Great Yarmouth Third River Crossing

Application for Development Consent Order

Document 6.2: Environmental Statement Volume II: Technical Appendix 8C: Preliminary Ecological Appraisal Update

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) ("APFP")

APFP regulation Number: 5(2)(a)

Planning Inspectorate Reference Number: TR010043

Author: Norfolk County Council

Document Reference: 6.2 – Technical Appendix 8C

Version Number: 0 – Revision for Submission

Date: 30 April 2019

CONTENTS

PAGE No.

1 Introduction

1.1 Overview

1.1.1 WSP was commissioned by the Applicant to undertake a Preliminary Ecological Appraisal (PEA) of land at the proposed site of the Great Yarmouth Third River Crossing, hereafter referred to as the 'Project Site'. The site has been identified by the Applicant as the site of a future link to cross the River Yare. An initial survey was undertaken in September 2016, the results of which were reported in The Great Yarmouth Third River Crossing: Preliminary Ecological Appraisal (Mouchel, 2016) presented in Appendix 8B. Since the publication of this report the Project Site area has undergone minor alterations in its extent. An update to the field survey component of the PEA was therefore carried out. This update included a Habitat Survey and a Protected Species Assessment and is documented in this memo report.

1.1.2 The scope of the survey has been extended west, such that the Survey Area now includes sections the A47 north and south of the A47/William Adams Way roundabout, the habitats adjacent to these areas, and the roundabout itself.

1.1.3 This report presents the results of the field survey update undertaken in July 2018. This report should be read in conjunction with the 2016 report.

1.1.4 In January 2019 an additional site visit was carried out on six Satellite Sites where installation of Variable Messaging Signs (VMS) is proposed. The results of this are presented in Annex 8C.1

1.1.5 The PEA update set out to:

- Describe habitats not previously detailed in the 2016 report;
- Identify the suitability of these habitats to support protected or notable species; and
- Address any alterations and discrepancies between the current survey findings and the 2016 report.

2 Survey Methods

2.1 Habitat Survey

2.1.1 A Phase 1 habitat survey was carried out on 25th July 2018. This survey specifically included the areas which had not been previously considered in the 2016 report. Figure 8C.1 shows the extent of the amended survey area. Habitats were described and mapped following the standard Phase 1 habitat survey methodology (Ref. 8C.1). Phase 1 habitat survey is a standard technique for classifying and mapping British habitats. The dominant plant species are recorded and habitats are classified according to their vegetation types. Where appropriate, consideration was given to whether habitats qualify, or could qualify, as a Habitat of Principal Importance in accordance with the habitat descriptions published by the Joint Nature Conservation Committee (Ref. 8C.2).

2.1.2 Habitats were marked on paper base maps which were subsequently digitised using a Geographical Information System (GIS). Target notes were made to provide information on specific features of ecological interest (e.g. a [redacted] *Meles meles* sett) or habitat features too small to be mapped.

2.1.3 Invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) which were evident during the Phase 1 habitat survey were noted. Detailed mapping of such species or a full survey of the Site for all invasive plant species is beyond the scope of this commission.

2.2 Protected Species Assessment

2.2.1 The suitability of the survey area to support legally protected and notable species was assessed based on the desk study results from the 2016 report combined with field observations made during the PEA update survey. Assessment of habitat suitability for protected and notable species was based on standard sources of guidance on habitat suitability assessment for key faunal groups including: birds (Ref. 8C.3 and Ref. 8C.4); bats (Ref. 8C.5 and Ref. 8C.6); great crested newt (Ref. 8C.7 and Ref. 8C.8); and water vole (Ref. 8C.9).

3 Results

3.1 Habitat Survey

3.1.1 Habitats surveyed comprised woodland, watercourses, dry ditches, scrub, ruderal vegetation, amenity grassland and scattered trees. Within the area surveyed in 2016 additional small parcels of amenity grassland have been identified, as well as a line of scattered trees running parallel to Queen Anne's Road behind the residential house and gardens. The habitats present within the survey area are all of low biodiversity value.

Broad-Leaved Semi-Natural Woodland - A1.1.1

3.1.2 There are linear sections of woodland running adjacent to the road across the surveyed area. The section to the north-west of the roundabout comprises semi-mature ash *Fraxinus excelsior*, willow *Salix* spp., oak *Quercus robur* and hawthorn *Crataegus monogyna*. A dry ditch runs through the centre of this wooded area. There are no indications of management of this area (Plate 1).

3.1.3 Woodland also occurs adjacent to the eastern side for the A47 north and south of the roundabout. The southern section was described in the 2016 survey as dense continuous scrub but has matured since this time. Both sections of woodland have similar structure, with a dense understorey dominated by blackthorn *Prunus spinosa*, hawthorn and bramble *Rubus fruticosus* agg. Taller willow and birch *Betula* spp. dominate the canopy layer. Watercourses run adjacent to these wooded areas. A hoof print and droppings of muntjac deer *Muntiacus reevesi* were recorded in these woodland sections (Plate 2-4).

3.1.4 The watercourse that runs parallel to the north of Queens Anne's Road is shaded by woodland dominated by Lawson cypress *Chamaecyparis lawsoniana* and willow trees.

Dense/Continuous Scrub - A2.1

3.1.5 Dense continuous scrub occupies the area to the southeast adjacent to the roundabout. This vegetation is dominated by bramble and has not been regularly managed (Plate 5).

Scattered Scrub - A2.2

3.1.6 Scattered scrub is present to the north and south of the roundabout on the western side of the A47. This comprises small trees adjacent to the carriageway, which include willow, oak and hawthorn.

Mixed Scattered Trees - A3.1

3.1.7 There are scattered trees throughout the site. A line of mature Scots pine *Pinus sylvatica* and birch were identified amongst the areas shown in the 2016 survey. These trees were well-managed with no evidence of damage or other characteristics that would suggest roosting opportunities for bats (Plate 6).

Tall Ruderal Vegetation - C3.1

3.1.8 Tall ruderal vegetation has been recorded within the land areas adjacent to Queen Anne's Road. This vegetation is between 50cm-1.0m in height and dominated by rosebay willow herb *Chamaerion angustifolium* (Plate 7).

Standing Water/Dry Ditch - G2/J2.6

3.1.9 Watercourses run parallel to the western side of the A47. At the time of the survey these watercourses had become partly or completely dry. The watercourse to the north was completely dry and was heavily shaded by the woodland and scattered scrub detailed above (Plate 8).

3.1.10 The watercourse to the south was partly dry, up to 2m wide, with pools of water along its length, and was dominated by dense tall vegetation including reed mace *Typha latifolia* and common reed *Phragmites australis* (Plate 9). Some sections of the watercourse were heavily shaded by the scattered scrub detailed above. Towards the southernmost extent of the survey area this watercourse widens to 4m and has a depth of 2m, and is connected to a watercourse where evidence of water voles was found in 2017 (Plate 10). As such, water voles may be present within this watercourse.

Amenity Grassland - J1.2

3.1.11 There were various sections of amenity grassland throughout the survey area. These areas were short-cropped and regularly managed with ruderal vegetation encroaching along some edges.

Introduced Shrubs - J4

3.1.12 The roundabout within the survey area has landscaped introduced planting (Plate 10).

Buildings – J3.6

3.1.13 Buildings within the survey area comprised private housing and commercial warehouses. The buildings were assessed for their potential to support roosting bats. Gulls *Larus* spp were observed roosting on warehouse rooves.

3.2 Protected Species Assessment

3.2.1 The watercourses within the surveyed area provide suitable habitat for amphibians and water voles. The watercourse to the west of the A47, south of the roundabout, is connected to the watercourse on the east side of the road and because of this these watercourses should be considered as the same continuous habitat. Further, this watercourse continues south beyond the redline boundary running parallel to both sides of the A47. The watercourse was assessed using the Habitat Suitability Index to quantify its likely suitability to support breeding great crested newts, and scored 0.66, indicating 'Average' suitability. Further studies to confirm whether or not this species occurs are therefore recommended, however, the urban location and relative isolation of the watercourse make it unlikely that great crested newts would be present.

3.2.2 Scrub, woodland and scattered trees across the whole Scheme are suitable for use by nesting birds. Further to this Gulls *Larus* spp were observed roosting on rooves of the warehouses present within the surveyed area (Plate 16).

3.2.3 Buildings within the survey area were assessed for their suitability to support roosting bats in accordance with the methodology outlined in Collins (2016) (Ref. 8C.5). Figure 8C.1 shows buildings and structures surveyed. Buildings labelled B1 and B2 contained features indicating low suitability to support roosting bats. B1 was a terrace of private house (Plate 12) with slipped tiles on the south facing side to the roof, revealing gaps which might allow bats to access the roof void (Plate 13). B2, also a terrace of private houses (Plate 14), had slipped tiles on its eastern side, again revealing gaps which might allow bats to access the roof void (Plate 15). Buildings labelled B3-B5 were assessed as having negligible suitability to support roosting bats.

4 Recommendations

4.1.1 The protected species assessment undertaken and mitigation identified in the 2016 report remain appropriate but are extended to include the recently surveyed areas, in particular, consideration of the watercourse identified for evidence of water voles.

4.1.2 Inclusion of the watercourses connected to the ditch assessed in 2016 has led to an increased HSI score, indicating the watercourse to have 'Average' suitability to support breeding great crested newts. However, the urban environment within which these watercourses are set and their relative isolation mean that great crested newts are unlikely to be present.

4.1.3 Removal of trees and scrub, or structures, will be undertaken outside of the bird breeding season (typical breeding bird season is March to July inclusive) to avoid risk of effects on breeding birds. If demolition has to take place during this period, the structures will be checked, prior to the commencement of demolition, for the presence of nests by an appropriately experienced ecologist. If nests that are in use are present, it may be necessary to delay work in immediate proximity of the nest until the young have fledged.

4.1.4 If buildings assessed as of low suitability to support roosting bats are to be demolished, these will be subjected to internal inspections to confirm whether or not they are roost sites and if further actions in respect of bats are required.

Plate 1 – Woodland south west of the roundabout

Plate 2 – Woodland adjacent to the east of the A47, running north from the roundabout

Plate 3 – Woodland adjacent to the east of the A47, running north from the roundabout

Plate 4 – Woodland adjacent to the east of the A47, running south from the roundabout

Plate 5 – Dense scrub southeast of the roundabout

Plate 6 – Tree line behind residential area, running parallel with Queen Anne's Road

Plate 7 – Tall ruderal vegetation

Plate 8 – Dry ditch running parallel to the west of the A47, north of the roundabout

Plate 9 – Partly dry watercourse running parallel to the western edge of the A47, south of the roundabout

Plate 10 – Partly dry watercourse running parallel to the western edge of the A47, south of the roundabout

Plate 11 – Introduced scrub planting on the William Adam's Way/A47 roundabout

Plate 12 – Buildings B1, assessed for bat roost potential

Plate 13 – Features on B1 assessed as providing low suitability for roosting bats

Plate 14 – Buildings B2, assessed for bat roost potential

Plate 15 – Features on B2 assessed as providing low suitability for roosting bats

Plate 16 – Example warehouse structures

5 References

Ref. 8C.1: Joint Nature Conservation Committee (JNCC) (2010). Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit. Peterborough, UK.

Ref. 8C.2: Joint Nature Conservation Committee (JNCC) (ed. Ant Maddock) (2008). UK Biodiversity Action Plan Priority Habitat Descriptions. JNCC, Peterborough.

Ref. 8C.3: Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird Monitoring Methods: A Manual of Techniques for Key UK Species. RSPB.

Ref. 8C.4: Bibby, C.J., Burgess, N.D., Hill, D.A. and Mustoe, S.H. (2000). Bird Census Techniques. Second Edition. Elsevier Ltd.

Ref. 8C.5: Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists, Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London.

Ref. 8C.6: Mitchell-Jones, A.J, (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Ref. 8C.7: Gent, A. and Gibson, S. (2003). Herpetofauna Workers Manual. JNCC, Peterborough.

Ref. 8C.8: English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.

Ref. 8C.9: Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds. Fiona Matthews and Paul Chanin. The Mammal Society, London.

Annex 8C.1 – Ecological Survey of Satellite Sites

Site Walkover

8C1.1 Each of the six Satellite Sites were visited on 14th January 2019 and broadly assessed for their suitability to support protected or notable species. These sites are limited in extent and therefore a full Phase 1 Habitat assessment was not carried out. Habitats present largely consisted of amenity grassland and hardstanding and all six Satellite Sites were considered to be of negligible value.

8C1.2 Satellite Site 9-01 had a large number of mole hills, indicating the likely presence of moles within the area. Moles are not a protected species and the installation of the VMS will result in only a small loss of negligible quality amenity grassland, which will not impact the species.

Satellite Sites 5-01 and 5-02


Plates 17 and 18 – Hardstanding layby adjacent to the A47. Beyond the layby was a steep scrubby bank leading down to a small watercourse. Habitats were of negligible value

Satellite Sites 6-01 and 6-02


Plates 19 and 20 – Habitats comprised mainly of hardstanding and short amenity grassland of negligible value

Satellite Sites 7-01 to 7-07


Plates 21 and 22 – Habitats comprised hardstanding and short amenity grassland of negligible value

Plate 23 – Mature broadleaved tree present, but considered unlikely to be impacted (see Detailed Arboriculture Report Appendix 8H)

Satellite Sites 8-01 and 8-02


Plates 24 and 25 – Habitats comprised hardstanding and short amenity grassland of negligible value

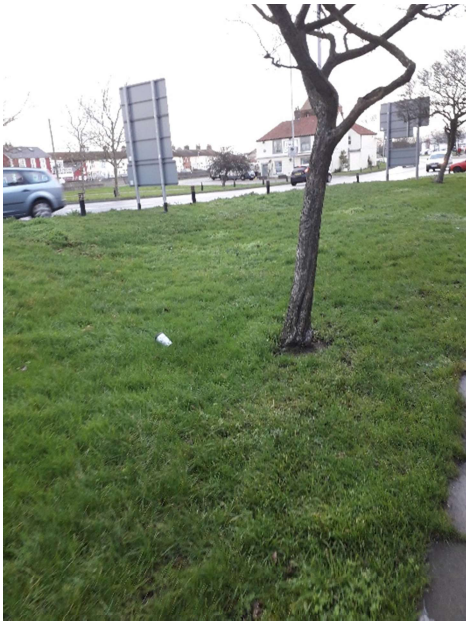

Plate 26 – Young broadleaved trees also present, but considered unlikely to be impacted (see Detailed Arboriculture Report Appendix 8H)

Satellite Sites 8-03 and 8-04

Plate 27 – Habitats comprised hardstanding, introduced shrubs (young) and short amenity grassland of negligible value. Additionally, young broadleaved trees were present, but considered unlikely to be impacted (see Detailed Arboriculture Report Appendix 8H)

Satellite Site 9-01

Plates 28 and 29 – Habitats comprised hardstanding and short amenity grassland of negligible value

Plate 30 – Western areas supported large numbers of moles

Satellite Sites 10-01 to 10-03

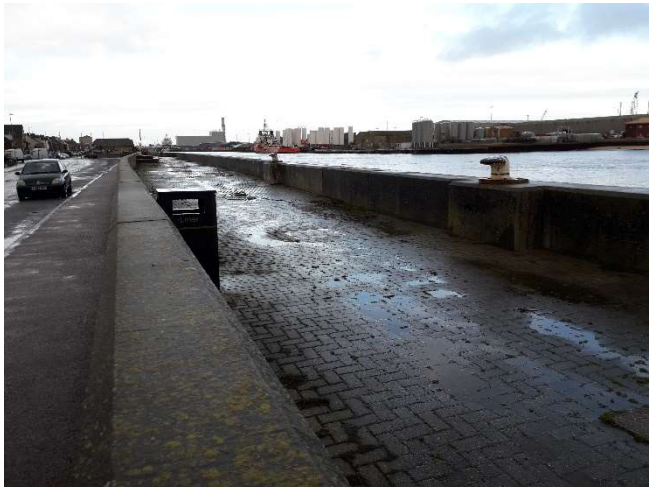

Plate 31 – Area dominated by hardstanding