M25 junction 10/A3 Wisley interchange

TR010030

9.27 Response to RHS comments on Air Quality

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M25 junction 10/A3 Wisley interchange

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9.27 Response to RHS Comments on Air Quality

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1. Introduction

1.1.1 This document provides a response to the Air Quality Representation prepared by Duncan Laxen on behalf of Royal Horticultural Society Wisley [REP1-041]. The points raised in the representation include the following:

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   c. Alternative Scheme
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1.1.2 These points are examined in detail in this response under each heading. We consider that the Highways England air quality assessment has been carried out correctly, and that none of these concerns would materially affect the outcome of the assessment.

2. Impacts on Thames Basin Heaths SPA

2.1 Effect of Excess Distance Travelled to Access RHS Wisley

2.1.1 The results of the air quality assessment that are provided in the ES [APP-050] and tables 5.7.10 and 5.7.12 of APP-080 are based on the data provided by the traffic model. The model assumes that with the Scheme, all traffic travelling to and from RHS Wisley from the south travels through Ripley rather than the longer signposted route via the A3 and M25 junction 10. The traffic data used in the assessment was based on the more conservative design fix 2 (DF2), rather than that which was revised for design fix 3 (DF3), as documented in paragraph 5.5.12 of APP-050.

2.1.2 However, an assessment has been carried out to determine the changes in NOx concentrations and nitrogen deposition rates within the Thames Basin Heaths SPA assuming that all the traffic which is currently travelling via Ripley to and from the Ockham junction to RHS Wisley would use the signposted route, based on the traffic data provided in the Transport Assessment Supplementary Information Report (Volume 9.16 submitted to the Examining Authority at Deadline 2). As documented in the response to point 3.1. of REP1-038, this is an unlikely scenario, as it is considered that some of the traffic will use the shorter route through Ripley, as it does now. The results for the four transects in proximity to the A3 are provided in Appendix A. The traffic data for these movements were only available for DF3, hence the original assessment for the receptors in the SPA using the DF2 traffic was additionally revised to provide the results for DF3. The results have also taken into account the revised nitrogen deposition velocities as discussed in the point below. This shows that with the additional traffic, the largest change in nitrogen deposition rates would be an increase of 0.15 kgN/ha/yr at receptor point R149, located 5m east of the A3.

2.1.3 Table 5.7.11 of APP-080 shows that the background nitrogen deposition rate used in the assessment for the Thames Basin Heaths SPA was 12 kgN/ha/yr in the opening year of 2022. As documented in paragraph 7.9.24 of APP-052, to reduce the measured species-richness of a lowland heath habitat by one species, an increase of 0.8 kgN/ha/yr is required where the site has a background nitrogen deposition rate of 10 kgN/ha/yr. As the highest change of 0.15 kgN/ha/yr is below this level, there is unlikely to be any measurable effect on the reduction in species-richness as a result of the additional trips by the RHS Wisley traffic with the Scheme. Hence there would be no material effect within the SPA.

2.2 Other Points

2.2.1 Other points that were raised under this heading included a discussion on the critical levels (paragraph 3.2 of REP1-041), and the alternative scheme proposed by RHS Wisley (paragraph 3.6 of REP1-041).

2.3 Critical Levels

2.3.1 As documented at paragraph 5.3.3 of APP-050, the critical levels for the protection of vegetation are set in the UK regulations (SI 2010/1001). Schedule 1 of the regulations provides details of the location of sampling points where the critical levels apply, which are documented in paragraph 5.3.3 of APP-050. Paragraph 5.3.3 also notes that it's Natural England's policy to apply the critical level for nitrogen oxides as a benchmark to all designated conservation sites. There is therefore no contradiction to what has been stated at paragraph 2.2 at Appendix A2 of REP1-041.

2.4 Alternative scheme

2.4.1 The RHS Alternative includes south-facing slip roads for the A3 at Ockham roundabout. The south-facing slip roads at Ockham roundabout are not included in Highways England's Scheme, and have not been assessed. However, it would not be unreasonable to assume that the effect on the Thames Basin Heaths SPA would be similar to that assessed in the ES, as both the Alternative Scheme and the Scheme as assessed route traffic from the south to Ockham Park junction via south facing slips (Alternative scheme) or via Ripley (Scheme) and not via a u-turn movement at M25 j10.

2.5 NOx concentrations should be included in the SiAA

2.5.1 The method for the SiAA was carried out in agreement with Natural England, who requested information on the changes in nitrogen deposition rates, as noted in the minutes of 27 March 2018 and documented in 5.3 Habitats Regulations Assessment Annex B [APP-041]. The NOx concentrations for the Thames Basin Heaths SPA were calculated as part of the air quality assessment and are included in Table 5.7.10 of Appendix 5.7 [APP-080].

2.6 NOx concentrations should be projected forward correctly

2.6.1 The ES notes that the assessment was undertaken in accordance with Highways England's Interim Advice Note (IAN) 170/12 v3 on the assessment of future NOx and NO2 projections on long term trends [paragraph 5.5.23 of APP-050]. Although not explicitly stated in the ES, the NOx concentrations were correctly projected forward using the LTTE6 approach, and the results are provided in Appendix 5.7 of APP-080.

2.7 Ammonia should be Included in the SiAA

2.7.1 There is no requirement for ammonia to be included in the air quality assessment given that it is not included in the Highways England DMRB guidance (HA207/07). As noted in paragraph 5.8 of the Department for Transport's National Policy Statement for National Networks (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/387222/npsnn-print.pdf), the air quality assessment should be consistent with Defra's published future national projections based on future

emissions, traffic and vehicle fleet (commonly known as Defra's emissions factors toolkit, and available at https://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html). The emissions factors toolkit provides emissions data for four pollutants: NOx, PM10, PM2.5, CO2 but not ammonia.

2.7.2 Furthermore the Institute for Air Quality Management (IAQM)'s more recently published guidance "A guide to the assessment of air quality impacts on designated nature conservation sites", available at https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2019.pdf, makes no explicit requirement to include ammonia within an air quality assessment, noting that the majority of emissions in the UK are from agriculture (paragraph D.6.1).

2.7.3 Even if the changes in nitrogen deposition rates with the Scheme, using the revised nitrogen deposition rates as discussed in the point below (paragraph 2.8.1), and presented in Appendix B of this response were to be doubled, this would mean that the largest change would be 0.92 kgN/ha/yr at a location 5 m east of the A3 (receptor point R149). Although this change is above the 0.8 kgN/ha/yr threshold for a change in species-richness of a lowland heath habitat by one species, as discussed in the point above (paragraph 2.1.3) there are no qualifying features for the SPA in this area close to the A3 which acts as a buffer for the heathland (as documented in paragraph 7.4.4 of APP-043). The change would be below 0.8 kgN/ha/yr by 10 m east of the A3 (receptor point R150), with a change of 0.68 kgN/ha/yr.

2.7.4 Therefore the contribution of ammonia does not materially affect the conclusion of the SiAA.

2.8 The Ndep calculations should use appropriate deposition velocities

2.8.1 The air quality assessment was undertaken in accordance with the relevant Highways England DMRB guidance (HA207/07). However, since the ES (APP-050) was published, IAQM's 2019 guidance for air quality impacts on nature sites , as discussed in the point above, was issued recommending the use of AQTAG deposition velocities. The revised DMRB guidance (LA105) issued in November 2019 also advocates the use of these deposition velocities. The nitrogen deposition calculations that were presented in Table 5.7.12 in APP-080 for the transects within the Thames Basin Heaths SPA have been updated to include the latest information, and have used the nitrogen deposition velocity for forests, given that the majority of the transect points are in forested areas. As expected, with the revised deposition velocities the nitrogen deposition calculations are higher, and are provided in Appendix B. As discussed in the response to RHS-RMCo.1, the largest change is 0.46 kgN/ha/yr which as noted in the responses above is considered unlikely to cause a measured reduction in species-richness of a lowland heath habitat. In addition, as explained in response 3.4 to Royal Horticultural Society Ecology and Habitats Regulations Assessment representation (REP1-038), there is a woodland buffer of at least 150 m between the road and the heathland where the qualifying species occur, and all changes

in nitrogen deposition are contained within this woodland buffer. Therefore, the changes in air quality will not cause an adverse effect on the qualifying features of the SPA.

2.9 The in-combination Assessment for the SiAA should be carried out correctly.

2.9.1 The method for the appropriate assessment was agreed with Natural England, as noted in the minutes of 27th March 2018 and documented in 5.3 Habitats Regulations Assessment Annex B [APP-041]. The assessment takes into account traffic from other developments in the wider area, in addition to the Scheme, as documented in paragraph 5.11.3 of APP-050, and therefore correctly allows for in-combination effects.

3. Climate Change

3.1.1 The changes in distances travelled to and from RHS Wisley with the Scheme are documented in the Transport Assessment Supplementary Information Report Appendix C (Volume 9.16 submitted to the Examining Authority at Deadline 2). The additional CO2 emissions from traffic arriving from the A3 to the south using the signposted route to travel to and from RHS Wisley in the opening year (2022) have been calculated and are provided in Table 3.1 below. The emissions for the Do-Minimum (DM) and Do-Something (DS) scenarios are taken from Table 5.13 in the Environmental Statement [APP-050]. The difference in emissions between the two routes in the opening year is expected to be 546 tonnes per year. This represents 0.04% of the total emissions with the Scheme in the opening year, which can be considered a negligible amount. The key driver to reducing CO2 emissions will be through national policy measures, such as the move to zero emission vehicles.

Table 3.1: Estimated additional CO2 emissions (t/yr) as a result of traffic travelling to and from RHS Wisley

Scenario	CO2 t/yr
Signposted Route [1]	1,990
Through Ripley [2]	1,351
Difference [3] ([1]-[2])	+639
DM [4]	1,802,301
DS [5]	1,805,726
Change with DS [6] ([5]- [4])	+3,425
Difference as proportion of DS [3]/[5]	0.04

4. Impacts on Air Quality in Ripley

4.1 RHS Traffic Through Ripley Not Assessed

4.1.1 The air quality assessment as presented in the ES (APP-050) is based on the data provided by the traffic model. The model assumes that with the Scheme, all traffic travelling to and from RHS Wisley from the south travels through Ripley rather than the longer signposted route via the A3 and M25 junction 10. The results at the receptors in Ripley therefore already take this additional traffic into account.

4.2 Other Concerns About Air Quality Assessment in Ripley

Receptors in Ripley

4.2.1 It is usual practice to include worst-case receptors in an air quality assessment. As documented in paragraph 3.13 of the DMRB (HA207/07), areas likely to experience higher-than-average concentrations, such as junctions, should be identified. The closest residential receptor to the High Street/ Newark Lane junction was therefore included in the assessment.

4.2.2 However, it is acknowledged that there are other receptors in Ripley which are closer to the kerb, although not in closer proximity to the junction. Nitrogen dioxide concentrations at residential receptors in the areas identified in REP1-041 along Newark Lane and High Street, have been modelled to determine the expected changes in annual mean nitrogen dioxide concentrations with the Scheme. These additional receptors are provided in Figure 4.1, and the results provided in Table 4.1. The largest change is expected to be a change of 0.9 $\mu g/m^3$, classified as a small increase, at a receptor on the High Street (R6).

Figure 4.1: Location of additional receptors in Ripley

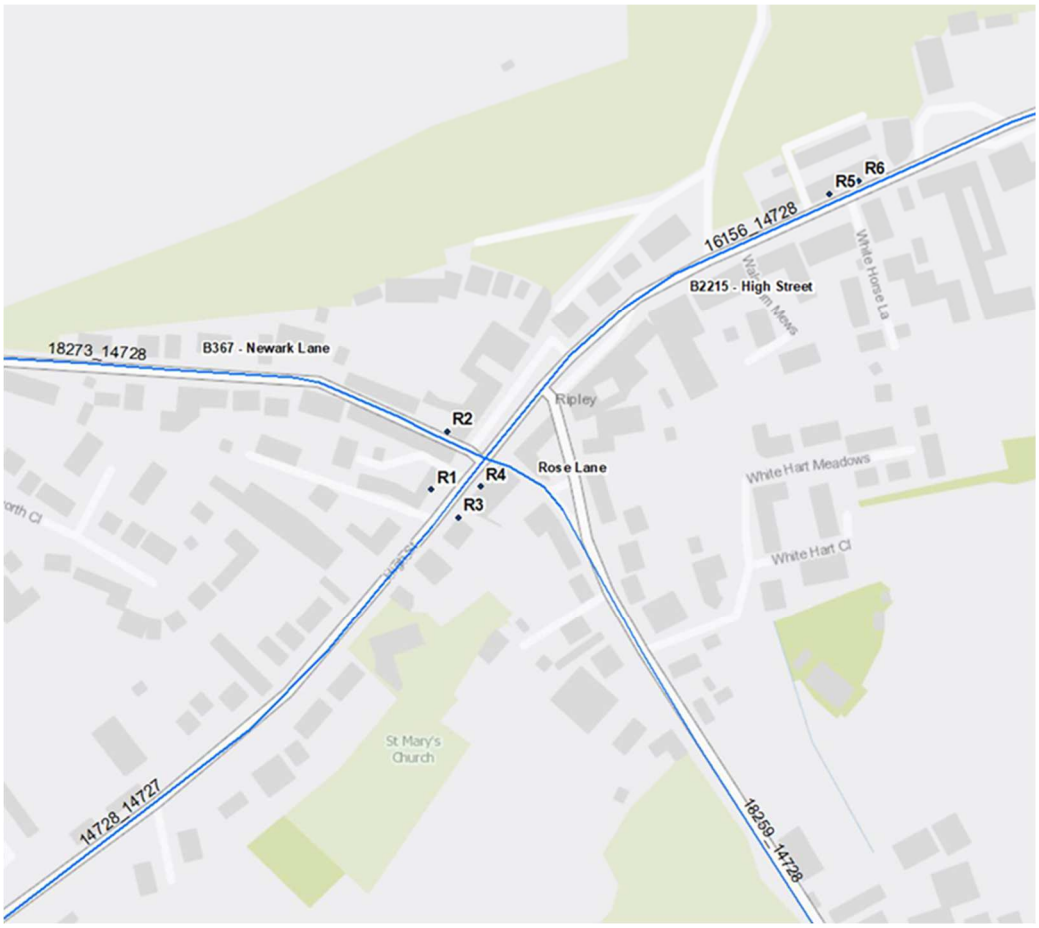

Table 4.1: Annual mean nitrogen dioxide concentrations at additional receptors in Ripley

Receptor ID	X	Y	2015 Base Year	2022 DM	2022 DS	Change
R1	505144	156717	15.2	12.2	12.6	0.4
R2	505152	156747	18.3	14.9	15.3	0.4
R3	505158	156702	17.2	13.9	14.5	0.6
R4	505170	156718	18.3	14.9	15.5	0.6
R5	505353	156872	19.0	15.9	16.7	0.8
R6	505368	156879	19.1	15.9	16.8	0.9

4.2.3 These changes are based on traffic data from design fix 2 (DF2) which as documented in paragraph 5.5.12 of APP-050 were used as the basis for the air quality assessment, given that DF2 traffic data would provide more conservative results than the revised DF3 data, as a result of the changes in traffic being generally larger with DF2 than with DF3.

4.2.4 The change in traffic through Ripley with DF3 is markedly lower, with an expected increase in annual average daily traffic (AADT) through Ripley of 1073, compared to an increase in AADT of 2535 with DF2.

4.2.5 With the revised DF3 traffic data, changes in pollutant concentrations at all receptors would therefore also be lower.

4.3 Presentation of Baseline Concentrations in Ripley

4.3.1 As Guildford Borough Council only started monitoring nitrogen dioxide concentrations in Ripley in July 2016 at two kerbside locations, monitoring data in Ripley were not available to verify the modelled base year of 2015. Measured concentrations at these sites, RP1 and RP2, are provided in Table 5.6.1 of APP-080, and show that in 2016, concentrations were 34 µg/m^3 and 29 µg/m^3 respectively, below the annual mean nitrogen dioxide objective of 40 µg/m^3.

4.3.2 Even if the maximum change in nitrogen dioxide concentrations at a receptor in Ripley in the future opening year of 2022 (0.9 µg/m^3 with DF2) was applied to the location of the monitored site with the highest concentrations (RP 1), a highly unrealistic situation, since concentrations would be lower both away from the road source, and in the future opening year as a result of policies to reduce emissions, the total concentration would be 34.9 µg/m^3 which would still be below the objective of 40 µg/m^3. It is therefore considered highly unlikely that there is the risk of a significant adverse effect as a result of the Scheme at receptors in Ripley.

4.4 Descriptors of Impacts

4.4.1 The air quality assessment was undertaken in accordance with the Highways England DMRB guidance (HA207/07) and relevant Interim Advice Notes (IANs), including IAN 174/13 which provides criteria for the magnitude of changes in pollutant concentrations, as documented in Table 5.3 of APP-050. There is no requirement whatsoever to use the IAQM descriptors of impacts provided in the IAQM planning guidance (available at https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf), which clearly states at paragraph 1.4:

"This guidance, of itself, can have no formal or legal status and is not intended to replace other guidance that does have this status. For example, …… for major new road schemes, Highways England has prepared a series of advice notes on assessing impacts and risk of non-compliance with limit values."

Appendices

Appendix A. Assessment of the Effect on the Thames Basin Heaths SPA as a result of the Additional Traffic Movements to and from RHS Wisley with the Scheme

Table A-1: Estimated Nitrogen deposition rates kgN/ha/yr

Receptor ID	Description	2022 DS [Y]	2022 DS + RHS Wisley Flows [Z]	Change [Z] - [Y]	Change as % of Lower Range of Critical Load [Z] - [Y]
West of A3					
R126	Thames Basin Heaths SPA – West of A3 8m	22.99	23.11	+0.12	+1.2
R127	Thames Basin Heaths SPA – West of A3 10m	21.89	22.00	+0.11	+1.1
R128	Thames Basin Heaths SPA – West of A3 25m	18.58	18.64	+0.06	+0.6
R129	Thames Basin Heaths SPA – West of A3 50m	16.70	16.73	+0.03	+0.3
R130	Thames Basin Heaths SPA – West of A3 75m	15.88	15.91	+0.03	+0.3
R131	Thames Basin Heaths SPA – West of A3 100m	15.45	15.45	<0.01	<0.1
R132	Thames Basin Heaths SPA – West of A3 150m	14.96	14.99	+0.03	+0.3
R133	Thames Basin Heaths SPA – West of A3 200m	14.72	14.72	<0.01	<0.1
East of A3					
R134	Thames Basin Heaths SPA – East of A3 10m	24.03	24.15	+0.12	+1.2
R135	Thames Basin Heaths SPA – East of A3 25m	20.06	20.15	+0.09	+0.9
R136	Thames Basin Heaths SPA – East of A3 50m	17.68	17.74	+0.06	+0.6
R137	Thames Basin Heaths SPA – East of A3 75m	16.64	16.67	+0.03	+0.3
R138	Thames Basin Heaths SPA – East of A3 100m	16.03	16.06	+0.03	+0.3

Receptor ID	Description	2022 DS [Y]	2022 DS + RHS Wisley Flows [Z]	Change [Z] - [Y]	Change as % of Lower Range of Critical Load [Z] - [Y]
R139	Thames Basin Heaths SPA – East of A3 150m	15.36	15.39	+0.03	+0.3
R140	Thames Basin Heaths SPA – East of A3 200m	14.99	14.99	<0.01	<0.1
West of A3 (just south of junction 10)					
R141	Thames Basin Heaths SPA – West of A3 (south of junction 10) 7m	22.00	22.12	+0.12	+1.2
R142	Thames Basin Heaths SPA – West of A3 (south of junction 10) 10m	20.84	20.93	+0.09	+0.9
R143	Thames Basin Heaths SPA – West of A3 (south of junction 10) 25m	18.38	18.44	+0.06	+0.6
R144	Thames Basin Heaths SPA – West of A3 (south of junction 10) 50m	16.99	17.02	+0.03	+0.3
R145	Thames Basin Heaths SPA – West of A3 (south of junction 10) 75m	16.38	16.38	<0.01	<0.1
R146	Thames Basin Heaths SPA – West of A3 (south of junction 10) 100m	16.09	16.12	+0.03	+0.3
R147	Thames Basin Heaths SPA – West of A3 (south of junction 10) 150m	15.71	15.74	+0.03	<0.1
R148	Thames Basin Heaths SPA – West of A3 (south of junction 10) 200m	15.51	15.51	<0.01	<0.1
East of A3 (just south of junction 10)					
R149	Thames Basin Heaths SPA – East of A3 (south of junction 10) 5m	24.67	24.82	+0.15	+1.5
R150	Thames Basin Heaths SPA – East of A3 (south of junction 10) 10m	22.84	22.96	+0.12	+1.2
R151	Thames Basin Heaths SPA – East of A3 (south of junction 10) 25m	19.92	20.00	+0.08	+0.8
R152	Thames Basin Heaths SPA – East of A3 (south of junction 10) 50m	18.06	18.12	+0.06	+0.6
R153	Thames Basin Heaths SPA – East of A3 (south of junction 10) 75m	17.16	17.22	+0.06	+0.6

Receptor ID	Description	2022 DS [Y]	2022 DS + RHS Wisley Flows [Z]	Change [Z] - [Y]	Change as % of Lower Range of Critical Load [Z] - [Y]
R154	Thames Basin Heaths SPA – East of A3 (south of junction 10) 100m	16.55	16.58	+0.03	+0.3
R155	Thames Basin Heaths SPA – East of A3 (south of junction 10) 150m	15.91	15.91	<0.01	<0.1
R156	Thames Basin Heaths SPA – East of A3 (south of junction 10) 200m	15.54	15.57	+0.03	+0.3

Appendix B. Revised Nitrogen Deposition Calculations (kgN/ha/yr) at receptor points within the Thames Basin Heaths SPA

Table B-1: Revised Nitrogen Deposition Calculations (kgN/ha/yr) at receptor points within the Thames Basin Heaths SPA

Receptor ID	Description	Base	DM	DS	Change	Change as % of lower range of critical load
West of A3 (further away from junction 10)						
R126	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 8m	27.90	24.12	23.48	-0.64	-6.4%
R127	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 10m	26.51	22.93	22.35	-0.58	-5.8%
R128	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 25m	22.31	19.25	18.88	-0.38	-3.8%
R129	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA - West of A3 50m	19.98	17.07	16.87	-0.20	-2.0%
R130	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 75m	18.99	16.17	16.03	-0.15	-1.5%
R131	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 100m	18.43	15.65	15.54	-0.12	-1.2%
R132	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 150m	17.84	15.10	15.04	-0.06	-0.6%
R133	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 200m	17.53	14.81	14.78	-0.03	-0.3%
East of A3 (further away from junction 10)						

Receptor ID	Description	Base	DM	DS	Change	Change as % of lower range of critical load
R134	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 10m	28.36	26.09	24.90	-1.19	-11.9%
R135	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 25m	23.87	21.19	20.55	-0.64	-6.4%
R136	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 50m	21.10	18.32	17.97	-0.35	-3.5%
R137	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 75m	19.87	17.07	16.87	-0.20	-2.0%
R138	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 100m	19.15	16.38	16.20	-0.17	-1.7%
R139	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 150m	18.32	15.57	15.48	-0.09	-0.9%
R140	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 200m	17.85	15.13	15.07	-0.06	-0.6%
West of A3 (just south of junction 10)						
R141	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 7m	26.35	22.06	22.38	+0.32	+3.2%
R142	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 10m	25.26	20.84	21.05	+0.21	+2.1%
R143	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 25m	22.42	18.49	18.52	+0.03	+0.3%
R144	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 50m	20.64	17.16	17.13	-0.03	-0.3%
R145	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 75m	19.81	16.52	16.49	-0.03	-0.3%

Receptor ID	Description	Base	DM	DS	Change	Change as % of lower range of critical load
R146	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 100m	19.41	16.26	16.20	-0.06	-0.6%
R147	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 150m	18.86	15.86	15.83	-0.03	-0.3%
R148	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 200m	18.57	15.62	15.62	<0.00	<0.0%
East of A3 (just south of junction 10)						
R149	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 5m	33.81	24.99	25.45	+0.46	+4.6%
R150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 10m	30.10	23.40	23.74	0.34	+3.4%
R151	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 25m	25.51	20.21	20.32	0.11	+1.1%
R152	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 50m	22.58	18.29	18.32	0.03	+0.3%
R153	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 75m	21.19	17.36	17.36	<0.00	<0.0%
R154	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 100m	20.25	16.73	16.70	-0.03	-0.3%
R155	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 150m	19.29	16.06	16.03	-0.03	-0.3%
R156	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 200m	18.75	15.68	15.65	-0.03	-0.3%

Receptor ID	Description	Base	DM	DS	Change	Change as % of lower range of critical load
South of M25, west of junction 10						
R157	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 5m	26.76	24.38	24.21	-0.17	-1.7%
R158	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 10m	25.58	22.44	22.53	+0.09	+0.9%
R159	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 25m	23.36	20.03	20.18	+0.15	+1.5%
R160	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 50m	21.49	18.29	18.38	+0.09	+0.9%
R161	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 75m	20.47	17.36	17.42	+0.06	+0.6%
R162	Ockham & Wisley Commons J10 M25 West - South (SPA) 100m	19.82	16.78	16.84	+0.06	+0.6%
R163	Ockham & Wisley Commons J10 M25 West - South (SPA) 150m	19.03	16.12	16.12	<0.01	<0.0%
R164	Ockham & Wisley Commons J10 M25 West - South (SPA) 200m	18.57	15.71	15.71	<0.01	<0.0%
South of M25, east of junction 10						
R188	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 12m	25.16	21.25	21.28	+0.03	+0.3%
R189	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 25m	23.37	19.65	19.62	-0.03	-0.3%
R190	Ockham & Wisley Commons SSSI/ Thames Basin Heaths	21.65	18.20	18.14	-0.06	-0.6%

Receptor ID	Description	Base	DM	DS	Change	Change as % of lower range of critical load
	SPA – South of M25 (east of junction 10) 50m					
R191	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 75m	20.73	17.42	17.36	-0.06	-0.6%
R192	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 100m	19.93	16.75	16.72	-0.03	-0.3%
R193	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 150m	19.21	16.15	16.12	-0.03	-0.3%
R194	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 200m	18.79	15.80	15.77	-0.03	-0.3%

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