfisher survey has been commissioned after the discovery of a suitable burrow during the updated EAR in July 2023 and subsequent activity in the vicinity of the burrow observed during the updated water vole and otter assessment (see **Technical Appendix I**).
- 1.3 The proposed development plans have indicated that there is potential to impact upon kingfisher and their habitat, should the species be found to be present in a breeding capacity.
- 1.4 The information from the survey will be used to assess the potential risks of the proposed works disturbing nesting kingfishers within a 50-100m buffer of the proposed outfall.
- 1.5 The results of the kingfisher surveys have been provided in **Section 4.0**.

2.0 Methodology

- 2.1 Survey methodology was undertaken In line with Bird Survey Guidelines, whereby 6 surveys took place within the breeding bird season, however the survey was adapted to suit the needs of the project, topography of the site and the visibility of the watercourse/burrow. Therefore, it was deemed appropriate to undertake vantage point surveys from accessible locations on the riverbank.
- 2.2 As the survey was species specific it was determined that the timing of the survey would focus on the early morning when kingfishers are most active. Surveyors were positioned at a distance from the burrow and observed the burrow and watercourse via the use of binoculars for signs of calling. Movements of the same bird between different areas, flying, carrying food, entering the burrow in question or any other notable behaviour were recorded (Gilbert, Gibbons, & Evans, 2002).
- 2.3 The likelihood of breeding was determined using the recommended BTO observations of activities such as singing, food carrying, feeding young, aggressive encounters and actual nest building/entering the burrow.
- 2.4 The following meteorological variables were recorded at both the start and end of each survey:
- Cloud cover (Octas: 1 – clear sky; 8 – total cloud cover);
 - Wind speed (Beaufort scale: Force 0 – no wind, to Force 6 – strong wind (*NB: Surveys should not be carried out above Force 6 wind*));
 - Temperature (°C);
 - Visibility (excellent, good, moderate, or poor).
 - General weather
- 2.5 See **Table 2.1** below for full details of survey dates, timings and conditions:

Table 2.1 – Details of the breeding bird survey dates and weather conditions

Survey Number	Date	Sunrise	Start & End Time	Weather Conditions
1	24/03/2024	05:56	06:15– 08:45	Temp: 6 °C - 10°C Wind speed: 1 Beaufort Cloud cover: 1-1 octas Visibility: Excellent Weather: Dry, clear, cool
2	10/04/2024	06:19	06:40 – 9:10	Temp: 4 °C - 12°C Wind speed: 1 Beaufort Cloud cover: 4-4 octas Visibility: Moderate Weather: Clear, cool and still
3	02/05/2024	05:31	05:40 – 07:55	Temp: 11 °C - 10°C Wind speed: 2 Beaufort Cloud cover: 2-3 octas Visibility: Good Weather: Light rain towards end of survey

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4	17/05/2024	05:04	04:55 – 07:25	Temp: 13 °C - 14°C Wind speed: 3 Beaufort Cloud cover: 3-4 octas Precipitation: N/A Visibility: Excellent Weather: Dry, Clear, Overcast
5	06/06/2024	04:42	05:00 – 07:30	Temp: 10 °C - 11°C Wind speed: 1 Beaufort Cloud cover: 8-8 octas Precipitation: N/A Visibility: Moderate Weather: Overcast, occasional showers
6	20/06/2023	04:39	04:00 – 6:30	Temp: 14 - 21°C Wind speed: 2 Beaufort Cloud cover: 8/8 octas Precipitation: N/A Visibility: Good Weather: Calm, clear

3.0 Limitations

- 3.1 Land access to the southern bank of the River Roche was not obtained until second survey so some visual limitations were experienced in relation to the upstream portion of the River Roche.
- 3.2 Surveys that took place between late May-June had other visual constraints such as dense vegetation growth etc., however surveyor positions were adjusted to ensure the burrow and likely flightlines were always within a clear line of sight.
- 3.3 Taking everything into consideration no significant constraints affected the survey effort that would affect the integrity of the results, conclusions and recommendations in this report.

4.0 Results

Habitat description

- 4.1 The River Roch is a Statutory Main River, which runs from the northeast through the towns of Bury and Rochdale in Greater Manchester; the section of the river in relation to the application is steep sided to north with gentle composite banks to the south, the banks to the north east are constructed of a mixture of earth/sand and eroding cliffs are present.
- 4.2 This section of the River Roch is known to support a breeding population of sand martins however no evidence of nesting was noted within a 50m buffer of the application site. The River Roch also supports kingfishers, as observed during the daytime survey which took place in July 2023, this species also nests in burrows along sandy/earth riverbanks. The location of the suspected kingfisher burrow in relation to redline boundary for application is depicted below in **Figure 4.1**.

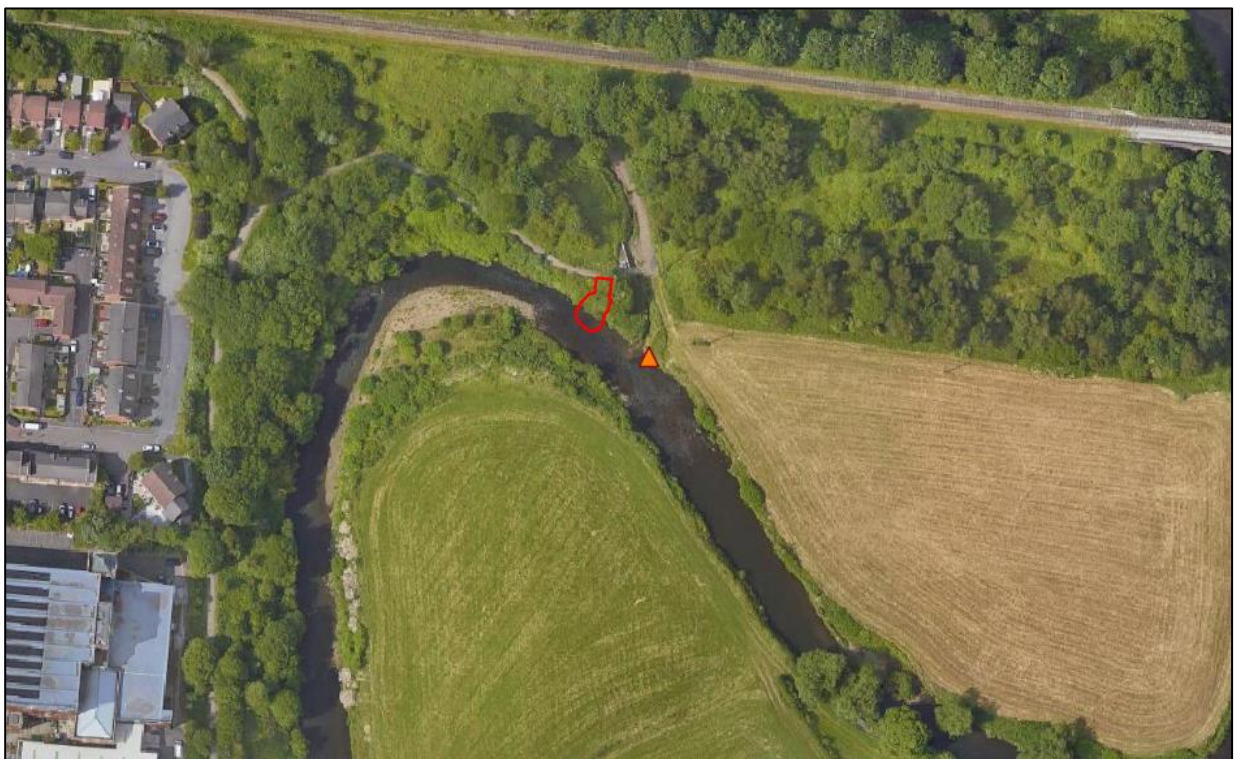


Figure 4.1 – Location of the suspected kingfisher burrow in relation to the red line boundary © Google Earth Pro 2023

- 4.3 The River Roch is fast flowing with a cobble bed, exposed boulders are present throughout, washed out re-enforcements are present downstream to the west of the application site. In terms of resources the river is considered likely to support various prey items which would provision breeding kingfishers, owing to the observed species utilising/feeding on the River Roch inclusive of grey herons (*Ardea cinerea*), cormorants (*Phalacrocorax carbo*) along with evidence of both otter (*Lutra lutra*) and American mink (*Neovison vison*).

Survey results

- 4.3 See **Table 4.2** and **Figures 4.2 – 4.7** overleaf which detail the results of the kingfisher surveys which took place between April and June; Surveyor credentials have been given within **Table 4.1**.

Table 4.1 – Site surveyor credentials and experience

Surveyor(s)	Experience	Surveyor Credentials
Mrs. K. Wilding CEnv MIEMA ACIEEM	16 years	Principal level Ecologist and Director of Tyrer Ecological Consultants Ltd who holds a Natural England Class 2 License (CLS-14227). Has a large portfolio of successful granted mitigation licences in England and Wales. Natural Resources Wales License = S093795-1 Barn Owl License – CL294-00276
Miss T. Hesketh	5 years	Consultant Ecologist and Biodiversity Net Gain Specialist with 5 years professional training and experience; graduating with a BSc in Biology and MSc in Conservation Management (a course accredited by CIEEM) who holds a FISC Level 4 (2022) and is certified in River Condition Assessment methodology (MoRPh Rivers). Accredited agent on the Class 2 Natural England bat license of Mrs K Wilding (CLS-14227)
Mr. J. Hark Qualifying CIEEM	5 years	Consultant Ecologist with 5 years professional consultant experience and training in species ecology, Relevant Degree: MSc Wildlife Conservation.
Mr. D. Burrows Qualifying CIEEM	5 years	An experienced Consultant Ecologist with 5 years of professional training and experience; holding a BSc in Wildlife Conservation and MSc in Conservation & Biodiversity. Holds a Natural England Great Crested Newt: CL08 Class 1 license 2022-106040-CL08-GCN. Sand Lizard & Natterjack Toad (Licensed for Sand Lizard & Natterjack Toad (2024-68402-SCI-SCI)). FISC 3 botanist. Accredited agent on the Class 2 Natural England bat license of Mrs. K. Wilding (CLS-14227).
Mr. B. Richards Qualifying CIEEM	2 years	Consultant Ecologist with a range of training and experience. MBiolSci in Biological Sciences (Zoology). Qualifying CIEEM. Accredited agent on the Class 2 Natural England Bat Licence of Mrs. K. Wilding (CLS-14227). Holder of a FISC Level 3 (2023).
Mr. H. Mulligan Qualifying CIEEM	2 year	Consultant Ecologist with a range of training and experience, MBiolSci in Biological Sciences (Zoology), Accredited agent on the Class 2 Natural England bat license of Mrs K Wilding (CLS-14227).
Miss C. Rimmer	1 year	Junior Ecologist with one year training and experience, currently undergoing further extensive survey training - BSc Hons in Wildlife and Conservation

Table 4.2 – Survey results

No.	Survey Date	Timings	Activity
1.	24/03/2024	06:15– 08:45	Summary: A total of 5 passes along this stretch of the River Roch were observed by kingfisher with a maximum of 2 individuals observed at any one time. No activity was observed at the burrow and no nesting/breeding behaviour was observed. 0701hrs: Kingfisher flew up stream past burrow (W-E) 0702 hrs: Second Kingfisher flew upstream past burrow (W-E). 0716hrs: Kingfisher flew down stream and landed in small willow on the northern bank, and then returned upstream. 0712hrs: Kingfisher flew downstream past burrow calling (E-W). 0745hrs Kingfisher flew upstream calling (E-W).
2.	10/04/2024	06:40– 09:10	Summary: Kingfisher seen entering and existing the tributary. Dipper observed frequently entering and exiting the tributary throughout the duration of the survey. 0645hrs: A Dipper (<i>Cinclus cinclus</i>) was observed entering the tributary to the west of the burrow carrying food and exited a moment later and continued upstream. This behaviour was repeated for the duration of the survey. 0705hrs: Kingfisher flew up the tributary and out of site. 0708hrs: Kingfisher exits tributary and flies upstream. 0731hrs: Kingfisher enters tributary and hovers briefly before continuing up the tributary and out of site. 0742hrs: Kingfisher heard but not seen.
3.	02/05/2024	05:40– 07:55	Summary: Kingfisher entered and exited tributary. 0709hrs: Kingfisher entered the tributary to the west of the burrow. 07014hrs: Kingfisher exited the tributary and commuted along the River Roch upstream.
4.	17/05/2024	04:50– 07:25	Summary: Kingfisher commuted from downstream to small willow and then circled over river before returning upstream. 0715hrs: Kingfisher observed flying downstream (W-E) and landing in willow 0717hrs: Kingfisher flew towards burrow but then hovered over water's surface before returning to the willow and then heading down stream (E-W).
5.	06/06/2024	05:00-07:30	Summary: Kingfisher observed flying along woodland

			boundary in field to north across river and over field carrying food. 0605hrs: Kingfisher flew upstream (E-W) left River Roch at tributary and flew along woodland boundary until out of site. 0624hrs: Kingfisher carrying food flew from woodland to the north across River Roch over surveyor position and across field back to southern section of the River Roch (outside of our survey area). 0627hrs: Kingfisher flew upstream and left the river roach at the meander, flew along bank top (W-E) 0659hrs: Kingfisher carrying food flew from the north across river Roch over surveyor position and across field back to southern section of the River Roch (outside of our survey area).
6.	20/06/2023	04:00 – 6:30	Summary: Single kingfisher pass flying upstream (E-W) 0531hrs: Kingfisher flew upstream (E-W).



Figure 4.2 – Kingfisher survey No. 1 - 24/03/2024



Figure 4.3 – Kingfisher survey No. 2 - 10/04/2024

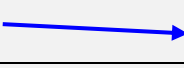
Key			
	Site boundary		Perching locations
	Surveyor positions		Commuting activity
	Directional compass		Identified burrow



Figure 4.4 – Kingfisher survey No. 3 - 02/05/2024



Figure 4.5 – Kingfisher survey No. 4 - 17/05/2024

Key			
	Site boundary		Perching locations
	Surveyor positions		Commuting activity
	Directional compass		Identified burrow

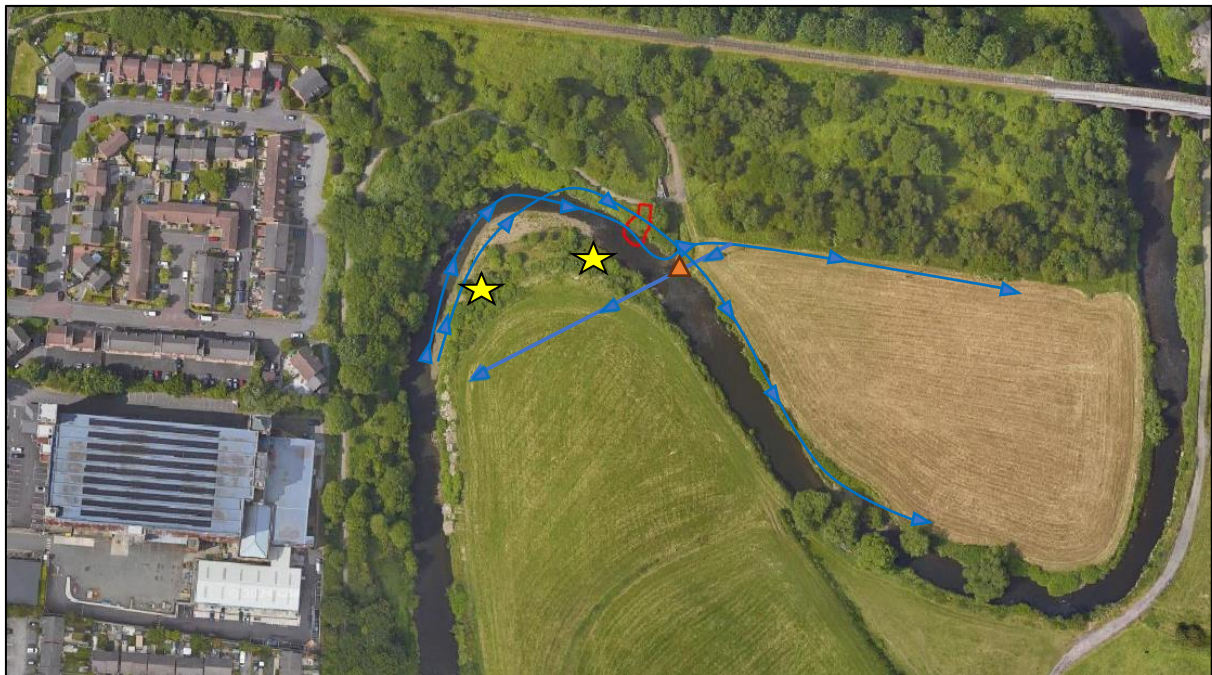


Figure 4.6 – Kingfisher survey No. 5 - 06/06/2024



Figure 4.7 – Kingfisher survey No. 6 - 20/06/2023

Key			
	Site boundary		Perching locations
	Surveyor positions		Commuting activity
	Directional compass		Identified burrow

5.0 Conclusions & Recommendations

- 5.1 Based on the six surveys undertaken between April and June, it has been established that the identified burrow is not in use at this time. However, it is highly likely that River Roch does support breeding kingfishers as evidenced by the individual observed carrying food downstream.
- 5.2 As kingfishers have 2-3 broods' a year and the pair often change nest burrows between broods; it is recommended that a pre-commencement survey takes place the morning works are set to commence.
- 5.3 If any nesting activity/breeding behaviour takes place at the burrow then the burrow will need to be monitored, and works will not be able to commence until any/all dependent young have left the area as schedule 1 birds are protected both at the nest as well as when rearing dependent young.

6.0 Bibliography

- **CIEEM**, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland*, 2nd edition. Available from:
www.cieem.net/data/files/Publications/EclA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf
- **CIEEM**. 2020. *Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK*. 2nd Edition. Chartered Institute of Ecology and Environmental Management. Winchester, UK
- **Magic Maps Application**, 2023. Available from:
www.natureonthemap.naturalengland.org.uk/MagicMap.aspx

Appendix I - Biodiversity Enhancement: General Recommendations

Proposed - Enhancement for kingfisher

The Woodstone Kingfisher Nest Tunnel should be fitted with the bank side of the River Roch located a minimum of 1 metre above the water level and 0.5 metres below the top of the bank. The tunnel should be placed at a downwards angle of 10-20° to allow for drainage, and with a small 'bowl' of earth in the chamber for the eggs to lie in. Two nest tunnels should be placed within the bank approximately 2 metres apart.



<https://www.birdfood.co.uk/woodstone-kingfisher-tunnel>