DEPARTMENT FOR TRANSPORT

MARCH 2019

TRANSPORT AND WORKS ACT 1992

TRANSPORT AND WORKS (APPLICATIONS AND OBJECTIONS PROCEDURE) (ENGLAND AND WALES) RULES 2006

THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER

REBUTTAL
to Dr Dan Simpson Proof of Evidence
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ECOLOGY

NR54/1

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1 Rebuttal to Dan Simpson

1.1 Proof of Evidence

1.1.1 This rebuttal is written in response to the Proof of Evidence submitted by Dr Dan Simpson which considers the ecology elements of the East West Rail Bicester to Bedford Improvements Proposal, specifically regarding Gladman Developments' interests in the site identified for the development of Ecological Compensation Site B10.

1.1.2 Gladman Developments object to the inclusion of the land in the Draft Order allocated for Ecological Compensation. Discussions have continued between Gladman Developments and Network Rail to attempt to resolve this issue, but the following points remain unresolved and are dealt with in Dr Simpson's evidence.

- Fauna, with particular focus on whether ECS B10 is required to compensate for impacts on Great Crested Newts
- Ecological designations, in particular the proposition that ECS B10 will provide improved connectivity between Old Quarry Biological Notification Site (BNS) and Woodland Copse off Magpie Way Local Wildlife Site (LWS)
- Habitats, in particular whether ECS B10 is required to compensate for terrestrial habitat loss arising from EWR2.

1.1.3 I will deal with each of these issues in turn.

1.2 Fauna

Great crested newts

1.1.4 As stated at Paragraph 3.1.1 of Dr Simpson's evidence, it is common ground between the parties that there will be no loss of aquatic habitats for great crested newts within 500m of ECS B10. Dr Simpson goes on to conclude from this that therefore ECS B10 is not required to compensate for the loss of aquatic habitats for great crested newts in this location. This is a significant over-simplification of the situation. Network Rail has developed a comprehensive strategy for the mitigation and compensation of impacts on great crested newts as a result of EWR2. This involves the replacement of lost habitat, both terrestrial and aquatic along the length of the Scheme in order to address impacts on each metapopulation of newts affected. New ponds are proposed in areas suitable for pond creation (in terms of their proximity to newt metapopulations, their physical characteristics, such as underlying geology, slope or aspect, and their location close to the railway corridor). Not every location for the creation of proposed ponds will be within 500m of a lost pond; instead the new ponds form part of a route-wide solution based on great crested newt metapopulation ecology.

1.1.5 As stated in Network Rail's response to Gladman Developments cited by Dr Simpson, the aquatic habitats provided at ECS B10 would enhance **this location**. That is, the area at ECS B10 would gain aquatic habitat for great crested newt while other areas along the Scheme would lose aquatic habitat for great crested newt. Dr Simpson will be aware that a basic principle of compensation for loss of the habitat of a European Protected Species is re-provision of such habitat at a ratio greater than 1:1. This is partly to counteract the time lag between new habitats being created and becoming established so as to provide equivalent value for those lost. This approach would be required by Natural England in order for the Scheme to be licensed and forms part of Network Rail's legal obligations under the Habitats Regulations. Such proposals do not aim to deliver biodiversity net gain as Dr Simpson suggests, but simply to compensate for the potential impacts on a European Protected Species. Determination of the requirements for habitat compensation for European Protected Species and for the delivery of biodiversity net gain are separate should not be conflated in this way.

1.1.6 I do not agree with Dr Simpson's calculations regarding the loss of terrestrial habitat close to ECS B10. Having visited the Scheme in that location, it is clear that great crested newts make significant use of the entire railway corridor throughout the Winslow area, particularly where the failed track drainage has led to a favourable combination of damp habitats for shelter and foraging with resting or hibernation sites within the ballast. Part of the site clearance works prior to construction in this section will involve trapping and translocating great crested newts from within the railway estate and moving them to suitable alternative terrestrial habitat nearby. Proposed ECS B10 is ideal for this purpose, being located adjacent to the railway line, and having the potential to be enhanced to improve its value for great crested newts. As I set

out in my evidence at paragraph 4.1.205, alternative locations were considered for ECS B10 in the Winslow area, and none were considered suitable.

1.1.7 Dr Simpson goes on to make calculations of the loss of the 'core areas' of habitat close to nearby ponds, concluding that it is negligible. The calculation of 'core' habitat in this way can sometimes be a helpful approximation in valuing habitat, but the use of habitat at different distances from breeding ponds by great crested newt does vary. Where particularly valuable terrestrial habitat happens to occur slightly further away from a breeding pond, it will be used to a greater degree than might be assumed. I am therefore more concerned with the evidence of Network Rail's surveyors, who have recorded numerous great crested newts in the terrestrial habitat adjacent to ECS B10, than simple assumptions around how great crested newts should behave.

1.1.8 Dr Simpson refers to paragraph 11.3.14 of the Further Environmental Information (FEI) Main Report (Part I of the FEI) which identifies three ECS (B7, B13 and C1) as compensating for the effects on great crested newts. This paragraph does indeed identify three important ECS for this purpose but was not intended to be an exhaustive list. By referring to Appendix 9.13v2 of the FEI, it can be seen that thirteen of the ECS have great crested newts listed as one of their primary purposes, in line with the route-wide strategy I have outlined above. It is therefore inappropriate to conclude, as Dr Simpson does at his paragraph 3.1.6, that ECS B10 is not needed.

1.1.9 Dr Simpson then refers to one paragraph in the 2018 Environmental Statement (ES) which states that "any great crested newts present will be captured and relocated to suitable habitat within ECS B7, ECS B13 and ECS C1" and concludes that since ECS B10 is not listed that it cannot be needed for this purpose. This is despite his acceptance in his paragraph 3.1.11 that "Appendix 9.13v2 of the FEI states that ECS B10 will be used for the translocation of great crested newts". Network Rail has been quite clear that the FEI provides further survey results and analysis and that its conclusions supersede those of the 2018 ES. It is therefore perfectly clear that ECS B10 is proposed by Network Rail for the translocation of newts. Consideration has been given to various locations for such translocations and it has been determined that B10 provides the most suitable. Old Winslow Quarry BNS, suggested by Dr Simpson, provides excellent habitat for newts already and is likely to support them at carrying capacity. It would therefore be difficult to make any improvements that would allow it to support newts translocated from the Scheme.

1.1.10 Dr Simpson's impression of the likely disruption of access to breeding grounds (paragraph 3.1.14) appears to be based on his assumption that the railway itself does not provide suitable habitat for newts moving along the Scheme. The suitability of this habitat for great crested newts was set out in my evidence and is illustrated in the photograph below, and it is my professional opinion that the works within the railway land adjacent to ECS B10 represents a short term loss of habitat for great crested newts and will potentially disrupt the connectivity of habitat for this metapopulation of newts.

1.1.11 At his paragraph 3.1.10, Dr Simpson states that it is common ground between the parties that "although it would be preferable to provide terrestrial habitat compensation as close to the source of impact as possible, alternative locations would be acceptable providing the overall area of compensation matches or exceeds that currently proposed by B10". This fact as stated is not disputed, but there is one important caveat. The great crested newt mitigation strategy is a requirement to satisfy Network Rail's obligations under the Habitat Regulations and any works carried out need to be licensed by Natural England. Amphibians are susceptible to a fungal disease caused by chytridomycota, commonly known as chytrids. All amphibian surveys in the UK are undertaken according to strict biosecurity protocols to prevent the spread of chytrid organisms and any translocation works would not normally seek to move great crested newts outside of the limits of their existing metapopulations in order to prevent disease transmission. In negotiations with Gladman Developments, Network Rail has attempted to seek alternatives to taking this plot of land for the purpose of constructing ECS B10. The potential alternative site is located at Moco Farm, adjacent to ECS B14. Whilst the site is suitable for the creation of great crested newt habitat, and is larger than ECS B10, it is more than 2km away from the habitat from which newts would need to be translocated, outside of the metapopulation associated with ECS B10, and disease screening would be required. It is therefore a less desirable solution than ECS B10 and can only be a viable alternative if Natural England agree to a translocation strategy based on the use of Moco Farm. For this reason, land for the construction of ECS B10 cannot yet be removed from the Order.

Reptiles and other fauna

1.1.12 In his evidence, Dr Simpson refers briefly to the use of B10 as a site for mitigation for other species including reptiles, badgers and invertebrates. It is agreed that the main driver for the location of ECS B10 is the need for compensatory great crested newt habitat. However, this does not lead to a conclusion that the other uses of the site are not important. The 2018 ES states that "reptiles will be located to 8 ECS, including B10, or areas of suitable retained habitat outside of the Scheme Area." This should not be taken to suggest that all reptiles could simply be "dropped over the fence". The ECS specified are all needed in order to provide additional carrying capacity to support the reptiles it is anticipated will need to be translocated.

1.1.13 In paragraph 3.3.1, Dr Simpson suggests that provision of habitat for other species in ECS B10 is incidental, and contributing to a "general aspiration for B10 in terms of contributing to mitigation for losses along the entirety of Route Section 2B". This is not the case. Whilst it is agreed that all of the ECS form

part of a route-wide strategy for replacing lost habitat, there are certain specific locational elements to each one. In particular, the provision of artificial badger setts must take place within the territory of the social group of badgers whose sett is to be lost. Network Rail have made great efforts to locate artificial badger setts within their retained earthworks areas wherever possible in order to avoid acquiring land for this purpose. However, locating artificial badger setts further away from the potentially disturbing operations, whilst still within their territory, would always be the preferred option.

1.1.14 In summary, ECS B10 forms an important part of Network Rail's strategy for mitigation and compensation of the impacts of the Scheme. The location of ECS B10 is of particular value for mitigation of impacts on great crested newts and badgers, as well as having the potential to support a range of other species. Potential sites to provide these opportunities are limited in the Winslow area due to the built-up nature of the land around the railway. Whilst it would be possible, in theory, to utilise an alternative site for this suite of mitigation measures, this would be less preferable and would need to be agreed with Natural England.

1.3 Ecological designations

Compensation for habitat loss within Old Quarry Winslow BNS

1.1.15 In Section 4.1 of his evidence, Dr Simpson suggests that ECS B10 is not required as a site for compensation of woodland habitat lost from Old Quarry Winslow BNS. This assertion seems to be based on the assumption that as 0.1ha of woodland would be lost from the BNS, then only 0.1ha would need to be replaced, when at least 0.25ha is proposed. This is not the case. New woodland planting will take several decades to mature, and it is self-evident that 0.1ha of newly-planted trees at 900mm tall will not serve the same ecological function as an established woodland of the same size. In order to mitigate this temporal effect, it is best practice to replace habitats at a ratio of greater than 1:1. Biodiversity accounting metrics take account of this by applying multipliers to account for the time to target condition and the difficulty of establishing new habitats, such that a greater area is required to compensate for any loss. As an example, using the Defra metric, the loss of 0.1ha of semi-natural woodland (condition score 3, distinctiveness 6) would represent a loss of 1.8 biodiversity units. In order to achieve no net loss (not a net gain) 0.45ha of newly planted woodland would need to be provided, almost twice the amount that Dr Simpson suggests in his paragraph 4.1.2 is an over-provision of compensation. For this reason, I cannot agree with Dr Simpson that there has been an over-provision of compensation in this location.

'Better' connectivity between BNS and LWS

1.1.16 The aspiration to better connect existing valuable habitats in the BNS and LWS is clearly set out in the 2018 ES and FEI and is reproduced in Dr Simpson's evidence. That is, that by extending the area of the habitats present in these protected sites, it will enable the ranges of the protected / notable species these sites support to expand. It is not suggested in either the ES or FEI that the two sites on opposite sides of the railway will become physically connected by ECS B10. It is not, however, the case, as suggested by Dr Simpson, that the presence of the railway would be a complete barrier to such movement of species. Plants may spread though wind-dispersal of seeds, and invertebrates, amphibians and reptiles will not find the presence of a railway to be a barrier. ECS B10 forms part of a route-wide strategy for improving connectivity and avoiding habitat fragmentation, and each of the ECS acts as a "stepping stone".

1.4 Habitats

Terrestrial Habitats of Principal Importance (HPI)

1.1.17 In Section 5.1 of his evidence, Dr Simpson presents a simplistic view of the process of offsetting biodiversity losses. Firstly, he suggests that since the only Habitat of Principal Importance (HPI) to be impacted in the locality of ECS B10 is woodland, that is the only HPI which should be provided in the area. Whilst it is not clear what he defines as "in the locality", this is not strictly true, since open mosaic habitat would also be lost along the railway close to ECS B10. This approach also ignores the value of creating habitat mosaics to increase complexity and value for biodiversity in the ECS. It is not intended that each ECS should have a single function based solely on impacts within a few hundreds of metres of it. If this were to be the case, Network Rail would require many more, small ECS along the length of the Scheme. Rather, the ECS are designed to act as a coherent network along the length of the Scheme.

1.1.18 Dr Simpson then selects a figure for woodland loss of 4.5ha and estimates that 12.95 ha would be planted in compensation. He therefore concludes that there is a net gain in woodland provision and that ECS B10 is not required. As I have explained above, that is not how biodiversity accounting metrics work. Because of the adjustments that are applied to newly created habitats to account for establishment time, and the high distinctiveness value that is applied to all semi-natural woodland by the metrics, then a significantly

larger area must be planted than the area lost to achieve a net biodiversity gain; it is not based on a simple comparison of areas of very different biodiversity value.

1.1.19 If we take Dr Simpson's figures above, and assume 4.5ha of loss of semi-natural woodland in Route Section 2B (which is probably a significant underestimate of the loss along the railway line), then again assuming a condition score of 3, and a distinctiveness of 6 (which cannot be changed for semi-natural woodland within the Defra model) this would represent a loss of 81 biodiversity units. In order to create 81 biodiversity units of new woodland of the same eventual standards but allowing for the time and difficulty to reach target condition, then according to the Defra metric this would require 20.25ha of new planting. Thus, the 12.95ha Dr Simpson estimates would be planted would represent a significant net loss.

1.1.20 The figures used in Network Rail's calculations presented in Appendix 2 of my evidence were significantly more pessimistic than Dr Simpson's, suggesting that up to 26ha could be lost. Since the time of writing, more vegetation has been preserved through detailed design although the loss is still likely to be more than 4.5 ha and thus there will still be a requirement for woodland planting in ECS B10 and other ECS.

Other (non-HPI) terrestrial habitats

1.1.21 Whereas in the above sections Dr Simpson has argued that Network Rail do not require ECS B10 as they have over-provided compensatory habitat, in Section 5.2 he argues the reverse. He states that since there is a significant net loss of terrestrial habitat within Route Section 2B, then ECS B10 is not required. I cannot concur with the approach that since there would be a net loss with or without ECS B10, making the net loss larger would not matter. As I have set out above, the reasons for the location of B10 largely relate to great crested newt mitigation, but beyond that it contributes to a route-wide mitigation strategy including replacement of both HPI and Non-HPI habitats.

1.5 Summary and Conclusions

1.1.22 Dr Simpson concludes that there is no ecological reason why the compensation delivered by ECS B10 could not be delivered elsewhere. As I have set out in evidence, the primary driver for the location of B10 is for great crested newt mitigation. Due to the built-up nature of the land around Winslow, there are very few available options adjacent to the railway for the siting of an ECS within the range of this meta-population of newts. To the west of ECS B10, the existing Old Quarry Winslow BNS already provides valuable habitat for great crested newts and hence it would not be possible to achieve any gain in habitat for this species in that location. Further west than the BNS, newts would be isolated by roads from the rest of the metapopulation. To use land further north would conflict further with future housing allocations and would result in newts being isolated from dispersal corridors along the railway. Land to the south of the railway is built up, with heavily-used areas of public open space which would be unsuitable for construction of a BNS.

1.1.23 Given the above, the only alternative to the use of ECS B10 would be to move the newts completely out of the area and create suitable alternative habitat elsewhere. This could adequately compensate for impacts on great crested newts but would be a more complex operation, requiring disease screening for chytrid, and would only be possible if agreement was reached with Natural England. This option has been explored by Network Rail and use of Moco Farm as an alternative to ECS B10 has been presented as one option in the draft great crested newt licence application submitted to Natural England. If this option is acceptable to Natural England, the new site would be significantly larger than the three sites it could replace (ECS B9, B10 and B17). It could therefore also provide several of the other functions of ECS B10 in terms of replacement of other terrestrial habitats as well as specific provision for reptiles. There would be a slight reduction in the effectiveness of the project wide network of ECS if ECS B10 were not delivered, as there would be a large distance along Route Section 2B without any "stepping stone" habitats. For this reason, and for the additional complications involved in the great crested newt mitigation, it is my professional opinion that the creation of ECS B10 as set out in the Draft Order would be the preferable solution.