



NDR Post-Construction Monitoring - Hibernating Bats

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Executive summary

The Norwich Northern Distributer Road is a 22km dual carriageway which runs between Fakenham Road (A1067), west of the city (near Attlebridge) to the A47 east of the city (near Postwick). Construction was completed overwinter 2017/2018 and the design included a number of different mitigation measures for bats.

Bats are protected under the Wildlife and Countryside Act 1981 and the Conservation (Natural Habitats &c) Regulations 2017. This report provides information on the 2018/19 post-construction monitoring of sites identified as having hibernation potential prior to construction.

Hibernating bats or signs of hibernating bat activity were found in Ringland Church, Spixworth Hall ice house and Whitlingham Country Park lime kiln.

1 Introduction

1.1 Project description

Mott MacDonald Ltd was appointed by Norfolk County Council to undertake the monitoring of bats as part of the Norwich Northern Distributor Route (NDR) post-construction surveys detailed in the Development Consent Order (DCO) mitigation table. The NDR runs from the Fakenham Road (A1067) to the west of the city (near Attlebridge) and passes eastwards around the north of the city to join with the A47 at Postwick. The route is approximately 22km in length. A map of the route is provided in Figure 1.



Figure 1 NDR route

1.2 Baseline data

As part of the environmental impact assessment, extensive bat surveys were undertaken over a six-year period (between 2008 and 2013), by a team of experienced surveyors comprised of ecologists from Mott MacDonald and various sub-consultancies; 2008 (EcoGraphics, Mott MacDonald and Kepwick Ecological Surveys), 2009 and 2010 (Mott MacDonald and BSG, with Greena Ecological Consultancy, Geckoella and Corylus Ecology) and 2012 (Mott MacDonald and Greena Ecological Consultancy). These surveys were to inform the assessment of the potential impacts of the NDR scheme on local bat populations and to determine required mitigation and licencing requirements.

As part of this suite of post-construction surveys, hibernation checks were undertaken on suitable structures within 2km of the scheme. Detailed information can be found in the Norwich Northern Distributor Road – Technical Appendix for Bats from the Environmental Statement (available on the PINS website).

1.3 Study area

The study area includes all structures identified within 2km of The Scheme. Figure 2 (Section 6) shows the study area.

1.4 Scope of the report

Mott MacDonald has been commissioned to undertake post-construction ecological monitoring surveys, including bat surveys, in surrounding areas of the NDR. The objectives of this report are:

- To present the results of the surveys
- To provide a post-construction baseline for future surveys, informing the levels of usage of the mitigation measures over time
- To identify any possible impacts to bats from the scheme

1.5 Legislation

All bats in the UK are protected under Schedule 5 of the Wildlife and Countryside Act 1981. Since 2007, the effective protection for bats now comes from Schedule 2 of the Conservation (Natural Habitats &c) Regulations 2017. This makes all bats a European Protected Species (EPS). In effect, this legal protection makes it an offence to:

- Deliberately capture, injure or kill a bat.
- Damage or destroy a breeding or resting place of a bat.
- Obstruct access to a bat's resting or sheltering places.
- Possess, sell, control or transport live or dead bats.
- Intentionally or recklessly disturb a bat while it is in a structure or place of shelter or protection.
- Intentionally or recklessly disturb a bat at a roost.

2 Methodology

Hibernation surveys were undertaken on buildings and structures which had been identified prior to construction, as having potential to support hibernating bats and were within 2km of the Scheme.

Surveys were completed by experienced, licenced ecologists between the 11th February 2019 to the 15th of February 2019 in accordance with Bat Conservation Trust best practise guidelines. The surveys included a close and systematic inspection of all cracks, crevices, voids or other cavities. Where needed, surveyor used torches and endoscopes. Any bats or evidences of bats was recorded (droppings or oil staining).

3 Results

A total of 24 buildings and structures were identified as having hibernation potential during hibernation surveys conducted in 2013 (Mott MacDonald, 2013). During 2019 surveys, it was not possible to survey Little Plumstead Hospital which burnt down in 2016 or Hall Farm, which was demolished during construction of the NDR. Access to Crostwick Church, Postwick Church, the underground shelter at Newman's Farm, Rackheath bridge and Morton Hall was denied during the 2019 surveys.

Hibernating bats were observed in four buildings and structures in 2009;

- Ringland Church
- Spixworth Hall ice house
- Military buildings at Gazebo Farm
- Whitlingham Country Park lime kiln

Evidence of hibernating bats were observed in three buildings and structures in 2019;

- Ringland Church
- Spixworth Hall ice house
- Whitlingham Country Park lime kiln

Bats were observed clinging to the walls inside Spixworth Hall ice house and Whitlingham Country Park lime kiln. More bats may have been present further inside the structures, but it is not fully possible to fully investigate all areas of the structures due to safety reasons.

A small number of fresh bat droppings were observed on the altar cloth at Ringland church which were thought to be from *Myotis*. The church is cleaned weekly and the droppings were relatively fresh.

The results of the hibernation surveys on the 17 buildings and structures monitored in 2019 are shown below in Table 1 and the locations are recorded on Figure 3 (Section 6).

Table 1: NDR bat hibernation monitoring results for 2009 and 2019

| Building or structure | 2009 survey findings | 2019 survey findings |
|---------------------------------|--|---------------------------------|
| Attlebridge Bridges | No evidence of hibernating bats | No evidence of hibernating bats |
| Attlebridge Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Drayton Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Great Plumstead Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Horsford Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Horsham St Faith Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Little Plumstead Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Military Buildings, Gazebo Farm | Brown long eared bats and Barbastelle observed | No evidence of hibernating bats |
| Old Catton Church | No evidence of hibernating bats | No evidence of hibernating bats |

| Building or structure | 2009 survey findings | 2019 survey findings |
|------------------------------------|--|---|
| Ringland Church | 1 serotine and 5 pipistrelles observed | Fresh bat droppings observed in the chancel |
| Spixworth Church | No evidence of hibernating bats. | No evidence of hibernating bats |
| Spixworth Hall Ice House | Natterers and Daubenton's observed | 1 <i>Myotis</i> observed |
| Sprowston Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Rackheath Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Taverham Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Witton Church | No evidence of hibernating bats | No evidence of hibernating bats |
| Whitlingham Country Park Lime Kiln | <i>Myotis</i> observed | 5 Natterer's bats and 3 Daubenton's bats |

4 Conclusions

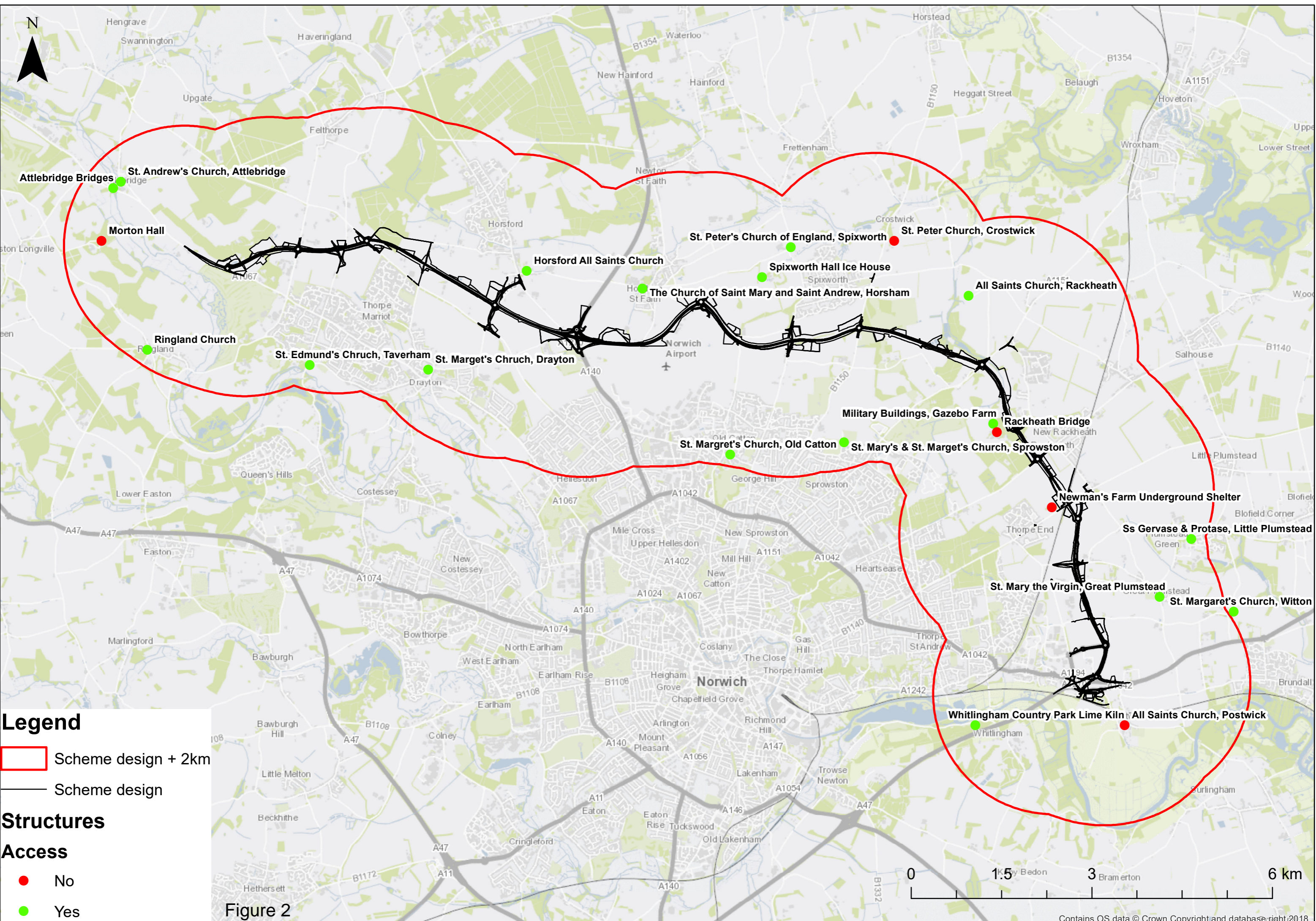
Of the four hibernation roosts identified prior to construction only one of those, the military buildings in Rackheath, had no bats or signs of bat activity present. Hibernating bats are often under recorded as they will crawl deep into crevices and can therefore be difficult to find. Some of the military buildings have collapsed; they have multiple crevices which go deep into the ground and out of the range of endoscopes and torches, so bats could have been missed. In many of the churches inspected, there were features within the roof or out of reach so there is some possibility that bats were under-recorded during these surveys.

Other than the military buildings at Rackheath, the other known hibernation roosts all had hibernating bats present or signs of hibernating bat activity.

5 References

Collins, J. ed. (2016) Bats Surveys for Professional Ecologists; Good Practise Guidelines (3rd ed) Bat Conservation Trust London.

6 Figures



Legend

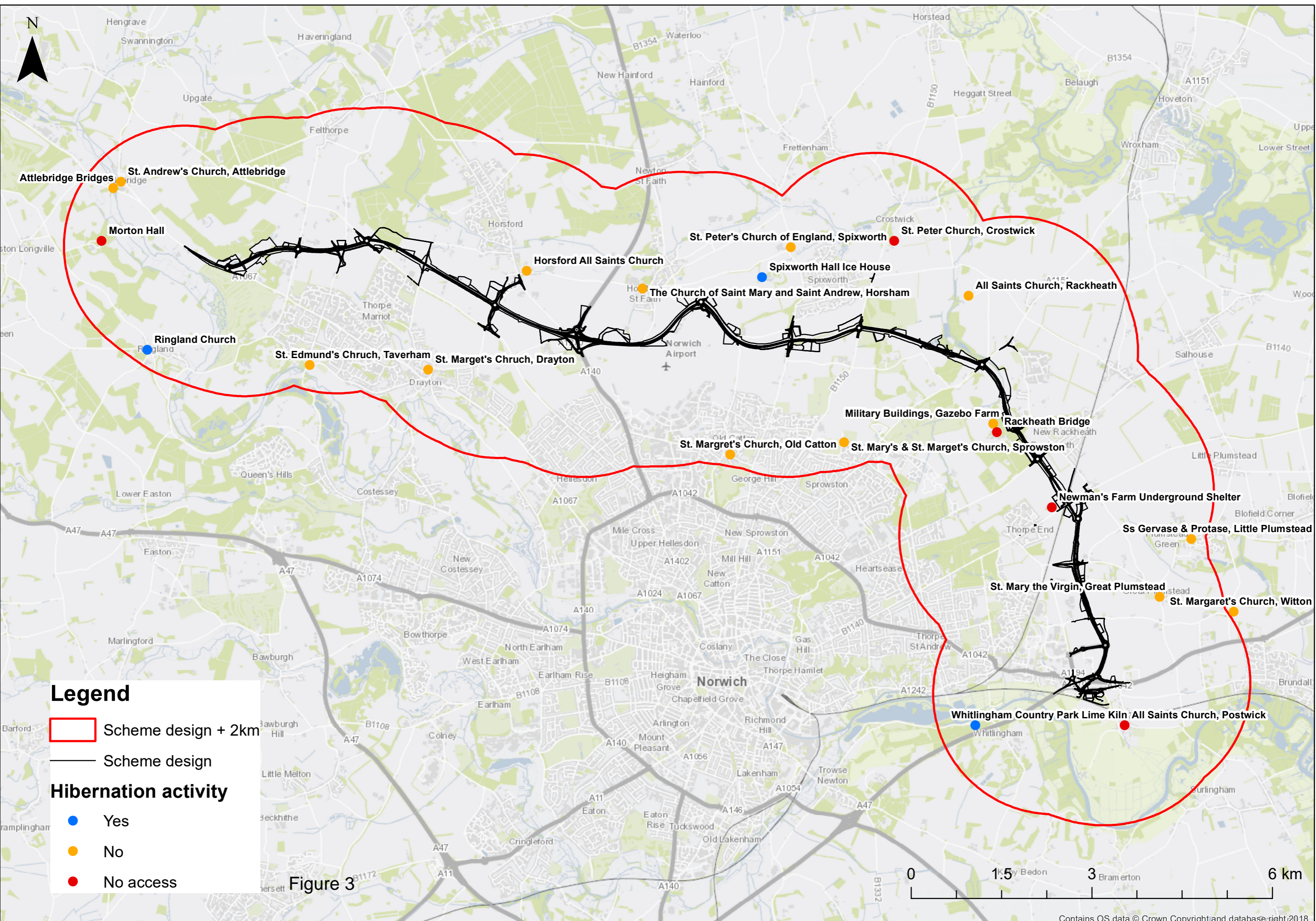
- Scheme design + 2km
- Scheme design

Structures

Access

- No
- Yes

Figure 2



Legend

- Scheme design + 2km
- Scheme design

Hibernation activity

- Yes
- No
- No access

Figure 3



