SP MANWEB

Reinforcement to the North Shropshire Electricity Distribution Network

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Environmental Statement Appendix 7.8

Otter and Water Vole Surveys

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Reinforcement to the North Shropshire Electricity Distribution Network

on behalf of SP Manweb

Appendix 7.8: Otter and Water Vole Surveys

DCO Document 6.7.8

avian ecology

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The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Regulation 5(2)(a)

Reinforcement to the North Shropshire Electricity Distribution Network

Environmental Statement: Appendix 7.8 – Ecology and Biodiversity Otter and Water Vole Survey

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1 INTRODUCTION

1.1.1 This Appendix presents the result of otter *Lutra lutra* and water vole *Arvicola amphibius* surveys undertaken to inform the Ecological Impact Assessment (EcIA) for the Proposed Development.

1.1.2 The otter is listed on Schedule 5 of the Wildlife & Countryside Act 1981, which under Section 9(4) of the Act makes it an offence to intentionally damage, destroy, or obstruct access to, any structure or place which otters use for shelter or protection. It is also an offence to intentionally disturb them while occupying a structure or place which it uses for that purpose.

1.1.3 The otter is also listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017, which affords otters extra protection by also making it an offence to deliberately capture, kill or disturb otters or to deliberately take or destroy their young, or damage or destroy a breeding site or resting place.

1.1.4 Water voles are protected in England under the Wildlife and Countryside Act 1981 (as amended). The species is listed on Schedule 5 of the Act and is protected under Section 9, which makes it an offence to:

- Intentionally kill, take or injure a water vole;
- Possess or control any live or dead water vole or any part or derivative;
- Intentionally or recklessly damage or destroy a water vole's place of shelter or protection;
- Intentionally or recklessly disturb a water vole while it is occupying a structure or place which it uses for shelter or protection; or,
- Intentionally or recklessly obstruct access to a water vole's place of shelter or protection.

1.1.5 It is generally agreed that a place of shelter or protection used by water voles includes a network of activity burrows and/or any nests that have been constructed within the burrow system or above ground amongst dense vegetation.

2 METHODOLOGY

2.1 Survey Area

2.1.1 The survey areas for otter and water vole were identified through an iterative process, drawing upon early route corridor option studies, professional judgement in relation to the extent and nature of the Proposed Development, standing advice published by Natural England[1] and consultation engagement with Shropshire Council, Natural England, RSPB, the Canal and Rivers Trust and Shropshire Wildlife Trust (**DCO Document 5.1**). Detailed survey locations reflected the evolving design and alignment of the Proposed Development, identifying where potentially suitable watercourse and

[1]https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications#standing-advice-for-protected-species

ditch habitats would be crossed and hence where species surveys would be undertaken.

2.1.2 Otter and water vole surveys covered suitable watercourses and riparian habitat extending approximately 100m upstream and 100m downstream of crossing points. Both banks of each watercourse or ditch were surveyed where safe access was possible.

2.1.3 Survey areas are shown on Figure 7.9 (**DCO Document 6.14**).

2.2 Approach

2.2.1 Otter and water vole surveys were undertaken between April and August 2017 and in April 2018. The surveys were undertaken by C Baldock MRes ACIEEM, T Winter BSc Grad CIEEM, Z Hinchcliffe MSc, and A Hulme BSc; all of whom are suitably competent, experienced and professional ecologists fully conversant in field survey methodologies for both species.

Otter

2.2.2 The otter survey comprised an assessment of the relative habitat suitability of each watercourse, ditch or pond crossed by the proposed overhead line, new accesses or undergrounded cable route. Where potentially suitable habitat was identified from the extended Phase 1 habitat survey, detailed searches for signs of otter activity were undertaken on two separate occasions following Natural England guidance (2014[2]) including evidence of spraints, footprints, feeding remains, slides and potential holts (or otherwise resting or breeding place).

Water Vole

2.2.3 The water vole comprised an assessment of the relative habitat suitability of each watercourse, ditch or pond crossed by the proposed overhead line, new accesses or undergrounded cable route. Where potentially suitable habitat was identified from the extended Phase 1 habitat survey, surveys were undertaken for evidence of water vole presence. Two surveys of target watercourses were undertaken. Both banks of watercourses and ditches intersected by the Proposed Development were searched (upstream and downstream) for field signs indicating water vole presence, including feeding stations, latrines, feeding 'lawns' and burrows. Searches for field signs were undertaken from the toe[3] of the watercourse bank within each section, out into the water and up the bank.

2.2.4 The water vole survey methodology was undertaken in accordance with the Water Vole Mitigation Handbook (Dean *et al*., 2016[4]) and with reference to "Habitat survey assessment guidelines" for water vole prepared by Cheshire Wildlife Trust and adapted from 'A Method for Assessing Water Vole Habitat Suitability' (Harris *et al*., 2009).

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[2] Natural England (2014) Otters: surveys and mitigation for development projects. Natural England, Peterborough.

[3] In accordance with Dean *et al.* (2016) the toe of the bank is defined here as the area of the bank at, and immediately above, water level.

[4] Dean, M., Strachan, R., Gow, D. & Andrews, R. (2016). *The Water Vole Mitigation Handbook*. Mammal Society Mitigation Guidance Series.

Limitations of Survey

2.2.5 Access to some sections of watercourse was limited due to the presence of very steep-sides with loose soil banks, or where banks were completely obscured by heavily overgrown vegetation. Surveys at these locations were occasionally limited to spot points where safe access and full visibility of banks was possible.

3 RESULTS

3.1.1 The habitat suitability of surveyed watercourses and ditches for otter and water vole identified during the extended Phase 1 habitat survey is set out in Table 7.8.1. photographs are provided in Annex AN7.8.1.

3.2 Otter

3.2.1 No otter field signs were observed during survey, although otters are considered likely to be present and to move along the main watercourses in the area, including the River Perry, River Roden and Montgomery Canal, as well as minor tributaries. No holts or other signs of otter resting places were located along sections of surveyed bankside habitat up and down stream of crossing points for the Proposed Development.

3.2.2 Under current baseline conditions, there will be no direct construction impacts on otters and therefore no specific mitigation is required for this species. Standard pollution prevention and control measures during construction will serve to protect watercourses and associated habitats and species, including otters potentially present in the wider area.

3.2.3 As otters are highly mobile species, there is, some potential for individuals to establish new resting places or holts on bankside habitat between the time of the baseline surveys and commencement of construction works. The proposed works will however maintain a stand-off buffer of approximately 8m from the banks of main watercourses, and the physical land take for construction is very small at individual pole locations and will not cause any habitat fragmentation or isolation, or block the movement of wildlife along riparian corridors. Hence the potential to affect otters, if moving along watercourses as part of a wider territory, is very low.

3.2.4 A further search for signs indicating the presence of otter will therefore be required prior to the commencement of construction activities, to reconfirm baseline conditions and review the requirement for mitigation measures. In the event baseline conditions have changed, the appointed ecologist will advise on the implementation of necessary mitigation measures to ensure legislative compliance including, if necessary, amendments to the detailed location of poles (micro-siting) or working methods within the Order Limits and/or a derogation licence from Natural England.

3.2.5 Pre-construction surveys and measures to protect watercourses and bankside habitat during construction, along with detailed species-specific protection measures if required, will be set out in the draft Construction Environmental Management Plan (CEMP) (**DCO Document 6.3.2**).

3.2.6 Once operational, the Proposed Development is not likely to have any effect on otters or their habitat.

3.3 Water Vole

3.3.1 Signs of water vole were recorded at several locations, including burrows, latrines, and feeding remains. The presence of water vole droppings is the only field sign that can be used reliably on its own to confirm the species presence however as a precautionary approach, other signs of small mammal activity such as paths along banks of suitable watercourses/ditches were recorded as possible evidence on a precautionary basis.

3.3.2 The majority of the ditches along the survey area and in the vicinity of the Proposed Development lacked any evidence of water vole presence. Many of these ditches provided low suitability habitat for this species, for example being isolated from other connecting ditches and located within large open arable fields, or lacking suitable banks for burrowing or vegetation for feeding and cover.

3.3.3 Evidence of water vole presence was very limited overall along the Proposed Development, clustered along the River Perry and within a connected network of ditches in fields east of the River Roden as detailed in Table 7.8.2. Feeding remains were also observed (but no other signs) at a single ditch close to the River Perry and just east of the Montgomery Canal.

3.3.4 At all locations, the evidence suggested that low numbers of water vole were present, with small clusters (maximum of three in any group on a bank) of burrows located within any 100m long survey section. The survey results indicate a limited distribution and very small numbers of water voles are likely to be present at these locations. The number of latrines recorded during a survey provides an indication of relative population densities for the purposes of assessing impacts and approach to mitigation. During the surveys, only one confirmed latrine was recorded (ditch D40 east of the River Roden), with all other evidence confined to burrows, prints and feeding remains. As a result, current evidence suggests that the likelihood of water voles being present and at risk of disturbance in the vicinity of the Proposed Development is very low.

3.3.5 The following poles located along the Proposed Development lie closest to the locations and watercourses where water vole signs have been recorded:

Pole 47 – Pole 50 – Feeding remains likely to be water vole (WV1) on one bank of a ditch (D19 shown on Figure 7.9 (**DCO Document 6.14**)) which is crossed by the proposed overhead line route. No other corroborative evidence of water vole presence was located during the surveys. Pole 49 lies closest to this ditch, which forms part of a local ditch network likely to be connected to the nearby section of the River Perry. Pole 50 lies close to the banks of the River Perry and, although no evidence of this species was observed in proximity to Pole 50 at the time of survey, the river is also known to support water vole in the local area. Water vole may therefore be present in the connected ditches and along the section of the River Perry

Pole 64 – water vole signs including several burrows in close proximity to the proposed crossing point over the River Perry.

Pole 167 – **Pole 174** – this section of the proposed line route lies near a connected network of ditches linked to ditch D40, just to the east of the River Roden. Water vole signs including a single latrine were observed at several locations on ditch D40. Although no evidence of water voles was observed along any of the other connected

ditches during the surveys, it is likely that water voles could move along the ditch network (and establish burrows at new locations) in the future.

3.3.6 Construction works in proximity to watercourses and ditches where evidence of water vole presence has been recorded (and potentially also connected ditches nearby) have the potential to affect water voles, for example if ditch crossing works are required. The layout of the Proposed Development has been designed as far as possible to avoid construction activities occurring in close proximity to the watercourse/ditch network or for new watercourse/ditch crossings to accommodate accesses.

3.3.7 The proposed works will generally maintain a stand-off buffer of approximately 8m from the banks of main watercourses, with such buffers clearly marked. As the physical land take for construction is very small at individual pole locations, and laydown areas do not directly affect watercourses or ditches, the potential for habitat loss or disturbance to water voles is likely to be very low based on current survey evidence.

3.3.8 A further search for signs indicating the presence of water vole will be required prior to the commencement of construction activities, to reconfirm baseline conditions and review the requirement for mitigation measures at and around specific pole locations in proximity to watercourses and ditches (and potentially some ponds). In the event baseline conditions have changed, the appointed ecologist will advise on the implementation of any necessary mitigation measures to ensure legislative compliance including, if necessary, amendments to the detailed location of poles or working methods within the Order Limits and/or if required, using displacement techniques under a Natural England issued Class Licence (CL31[5]) or appropriate licensing/consenting approach applicable at the time

3.3.9 Pre-construction surveys and measures to protect watercourses and bankside habitat during construction, along with detailed species-specific protection measures if required, will be set out in the draft Construction Environmental Management Plan (CEMP) (**DCO Document 6.3.2**).

3.3.10 Once operational, the Proposed Development is not likely to have any effect on water voles or their habitat.

[5] In England displacement operations can be carried out under a Class Licence by a registered person, provided that they conform to the licence conditions which include:

- Only to be used for displacement over a continuous length of bank not exceeding 50m (for watercourses this equates to 50m on each bank);
- Only to be used during the period 15th February to 15th April inclusive;
- The project must have planning consent; and,
- An annual report of actions must be provided to Natural England.

Table 7.8.1: Watercourse Descriptions (habitat suitability survey)

Watercourse D1 = Ditch Number*	Width (m)	Depth (m)	Flow	Bank profile	Disturbance / water level change?	Adjacent habitat quality	Aquatic vegetation	Bankside vegetation
D1	1	1	No	Steep	Water level change	Poor	Species in ditches included great willowherb, soft rush, branched bur-reed, hemlock water dropwort, water starwort species.	Bankside vegetation included nettle, hogweed, meadowsweet, hawthorn, willow, alder shrubs, reed canary grass.
D2	1	1	No	Steep	Water level change	Poor		
D3	1	1	No	Steep	Water level change	Poor		
D4	1	0.5	Dry	Steep	Some water change	Poor		
D5	1	1	No	Steep	Water level change	Arable and improved grassland		
D6	2	0.2	Mod. south	Steep	Water level change	Arable		
D7	1	1	No	Steep	Water level change	Arable		
D8	1	0.2	Slight	Steep		Arable		
D9	1	0.1	No	Steep	Some water change	Arable		
D10	1	0.5	Dry	Steep	Some water change	Arable		
D11	1	0.5	Slight	Moderate	Some water change	Improved grassland		
D12 - D16	1	0.5	Slight north	Shallow	Some water change	Improved grassland		
D17	2-3	Bank 1m, water 0.1m	Very slow	Steep	Water level change	Improved grassland	Hemlock water-dropwort, flag iris, lesser pond sedge	
Montgomery Canal	6		Slow	Vertical with stone gabions	Water level change	Improved grassland	Water plantain, branched bur-reed.	Line of trees parallel to both banks, more open on western bank.
D18	2	Banks 4m	Very slow /still	Very steep	Water level change	Improved grassland	Fools watercress, duckweed	Red campion, tall ruderal.

		water 0.1m						
D19	1	Dry	Dry	Steep	Water level change	Arable	Duckweed	Tall ruderal overgrown into ditch
D20	1	0.1	Damp, no current	Steep	Water level change	Improved grassland and arable	Reed canary-grass, floating sweetgrass.	Nettle, tall ruderal
River Perry	4.5	0.5-1	Slow	Steep	Minor, some water level change	Arable, cattle pasture	Water crowfoot, curled pondweed, perforate pondweed, reed sweet grass, fools watercress, hemlock water dropwort, branched bur-reed. Aquatic vegetation good density of marginal emergent vegetation, floating leaved and submerged.	Nettle, greater willowherb, nettles, water figwort. Dense cover.
D23	1.5	1	Slight north	Steep	Water level change		Species in ditches included great willowherb, soft rush, branched bur-reed, hemlock water dropwort, water starwort species.	Bankside vegetation included nettle, hogweed, meadowsweet, hawthorn, willow, alder shrubs, reed canary grass.
D25	2	2	Very slow	Steep	Water level, cattle	Poor/ improved grassland	None.	Between two hedgerows. Hawthorn, elder, hazel, dogwood, bramble.
D27	3	3	Dry	Steep	Water level change	Poor	None.	Common grasses, nettle, dog's mercury, bramble.
D33	1	0.1	No	Steep	Water level change	Improved grassland	Willow herb and rush	Common grasses, nettle, dog's mercury, bramble.
D34	1.5	Dry	No	Steep	Water level change	Improved grassland (paddock)	Duckweed. Fool's horsetail, fools watercress and redshank growing in channel.	Tall ruderal - false oat grass, great willowherb, dock, cock's-foot, nettle, meadowsweet.
D35, D36	1	2	Dry	steep	Water level	Good (wood)	None	Common agricultural grasses and ruderals
D37, D38	0.5	0.5	Dry	steep	Water level	Poor	Willow herb and rush	
D39	0.5	2	No	steep	Water level	Good	Grass, water starwort.	
River Roden	3	2.5m banks 10-20cm water	Slow	Steep with muddy toe, c. 45 degrees	Water level change, otherwise fenced from livestock	Improved grassland and arable	Common reed, reed sweetgrass, vegetation fringing water	Dense tall ruderals

D40	2	<0.5	Slow	Steep	Water level change	Improved grassland and arable	Algae, reed canary grass and floating sweetgrass.	Tall ruderal with abundant false oat grass. Occasional hawthorn, alder and rose scrub on bank top.
D41-D42	0.5	<0.5	Slow	Steep	Water level change	Improved grassland/ Hedgerow	None	Tall ruderal with hedgerow in places. Great willowherb, hawthorn, cocksfoot, blackthorn, nettle, common hogweed, goosegrass. At western end no hedgerow and grass dominant – false oat grass, cocksfoot and Yorkshire fog.

*Ditches that were observed to be entirely unsuitable are not detailed in the table.

Table 7.8.2: Water Vole Survey Results

Watercourse/ Water vole Map Ref Number	Evidence Note
D1-D17	No water vole signs observed
Montgomery Canal	No water vole signs observed. Banks manmade; composed of stone gabions. Holes between stones and large mesh size would potentially allow burrow construction.
D18	No water vole signs observed
D19 **WV1**	Feeding remains. Ditch dry on first survey but shallow and damp on second visit.
D20-22	No water vole signs observed
River Perry **WV2**	3 burrows, west bank. Feeding remains
River Perry **WV3**	1 burrow, east bank
River Perry **WV4**	3 burrows, east bank. Feeding remains
River Perry **WV5**	Feeding remains
River Perry **WV6**	Feeding remains
River Perry **WV7**	Feeding remains
D23 – D39	No water vole signs observed
River Roden	Banks soil, muddy toe of bank visible. Good cover of emergent vegetation, high suitability for water vole. No signs of presence observed.
D40 **WV8**	1 possible pathway on west bank but no other signs of presence
D40 **WV9**	2 burrows east and west banks
D40 **WV10**	1 feeding remains south bank
D40 **WV11**	1 latrine and 2 burrows north bank
D40 **WV12**	1 footprint north bank

Watercourse/ Water vole Map Ref Number	Evidence Note
D41-D42	No water vole signs observed

Annex AN7.8.1 – Photographs

	Latrine Ditch D40
	Typical burrow Ditch D40
	Ditch D40 east of River Roden typical view

	River Roden near Ditch D40
	View of River Perry
	Burrows along the River Perry