REP7-XXX RHS Responses to ExQ3

Question No	Question to:	Question:	RHS Response:
1	**General**		
Q3.1.3	All IP's	With respect to the Applicant's Proposed Changes 2 to 6, the documentation for which was variously submitted at Deadlines 4 and 4a, which were accepted for Examination by the ExA on 27 February 2020 [PD-012], please provide any comments that you may have that specifically relate to Proposed Changes 2 to 6, which comprise the following: • Change 2 - incorporation of two toad underpasses at Old Lane • Change 3 - removal of part of the proposed improvements to the A245 eastbound between the Seven Hills Road and Painshill junctions • Change 4 - amendments to Saturday construction working hours • Change 5 - diversion of a new gas main crossing of the M25 • Change 6 - amendments to the proposed speed limit at Elm Lane	The RHS has no comments.
Q3.1.4	All IP's	Included within the Applicant's request at Deadlines 4 and 4a to make Proposed Changes to the originally submitted application is Change 1 (extension of the proposed green element on Cockcrow Bridge). Proposed Change 1 to date has not been accepted for Examination by the ExA. There remains the potential for Change 1 to be accepted by the ExA for Examination prior to the close of the Examination and accordingly the ExA considers it appropriate that all IPs be provided with the opportunity to comment on Proposed Change 1 if they wish on a without prejudice basis.	The RHS has no comments.

2.	**Principle and nature of the development, including need and alternatives**		
Q3.2.2	Applicant,GBC, EBC, RHS, any other IP's	For the purposes of the determination of the submitted application for the Proposed Development does the amended duty under The Climate Change Act 2008, namely achieving net zero greenhouse gas emissions by 2050 pursuant to The Climate Change Act 2008 (2050 Target Amendment) Order 2019, which took effect on 27 June 2019, have any implications for the assessment of the effect on climate change that has been undertaken (ie the conclusions contained within chapter 15 of the ES [APP-060]), particularly with regard to: the provisions of the National Policy Statement for National Networks (NPSNN); any other national policy relating to climate change (including any commitments as part of the Paris Climate Agreement of December 2015; and any in-principle type considerations raised in the recent Court of Appeal judgement concerning the Airports NPS?	The RHS reserves its position on this issue, pending sight of HE's submissions.
4.	**Biodiversity & Habitats Regulations Assessment**		
Q3.4.1	RHS	In regard to any potential effects on the Thames Basin Heaths SPA (TBH SPA) due to air quality considerations, please comment on the response made by Natural England at Deadline 5 [REP5-032] in regard to the ExA's Second Written Questions.	The RHS responses to Natural England's responses in REP5-032 are set out in the Appendix to this Document.
Q3.4.2	RHS	Given the results presented in Figures 1, 2 and 3 of [REP5-049] what implications in regard to ammonia concentrations do you consider there would be as a result of the Proposed Development for the TBH SPA, taking into account the specific characteristics of this part of the SPA, its spatial relationship with the strategic road network, and the nature of the qualifying species of the TBH SPA.	The RHS deals with this issue in REP-6-024, see pdf pages 23-23 and pdf page 95 in RHS response to issue NA1 in the draft SoCG with Highways England. This material makes clear that ammonia concentrations, like NOx concentrations, are not at background at 30 metres from the road, but need to be considered at least out to 200 m from the road. Furthermore, REP5-049 at 4.23 references an emissions factor tool for ammonia from road traffic (available freely for all to use) that would allow a detailed consideration of ammonia emissions. Prior to this, HE had proposed using a doubling of nitrogen deposition rates due to NOx to equate to the additional contribution from ammonia. RHS accepts this

			approximation, although it is likely to be an underestimate. Increased ammonia will increase the nitrogen deposition. However, HE has not presented the results with nitrogen deposition for all receptors. As RHS has made clear it is important to consider the effect of the DCO Scheme at all locations across the SPA, and not just for locations beyond 150m (see REP6-024 and response to Question 3.4.1 above). The 150m buffer area supports a mix of woodland types (both mixed woodland and conifer plantation which as both NE and HE have acknowledged is supporting habitat for the qualifying species of the SPA by virtue of the invertebrates it supports (upon which the SPA birds may feed). It is therefore a legal requirement to assess the impacts of elevated nitrogen deposition (including ammonia) from the DCO Scheme and in combination with other plans and projects on this area. As detailed above HE has not done this analysis, indeed HE had not even calculated the levels of ammonia that will be generated within the 150m of the roads. RHS has already presented a critique of the potential effects of increased nitrogen deposition upon invertebrate populations (REP6-024). As well as the current specific characteristics of this part of the SPA it is also necessary to consider the future character of the site. As detailed above, part of HEs compensation measures including the restoration of woodland within 150m of the road network back to heathland. Once restored these habitats are likely to become breeding habitat for woodlark and nightjar.
13.	**Traffic, Transport and Road Safety**		
Q3.13.7	Applicant & RHS	In response to the ExA's SWQ 2.13.14 you have provided conflicting answers as to whether the 'RHS Alternative' access arrangement would include an at grade or grade separated junction between Wisley Lane and the A3. It appears to the ExA that unless	For the purposes of responding to ExQ3 at Deadline 7: a) Please see the attached plan ("ExQ3.13.7 – Plan") which has

		fundamentally different design assumptions are being made about what form a 'left out' junction from Wisley Lane might take that such a junction could only be either at grade or grade separated. The Applicant and the RHS are therefore requested to: a) agree between one another hypothetically what form of junction or junctions could physically be accommodated; and b) then advise the ExA which of DMRB CD122 or CD123 would any such junction design or designs need to be assessed against. Should any junction design or designs require a relaxation from the relevant design standards to be applied, the Applicant and the RHS are requested to explain the nature of any relaxation that would be required. The response to this question is one which the ExA expects the Applicant and the RHS should include in their SoCG, with clear explanations for matters that are or are not agreed.	been shared with HE along with the following explanation (a response is awaited). b) CD122 provides the following definition of a grade separated junction: "A grade separated junction has at least two carriageway links at different levels, and usually involves the provision of a structure to accommodate carriageways crossing." The RHS Alternative Scheme satisfies this definition. The RHS invited HE to agree this information but it was not able to do so by Deadline 7 so this is the RHS answer to the question - not an agreed or disagreed position with HE. A response to this question will be included in the SoCG on the basis required by the ExA.
Q3.13.8	Applicant & RHS	Having regard to the Applicant's response to ExA SWQ 2.13.9 [REP5-014]: a) For the Applicant - what safety mitigation measures would the Applicant have sought? b) For RHS – had you been requested to provide mitigation, what measures might you have suggested?	As noted in REP5-053 and REP5-048, RHS disputes HE's claimed safety issue. However, in response to question (b), given that: (i) the EXISTING weaving length is 865m (and so less than the 1km standard), and; (ii) even if (which is denied) the RHS proposals would have an impact which was considered to be contrary to NPPF paragraphs 108(c) and 109, then: RHS would be proposing the improvement, which is contained within the RHS Alternative Scheme, which increases the weaving length to in excess of 1km whilst also providing an improved connection from Wisley Lane (replacing the priority junction onto the parallel link/slip road).

Q3.13.9	Applicant & RHS	With respect to the consideration of the RHS alternative (WIS12 etc), is the ExA to treat the disagreement between the Applicant and the RHS as either: a) that the RHS alternative has not been considered; or b) that it has been considered but that the RHS does not agree with the Applicant's decision not to incorporate the RHS's preference into the design for the Proposed Development?	(a) The RHS Alternative has not been considered for the reasons set out in REP5-054 (2.13.10 and 2.13.20) which relate to the lack of modelling of this option. (b) N/A
15.	**Content of the draft Development Consent Order (dDCO)**		
Q3.15.17	GBC & RHS	Please set out any concerns or comment you may have on the new Requirement 18 (Protection of certain tree roots at RHS Garden Wisley) in the dDCO [REP5-002].	Requirement 18 does not offer the protection needed so as to ensure that the Redwood Trees in question will not be harmed. Please refer to the Barrell Tree Consultancy letter dated 17 April 2020 forming Appendix 3 to the Overview submitted by the RHS at Deadline 7 [REP7-xxx]
16.	**Compulsory Acquisition**		
Q3.16.1	All CA/and or TP objectors wo had registtered to be heard at a CAH scheduled for 24 march 2020 (CAH 1)	Please provide in writing the oral case concerning the Applicant's CA and/or TP proposals that you intended to make at the postponed CAH1, in effect the written post hearing submissions that you would otherwise have submitted at Deadline 6. Should these written submissions exceed 1,500 then also provide a standalone written summary of the main submissions. In submitting your written versions of the oral case that you would have otherwise have made at CAH1, would you please ensure that as an Affected Person (AP) you identify each plot of land that you have an objection to the proposed CA and/or TP for. The identification of plots should be made by reference to the plot numbers given on the Land Plans [AS-002, as amended by any subsequent Land Plans submissions by the Applicant] and set out in the current version of the BoR [REP5a-	The RHS maintains its objections in relation to Plots 2/27, 2/27(a) and 2/30 for the reasons explained below. Plot 2/27 (which is to be acquired permanently), together with Plot 2/27a and 2/30 (which will be subject to temporary possession), lie at the main vehicular entrance to the RHS Gardens at Wisley from the A3. Plot 2/30 comprises part of Wisley Lane, the access road into, and out of, the Gardens. The purpose of acquiring Plot 2/27 is to construct the northern end of a bridge that will pass over the A3 and provide a new entrance to the Gardens. HE says that access to the Gardens from Wisley Lane will be maintained throughout the scheme works and during the 12-18 month construction period of the new bridge. However, HE has not explained how this will be achieved given that the bridge will be built immediately adjacent to the existing entrance, with no apparent surrounding area for enabling works

		005]. If your objection concerns multiple plots of land, but there are common themes spanning across the plots then it will be perfectly in order to identify any such groups of plots, by reference to the plot numbers shown on the Land Plans and used in the BoR and make common comments applicable to any such groupings. In the event that an AP's written submissions to be submitted in response to this question provides an answer to a question below which they are being requested to answer, then the ExA would prefer that the APs simply include a cross referring note explaining that the	other than for Wisley Lane itself. HE has advised that the question of how the bridge will be constructed will be answered by its contractor, Balfour Beatty, but currently no solution has been made known to RHS. On the information currently available there is a significant risk that the Gardens would have to close during the construction works. This would have a significant and unacceptable financial impact at a time the Gardens would be seeking to realise the benefit of £65 million of current and ongoing investment. The loss that would be suffered would be at a level that undermines the compelling case for compulsory acquisition. For these reasons RHS maintains its objection to the compulsory acquisition of plot 2/27, until such time that HE enters into a Land and Works Agreement that provides a solution to the maintenance of uninterrupted access to the Gardens from Wisley Lane during the Scheme works. The RHS objects to the compulsory acquisition of Plot 2/27 and also, for the same reasons, the temporary possession of plots 2/27a and 2/30.

Appendix 1 Detailed RHS response to Q3.4.1

For ease of reference Natural England's comments are reproduced followed by the RHS comment.

2.3.2 Royal Horticultural Society (RHS) and Natural England (NE)
Please provide the relevant guidance or scientific rationale for the need to include, or not include, an assessment of Ammonia concentrations in the assessment of air quality effects on the SPA.

> Natural England does not have specific guidance or rationale regarding the assessment of Ammonia for effects from motor vehicles. What we do have is a guidance note outlining to competent authorities how to assess the effects of motor vehicle emissions as a whole. Which helps to determine whether a plan or project is likely to have significant effect upon the integrity of a designated European Site.
>
> Our guidance can be found at
>
> http://publications.naturalengland.org.uk/publication/4720542048845824
>
> We suggest that this is read in conjunction with the applicant's air pollution documentation. Natural England is of the opinion that the applicant has followed this guidance when assessing the proposal. The guidance says,
>
> *"Air pollution that typically affects habitat will include dust and particulate matter (PM), nitrogen oxides (NOx), ammonia (NH3) and sulphur dioxide (SO2). Each proposal type will have emissions typically associated with its specific activity. For example, ammonia is typically associated with farming or waste management. Combustion sources such as industry or traffic are more likely to be associated with nitrogen oxides and particulate matter."*
>
> *"When considering the potential for in-combination effects, a competent authority should also recognise that different proposal types ('sectors') and different pollutants (e.g. ammonia (NH3), nitrogen oxides (NOx and NO2)) can combine together to have the same or similar effect on a given area of habitat. By way of example, nitrogen deposition on a site can result from both the emissions of ammonia from a farm source and also from emissions of nitrogen oxides from a traffic source, with both having an eutrophication effect."*

RHS Response

Natural England (NE) considers that its guidance has been followed, however, as NE has accepted its guidance did not cover the issue of ammonia emission from traffic. The guidance referred to dates from 2018; since that time it has become clear that ammonia emissions from diesel vehicles have increased significantly, as more of the diesel fleet is equipped with selective catalytic reduction (SCR) converters that use urea (adblue) to remove the NOx. While the SCR converters are designed to reduced NOx they produce more ammonia. In addition, the national fleet is moving away from diesel toward petrol vehicles which produce more ammonia. The increase in ammonia emissions from traffic has only become apparent in recent times. Air Quality Consultants Ltd published research on this issue in February 2020 (https://www.aqconsultants.co.uk/resources/ammonia-emissions-from-roads-for-assessing-impacts)

which reported that ammonia now contributes between 50-70% of Nitrogen deposition from road traffic (see REP5-049). The increasing awareness of ammonia from traffic emission is also reflected in the peer review literature, e.g. Fenn et al 2018 On-road emissions of ammonia: *An underappreciated source of atmospheric nitrogen deposition* (Science Of The Total Environment Vol 625 p909-910, and Elser et al 2018), *High contributions of vehicular emissions to ammonia in three European cities derived from mobile measurements* (Atmospheric Environment 2018 p210-220). This works post-dates NE's Guidance. The scientific rational for including ammonia in the N dep calculations is clear; as Air Quality Consultants Ltd's research shows, ammonia is a significant proportion (c. 50-70%) of N dep generated from traffic. RHS has already explained, by reference to Habitat Regulations Assessment (HRA) caselaw from the Court of Justice of the European Union, that it is a legal requirement for ammonia to be included in the N dep calculations, see paragraphs 11, 12.4 and 51 of Freeths LLP's Annex in RHS's REP6-024. Consideration of ammonia emissions from traffic is now commonplace in HRAs, see paragraph 52 of Freeths LLP's Annex in RHS's REP6-024.

2.4.7 NE and Surrey County Council (SCC)/Surrey Wildlife Trust (SWT)

Please comment on the matters raised by the RHS in its and the Baker Consultants submissions [REP1-043 and REP3-044] in regard to the potential air quality impacts of the Proposed Development on the Thames Basin Heaths SPA. In particular, please comment on whether in your view:

1. **a) the consideration of alternatives has been fully and properly addressed by the Applicant as required by the Habitats Regulations;**

   As stated previously Natural England is satisfied that consideration of alternative options and means of avoiding or minimising impacts on Thames Basin Heaths SPA was properly considered by the applicant. Natural England was consulted over option choices from the early stage of scheme design and was able to advise over the relative merits of scheme design options in relation to potential impacts on the SPA.

RHS Response

There are two fundamental problems which undermine the validity of NE's conclusion that alternative options have been properly considered by HE. These are fully explained in Freeths LLP's Annex at RHS'S REP6-024 but in essence: NE has erred in advising HE that, notwithstanding HE- and NE-acknowledged "significant" increases in N deposition rates within the "woodland buffer" aligning the M3 and M25 (<150m from the roads), it can be concluded that there is no reasonable scientific doubt as to the absence of adverse effects to the integrity of the SPA from changes in air quality from the DCO Scheme alone or in combination with other plans or projects. This approach is directly contradicted by HE and NE's own acknowledgement of the adverse effect on SPA integrity of the DCO Scheme arising from invertebrate reductions due to removal of woodland <150m from the roads. Such invertebrate reductions could also arise from the acknowledged significant air quality changes in the woodland and thereby adversely affect SPA integrity.

NE has also not been provided by HE with full or robust air quality information such that the significant increases in N deposition from the DCO Scheme in the SPA "woodland buffer" 0-150m from the roads already acknowledged by NE and HE are a gross underestimate of the real increase in levels.

The correct conclusion is therefore that it cannot be concluded that there will be no adverse effect from the DCO Scheme alone or in combination on the SPA through air quality impacts. As a matter of law, therefore (see paragraph 10 of Freeths LLP's Annex at REP6-024), less damaging alternative solutions *by reference to the air quality impact pathway* must be considered and fully assessed.

2. **b) the Applicant has adequately modelled the nitrogen deposition levels for both the scheme alone and in-combination with other plans and projects (having regard to the Applicant's comments on responses to the ExA's FWQ 1.4.3 in [REP3-008]);**

   Natural England is satisfied that the applicant has adopted a precautionary approach to this aspect and has followed appropriate guidance.

RHS Response

RHS has made clear that the in-combination calculations have not be carried out correctly. In response, HE has now presented in-combination impact calculations correctly in REP5-003, pages 162-164, NE made its comments above before seeing the new data, so it was wrong to say that it was satisfied with what HE had presented.

However, in any event (i) the calculations presented only apply to the parts of the SPA 150m or more from the roads; values for the woodland areas <150m from the road are missing; and (ii) the calculations presented do not include the ammonia contribution.

3. **c) ammonia should be included in the assessment of nitrogen deposition;**

   Natural England is satisfied that this aspect has been addressed by the applicant and has demonstrated adequately that even with the inclusion of predicted ammonia deposition there is no likely significant effect on the habitat features supporting the special interest features of the SPA.

RHS Response

NE's assessment is clearly incorrect. It pre-supposes that all SPA land within 0-150m of the roads is merely "buffer land" with no relevance to the integrity of the SPA. This is clearly incorrect and is directly contradicted by NE and HE's own approach to the assessment of impact on SPA integrity from land take within this same woodland area. Freeths LLP's Annex in REP6-024 explains why that habitat within 150m of the road must be included within the assessment and impacts in that area must be assessed with the benefit of robust air quality data which accurately predicts in that area of the SPA increases in levels of air pollutants from the DCO Scheme, alone or in combination with other plans or projects.

4. **d) In contending that the nitrogen deposition would only affect the woodland buffer element of the SPA and not areas of heathland the Applicant has correctly applied the tests required in the Habitats Regulations and Birds Directive. Is restoring the woodland buffer to heathland necessary to achieve or maintain the SPA in favourable conservation status? If so, how have you accounted for the future impacts of nitrogen deposition on areas within the SPA that would become heathland rather than woodland, or would become any other habitat that would be of importance for any of the bird species for which the SPA has been designated?**

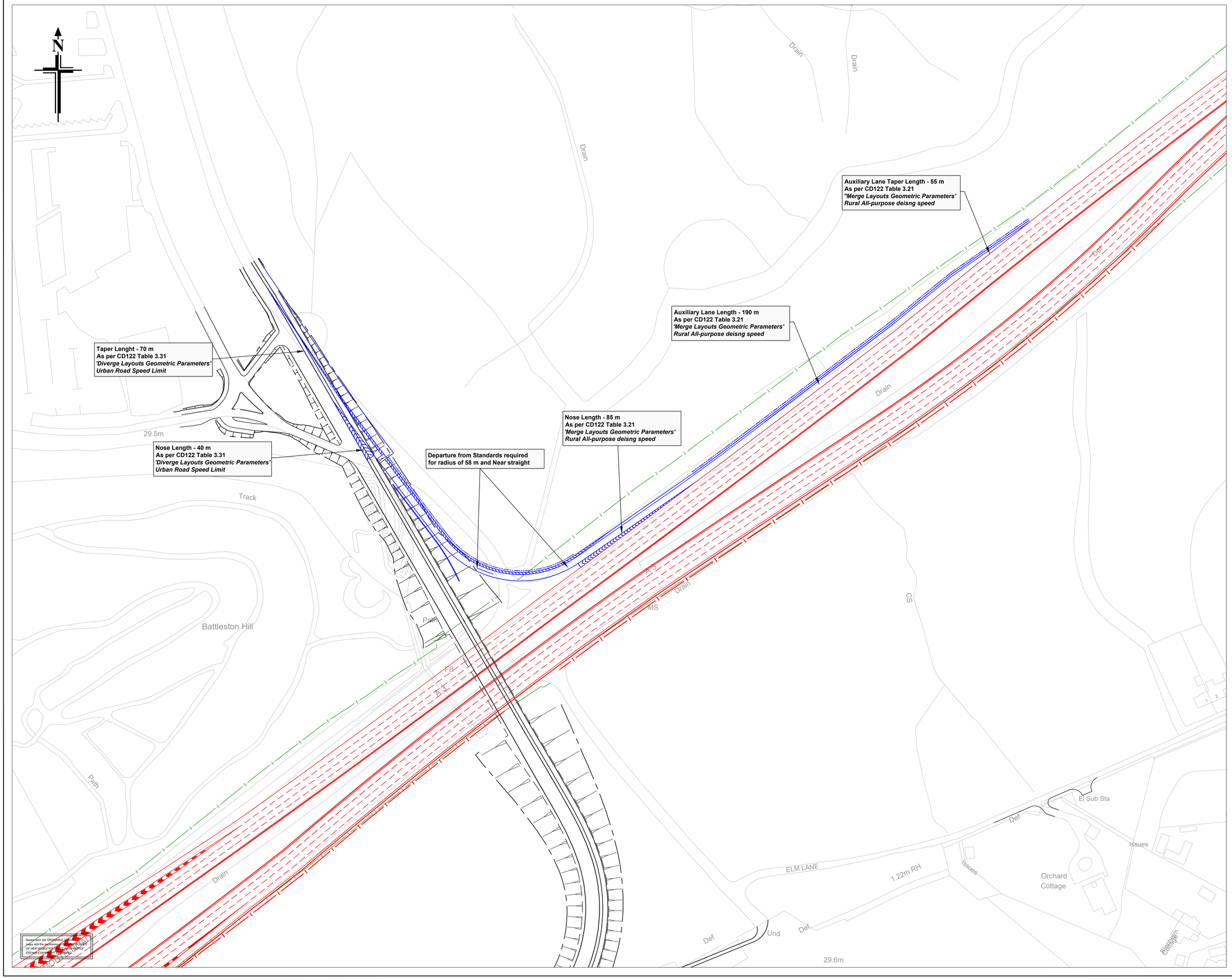
> Natural England has consistently advised against the removal of the woodland 'buffer' in areas of the site alongside the M25 and A3. There is strong evidence that the retention of belts of mature trees provides an effective mechanism to disperse vehicle emissions away from sensitive habitats alongside busy roads. As stated previously, the achievement of favourable condition for this component part of Thames Basin Heaths SPA is dependent upon improvement of condition of the existing heathland resource, not expansion of heathland through large-scale felling of woodland.

RHS Response

Natural England's response to this issue is contradictory and illogical.

First NE has only answered the second question posed as to whether restoring the woodland buffer to heathland is necessary to achieve or maintain the SPA in favourable conservation status. NE has however confirmed its full agreement with HE's proposed suite of compensatory habitat measures (see paragraph 3.2.16 of NE and HE's Statement of Common Ground dated 3 March 2020 (REP5-003)) which directly contradict NE's approach that the woodland buffer <150m from the roads must retained. This is because the suite of compensatory measures presented by HE, and supported by NE, include clear felling of woodland within the SPA <150m from the roads "*in order to allow heathland restoration*" (paragraph 4.2.1 of REP4-017). This demonstrates that NE regards clear felling of this woodland <150m from the roads within the SPA as advantageous to the SPA. NE cannot at the same time logically sustain its view that restoration to heathland of the woodland <150m from the roads is not desirable for the SPA.

Secondly, NE has simply failed to answer the first question posed, i.e. whether HE has correctly applied the tests required in the Habitats Regulations and Birds Directive by contending the nitrogen deposition would only affect the woodland buffer element of the SPA and not areas of heathland. Nevertheless, it is clear from the NE / HE Statement of Common Ground (REP5-003) that NE believes that HE *has* correctly applied the HRA tests in adopting this approach. This however is clearly wrong and RHS's REP6-024 (see Freeths LLP's Annex) explains in detail the reasons why.



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