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The Cambourne to Cambridge Order

Cambridgeshire County Council

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Inquiry into:

THE CAMBOURNE TO CAMBRIDGE ORDER

REBUTTAL IN RELATION TO BARBASTELLE

of

Paola Reason

of RSK Biocensus

On behalf of Cambridgeshire County Council

09 September 2025

Planning Inspectorate Reference: DPI/E0535/25/1

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1.0 INTRODUCTION

1.1.1 This rebuttal has been prepared in response to the Proof of Evidence (PoE) of Dominic Woodfield **[CD26-10-W4-1]** which assesses the impacts of the Scheme on barbastelle, comparing the guided busway route proposed by Greater Cambridge Partnership ("**GCP**") against an 'in-highway' alternative being advanced by CPPF/CPC.

1.1.2 I am Paola Reason, a Director of RSK Biocensus. Details of my qualifications, professional career and key project experience are contained in my PoE **[CD26-01-APP-W12-1 PDF p4]**.

1.1.3 This rebuttal has been prepared with the expectation that it will assist the Inspectors with consideration of the issues raised.

1.1.4 I do not respond to every point raised in the PoE of Mr Woodfield. The fact that I do not respond to a particular point should not be taken as a concession in any respect. I have sought to focus my rebuttal evidence on the matters that I consider most likely to assist the Inspectors and Secretary of State by being addressed in writing.

2.0 SCOPE OF REBUTTAL

2.1.1 My rebuttal only addresses matters concerning **barbastelle and other bat species** as set out in the PoE of Dominic Woodfield **[CD26-10-W4-1**].

3.0 BARBASTELLE

3.1 Stakeholder position

3.1.1 At the time PoEs were being prepared, Natural England's public position was as set in in their representation of January 2025 **[CD2-REP-11].** Detailed responses to the points raised under each of these areas are set out in Section 9.0 Table 4 of my PoE [**CD26-01-APP-W12-1 PDF p25-35]**.

3.1.2 As set out in Section 3.0 of my PoE [**CD26-01-APP-W12-1 PDF pp8-9]**, between January and the time of writing, Natural England have been engaged in a series of meetings to ensure a full understanding of the data collected and how that data has informed the scheme design and its mitigation.

3.1.3 Following three meetings between April and July 2025 (outcomes recorded as Appendices 3-5 of my PoE [**CD26-01-APP-W12-2],** WSP and Natural England have been developing a Statement of Common Ground (SoCG) which has recently been agreed. As this SoCG was not available to third parties at the time documents were exchanged, Natural England's evolved position was not apparent, rendering some statements in others' PoEs out-of-date as outlined below.

3.1.4 The SoCG demonstrates that there are no outstanding matters that cannot be resolved subject to post-consent detailed design consultation, as secured by condition.

3.2 Rebuttal of specific points

Madingley Wood SSSI pinch-point

3.2.1 Within the PoE of Dominic Woodfield **[CD26-10-W4-1, PDF p16, para 3.2.10]**, it is stated:

> *"Overall, the highways land adjoining and encompassing the A1303 between Madingley Mulch roundabout and the Madingley Road P&R is typical of that in the wider locality, and indeed common to that present in the highway land adjoining the St Neots Road west of Madingley Mulch. The most sensitive area is undoubtedly the land adjacent to Madingley Wood SSSI, where the development of secondary woodland contiguous to that site offers an extension of woodland cover and a degree of visual/acoustic and air pollution buffer between the A1303 and the SSSI proper."*

3.2.2 In para 3.3.2 **[CD26-10-W4-1, PDF p17]**, Dominic Woodfield notes:

"the low densities and diversity of species noted in the habitats immediately adjoining the A1303 are not surprising, and I consider them likely representative of the true picture. This is a relevant and important factor when it comes to considering the potential scope for impact arising from minor upgrade of the existing A1303 trunk road as against introducing a wholly new road construction corridor across what is currently farmland, traditional orchard and numerous hedgerows, treelines and other habitats."

3.2.3 The impacts of habitat loss may indeed be less for the alternative scheme put forward and assessed by Dominic Woodfield. However, the extent of habitat loss for either scheme would not result in a significant impact for barbastelle nor other bat species, as described in my PoE [**CD26-01-APP-W12-1 PDF p16-17, paras 6.15 to 6.21**] where I explain that only a very small proportion of a 'typical' barbastelle CSZ[1] would be directly affected, i.e. either removed or indirectly affected on a temporary basis by lighting, noise or increased human presence (and the same applies even to species with smaller CSZs). Much of the habitat to be removed is sub-optimal, both for barbastelle and other bat species.

3.2.4 In para 4.3.2 **[CD26-10-W4-1, PDF p22]**, Dominic Woodfield notes:

"As is evident from … Mr Johnstone's proof, the CPPF scheme avoids any direct impact on the SSSI and also avoids any significant impact on its buffer by avoiding landtake from the northern verge of the A1303 where it runs past Madingley Wood. The proposed bus lane and active travel path will in this section be accommodated by shifting the carriageway slightly southwards ensuring no encroachment of either carriageway or busway closer to the SSSI boundary than the present road. Some very slight and localised trimming back of overhanging woody vegetation (which in places currently extends right to the carriageway edge) may be required locally to accommodate the active travel path (e.g. as shown by Image 2 below), however any landtake here affects existing narrow grassed verge oversailed by canopy, rather than woodland per se.

3.2.5 In para 4.3.3 **[CD26-10-W4-1, PDF p23]**, Dominic Woodfield notes:

The current roadside habitat edge here is compromised in value by its immediate proximity to existing traffic, to the extent that any limited trimming back can be safely assumed to be inconsequential. I am satisfied that it would not result in any tree loss – indeed it would fall well within the parameters of existing, standard highway maintenance activities. To the extent that any trimming back at all might be argued to diminish (even if only locally and very marginally) the width of the existing buffer to the SSSI, any such effect is in my view de minimis, would not impact on the function as a buffer and again falls within the scope of highways maintenance activities that will occur periodically in any event. In fact the insertion of both the foot/cycleway and the bus lane, will have the effect of moving the much more significant and impactful traffic volumes, and related noise, spray, vibration, emissions, collision hazard and lighting effects associated with the A1303 slightly further (a few metres) away from the SSSI than at present, effectively increasing the width of the buffer to the designated site from the vast majority of Madingley Road traffic.

3.2.6 In para 4.3.5 **[CD26-10-W4-1, PDF p23/24]**, Dominic Woodfield notes:

"The consequence of this southward shift to avoid the SSSI is that the re-aligned carriageway will encroach within the root protection zones (RPZs) of some eleven ash trees located along the box-trimmed hedgerow to the south of the carriageway … I have made the precautionary assumption that five of the eleven will not be able to be retained, even though methods such as no-dig construction and crown reduction may ultimately enable a proportion of even these to be kept. None of these trees have significant bat roosting potential and their loss would not result in any severance of the linear hedgerow and tree belts to the south of the road. This is relevant to the consideration of potential impacts on bats, and in particular the scope for impact on barbastelle bats (which are not a cited interest

[1] The Core Sustenance Zone (CSZ) is as the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost. For barbastelle, the CSZ is 6km radius (>100km^2); for brown long-eared bat, half that (3km radius or ~28km^2).

feature of the Madingley Wood SSSI but are considered functionally linked to Eversden and Wimpole Woods SSSI and SAC). "

3.2.7 Thermal imaging surveys alongside Madingley Wood show barbastelle and other bats crossing the A1303 here at height over a fairly narrow gap (between 5 and 15 m). There are potential impacts on flight height (i.e. whether bats will continue crossing at a 'safe' height above traffic) when the gap is widened and trees on the south side are removed. These are unknown and likely limited but perhaps should not be so lightly dismissed. Certainly it would be unwise to assume such changes could be beneficial due to a limited '*increased width*' between the road and the SSSI, and the potential for a near-direct impact on land that has been considered as functionally linked to the SAC has not been acknowledged by Mr Woodfield.

3.2.8 In their representation **[CD2-REP-11],** as part of the request for further information, Natural England noted that "*finding out where exactly the bats are crossing the A1303 near Madingley Wood could provide evidence for not widening it, if the closeness of the tree canopy over the road appears to be an important in allowing bats to cross at a safe height above the road*."

Eversden and Wimpole Woods SAC

3.2.9 In para 6.1.1 **[CD26-10-W4-1, PDF p37]**, Dominic Woodfield notes:

"Perhaps the most important single species requiring consideration in any assessment of the comparative performance of the CPPF and GCP schemes is the barbastelle bat, which is known to have maternity (breeding) roosts in Madingley Wood. Bats from this roost (and potentially others locally) utilise the local landscape crossed by both route options. This barbastelle population is considered by Natural England as highly likely to be functionally linked to the population which underpins the Eversden and Wimpole Woods SAC, some 7.5km to the south-west, and the scope for likely significant and/or adverse effects on that site via such functional linkage is therefore an important material consideration for decision-makers, requiring assessment under the Conservation of Habitats and Species Regulations 2017 (as amended)."

3.2.10 The possibility for the Madingley Wood SSSI colony to be functionally linked to bats using the Eversden and Wimpole Woods SAC is fully considered in my PoE [**CD26-01-APP-W12-1 PDF p20-21, Section 6.4**], and impacts have been assessed accordingly.

3.2.11 In para 6.1.2 **[CD26-10-W4-1, PDF p37]**, Dominic Woodfield notes:

Concerns over the scope for the GCP scheme to impact on this species, and by extension the Eversden and Wimpole Woods SAC, were first raised by Natural England during the EIA scoping stage in 2022 and have been the subject of further comment and engagement between GCP and NE since that time. A chronology of that engagement and the NE comments it has solicited is provided at section 4.2 of CD1-11.05 TR5.11 (Statement to Inform Habitats Regulations Assessment). I understand the position at the time of writing to remain that Natural England (and others) remain concerned about the scope for impacts on barbastelle bats to arise from the GCP scheme, and concerned about the likely adequacy and efficacy of the mitigation measures that are proposed by GCP to combat risks of significant effects arising through fragmentation effects, including within the core sustenance zone around Madingley Wood. This is reflected in comments made by the statutory authority most recently in January 2025 (CD2 REP-11)…"

3.2.12 This statement is somewhat out of date. At the time of writing their objection **[CD2-REP-11]**, Natural England appeared unaware of the EWR data-sharing agreement, despite indicating that their comments aligned with previous DAS response which relied on that agreement **[CD25- 42]**. However, it may have been the case that Natural England were not aware of the *extent* of data that this agreement provided, nor of all of the data collected since 2017. This has now been corrected through engagement meetings, notably in April (see Appendix 3 of my PoE [**CD26-01-APP-W12-2 PDF p23-87**] for meeting outputs). Given the additional information set out in Appendix 3, Technical Note 1 [**CD26-01-APP-W12-2 PDF p64-87**], I concluded there was sufficient information to determine impacts on the integrity of Eversden and Wimpole Woods SAC and barbastelle more widely.

3.2.13 Subject to receipt of the thermal imaging survey report, this matter is now considered 'provisionally resolved' by Natural England, as captured in the SoCG. Having reviewed the thermal imaging report (in advance of its issue to Natural England), I am happy that it does not change the conclusions in my PoE (summary statement of results is included in Annex 1 below).

Use of the landscape including Cambridge University Sports Ground

3.2.14 In para 6.1.3 **[CD26-10-W4-1, PDF p38]**, Dominic Woodfield notes:

> *"The combined survey information on the use of the local landscape by barbastelle is patchy, however surveys in 2020 and 2021 carried out for GCP and reported in CD1- 11.05 TR5.05 Bat Activity Report (para 1.2.3) "…identified high levels of Barbastelle … at numerous locations along the survey area, with key areas identified [including]… A hedgerow south of Madingley Wood SSSI [and] "…A hedgerow south of Cambridge University Sports Ground in the east of the survey area leading to a conclusion that a roost site was present within close proximity to the Scheme"*

3.2.15 It is a reasonable assertion that the data as presented in **CD1- 11.05** TR5.05 Bat Activity Report is 'patchy' as it did not present all of the data that had been collected for the Scheme since 2017, and therefore the overall findings, and the development of mitigation based on those findings, were not transparent. However, this has been rectified during the ongoing dialogue with Natural England, as presented in Appendix 3, Technical Note 1 of my PoE [**CD26-01-APP-W12-2 PDF p64-87**].

3.2.16 In subsequent meetings convened to develop the Statement of Common Ground, Natural England agreed that, subject to receipt of the thermal imaging survey report, this matter is now considered 'provisionally resolved'. They '*do not wish to request any further surveys at this point in time*', as captured in the SoCG.

3.2.17 With regard to the Cambridge University Sports Ground noted above and within para 6.1.12 **[CD26-10-W4-1, PDF p37 and p38]**, Dominic Woodfield additionally notes:

> "…*It is also relevant that the CPPF scheme would not involve any impacts in the locality of the Cambridge University Sports Ground, which surveys for GCP in 2020-2021 reported as a further hotspot of barbastelle activity (potentially indicative of another roost site), and where habitat loss impacts to linear features likely to be of importance for foraging and/or commuting again appear to have been omitted or underplayed in GCPs assessments*."

3.2.18 It is acknowledged that TR5.05 Bat Activity Report **[CD1- 11.05]** reported barbastelle activity along the hedgerow south of Cambridge University Sports Ground. This area was subject to winter static survey and crossing-point surveys during the WSP scheme surveys, and barbastelle activity was recorded during the former. However, no barbastelle registrations were recorded during the crossing-point surveys. Additionally, hedgerow static detector surveys were completed and captured in a further baseline report for the scheme [**CD25-39]** where, over five nights of recording, no barbastelle were recorded. It is worth adding that the Sports Ground is flood-lit, which could act as a deterrent to several bat species (including barbastelle) when in use.

3.2.19 A full review of important commuting features and a justification of assessment and mitigation is provided within Appendix 3, Technical Note 1 of my PoE **[CD26-01-APP-W12-2 PDF p80-87]**. The hedgerow south of Cambridge University Sports Ground (identified as CP1) did not meet the criteria for an important commuting feature and therefore no landscape treatments in the form of crossing-point mitigation will be incorporated. However, barbastelle activity was recorded here (as noted), and the hedgerow will be subject to some habitat loss. This location and potential impacts will therefore be considered as part of the scheme's overall landscaping strategy, the details of which are to be confirmed at detailed design stage.

3.2.20 In para 6.1.4/5 [**CD26-10-W4-1, PDF p39/40]**, Dominic Woodfield has drawn conclusions on how bats are active within the local landscape. However, these conclusions are inaccurate, and the assumptions therein do not reflect the full picture as presented in in Technical Note 1 of my PoE [**CD26-01-APP-W12-2 PDF p64-87**]. In para 6.1.6 **[CD26-10-W4-1, PDF p40]**, Mr

Woodfield has indicated that Natural England's concerns are of relevance, which is of course true. However, those concerns have been the subject of an ongoing dialogue with Natural England. Those exchanges have included material that is not yet in the public domain, made available through a data-sharing agreement to WSP for the purpose of conducting a detailed ecological impact assessment and robust Habitats Regulations Assessment (see also paras 3.2.12/3.2.13 above). I therefore do not consider that Dominic Woodfield's points change the conclusions in my PoE.

Severance and habitat loss; collision risk and mitigation

3.2.21 In para 6.1.7/8 **[CD26-10-W4-1, PDF p40]**, Dominic Woodfield compares the impacts of severance and habitat loss between the GCP Scheme and the alternative scheme proposed by CPPF. Whilst it is possible that there is a difference in impact, the important distinction would be if one scheme generated significant impacts and the other did not. In paras 6.2.6 to 6.2.21 of my PoE, I discuss the impacts of habitat loss, both direct and indirect, including the impacts of severance [**CD26-01-APP-W12-1 PDF p15-17**] and conclude that such impacts are limited or unlikely (even in the absence of mitigation). Therefore, it is not important that the alternative scheme has (potentially marginally) less impact as, in my view, the GCP Scheme would not result in significant impacts.

3.2.22 In para 6.1.9 **[CD26-10-W4-1, PDF p41]**, Dominic Woodfield compares the introduction of a new collision risk (from the GCP Scheme) against the collision risk of the CPPF Scheme. However, as with the previous point, the importance of the difference needs to measured against whether either represent a significant risk. WSP have undertaken a collision risk assessment, as presented in Technical Note 2 of my PoE [**CD26-01-APP-W12-2 PDF p154-163**], which demonstrates that the risk of collision from a maximum of ten bus movements in each direction would be low, even in the absence of mitigation.

3.2.23 In subsequent meetings convened to develop the Statement of Common Ground, Natural England have accepted the overall conclusion of Technical Note 2 referenced above (i.e. the collision risk is acceptable with the low threshold of mitigation implementation and appropriate mitigation design). They agree that any outstanding issues can be resolved with appropriate mitigation through discussions with the Applicant, as captured in the SoCG.

3.2.24 In para 6.1.10 **[CD26-10-W4-1, PDF p40]**, Dominic Woodfield notes:

> *"The seriousness of these elevated severance risks is clearly recognised by GCP, and an attempt to respond to them is proposed in the commitment to mitigation in the form of bat 'hop-overs' at eight locations, including the crossing points set out at CD1-10.02 Appendix ES1 - Mitigation Register. However, there is a stark absence of proven efficacy with such forms of mitigation and they cannot be seen as obviating the risk of significant negative effects to barbastelle.*

3.2.25 He adds (in the same paragraph):

> *I note that Natural Egland also continue to have fundamental concerns about the basic design that is proposed (see NE comments on crossing point mitigation at p3 of CD2 REP-11). This merely underlines that such mitigation is very clearly subordinate to avoiding or minimising those risks in the first place.*

3.2.26 With regard to the first point, the rationale for the placement of such crossing-points has been set out in more detail in Technical Note 1; Appendix 3 of my PoE [**CD26-01-APP-W12-2 PDF p64-87**].

3.2.27 The crossing-points have been designed by Gemma Cookson of WSP, who has considerable experience in research into and the design of such crossing-points. It is important also to bear in mind that: a) the crossing-points are designed for narrow gaps (under 20m, where they are considered effective; see Annex 1) not a major/wider road (where effectiveness is unlikely; b) the collision risk is accepted to be low; and c) bats are already navigating a fragmented landscape to which only limited additional impacts will be imposed (even for the GCP Scheme). The principles of the landscape treatments are set out below in Annex 1 (Technical Note 4 for this Scheme).

3.2.28 With regard to the second point, Natural England have now indicated that they accept the principle of the landscape treatments at crossing-points and are content that further design details are a post-consent matter, as set out in the SoCG.

3.2.29 In para 6.1.11 [**CD26-10-W4-1, PDF p41]**, Dominic Woodfield notes:

> *The likely significant added costs involved in the implementation and monitoring of such mitigation (which is stated to potentially involve earthworks as well as planting), the significant uncertainties around whether it will be effective in providing any meaningful amelioration of effects, and the risk of adverse effects on barbastelle and potentially the Eversden and Wimpole Woods SAC if ineffective, are concerns that, in my view, simply do not arise with the CPPF scheme. While the CPPF scheme will necessitate some localised cutting back of hedgerow vegetation, some localised crown lifting and the loss of a very limited number of trees along Madingley Road (though none within the SSSI buffer referred to by NE), I consider that the totality of such impacts would still not amount to any severance effect such that might necessitate a mitigation response. Nor would it give rise to foraging habitat losses of anything close to the same magnitude as the GCP scheme.*

3.2.30 The costs of the monitoring have not been determined so the above statement is speculation. A Monitoring Strategy set out according to the principles set out in Chapter 9 of the Bat Mitigation Guidelines **[CD25-45]** will be conditioned; monitoring will be targeted and specific. In any case, the risk of collision is low, as determined in Technical Note 2 of my PoE [**CD26-01-APP-W12-2 PDF p154-163**] and accepted by Natural England, as set out in the SoCG.

3.2.31 Similarly, impacts on the Eversden and Wimpole Woods SAC are unlikely and not material, as discussed in my PoE [**CD26-01-APP-W12-1 PDF p20-21, Section 6.4**], and provisionally resolved as indicated in the SoCG. I therefore do not consider that Dominic Woodfield's points change the conclusions in my PoE.

3.2.32 In para 6.1.12 **[CD26-10-W4-1, PDF p41]**, Dominic Woodfield notes:

> *Consequently, despite the CPPF scheme involving highways works in physically closer proximity to the known barbastelle roost site at Madingley Wood than the GCP scheme, I consider this factor to be greatly outweighed in importance by the CPPF scheme offering a far lower magnitude of overall change to the local landscape used by barbastelle and a consequent lower level of overall risk to that species and by extension to the SAC. It is also relevant that the CPPF scheme would not involve any impacts in the locality of the Cambridge University Sports Ground, which surveys for GCP in 2020-2021 reported as a further hotspot of barbastelle activity (potentially indicative of another roost site), and where habitat loss impacts to linear features likely to be of importance for foraging and/or commuting again appear to have been omitted or underplayed in GCPs assessments.*

3.2.33 The physical works close to Madingley Wood are discussed above, in para 3.2.7. The extension of risk to the SAC assumes that there is a significant risk to be extended, which I do not believe to be the case given the low collision risk from the Scheme (see para 3.2.22), as accepted by Natural England (para 3.2.23). I have dealt with the potential importance of the Cambridge University Sports Ground in para 3.2.18 above.

Summary table

3.2.34 In Table 3 **[CD26-10-W4-1, PDF p41/42]**, Dominic Woodfield compares the impacts of the GCP Scheme with the CPPF Scheme and concludes that the impacts of the latter are lower. However, what is important is not where the impacts are lower, but whether the differences result in materially different impacts (i.e. where the impacts of one scheme are significant whereas that of the other are not). Below, I take each impact in turn.

3.2.35 Row 1: *Direct loss of foraging habitat and food sources* and Row 2: *Indirect loss of foraging habitat and food sources* (e.g. via lighting, landscape changes) are fully dealt with in my PoE as summarised above: see para 3.2.3 and 0. Thus, whilst such impacts may be lower for one scheme compared to the other, the impacts of neither scheme are significant (see also severance, below).

3.2.36 It is acknowledged that lighting at bat crossing-points for the GCP is a subject for further consultation with Natural England at detailed design stage. However, there is also uncertainty over whether the lighting impacts of the CPPF Scheme can be dismissed as stated ("*will arise within the envelope/zone of influence of existing effects*"), as bats cross existing roads at a number of locations and use a largely dark landscape between lit areas. A detailed lighting scheme would similarly need to be assessed for the CPPF proposal.

3.2.37 The comparative benefits of the habitat proposals for the two schemes are not properly considered in Table 3, and no relevance is ascribed to Biodiversity Net Gain commitments. The potential benefits of the GCP Scheme are dealt with in my PoE **[CD26-01-APP-W12-1 PDF p16** para 6.2.16]. The Scheme proposals have committed to delivering a minimum of 10% biodiversity net gain (BNG), with the aim of achieving 20% (the former is a planning condition). To reduce the effect on the natural environment, the route has been adjusted to avoid trees and other vegetation where possible. It has been demonstrated that there would be no net loss of bat foraging habitat as a result of the Scheme following implementation of BNG **[CD26-01-APP-W12-2, Appendix 3.2 Slide 12; PDF p21]**.

3.2.38 As noted in my PoE **[CD26-01-APP-W12-1 PDF p23 para 7.4.4/7.4.5]**, barbastelle forage in edge habitats that provide high moth biomass, and moth larval foodplants will be incorporated into the landscaping specification (at detailed design stage) within the Scheme. Although Natural England had raised concerns around the loss of foraging habitat (and moth larval food plants in particular) in their initial representation, they now agree that sufficient notice has been taken of bat prey species, particularly for barbastelle, as set out in the SoCG.

3.2.39 Row 3: Impact on landscape scale connectivity and known commuting routes. The impact of severance is dealt with in my PoE **[CD26-01-APP-W12-1 PDF p15-16 and 18, para 6.2.6 to 6.2.14 and 6.3.3 to 6.3.8].** Mitigation for any effects of severance and fragmentation is also described in my PoE **[CD26-01-APP-W12-1 PDF p21-22 and 18, Section 7.2].** Whilst fragmentation effects are considered, at worst, not significant for any bat species, Natural England have indicated that they accept the principle of the landscape treatments at crossing-points and are content that further design details are a post-consent matter, as set out in the SoCG.

3.2.40 Row 4: *Risk of direct mortality* has been assessed as low, as determined in Technical Note 2 attached to my PoE [**CD26-01-APP-W12-2 PDF p154-163**] and accepted by Natural England, as set out in the SoCG.

3.2.41 Row 5: *Significant land-use change in roost sustenance zone* is stated for the GCP scheme, (partly repeating earlier points in the table), but incorrect as explained in para 3.2.3 above.

3.2.42 Row 6: *Overall/cumulative risks* restates Natural England's former position **[CD2-REP11]** that the shadow HRA **[CD1-11.05 TR5.11]** was insufficiently robust to provide sufficient certainty of no adverse effect on the integrity of Eversden and Wimpole Woods SAC. However, as set out in para 3.2.12 above, the initial concerns raised have been the subject of an ongoing dialogue with Natural England. Those exchanges included material that is not yet in the public domain, made available through a data-sharing agreement to WSP for the purpose of conducting a detailed ecological impact assessment and robust Habitats Regulations assessment. Subject to receipt of the thermal imaging survey report, this matter is now considered 'provisionally resolved' by Natural England, as captured in the SoCG.

4.0 BAT SPECIES OTHER THAN BARBASTELLE

4.1.1 Much of what is presented in Section 6.2 of Dominic Woodfield's PoE **[CD26-10-W4-1, PDF p44]** is a restatement of points made previously (and part of this section relates to fauna other than bats, which lies outside of the scope of this rebuttal). However, there is a reference to roost loss, which I reference in my own PoE **[CD26-01-APP-W12-1 PDF p14-15 paras 6.21-6.25].** In my view, the direct (potential) roost loss is limited to a small proportion of the roost resource i.e. the trees available to each bat species within their CSZ), and the indirect impacts of roost loss, and mortality through tree removal, are very unlikely and can be mitigated.

5.0 NATIONAL AND LOCAL PLANNING POLICY COMPLIANCE

5.1.1 Much of what is presented in this chapter is outwith the scope of this rebuttal or dealt with in the preceding sections. However, it is helpful to counter the points made by Mr Woodfield in para 8.3.3 **[CD26-10-W4-1, PDF p53]** and similarly in para 8.3.13 **[PDF p58]:**

> *In respect of NPPF 187(a), the GCP scheme has been determined to present sufficient risk to barbastelle bats to merit mitigation proposals, and because these bats are considered by Natural England to be part of a local population that is functionally linked to the statutory Eversden and Wimpole Woods Special Area of Conservation (SAC), a Habitats Regulations Assessment is also required. As confirmed in CD2 REP-11, Natural England consider that the GCP scheme will give rise to a Likely Significant Effect (LSE) on the Eversden and Wimpole Woods SAC, and furthermore that the applicant's shadow appropriate assessment (CD1-11.05 TR5.11 Statement to Inform Habitats Regulations Assessment), which takes account of proposed mitigation measures, "is not robust enough to provide sufficient certainty of no adverse effect on the integrity of Eversden and Wimpole Woods SAC" (see page 2, para 6 of CD2 REP-11). They continue to have concerns over mitigation design and efficacy.*

5.1.2 As noted in para 3.2.12, this statement is somewhat out of date and a little misleading. It is not unusual for any scheme to 'fail' the screening stage of the HRA. What is important is Stage 2, the appropriate assessment. Following several meetings outlining the extent of information available (not all of which is in the public domain), and given the additional information set out in Appendix 3, Technical Note 1 [**CD26-01-APP-W12-2 PDF p64-87**], I concluded there was sufficient information to determine impacts on the integrity of Eversden and Wimpole Woods SAC and barbastelle more widely and to determine no effect on the integrity of the SAC. Matters relating to effects on the SAC including the design of the proposed mitigation, are now 'provisionally resolved' by Natural England, as captured in the SoCG.

6.0 CONCLUSIONS

6.1.1 The conclusion of the Environmental Statement is that there will be *no significant effects on bats during construction or operation*. The findings of the HRA is that there will be *no adverse effect on the integrity of Eversden and Wimpole Woods SAC.* I agree with these conclusions, as set out in my PoE **[CD26-10-W12-1]**, and this remains unchanged having assessed the matters raised by Dominic Woodfield in his PoE **[CD26-10-W4-1]**.

6.1.2 The matters raised in the representation from Natural England **[CD2-REP11]** which are referenced throughout Mr Woodfield's PoE **[CD26-10-W4-1]**, are considered to be resolved (as set out in the SoCG) subject to post-consent detailed design consultation, as secured by condition.

7.0 STATEMENT OF TRUTH

7.1.1 The rebuttal which I have prepared and provide is true and is given in accordance with the guidance of my professional institutions. I confirm that the opinions expressed are my true and professional opinions.

ANNEX 1: TECHNICAL NOTE 4

Landscape Treatment Mitigation Rationale

TECHNICAL NOTE 4

DATE:	27 August 2025	**CONFIDENTIALITY:**	Public
SUBJECT:	Landscape Treatment Mitigation Rationale		
PROJECT:	Cambourne to Cambridge	**AUTHOR:**	Gemma Cookson
CHECKED:	Sarah Proctor	**APPROVED:**	Paola Reason

1.0 Background

1.1.1 This technical note supports the rebuttal of Paola Reason **[CD26-10-W12-4]** against the Proof of Evidence (PoE) of Dominic Woodfield **[CD26-10-W4-1],** which assesses the impacts of the Scheme on barbastelle, comparing the guided busway route proposed by GCP against an 'in-highway' alternative being advanced by CPPF/CPC.

In para 6.1.10 **[CD26-10-W4-1, PDF p40]**, Dominic Woodfield notes:

> *"The seriousness of these elevated severance risks is clearly recognised by GCP, and an attempt to respond to them is proposed in the commitment to mitigation in the form of bat 'hop-overs' at eight locations, including the crossing points set out at CD1-10.02 Appendix ES1 - Mitigation Register. However, there is a stark absence of proven efficacy with such forms of mitigation and they cannot be seen as obviating the risk of significant negative effects to barbastelle.*

He adds (in the same paragraph):

> *"I note that Natural Egland also continue to have fundamental concerns about the basic design that is proposed (see NE comments on crossing point mitigation at p3 of CD2 REP-11). This merely underlines that such mitigation is very clearly subordinate to avoiding or minimising those risks in the first place."*

1.1.2 This document outlines the rationale for the design principles for the Landscape Treatment (Crossing) features.

1.1.3 The landscape features have been designed by Gemma Cookson (née O'Connor) who has 25 years' experience of working in ecological consultancy and specialises in bat linear infrastructure projects.

1.1.4 Gemma co-authored the *Review of Bat Mitigation In relation to Highways Severance* in 2011[2], in which she collated detailed recommendations on how to optimise mitigation based on the scientific literature available. She has applied this detailed understanding and knowledge to the Scheme.

2.0 Mitigation Rationale

2.1.1 In designing the mitigation response, the following design parameters were taken into consideration:

- Buses will be 3m high.
- The road is required to carry a 7m bus route, drainage either side and a footpath/cycleway along one side of the road.
- Some private access visibility splays are required alongside commuting features.
- Lighting will be avoided at all landscape treatments unless there is an unavoidable H&S requirement; in this circumstance, mitigation will be in place to ensure continued commuting by bats.

[2] O'Connor G. and Green, R. (2011) A review of Bat Mitigation in Relation to Highway Severance. Highways Agency, England.

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- The landscape is predominantly flat (at grade), with a solution needing to be repeated across multiple commuting locations over 13km.

2.1.2 Other factors fundamental to the decision-making process included the following:

- Severance results from a bus route rather than a major operational road, with a low frequency of buses (maximum 20 per hour; 10 either direction) with limited bus operation (6am to midnight) meaning the window of collision risk for bats was very low (see Paola Reason Proof of Evidence: Appendix 4, Technical Note 2 [**CD26-01-APP-W12-2 PDF p154-163**]). As such, the response needed to be cost-effective and proportionate to this risk.
- The solution also has to be suitable for the flight strategy of the bat species to be conserved **[**see CEDR, 2016 for different flight strategies: reference reproduced in **CD26-01-APP-W12-2 PDF p11-12]**.
    - The barbastelle bat has a medium-to-high flight strategy which is edge-adapted, meaning it does not tend to fly through vegetation or lower height
    - Other at-risk species include: low flying bat species (*Myotis* spp.) and species which fly through vegetation (*Plecotus* spp.)
    - Young of all bats species may lower flight over a gap until more experienced.
- Radio-tracking data showed bats are moving across an already fragmented landscape.

2.1.3 On this basis, a review of available mitigation options (green bridges, underpasses and landscape treatments) was completed (See Annex A, Table 2).

2.1.4 From this review (and in consideration of the low risk posed by the busway), landscape treatments were considered the most appropriate response to mitigation given they could be refined to suit bat flight strategies; designed to be in keeping with the topography; and were the most cost-effective and therefore most proportionate response to the risk.[2]

3.0 Literature Review

3.1.1 Available papers on hop overs were reviewed to optimise effectiveness with the following design information collated for application in the design, as detailed in Table 1.

Table 1: Literature Review Influence on Design

Source	Summary of Findings	Influence on Design
Russell *et al.* (2009)[3]	The paper conducted a survey of bats crossing roads and suggested the distance bats will fly from one high canopy to another without flying near to the ground is 20-30m.	A maximum distance of 20m was applied to the Scheme Landscape Treatments.

[3] Russell, A. L., Butchkoski, C. M., Saidak, L. and McCracken, G. F. (2009). Road-killed bats, highway design, and the commuting ecology of bats. Endangered Species Research , Vol. 8: 49–60. doi: 10.3354/esr00121.

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Bat Mitigation on Roads (Christensen *et al*. 2016)[4]	A field experiment assessing the effectiveness of hop-overs suggested increasing the flight of *Myotis* and *Plecotus* by planting and maintaining dense vegetation or screens to force bats higher when approaching the road.	A temporary fence will be installed at ground level to the base of the tree canopy to be later replaced by established dense hawthorn planting to protect low flying bat species from collision.
Berthinussen and Altringham (2012)[5]	The research found a positive correlation between road-crossing height and the height of the road verge.	Incorporation of embankments either side of the road placing the route in a cutting where possible. This also helps to prevent bats changing flight relative to ground level.
Lesinski (2007)[6]	Research concluded young bats were susceptible to lowering flight height in first few weeks.	The height at which bats cross each Landscape Treatment will be increased by using tall trees to allow headroom above the bus for any potential lowering in flight height.

3.1.2 Landscape treatments which provide existing or planted trees and hedgerows on either side of a road are sometimes called 'hop-overs'. The tall vegetation on the road verges is intended to encourage the bats to maintain or increase their flight height to cross the road at safe height above the traffic. The vegetation can be combined with earth ramps or screens on the road verges. Alternatively, tall barrier screens may function as hop-overs. Hop-overs are considered suitable for narrower roads; best used as mitigation measure on roads levelled with the terrain or on roads in low cuttings.[7]

4.0 Best Practice Principles

4.1.1 The following best practice [8] design measures have been applied to optimise the effectiveness of each bat mitigation measure by ensuring the crossing feature:

- is located on the exact bat commuting flight path; as established through survey;

[4] Christensen, M., Fjederholt, E. T., Baagøe, H. J and Elmeros, E. (2016). *Fumbling in the dark – effectiveness of bat mitigation measures on roads Hop-overs and their effects on flight heights and patterns of commuting bats – a field experiment*. CEDR Transnational Road Research Programme. Available here.

[5] Berthinussen A. and Altringham, J. (2012). Do bat gantries and underpasses help bats cross roads safely? PLoS ONE 7(6): e38775. https://doi.org/10.1371/journal.pone.0038775.

[6] Lesiński, G. (2007) Bat road casualties and factors determining their number. Mammalia, Vol. 71 (Issue 3), pp. 138-142. DOI: 10.1515/MAMM.2007.020.

[7] Elmeros, M., Møller, J., Dekker, J., Garin, I., Christensen, M. & Baagøe, H. (2016) *Bat mitigation measures on roads - a guideline*. https://www.cedr.eu/download/other_public_files/research_programme/call_2013/roads_and_wildlife/safebatpaths/Guidelines_for_bat_mitigation_on_roads.pdf.

[8] Natural Resources Wales (2017). Bats and Linear Infrastructure. A Summary of DEFRA research project by Dr Anna Bertinussen and Professor John Altringham.. https://naturalresources.wales/media/682728/bats-and-linear-infrastructure-report-final-240817.pdf

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- maintains connectivity with existing bat routes [where necessary these may be improved by planting to improve robustness of corridor];
- is functional at the point of Scheme operation (to include mitigation during construction as necessary) achieved by planting tall mature trees of a height that gives the most effective establishment rates;
- minimises the alteration of flight height with no change in flight direction. [For the majority of locations the Red Line Boundary allows ground levels to be sloped to increase the bats flight height relative to ground level before joining the trees though there are a couple of constrained areas where this is not feasible];
- will be unlit or lighting mitigated (refer to Lighting Presentation for Lighting avoidance strategy, except where H&S issues dictate otherwise); and
- will minimise the likelihood of foraging by bats near to the busway.

4.1.2 It will also be important to maintain landscape permeability where the Scheme is online: in these sections, vegetation clearance will be avoided or minimised. Where vegetation cannot be retained, sufficient vegetation will be retained or will be replaced at the earliest opportunity. Any planting or retained vegetation will need to be managed to be a sufficient height and width to maintain bat movements**.**

5.0 Stakeholder Liaison

5.1.1 The initial design resulting from the review is presented in para 7.2.29 the Statement to Inform the Habitats Regulations Assessment [CD1-11.05 TR5.11 PDF p64]. The options for the detailed design of Landscape Treatments have since evolved through discussion with Natural England, and will be finalised taking all factors into account in further consultation with Natural England during detailed design. As noted in para 7.3.4 of Paola Reason's PoE [CD26-01-APP-W12-1 PDF],Natural England have now indicated that they accept the principle of the landscape treatments at crossing-points, and are content that any residual matters are now considered resolvable as a post-consent matter. [REF SoCG if signed, or SoCG tracker – which has been signed].

6.0 Further input to the design

6.1.1 The effectiveness of the Landscape Treatments will be further qualified by the results of further surveys undertaken in response to Natural England's Representation **[CD2-REP-11]**. These surveys were carried out in July and August to observe how barbastelle were crossing existing roads (the A1303 and A428) within the Scheme's vicinity.

6.1.2 Thermal imaging footage showed that only one bat out of 220 reviewed flew at a potentially unsafe height (in relation to bus height). All other bats analysed flew between 4 and 20m+, crossing gaps between tree canopies that were either 5-15m apart at grade (A1303) or 38m apart within a cutting (A428). The lowest bat recorded flying on camera[9] was observed at between 3 and 6m, which covers both at-risk and safe flying heights. This was the only bat (<0.5% of total) recorded as flying (potentially) at risk. The overall findings were consistent with the CEDR description (**CD26-01-APP-W12-2 PDF p11-12)** that barbastelle fly at height and do not tend to lower flight; and Natural England's Favourable Conservation Status Report that 'roads, motorways, and other clearings in natural vegetation do not appear to be a major barrier to movement or dispersal [of barbastelle] in the landscape **[CD-43, p21].**

[9] Thermal cameras do not allow for bat species to be identified, and image analysis is very time-consuming. Of the many hours of footage recorded, only footage within +/-30 seconds of a barbastelle bat registration (on a static bat detector) was reviewed and bats observed/captured within that footage were assumed to be barbastelle.

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7.0 Monitoring

7.1.1 Monitoring (in line with Chapter 9 of the Bat Mitigation Guidelines (Reason and Wray, 2023 [**CD25-45, Ch 9, p122** *et seq*.] will be undertaken to verify the effectiveness of the landscape treatments and build the evidence base for such measures. Where necessary, remedial actions will be implemented. The Monitoring Strategy will be a requirement of a Planning Condition.

8.0 Planning Conditions

8.1.1 The elements of detailed design that remain unconfirmed (notably here: details of the landscape strategy including vegetation removal plans, landscape treatments for severed linear features, fencing and lighting design) will be secured via planning conditions.

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Annex A: *Table 2: Mitigation Options considered*

Option	Approach	Cost Implications	Bat Flight Strategy Suitability (applying CEDR)	Existing Topography Considerations	Best Option?
Green Bridges	Green bridges with habitat connectivity. Significant landtake.	Very high construction and maintenance cost for each bridge. Cost is prohibitive when repeated at commuting locations across the Scheme.	Highly suitable for all bat flight strategies, including medium to high-flying bats, low-flying bats, and edge- and clutter-adapted species, as well as for other mammals.	Would be tailored to landscape but would be a significant engineered structure within the flat landscape. Would significantly alter existing bat flight heights.	No. Although highly effective for bats, It is an over engineered response where the cost is not proportionate to the risk due to low frequency of buses with bus operation ceasing at midnight.
Underpasses	Construct culverts beneath the road for safe crossing below traffic. Significant landtake.	Moderate to high – construction/maintenance cost is less than green bridges but more than landscape treatments and fencing.	Most effective for low-flying clutter adapted species; less so for medium to high-flying species like barbastelle unless sufficient height and width e.g. 6m x 6m to carry medium to high flying bats.	This solution is not compatible with the flat landscape.	No. Not compatible with landscape. Less suitable for medium to high flying bats and with moderate cost.
Landscape Features	Build up ground to create cutting and plant mature standard trees either side of the road	Moderate to low cost for mature trees is significantly less than green bridges and underpasses.	Well-suited for edge-adapted and medium/high-flying bats like barbastelle; less effective for low-flying/clutter-adapted bats. As such fencing is also required to prevent these bats having collisions.	Adjustable to local ground levels.	✓ Best option as tailored to suit all bat flight strategies; in keeping with topography; Cost-effective and proportionate to the risk