

M25 junction 10/A3 Wisley interchange

TR010030

9.75 Comments on Royal Horticultural Society's Deadline 5 submission

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1. Introduction

- 1.1.1 This document sets out Highways England's comments on the suite of documents submitted by the Royal Horticultural Society (RHS) at deadline 5 (3 March 2020). It responds to the points made within the following documents submitted to the Examination by RHS:
- REP5-045 - Comments on any further Information requested by Examining Authority received by Deadline 4
 - REP5-046 - Appendix A - Distance Table Route Comparison
 - REP5-047 - Appendix B - Copy of RHS AADT Flows from REP2-011 with analysis
 - REP5-048 - Appendix C - Accident Data Summary (using data supplied by HE on 19/02/20)
 - REP5-049 - Appendix D - Ammonia from Roads for Habitats Assessments
 - REP5-051 - Drawing M16114 A-074
 - REP5-052 - Response to Highways England's Deadline 4 responses
 - REP5-053 - Response to REP4-005
- 1.1.2 Any comments on RHS's responses to the Examining Authority's Second Written Questions have been provided in document TR010030/ Volume 9.78 – 'Comments on IP's responses to ExQ2'.
- 1.1.3 Further development of the Statement of Common Ground between Highways England and RHS is ongoing, and the final SoCG will be submitted to the Examining Authority at Deadline 8.
- 1.1.4 Where issues raised within the submission have been dealt with previously by Highways England, a cross reference to that response or document is provided to avoid unnecessary duplication. The information provided in this document should, therefore, be read in conjunction with the material to which cross references are provided.
- 1.1.5 In order to assist the Examining Authority, Highways England has not provided comments on every point made by the RHS, including for example statements which are matters of fact and those which it is unnecessary for Highways England to respond to. However, and for the avoidance of doubt, where Highways England has chosen not to comment on matters contained in the response, this should not be taken to be an indication that Highways England agrees with the point or comment raised or opinion expressed.

2. Highways and Traffic Impacts

2.1 Distance Table Route Comparison

- 2.1.1 Highways England agree with the changes in distances due to the DCO Scheme compared with the existing situation presented in RHS's 'Appendix A' submitted at Deadline 5 [REP5-046]. However, Highways England cannot comment on the changes in distance between the RHS alternative proposal and the existing situation as presented in Appendix A, since Highways England have not measured these to confirm whether they are or are not correct.
- 2.1.2 Although the maximum increase in distance for visitors to RHS Wisley due to the Scheme is 5.88 km, the average increase in return journey distances, weighted by proportion of RHS visitors using different routes, would be only 1.5 km if all visitors to and from the A3 south were to follow the signposted route via junction 10, and would be 0.28 km if they were all to route through Ripley (as shown in the last rows of Tables 2.4 and 2.7 of the Transport Assessment Supplementary Information Report [REP2-011])
- 2.1.3 Highways England presented the changes in distances for visitors to RHS Wisley for both alternative routes to and from the A3 south, i.e. via Ripley and via A3/J10, in Table 2.9 of the Transport Assessment Supplementary Information Report [REP2-011].

2.2 AADT Flows submitted by RHS

- 2.2.1 Highways England's ANPR survey data indicates that 21.1% of all visitors to and from RHS Wisley currently route via the A3 to and from the south (Table 2.4 of the Transport Assessment Supplementary Information Report [REP2-011]). If all this traffic were to route via Ripley due to the DCO Scheme, instead of routing along the signposted route via junction 10, then there would be a 21% switch of RHS traffic from the SRN to the LRN, not 30% as stated by RHS [Item 3 of REP5-053] that is based on a misleading comparison between the 2015 base and the Do-something scenarios. The aforementioned 21% switch is consistent with the comparison between the Do-minimum and Do-something scenarios presented in Appendix B of RHS's response to REP4-005 [REP5-047] which shows approximately a 20% switch (difference between percentages for do-something compared to do-minimum scenarios in row 12 of first table of Appendix B).
- 2.2.2 The volume of traffic switching from the SRN to the LRN would, however, be relatively modest, amounting up to approximately 1,880 vehicles per day in 2037, on a high-traffic weekday event day at RHS Wisley (shown in Table 4.1 of Transport Assessment Supplementary Information Report [REP2-011]). The increase on a typical weekday when no special event is being held at RHS Wisley is likely to be considerably less than this, at approximately 1,100 vehicles per day.
- 2.2.3 Highways England have previously responded to the RHS's point regarding the effectiveness of signposting on traffic distribution [Item 5, REP5-015].
- 2.2.4 The journey times presented by Highways England can be relied upon for the following reasons:

- The strategic model has been suitably calibrated and validated in all three time periods, as agreed with SCC as the local highway authority [REP5-009 point 2.5.2].
- The micro-simulation model has also been suitably calibrated and validated in the congested morning and evening peak time periods.
- Inter-peak journey times are not congested (as RHS have pointed out) and thus, the point regarding the modelling not accurately representing congested conditions through Ripley does not apply to the journey times presented by Highways England, which are inter-peak journey times.

2.2.5 Highways England has undertaken accident analysis using COBA-LT covering the section of the road network used by RHS Wisley traffic to and from the A3 south, including both alternative routes, i.e. via Ripley and via junction 10. This is presented in Highways England's response 2.13.20 to the ExA second written questions [REP5-014], with associated data and mapping presented in document REP5-027.

2.2.6 Presently, a total of 270,000 pass through or turn at M25 J10 daily on average and the traffic associated with RHS Garden Wisley in one year is approximately the same as the traffic associated with M25 J10 in just four days [REP-005 point 31]. Closing the current Wisley Lane access to the A3 and the provision of the proposed diversion will be significantly safer than maintaining the existing access and so, access will be improved.

2.2.7 Highways England estimate that the total annual additional mileage for RHS Wisley visitors due to the Scheme is less than that stated by RHS at between 0.214 and 1.165 million miles, depending on the route chosen by visitors to and from the A3 south (as shown in the 3rd from last rows of Tables 2.4 & 2.7 of the Transport Assessment Supplementary Information Report [REP2-011]).

2.3 Accidents Relating to Weaving

2.3.1 In response to point 4 of REP5-053 and 'Appendix C' [REP5-048], the accident data is open to interpretation and based on information available to police at the time of the incident (there are frequently conflicting accounts of what has happened). Increasingly, police do not attend incidents, so these data are often self-reported and even more likely to be a subjective view of what happened. The database does not currently identify which accidents are self-reported and which are attended by police, therefore which are likely to have greater objectivity regarding the cause of the accident. Also, there is no definition or contributory factor for 'weaving' or 'changing lanes', so it is difficult to draw definite conclusions from the data.

2.3.2 The matter relating to how an accident has occurred, whether that be because of a 'mainline lane change' or 'weaving' between junctions is open to debate, but it would seem quite reasonable, given the close proximity of the northbound merge from Ockham Park Junction, the diverge to and the merge from Wisley Lane and the lane drop diverge to the M25 junction 10 that the majority of vehicles will be 'weaving' between the junctions in order to reach their desired destination.

2.3.3 Highways England recommend the use of accident rates, in consideration of road safety, as these make no judgement on fault, merely providing a rate which a given number of accidents on a stretch of road is comparable to other parts of

the network. As noted in Section 4 of REP4-005 (in row “REP1-38-2” of the table), the northbound merge of Wisley Lane with the A3 has a significantly higher accident rate than average.

- 2.3.4 It also worth considering the effect on weaving of traffic in peak hours, as faster off-peak traffic makes merging more difficult, whilst queuing can make shunt type collisions more likely. At this location northbound traffic towards London on the A3 is generally free-flowing, so any congestion creates a speed differential which increases the risk of collisions for merging and diverging traffic.

2.4 Traffic modelling relating to RHS, Wisley Airfield and Ripley

- 2.4.1 The difference between the traffic flows presented on the distribution plots provided to RHS in January 2020 (as per RHS’s response to point 6 in REP5-053) and the total demand flow quoted in Table 3-10 of the Traffic Forecasting Report [REP1-010] is because the plots show the aggregation of trips which reach RHS Wisley during each of the modelled periods that cover more than one hour. In some instances, not all demand to RHS Wisley during the peak hour reaches its destination during this hour, with a small amount not reaching RHS Wisley until the following hour due to congestion along the route. These situations are concentrated outside of the DCO scheme on the M25 West and within London.
- 2.4.2 The plots were presented in this format for consistency with the presentation of other strategic model outputs. However, all the forecast demand for RHS Wisley reaches its destination within the modelled periods. Consequently, the model is correctly representing the expected total demand and the likely distribution and assignment of trips in both the Do-minimum and Do-something scenarios.
- 2.4.3 Highways England’s 2015 base traffic modelling validates well for the B2215 through Ripley and the A3 against both observed 2015 traffic flows and journey time data taken from Google and Trafficmaster. The modelled journey times are all within 10% of those extracted from Google and Trafficmaster, with DfT guidance (WebTAG) stating that they need to be within 15% to comply with their model validation requirements. It therefore accurately simulates current average peak period congestion and delay through Ripley, on the A3 and on the rest of the modelled road network. Consequently, the models for the future year scenarios will correctly simulate the likely reassignment of traffic on road network, taking account of forecast traffic growth and the impact that this has on comparative journey times via alternative routes. The traffic modelling also indicates that the additional forecast traffic flow along the B2215 through Ripley can be accommodated without material detriment to the operational performance of the local road network – See 2.13.3 of REP5-014.
- 2.4.4 The large majority (95%) of the increase in traffic through Ripley between the 2015 base flow (17,410 vehicles per day) and 2037 with the DCO Scheme (30,360 vehicles per day) is due to background traffic growth in combination with other proposed developments, not as a result of the DCO Scheme. In 2037 the DCO Scheme only adds up to 1,440 vehicles a day to the B2215 through Ripley compared to the 2037 Do-minimum scenario, which represents up to a 5% increase. (Table 4.1 of the Transport Assessment Supplementary Information Report [REP2-011]).

3. Air Quality

3.1 Assessment of Air Quality Effects on Thames Basin Heaths SPA

3.1.1 RHS has raised concerns about the effect of air quality on the Thames Basin Heaths SPA. Highways England responds to them in turn below.

NOx Concentrations

3.1.2 RHS consider that NOx concentrations should be included in the SiAA. Natural England did not initially request the consideration of NOx concentrations within the HRA, and at a more recent meeting in January 2020 confirmed that this position was unchanged (see 2.3.1 of REP5-014). This position is supported by the revised DMRB guidance for air quality assessment (LA105, which has been provided to the examination as document REP3-020) which focusses on changes in nitrogen deposition, rather than NOx concentrations, when undertaking an assessment of the effects of air quality on ecological sites. NOx concentrations were calculated as part of the air quality assessment within the ES, and the concentrations are included in Table 5.7.10 of the air quality appendix [APP-080]. At the locations where the key supporting habitats of the qualifying features of the Thames Basin Heaths SPA occur, NOx concentrations are below the critical level, as shown in 2.3.1 of REP5-014.

Consideration of Ammonia

3.1.3 The consideration of ammonia is not included in any guidance published by Highways England, Natural England or the Institute of Air Quality Management (IAQM) for the assessment of air quality effects from road schemes on ecological sites. Ammonia is also not included within Defra's Emissions Factors Toolkit (EFT), which is used as the basis for Highways England speedband emissions calculations. Ammonia was therefore not included in the air quality assessment.

3.1.4 The evidence presented by RHS in 'Appendix D' at Deadline 5 [REP5-049] shows that ammonia concentrations fall rapidly away from the road source, such that by around 30 metres, concentrations are similar to those measured at 100 metres (see Figure 2 of REP5-049). In the absence of Highways England's own data and assuming that this is the case, at the distance of the key supporting habitats for the SPA qualifying features from the road (150 metres at the closest point), there is unlikely to be any material effect to the total nitrogen deposition rates as a result of the contribution from vehicle derived ammonia emissions.

In-combination Assessment

3.1.5 When undertaking an assessment of a European designated site, it is a requirement of the Habitat Regulations to consider the effect of the proposal in-combination with other plans and projects. RHS has raised concerns that the in-combination assessment has not been carried out correctly and has given examples of HRAs for local authorities' local plans of where this assessment has been carried out differently.

3.1.6 However, the assessment undertaken for the Scheme is not for the purposes of a local plan, but a roads project. The traffic model used by Highways England is

a regional strategic model which was developed following the Department for Transport's webTAG guidance, and which takes account of traffic growth using national trip end model (NTEM) factors and therefore includes traffic from other plans and projects across an extensive study area.

- 3.1.7 The in-combination assessment for the project has been undertaken correctly, as the calculations take into account traffic contributions from other plans and projects, as well as the traffic associated with the Scheme. Natural England has confirmed that they consider that the in-combination assessment has been undertaken correctly (see 3.2.11 of REP5-003). In addition, the approach undertaken for this Scheme follows the same approach as undertaken for the A30 Chiverton to Carland Cross Scheme, which was found to be robust, and granted development consent by the Secretary of State in February 2020 (see Appendix B5 of REP5-003).

3.2 RHS Alternative

- 3.2.1 RHS has suggested that with the RHS Alternative option there would be an improvement in pollutant concentrations and a reduction in emissions. Highways England's position is that the difference would be marginal and would make no material difference to the conclusions of the assessment for the Scheme. This is explained in more detail below.

Carbon dioxide emissions

- 3.2.2 RHS has suggested that there would be an increase in carbon dioxide (CO₂) emissions with the Highways England Scheme compared to the RHS Alternative, largely as a result of the additional distance that would be required with the Scheme to be travelled by vehicles travelling to and from RHS Wisley and the A3 to the south.
- 3.2.3 To determine the difference in carbon dioxide emissions, Highways England calculated carbon dioxide emissions from vehicles using two route options: the signposted route along the A3 and using junction 10; and along the B2215 through Ripley [REP2-022]. The latter route is broadly comparable in distance to the RHS Alternative. The difference in emissions between the two routes is 639 tonnes per year, which can be considered a negligible amount [REP2-022].
- 3.2.4 The emissions calculations were based on specific data on traffic generated by RHS Wisley provided in the Traffic Assessment Supplementary Information Report (see 2.1.2 of REP2-011) and the Traffic Forecasting Report (see para 3.6.19 of REP1-010). These data were based on a special event day during the week, so the traffic flows, and therefore the calculated CO₂ emissions, are higher than on an average day. They cannot be meaningfully compared with the change in emissions for the scheme as presented in the ES [APP-050], as these emissions were based on annual average daily traffic (AADT) flows output from the traffic model, in accordance with standard practice.

Effect on SPA

- 3.2.5 Similarly, the difference in nitrogen deposition rates, with the additional RHS Wisley traffic using the signposted route was calculated using the traffic data as described above (under the section on Carbon dioxide emissions) and presented in REP2-022. The changes are again expected to be overestimated, as a result

of the traffic data being based on an RHS Wisley special event day. However, even taking this overestimation of effects into account, at the location where the key supporting habitats of the SPA qualifying features occur, the changes are not considered to be significant, as explained in point 2.1.1 of REP5-052.

3.3 Receptors in Ripley

3.3.1 RHS initially raised concerns that the Scheme could adversely affect air quality in Ripley. However, RHS has now agreed that nitrogen dioxide concentrations at receptors in Ripley would be below the national annual mean air quality objective, even if all traffic to and from the A3 south were to use the B2215 instead of the signposted route via junction 10 (Points A4, A5 and A6 of REP5-055).

3.4 Nitrogen Oxides Projections

3.4.1 RHS initially raised concerns over the methodology for estimating NO_x concentrations for future years but has now accepted that the nitrogen oxides concentrations have been projected forwards correctly.

4. Habitats Regulations and Biodiversity

4.1 Woodland Buffer

- 4.1.1 In their response to Point 11 in REP5-053, RHS have stated that the woodland belt that separates the A3 and M25 from the heathland does not act as a buffer, but instead, is an area of the SPA that is yet to be restored and has potential to support the interest features of the SPA.
- 4.1.2 The text below will explain why this is not the case and will demonstrate that it is the intention of Natural England to retain the coniferous woodland in its existing state, so that it can continue to carry out its buffering function (rather than convert it to heathland).
- 4.1.3 As explained in Point 11 on page 10 of REP4-005, the coniferous woodland that separates the A3 and M25 from the heathland acts as a buffer and does not support any of the SPA qualifying species as a foraging or nesting habitat.
- 4.1.4 Natural England have confirmed that they agree that this woodland acts as a buffer. This is recorded in Issue 3.2.6 of the SoCG between Highways England and Natural England [REP5-003] (please note that for 'agreed' items in the SoCG, it means that both Highways England and Natural England fully agree with the text provided by both parties) and also in Natural England's response to ExQ2 2.4.7d [REP5-032].
- 4.1.5 Highways England has demonstrated that the coniferous woodland does not support the SPA qualifying species as a foraging (or 'feeding') or nesting habitat in Point 11 on pages 12-16 of REP4-005. The position that the coniferous woodland separating the A3 and M25 from the heathland acts as a buffer, fully aligns with the recent high court ruling on the 4th December 2019 in the case of Compton Parish Council v Guildford Borough Council (CO/2173,2174,2175/2019 'the Compton Case'), as explained in Point 11 on page 16 of REP4-005.
- 4.1.6 Natural England have also confirmed that there are no management proposals to clear this woodland buffer in order to allow heathland restoration and that the removal of this woodland to extend the open heathland is not part of the current management of the site or required to achieve Favourable Conservation Status. This is recorded in Issue 3.2.7 of the SoCG between Highways England and Natural England [REP5-003] and also in Natural England's response to ExQ2 2.4.7d [REP5-032].
- 4.1.7 In Natural England's response to ExQ2 2.4.7d [REP5-032] it is stated:
"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."
- 4.1.8 It is therefore clear that the intention is that the woodland buffer will be retained as part of the ongoing management of the SPA. Therefore, it would have been incorrect for the SiAA to have taken into account the removal of the woodland

buffer, as RHS are suggesting. Instead the SiAA correctly focus on the proposals in the existing management plans and on the guidance of Natural England.

- 4.1.9 Therefore, this Scheme does not align with the case of Land south of Wallisdown Road, Poole, Dorset (Talbot Village Trust) APP/Q1255/V/10/2138124 (27 February 2012), as suggested by RHS in response to point REP1-038-4 on page 18 of REP5-052. RHS state that in the Talbot Village Trust case it was argued by the applicant that the *'development would not harm the interest features of the SPA because they were deemed not to be present in certain areas due to the last of suitable habitat'*. As can be seen from the text above, this is very different to the situation within the Ockham and Wisley Commons SSSI component of the Thames Basin Heaths SPA, where Natural England have made a deliberate decision to retain the woodland buffer in order to protect the heathland. It is not the case that the woodland buffer is currently in poor condition and requires improvement in order for this component part of Thames Basin Heaths SPA to achieve favourable condition.

4.2 Updated air quality calculations

- 4.2.1 The updated nitrogen deposition calculations have been provided for all transect points within the SPA in Table 8 of REP5-024. In this table it can be clearly seen that all increases of 1% (or greater) of the lower range of the critical load fall within 50 m of the road. This is firmly within the woodland buffer, which extends 150 m from the road at the closest point along any of the transects within the SPA (refer to the table in reference number REP1-038-5 (page 83) of the Applicant's comments on Written Representations [REP2-014] for approximate distance of heathland from the road for each transect).

4.3 SiAA approach

- 4.3.1 As explained in Point 11 on page 9 of REP4-005 the SiAA did determine that it is not possible to conclude no adverse effect to the integrity of the Thames Basin Heaths SPA as a result of the Scheme. However, this assessment follows a precautionary approach and is based on land take from the SPA and the potential for the woodland being lost to contribute to an invertebrate resource, even though it does not physically support the SPA qualifying species.
- 4.3.2 The air quality assessment did include nitrogen deposition rates for all points along the transects within the SPA. However, once the habitats within the SPA, the habitat requirements and distribution of the SPA qualifying features and the conservation objectives for the SPA were understood, and under consultation with Natural England, the SiAA correctly focused the air quality assessment on the heathland habitats upon which the SPA qualifying features rely.
- 4.3.3 This approach is further described in Point 11 on pages 10 and 11 of REP4-005, which explains that Natural England guidance has clearly recognised that a site's conservation objectives may not apply equally to all parts of a site (Refer to paragraph 4.18 of Natural England (2018) Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001) [REP3-021]). The NE guidance continues, with particular reference to road schemes, at para 4.19:

"Where the applicant has provided reliable and precise information that models the likely deposition of road based pollutants in relation to the distribution of a

site's features and any sensitive features are not present within the area to be affected by emissions (and Natural England's advice is that there is no conservation objective to restore the features to that area), it will be relatively straightforward to ascertain that the project poses no credible air quality risk to it."

- 4.3.4 The approach taken for the SiAA absolutely aligns with this guidance, and Highways England has determined that:
- The coniferous woodland that separates the A3 and M25 from the heathland acts as a buffer and does not support any of the SPA qualifying species as a foraging or nesting habitat;
 - The intention of Natural England is that the woodland buffer will be retained as part of the ongoing management of the SPA;
 - The removal of the woodland buffer is not required to achieve Favourable Conservation Status or to meet the conservation objectives of the SPA.
- 4.3.5 Therefore, it is clear that Highways England has provided reliable and precise information that models the likely deposition of road based pollutants in relation to the distribution of a site's features and that any sensitive features are not present within the area to be affected by emissions (and Natural England's advice is that there is no conservation objective to restore the features to that area). In such circumstances, Natural England guidance suggests it should be relatively straightforward to ascertain that the project poses no credible air quality risk to the SPA, as Highways England's SiAA has done.
- 4.3.6 The SiAA also fully aligns with the recent case of Compton Parish Council v Guildford Borough Council (CO/2173,2174,2175/2019 'the Compton Case'), where the court ruled that the assessment in question in those proceedings was undertaken correctly in its approach to air quality exceedances in the light of an understanding of how significant the affected areas were for foraging and nesting by SPA birds. The Compton Case referred to the Ockham and Wisley Commons SSSI component of the Thames Basin Heaths SPA, and agreed with the findings of the SiAA, which determined that the area that would be most subject to elevated nitrogen deposition is the woodland buffer that lines the A3 and M25, and that this is the least likely area within the SPA to be used by the SPA qualifying birds. This is explained in further detail in Point 11 on pages 16 and 17 of REP4-005.
- 4.3.7 RHS take issue with the use of Table 21 of NECR210¹ and the use of the 'single species' approach as set out in LA105 [REP3-020] (as explained in 2.1.3 on page 52 of REP5-052). However, Highways England would like to reiterate that this approach was merely provided as supporting evidence in reference number REP1-038-5 (page 81) of REP2-014 (Applicant's comments on Written Representations) and was not used in the SiAA. The SiAA undertook an air quality assessment based on increases in nitrogen deposition rates of greater than 1% of the lower range of the critical load. Therefore, this point is not relevant to discussions with regards to SiAA and determining the air quality impacts on the SPA.

¹ "Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on semi-natural habitats of conservation importance" (2016), Natural England. Available at: <http://publications.naturalengland.org.uk/publication/5354697970941952>

4.4 In combination

- 4.4.1 As confirmed in 3.2.11 on page 19 of the SoCG between Highways England and Natural England [REP5-003], Natural England were consulted on, and agree with, the in-combination assessment undertaken in the SiAA. The approach is explained in further detail in Appendix B.5 on pages 162-164 of the SoCG between Highways England and Natural England [REP5-003], and in addition, reference is made to the A30 Chiverton to Carland Cross DCO, in which the Secretary of State was satisfied with a similar approach taken for the in-combination air quality assessment.
- 4.4.2 Appendix B.5 of the SoCG between Highways England and Natural England [REP5-003] goes on to provide a sensitivity test, where the 'Do-something' and 'Do-minimum' scenarios are compared against a 'Do-nothing' future baseline in Table 4.
- 4.4.3 At the distances that the heathland habitat occurs, there is an in-combination increase in nitrogen deposition when the 'Do-something' scenario is compared against a 'Do-nothing' future baseline. However, this is largely as a result of other plans and projects rather than the Scheme, and year on year traffic growth, and it is demonstrated that the Scheme makes no material contribution to this in-combination increase at the distance that the heathland occurs, with the greatest increases resulting from the Scheme being <0.01 kg N/ha/yr.
- 4.4.4 Therefore, the findings of the SiAA are correct and the Scheme does not cause any adverse effects on the SPA due to air quality alone or in combination with other plans and projects.

4.5 RHS Alternative

- 4.5.1 In response 2.1 on page 48 of RHS further comments on HE's Further Response to RHS's Response to REP3-044 [REP5-052], RHS state:
- "It is still the case that the impacts that arise within the SPA would be avoided with the RHS Alternative Scheme."
- 4.5.2 It is not the case that the RHS alternative scheme would avoid adverse impacts on the SPA. There is an adverse effect on the SPA as a result of land take. The RHS alternative scheme would not reduce or avoid the impact of land take on the SPA but would increase it.
- 4.5.3 Highways England has already demonstrated that there will be no adverse effect on the SPA as a result of air quality impacts from the Scheme. Highways England has also shown that the approach taken in the SiAA and the findings were agreed with Natural England, align with the SiAA process agreed in the recent Compton Case, and that the in-combination assessment aligns with the appropriate assessment carried out by the Secretary of State for the A30 Chiverton to Carland Cross DCO.
- 4.5.4 Furthermore, RHS's statement that the impacts that arise within the SPA would be avoided with the RHS Alternative Scheme is misleading for two reasons:

- As explained in response 2.1.1 on page 43 of REP4-005, although the RHS alternative would reduce some of the traffic travelling along the A3, it would still be a tiny proportion of total traffic and would make negligible difference to the findings of the SiAA with regard to air quality impacts. Therefore, if there were a predicted adverse effect on the SPA as a result of air quality (which there is not), then to claim that this alternative would avoid any impacts within the SPA when compared against the Scheme would be incorrect;
- The proposed access to the A3 from Wisley Lane in the RHS alternative scheme would require additional land take from the SPA when compared to the land take as a result of the Scheme. Land take has already been identified as having an adverse effect on the SPA, so for any alternative options to be considered, they would need to have a smaller land take, not an increase.

4.5.5 Therefore, Highways England disputes this statement made by RHS which is unsubstantiated and incorrect.

4.6 Summary

4.6.1 As explained above, Highways England can fully justify the approach taken to the SiAA with regards to the air quality assessment and can demonstrate that this approach followed Natural England advice and aligns with recent case law and existing DCO decisions.

4.6.2 No reasonable scientific doubt remains as to the absence of adverse effects due to air quality on the integrity of the SPA, as explained in the SiAA. The changes in air quality as a result of the Scheme (alone or in combination with other plans and projects) will lead to no adverse effects on the Thames Basin Heaths SPA.

5. Economic Impacts

- 5.1.1 In point 14 of REP5-053, RHS state that it *“maintains that the role and operation of the flagship RHS Wisley Garden is unique and that the DCO Scheme will result in significant [detrimental] impact at a time of critical importance to the evolution of the Garden.”* The reference to “a time of critical importance” is interpreted to refer to the ongoing expansion programme at RHS, including redevelopment of its front of house facilities, as authorised under the planning permission 16/P/01080 issued by Guildford Borough Council.
- 5.1.2 As discussed in REP2-014, REP3-008, REP4-005 and REP5-014, Highways England disputes the findings of RHS’s Economic Impact Assessment [REP1-039], produced by Hatch Regeneris, and considers that its findings are flawed.
- 5.1.3 Highways England has considered impacts upon RHS Wisley across both the construction and operational phases of the Scheme within the People and Communities chapter of the Environmental Statement (the most recent revision of which forms document REP4-028). RHS Wisley was considered under the Community Assets assessment, the Local Businesses and Local Economy assessment, and the Development Land assessment (with regard to the aforementioned planning application 16/P/01080).
- 5.1.4 The People and Communities chapter notes that in terms of the Community Assets and Local Businesses assessments, slight adverse, though less than significant, impacts were assessed in terms of temporary and permanent land take, with reference to the RHS Wisley site as a whole. No significant adverse effects were observed in terms of amenity impacts. No significant adverse effects were noted in terms of Development Land, as the land take that is required to construct the Scheme would not conflict with the land proposed for construction at RHS, and therefore the Scheme would not materially affect the RHS development.
- 5.1.5 As previously stated, Highways England does not agree that there would be a detrimental impact upon RHS Wisley and considers that any adverse effects upon the site and the business would not be so significant as to restrict RHS’s continued operation, nor prevent their expansion plans coming forward.
- 5.1.6 More broadly, the economic impacts of the Scheme ought not be considered as regards one business in isolation. The economic benefits that the Scheme will bring, as shown in the Planning Statement [APP-133], will be greater than those provided by the RHS Wisley expansion.

6. Tree Root Impacts

6.1 Tree root impacts during construction along RHS Wisley's A3 frontage

- 6.1.1 Highways England has responded to the concerns of RHS with regard to the relevant trees along its boundary with the A3, at Deadline 5 in its response to ExQ2.8.1 (see page 38 of REP5-014), in the RHS Tree Protection Plan [REP5-021] and through the provision of the new Requirement 18 in the dDCO (see page 62 of REP5-002). The new requirement would restrict works in proximity to these trees, requiring that “no intrusive works in connection with the authorised development may be carried out in the areas shown cross-hatched red on the RHS Tree Protection Plan, except with the consent of the owner of RHS Garden Wisley”.
- 6.1.2 A set of drawings showing the tree root survey of affected trees, as carried out by Highways England, has been provided to RHS. This was also submitted at - Deadline 5 [REP5-021].
- 6.1.3 At the current stage of design development, it would be possible to keep the edge of proposed carriageway within the limits of the existing carriageway, albeit with an additional phase within the central reserve. There may be a need to locate lamp columns, safety barriers, signs and/or drainage within the verge beyond the carriageway edge, but in accordance with Requirement 18 of the dDCO, Highways England will locate these items away from the specific tree roots.

7. RHS's Concluding Comments in REP5-053

7.1 Traffic and Transport

- 7.1.1 Although the maximum increase in distance for visitors to RHS Wisley due to the Scheme is 5.9kms, the average increase in return journey distances, weighted by proportion of RHS visitors using different routes, is only 1.5kms, if all visitors to and from the A3 south follow the signposted route via junction 10 and up to 0.28kms if they all route through Ripley. (Tables 2.4 and 2.7 of the Transport Assessment Supplementary Information Report [REP2-011])
- 7.1.2 Highways England estimate that the total annual additional mileage for RHS Wisley visitors due to the Scheme is between 0.214 and 1.165 million miles, depending on the route chosen by visitors to and from the A3 south (Tables 2.4 & 2.7 of the Transport Assessment Supplementary Information Report [REP2-011]), which is less than that stated by RHS.
- 7.1.3 The journey times presented by Highways England can be relied upon for the following reasons:
- The strategic model has been suitably calibrated and validated in all three time periods.
 - The micro-simulation model has also been suitably calibrated and validated in the congested morning and evening peak time periods.
 - Inter-peak journey times are not congested (as RHS have pointed out) and thus, the point regarding the modelling not accurately representing congested conditions through Ripley does not apply to the journey times presented by Highways England, which are inter-peak journey times.
- 7.1.4 Highways England ANPR survey data indicates that 21% of all RHS Wisley visitors currently route via the A3 to and from the south (Table 2.4 of the Transport Assessment Supplementary Information Report [REP2-011]). Were all this traffic to route via Ripley once the DCO Scheme has been delivered, instead of routing via junction 10, then there would be up to a 21% switch of RHS traffic from the SRN to the LRN, not 30% as stated by RHS which is based on a misleading comparison between the 2015 Base and the Do-something scenarios.
- 7.1.5 Highways England has responded to the point regarding the effectiveness of signposting on traffic distribution, see Item 5, REP5-015.
- 7.1.6 Highways England has undertaken accident analysis using COBA-LT covering the section of the road network used by RHS Wisley traffic to and from the A3 south, including both alternative routes, i.e. via Ripley and via junction 10. This is presented in Highways England's response 2.13.20 to the ExA second written questions [REP5-014]
- 7.1.7 Approximately 680,000 journeys are made through M25 j10 roundabout each week, excluding traffic flows on the A3 and M25 (Derived from Appendix A of the Transport Assessment Supplementary Information Report [REP2-011]). This volume of traffic is approximately the same as the forecast annual volume of RHS generated traffic with 1.494 million visitors per year. Highways England believes that closing Wisley Lane access to the A3 and the provision of its

diversion will be safer than maintaining that access and so, access will be improved.

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