

ExQ2	Question to:	Question:
<b>BIO Biodiversity, Ecology and Natural Environment (including Habitats Regulations Assessment (HRA))</b>		
<b>Trees</b>		
<b>Protected Species / other species</b>		
BIO.2.6 <b>Wildlife Corridors</b>	NCC  SNDC  Interested Parties	<p>At the ExA's Unaccompanied Site Inspection [EV-001 &amp; EV-019] the probable existence of informal wildlife corridors within nearby surrounding areas was observed which could be potentially used by a wide variety of species.</p> <p>Clarify the extent of any existing/planned local initiatives or programmes separate to the scheme improvement applied for but potentially complementary to it from a wildlife betterment perspective.</p> <p>Your response should have regard to the REAC within the EMP. It should also be noted that the EMP falls under Requirement 4, which is to be consulted upon with relevant parties.</p>
	NCC Response:	<p>The following initiatives which would potentially complement the schemes ecological mitigation and enhancement plans:</p> <ul style="list-style-type: none"> <li>• The Norfolk Mink Control Project [REDACTED] would potentially complement the scheme. The project aims to reduce mink population densities which help halt the decline in water vole populations (and Water Life Recovery East). The Norfolk Mink Project would welcome the opportunity to discuss potential opportunities.</li> <li>• Norfolk County Council has an ambition to plant '1 Million Trees for Norfolk' see [REDACTED]</li> </ul> <p>Regard has been given to the Record of Environmental Actions and Commitments (REAC) in Table 3-1 in Volume 7 7.4 Environmental Management Plan (First Iteration) December 2021.</p>
BIO.2.8 <b>Information</b>	NCC  SNDC  Interested Parties	<p>The ExA notes that Deadline 4 is a key deadline.</p> <p>If interested parties have any further comments please submit those.</p>

	NCC Response:	<p>Application FUL/2021/0064 Thickthorn Park and Ride extension has been submitted to Norfolk County Council for determination.</p> <p>Comments on REP2-008 Applicant's response to the Local Impact Report</p> <ul style="list-style-type: none"> <li>• Ancient Woodland - Pages 21, 24 and 29 of the report. The Woodland Trust [REDACTED] note that many ancient woods under 2 ha are not currently included in the Ancient Woodland Inventory (AWI). Where botanical surveys suggest potential for ancient woodland (as is the case for Unit 9 and Unit N) additional evidence is required to demonstrate whether it is likely or unlikely to be ancient. Such evidence should include old maps and other documentary evidence as well as any remnant manmade features onsite.</li> <li>• 8.7.55 does not elaborate on how areas assessed as having 'high' levels of bat activity was quantified (apologies I put 8.7.5 in the LIR) (see <i>Richardson et al 2019 for discussion on determining high, medium and low levels of bat activity.</i>) [REDACTED] provides a tool for the standardised, rigorous interpretation of bat activity data.</li> </ul>
BIO.2.9 <b>Bats</b>	NCC	Further to ExQ1 BIO 3.6 concerning effects to <i>barbastelle</i> bats. NCC raised the issue in their LIR (page 21-22) in addition to other IPs in their RRs. The Applicant provided a full response at Deadline 2 which stated that the survey data for this species showed limited presence of them in the study area [REDACTED].
	SNDC	
	Interested Parties	<p>Do NCC or SNDC have any further comments on the Applicant's response?</p> <p>If interested parties have any further comments please submit those.</p>
	NCC Response:	<p>With regards to the Applicant's response (REP2-006) regarding barbastelle activity (BIO 3.6)</p> <ol style="list-style-type: none"> <li>1. The aim of pre-construction surveys is to collect robust data to allow an assessment of the potential impacts of the development on the bat species using the area. As acknowledged in 3.2.1(REP4-015) current British survey guidelines (Collins, 2016) are not designed for linear developments and, as noted in REP4-015, WC1060 <i>Development of Cost Effective Method for Monitoring the effectiveness of</i></li> </ol>

		<p><i>mitigation for bats crossing linear transport infrastructure</i> (Berthinussen and Altringham, 2015)<sup>1</sup> and <i>Fumbling in the Dark</i> (Elmeros <i>et al</i> 2016)<sup>2</sup> was used to inform survey design.</p> <ol style="list-style-type: none"><li>2. <i>'Best practice principles for surveying'</i> developed by Berthinussen and Altringham (2015) recommends survey methods designed to provide comparable pre-and post-construction data – to assess potential impacts, to be used alongside other pre-construction surveys including acoustic surveys, and radio tracking surveys'.</li><li>3. The guidelines recommend that transect surveys are undertaken over at least two seasons where possible and that a minimum of six dusk or dawn surveys at each location where mitigation is to be installed should be undertaken<sup>3</sup>. The absence of transects and only three activity surveys at crossing points falls short of the standard advised in the guidelines. It is also not clear how pre and post-construction surveys have been designed in order to detect change (assess effectiveness of mitigation).</li><li>4. The guidelines also require the total number of bats crossing to be counted (see Appendix G of WC1060), but unless thermal imaging is utilized on all surveys this will not be achievable when it is too dark to see bats with the naked eye (also see point 7 below).</li><li>5. While Berthinussen and Altringham indicate surveys should be undertaken over at least two seasons (see point 5), Christensen, <i>et al</i>, 2016<sup>4</sup> recommends that due to the <i>'variability and plasticity in landscape use by bats'</i> it is important that thorough studies in very early in the road planning phase (2-3 years) are undertaken.</li></ol>
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<sup>1</sup> [REDACTED]

<sup>2</sup> [REDACTED]

<sup>3</sup> The probability of detecting bats increases depending on the number of surveys undertaken - Newson *et al.*, recommended that >4 night of all night recording during the core period (when young are volant) is required to detect change [REDACTED] and Richardson *et al* (2019) found that it may take up to 12 nights of surveying to confirm barbastelle presence (at wind farm site using static bat detectors set to record all night) [REDACTED]

<sup>4</sup> [REDACTED]

		<p>6. Thus, where previous survey results (from 2016, 2017 and 2018) are referenced and used to justify decisions (see 3.2.2 REP4-015), they should be submitted in support of the application and available for examination, to enable the survey methodology/data to be reviewed and assessed against best practice guidelines. Consideration should also be given to the validity of the data (see CIEEM guidelines<sup>5</sup>) in that supporting evidence should be valid, and ideally no more than three years old.</p> <p>7. The limitations of survey methodology (Section 8.5 of Chapter 8 APP-045) should also be considered. Barbastelles are one of the least detectable bats and are difficult to detect using bat detectors compared to other species (<i>a barbastelle bat pass can be detected up to 15 meters away (Barataud 2015<sup>6</sup>)</i>). Also, as previously mentioned, greater use should be made of thermal imaging equipment (which aids observation of bats when it is too dark to see them with the naked eye) as its use was limited to two of the six surveys<sup>7</sup>. The limitations of visual observation of bat crossings the road (or emerging from trees) and bat detectability have not been identified in the limitations section (3.6 of REP4-015, as per BS42020:2013).</p> <p>8. The presence of 'low' numbers of bat calls for barbastelles, one of the UKs rarest bats should be considered within context. No context has been provided. Consideration should be given to the level of activity in the context of other sites within the UK or the region would be a more evidence-based approach to assigning relative levels for rare species (<i>see EcoBat</i>). Wray, Wells, Long and Mitchel Jones (2019)<sup>8</sup> published a framework for valuing bats in Ecological Impact Assessment which considers the rarity of the species (it has been used in support of the Sizewell C application).</p> <p>9. Potential impacts on 'bats', have been assessed (table 8-12 Chapter 8) but it is considered that the ES should address impacts/mitigation/compensation on each bat species recorded onsite as 'one size' does not fit all.</p> <p><b>Further Comments on REP2-006 - 9.3 Applicant's Response to the Examining Authority's First Written Questions (ExQ1s)</b></p>
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<sup>5</sup> [REDACTED] f

<sup>6</sup> Acoustic Ecology of European Bats, 2015, p.276

<sup>7</sup> See Table 4.1-1 Appendix 8 of REP 4-014

<sup>8</sup> [REDACTED]

		<p>BIO 3.7 It is acknowledged that a letter of no impediment has been issued by Natural England with respect to water voles (see REP5-024), although this is subject additional information/mitigation measures.</p> <p>BIO 3.8 Noted. Please see comments relating to the Norfolk Mink Control Project and BIO 3.7 above.</p> <p>BIO 3.9 Please see previous comments.</p> <p>BIO 3.10. Noted. Given the small diameter of the proposed culvert at Cantley Lane South it is recommended, as per the LONI for water voles (REP5-024) from NE that a dry underpass pipe is incorporated into the design allow movement of water voles under flood conditions.</p> <p>BIO 3.11. Noted. Robust baseline surveys should negate the need for this.</p> <p>BIO 3.12 – 3.24 noted.</p> <p><b>Biodiversity Net Gain (BNG)</b> REP2-006 Bio 3.5 (ii). It is disappointing that National Highways cannot commit to providing overall BNG or indicate the extent of BNG onsite given that the DEFRA Biodiversity Metric, is the government standard for doing so. Other NSIPS, such as the Sheringham Shoal Extension project<sup>9</sup> and Sizewell C<sup>10</sup>, have adopted this standard.</p>
BIO.2.10 Information	NCC  SNDC  Interested Parties	<p>The ExA notes that Deadline 4 is a key deadline.</p> <p>If interested parties have any further comments please submit those.</p>

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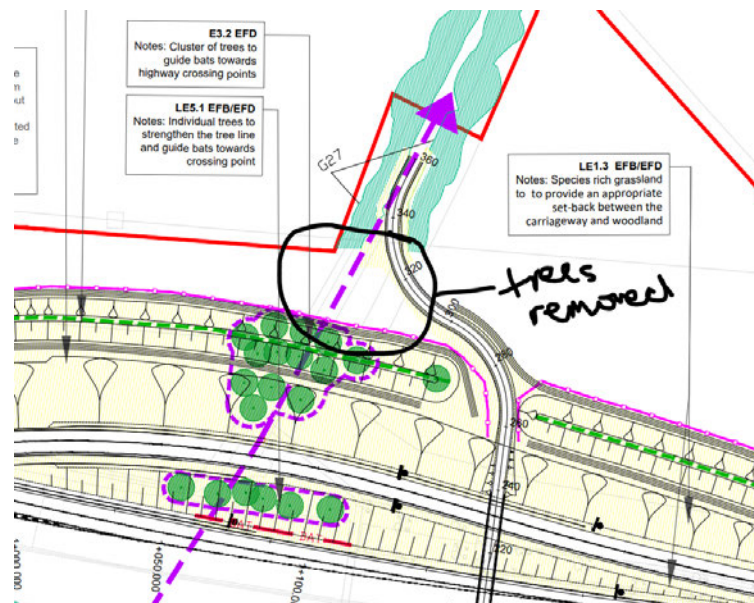
<sup>10</sup> The Sizewell C Project 6.3 Appendix 14E Biodiversity Net Gain Report (May 2021)

	NCC Response:	
BIO.2.11 <b>Biodiversity Mitigation</b>	The Applicant  NCC  SNDC  Interested Parties	NCC, in their LIR, make a number of comments about the lack of information in the ES on mitigation in relation to biodiversity matters. In response, the Applicant points to measures set out in the EMP and REAC, and particularly to measures that would be contained within the LEMP, which would only be produced post-consent. Clarify if this is sufficient provision?
		<p>THE EMP covers the environmental commitments (mitigation and management) identified within the ES and will be updated as the scheme progresses. Following approval of the DCO, the EMP will be updated to include Appendix B.6 Landscape and Ecology Management Plan (LEMP). The objective of the LEMP is provided in Table B.1 of REP4-020.</p> <p>The judgement of whether there is sufficient mitigation provision is one for the decision maker to consider alongside the likely effectiveness of the mitigation proposed. Mitigation for bats should be species specific.</p> <p>NCC note that a Letter of No Impediment (REP5-024) has been issued by Natural England for water voles, subject to additional mitigation measures – which should be incorporated within the scheme and the REAC.</p> <p>Concerns remain around the proposed mitigation for bats to address impacts of habitat fragmentation. As previously stated:</p> <ul style="list-style-type: none"> <li>• It is not clear if the environmental barrier identified in Table 3-1 of the REAC will be 3 m high or 3.5 m high as shown on sheet 4 of 5 of the environmental masterplan (APP-123).</li> <li>• Trees along Cantley Lane will be lost – removing a linear landscape element along which bats commute (see APP-085 page 34) and sheet 4 of 5 of the Environmental Masterplan (APP-123) (see below overleaf.) There do not appear to be any plans to replant these.</li> </ul> <p>With regards to defining the effectiveness of bat mitigation measures it is suggested that they should only be characterised as effective if at least 90% of bats are using the structure to cross the road safely see</p>

Berthinussen & Altringham (2015) <sup>11</sup>. Monitoring should be designed to adequately address whether the mitigation measures are successful (e.g. use thermal imaging).

In addition:

- The REAC Table 3-1 indicates that skylark nesting plots are an optional enhancement however these nest plots are required in part to mitigate loss of existing skylark territories (see APP-092) and should be a requirement.
- Please note that woodland planting (LE2.1 EFB on drawing no. HE551492-GTY-ELS-000-DR-LX-30002 Document AS-032) will potentially be illuminated by the adjacent Thickthorn Park and Ride Extension reducing its value for wildlife.



Norfolk County Council

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