Land at East Hill, North Dane Way, Chatham, Kent 5th January 2022

TECHNICAL NOTE

AIR QUALITY IMPACTS ON ECOLOGICAL HABITATS

Introduction

An air quality assessment was undertaken in April 2019 to support the planning application (MC/19/0765). Following this, a Technical Note was produced in September 2019 to provide a further scenario to account for uncertainty in emission factors and future vehicle fleet composition.

Further information has been requested by Natural England, regarding the assessment of air quality impacts on sensitive ecological habitats. This Technical Note provides an assessment of air quality impacts arising from road traffic associated with the operation of the Proposed Development on nearby sensitive ecological habitats.

Methodology

Air quality in the vicinity of the Proposed Development has been predicted using the ADMS Roads dispersion model (Version 5.0.0.1, March 2020). This is a commercially available dispersion model and has been widely validated for this type of assessment and used extensively in the Air Quality Review and Assessment process.

The ADMS Roads model uses detailed information regarding traffic flows on the local road network and local meteorological conditions to predict pollution concentrations at specific locations selected by the user. Meteorological data from Gravesend has been used for the assessment, which is considered to be the most appropriately located meteorological station. The latest available data from Gravesend Meteorological station is the year 2018.

The model has been used to predict road specific concentrations of oxides of nitrogen (NO_x) at selected sensitive receptors within the nearby ecological habitats.

Traffic data for road links affected by the Proposed Development have been provided by the Transport Consultants for the project (Charles & Associates). Traffic flows have been provided for

a baseline year of 2018 and for the year 2035 (the proposed Opening Year of the Proposed Development).

A summary of the traffic data used in the assessment can be found in Appendix 8.3 of the ES. Further data was provided for the A229 as detailed in the Transport Technical Note included in **Appendix A** of this assessment. The traffic data used in the model includes annual average daily traffic flows (AADT), vehicle speeds and percentage Heavy Duty Vehicles (HDV) for the assessment years considered. Low traffic speeds have been assigned to appropriate road links to account for congestion and queuing vehicles.

The following scenarios have been included in the assessment:

- 2018 – baseline traffic (for verification purposes);
- 2035 – future baseline traffic, with committed developments (hereafter referred to as 'without development' scenario);
- 2035 – future baseline traffic, with committed developments and development traffic (hereafter referred to as 'with development' scenario).
- 2035 (sensitivity test) – future baseline traffic, with committed developments (using emission factors from the year 2025); and
- 2035 (sensitivity test) – future baseline traffic, with committed developments and development traffic (using emission factors from the year 2025)

The emission factors released by Defra in November 2021, provided in the emissions factor toolkit EFT2021 v11.0 have been used to predict traffic related emissions in 2018 and 2035. Due to the uncertainty of future year emission factors, two scenarios were modelled. One scenario using emissions factors for the year 2030 to assess the opening year of the Proposed Development and one scenario using 2025 emission factors.

To predict local air quality, traffic emissions predicted by the model must be added to local background concentrations. Background concentrations of NO_x and nitrogen deposition rates have been taken from the Air Pollution Information System (APIS) website[1]. The data used within the modelling assessment are set out in **Appendix B** along with the relevant Critical Levels and Critical Loads.

[1] www.apis.ac.uk

To determine the performance of the model at a local level, a comparison of modelled results with the results of monitoring carried out within the study area was undertaken. This process aims to minimise modelling uncertainty and systematic error by correcting the modelled results by an adjustment factor to gain greater confidence in the final results. This process was undertaken using the methodology outlined in Chapter 7, Section 4 of LAQM.TG(16).

A verification factor of 2.69 was determined which indicates that the model is under-predicting in this area. This factor was applied to the modelled road-NO_x concentrations. Further details of the determination of the verification factor are provided in **Appendix C**.

The modelled ground level concentrations are used to predict deposition rates using typical deposition velocities obtained from AQTAG06[2]. A summary of the typical dry deposition velocities for NO_2 is presented in Table 1 below.

Table 1: Dry Deposition Velocity (m/s)

Habitat Type	Dry Deposition Velocity for NO_2 (m/s)
Grassland	0.0015
Woodland	0.0030

The predicted nitrogen deposition rates assume 100% NO_x to NO_2 conversion. This represents a worst-case for the assessment since NO has a lower deposition velocity than NO_2 and consequently results in lower deposition rates.

Predicted ground level airborne NO_x concentrations and nitrogen deposition rates are compared with relevant air quality standards, critical levels and critical loads for the protection of ecosystems and vegetation (see **Appendix B**).

Sensitive Ecological Habitats

A number of sensitive ecological habitats have been identified by Natural England, as follows:

- Medway Estuary and Marshes SPA and Ramsar Site;
- Thames Estuary and Marshes SPA and Ramsar Site;
- The Swale SPA and Ramsar Site; and

[2] Technical guidance on the detailed modelling approach for an appropriate assessment for emissions to air.

- North Downs Woodland SAC

In accordance with Step 1 of the methodology outlined within the Natural England's advice note (NEA001)[3] ecological habitats within 200m of road links affected by the Proposed Development were identified.

The roads within 200m of the Medway Estuary SPA and Ramsar Site, Thames Estuary and Marshes SPA and Ramsar Site and the Swale SPA and Ramsar Site all fall outside the study area of the transport assessment. Consultation with Charles & Associates, the transport consultants indicated that road links outside the study area are unlikely to experience any significant change in traffic flow as a result of the Proposed Development. Therefore, these ecological habitats have been excluded from this assessment. Further details regarding geographic extent of the impact of the Proposed Development on traffic flows are provided in the Transport Technical Note included in **Appendix A**.

As traffic flows for a future baseline scenario without committed developments could not be provided it was not possible to screen out the in-combination effects of the Proposed Development and committed developments on the sensitive ecological receptors based on the traffic flows. Therefore, all sensitive ecological receptors within 200m of the road links within the study area that are predicted to experience an increase in traffic flow as a result of the Proposed Development has been assessed.

There are no proposals for any non-road sources of NOx or ammonia in the vicinity of the identified sensitive ecological sites that require consideration with regards to the in-combination effects of the Proposed Development.

Table 2 below provides details of the ecologically sensitive habitats in the vicinity of the Site that are within 200m of the road links predicted to experience an increase in traffic flow as a result of the Proposed Development.

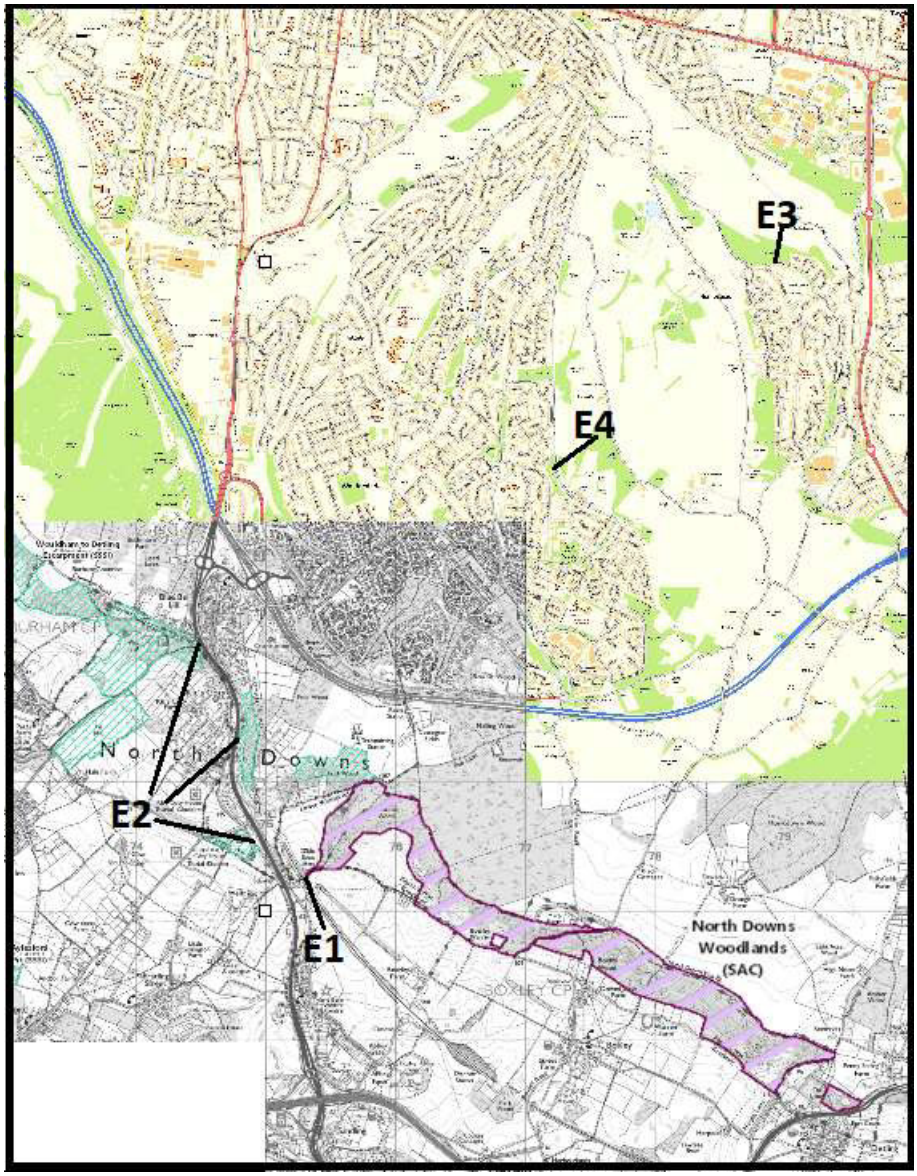
[3] Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (June 2018)

Table 2: Location of Sensitive Ecological Receptors

ID	Receptor	Habitat Type	Approximate Location relative to Site
E1	North Downs Woodland SAC	Woodland	3.5km to south of the Site, within 200m of the A229 and A249
E2	Wouldham to Detling Escarpment SSSI	Woodland, Scrub and Grassland	3km to southwest of Site, within 200m of A229
E3	Grove Wood	Ancient Woodland	800m to east of Site, within 200m of Peartree Lane
E3	Woodland along North Dane Way	Ancient Woodland	700m to south of Site, within 200m of North Dane Way

The location of the sensitive ecological sites included in the assessment are illustrated in Figure 1 below.

Figure 1: Location of Sensitive Ecological Receptors



Significance Criteria

In order to determine whether the impacts at ecological habitats are significant, the EA guidance criteria have been used. These are also the criteria provided within the Natural England guidance note. These are outlined in Table 3 below.

Table 3: Significance Criteria for Ecological Sites

Ecological Habitat	Stage One	Stage Two
SPAs, SACs, Ramsar sites or SSSIs	The impact is considered insignificant if: • the long-term PC is less than 1 % of the long-term environmental standard.	The impact is considered to be insignificant if: • Long term PC >1% and predicted environmental concentrations (PEC) <70% of the long term critical level.
Local Nature Sites (ancient woodlands, local wildlife sites, national and local nature reserves)	The impact is considered to be insignificant if: • Long term PC < 100% long term critical level	

The EA criteria are intended to screen emissions in order to determine if the impacts are significant. If the screening criteria are exceeded, advice should be sought from a suitably qualified ecologist to determine if the impact is likely to be significant as a result of the sensitivity of the individual habitat to the relevant pollutants.

The IAQM guidance[4] for the assessment of ecological habitats, suggests that local natures sites should be treated the same as SSSIs and European sites.

Results

Results using 2030 Emission Factors

Airborne NOx

The process contribution (PC) or impact arising from the vehicle emissions from the additional traffic generated by the Proposed Development at the closest point in each ecological site to the relevant road are presented in Table 4 below. Full results for the transects are provided in **Appendix D**. Background concentrations obtained from the APIS website and presented in

[4] Institute of Air Quality Management (IAQM). A guide to the assessment of air quality impacts on designated nature conservation sites. V 1.1. May 2020.

Appendix B have been added to the modelled concentrations to determine the total predicted environmental concentrations (PEC).

Table 4: Predicted Airborne NOx concentrations (µg/m^3)

Transect ID	Impact (as % of CL)	PEC	PEC (as % of CL)
North Downs Woodland SAC	0.05	20.2	67.2
Wouldham to Detling Escarpment SSSI (Transect A)	0.11	24.5	81.6
Wouldham to Detling Escarpment SSSI (Transect B)	0.24	28.9	96.4
Wouldham to Detling Escarpment SSSI (Transect C)	0.18	26.7	89.0
Grove Wood	0.90	25.6	85.2
Wood on North Dane Way (Transect A)	0.71	22.7	75.5
Wood on North Dane Way (Transect B)	0.50	21.9	73.0

The EA screening criteria states that for SACs and SSSI, an increase in annual mean concentrations of less than 1% of the Critical Level can be considered to be an insignificant impact.

As illustrated in Table 4, the predicted NOx concentrations at the worst-case locations within the SAC and the SSSI are less than 1% of the relevant Critical Level (30µg/m^3). Therefore, at these habitat sites the impact on airborne NO_x concentrations is considered to be insignificant.

The EA screening criteria states that for ancient woodlands a process contribution of less than 100% of the relevant Critical Level is considered to be insignificant. However, the IAQM Guidance recommends that ancient woodlands are treated the same as European Designated Sites and SSSIs. Therefore, for the purposes of this assessment the

significance criteria is assumed to also be 1% of the Critical Level for the ancient woodland sites assessed.

As illustrated in Table 4, the predicted NOx concentrations at the worst-case locations within the ancient woodlands are less than 1% of the Critical Level of 30$\mu g/m^3$. Therefore, the impacts on airborne NO_x concentrations at these habitat sites are also considered to be insignificant.

Eutrophication (Nitrogen Deposition)

Predicted maximum nutrient nitrogen deposition rates arising from emissions of NO_x from the road traffic generated by the Proposed Development are presented in Table 6. The PCs are compared with the relevant critical loads (CL_d) and relevant background concentrations.

Table 6: Predicted Eutrophication Rates (kg N/ha/yr)

Habitat Site	PC	Critical Load CL_d used in assessment	PC (% CL_d)*	Background Deposition Rate
North Downs Woodland	0.0041	5	0.08	28.3
Wouldham to Detling Escarpment SSSI (Transect A)	0.0094	10	0.09	29.7
Wouldham to Detling Escarpment SSSI (Transect B)	0.0209	10	0.21	29.7
Wouldham to Detling Escarpment SSSI (Transect C)	0.0154	10	0.15	29.7
Grove Wood	0.0779	10	0.78	30.4
Wood on North Dane Way (Transect A)	0.0612	10	0.61	31.1
Wood on North Dane Way (Transect B)	0.0432	10	0.43	31.1

The predicted PC nutrient nitrogen deposition rates arising from road vehicles generated by the Proposed Development are low in comparison to the critical loads and the background concentrations. Therefore, the impact on eutrophication is considered to be insignificant.

Results using 2025 Emission Factors (Sensitivity Test)

Airborne NOx

The PC arising from the vehicle emissions from the additional traffic generated by the Proposed Development at the closest point in each ecological site to the relevant road are presented in Table 7 below. Full results for the transects are provided in **Appendix D**.

Table 7: Predicted Airborne NOx concentrations (µg/m^3)

Transect ID	Impact (as % of CL)	PEC	PEC (as % of CL)
North Downs Woodland	0.08	21.3	71.1
Wouldham to Detling Escarpment SSSI (Transect A)	0.19	27.1	90.5
Wouldham to Detling Escarpment SSSI (Transect B)	0.42	34.9	116.3
Wouldham to Detling Escarpment SSSI (Transect C)	0.31	31.0	103.5
Grove Wood	1.45	29.1	97.1
Wood on North Dane Way (Transect A)	1.14	24.4	81.2
Wood on North Dane Way (Transect B)	0.79	23.1	77.0

As illustrated in Table 7, the predicted NOx concentration at the worst-case location within each of the sensitive habitats is less than 1% of the relevant Critical Level (30µg/m^3) at all but two (Grove Wood and wood on North Dane Way Transect A) of the sensitive ecological habitats. At these habitat sites the impact on airborne NOx concentrations is therefore considered to be insignificant.

At Grove Wood and the wood on North Dane Way which are ancient woodland sites the

impact at the closest point to the relevant roads are 1.45% and 1.14% of the Critical Level respectively, therefore the impacts on Grove Wood and the wood on North Dane Way are potentially significant. The predicted concentrations within the transects at Grove Wood and the wood on North Dane Way are presented in Table 8 below.

Table 8: Predicted Airborne NOx concentrations (µg/m^3)

Distance from Road	Impact (as % of CL)	PEC	PEC (as % of CL)
Grove Wood			
5	1.45	29.1	97.1
10	1.16	27.4	91.5
15	0.96	26.3	87.8
20	0.82	25.5	84.9
25	0.71	24.9	82.9
30	0.63	24.4	81.2
40	0.51	23.7	78.9
50	0.42	23.2	77.2
60	0.36	22.8	76.1
70	0.31	22.5	75.1
80	0.27	22.3	74.4
90	0.24	22.2	73.9
100	0.22	22.0	73.4
125	0.18	21.8	72.6
150	0.15	21.6	72.0
175	0.12	21.5	71.6
200	0.11	21.4	71.3
Wood on North Dane Way			
5	1.14	24.4	81.2
10	0.92	23.6	78.5
15	0.77	23.0	76.7
20	0.66	22.6	75.5
25	0.58	22.3	74.5
30	0.51	22.1	73.8
40	0.42	21.8	72.7
50	0.36	21.6	72.0

Distance from Road	Impact (as % of CL)	PEC	PEC (as % of CL)
60	0.32	21.4	71.4
70	0.28	21.3	71.0
80	0.26	21.2	70.7
90	0.23	21.1	70.5
100	0.22	21.1	70.2
125	0.18	21.0	69.9
150	0.16	20.9	69.6
175	0.14	20.8	69.4
200	0.13	20.8	69.3

Within Grove Wood, the predicted annual mean NO_x process contributions (PCs) are above 1% of the relevant Critical Level for a section of the woodland within 10m of the roadside.

Within the wood on North Dane Way, the predicted annual mean NO_x process contributions (PCs) are above 1% of the relevant Critical Level for a section of the woodland within 5m of the roadside.

The annual mean PECs were therefore calculated, a background concentration for NO_x of 20.32µg/m^3 was determined for Grove Road and 20.2µg/m^3 for the wood on North Dane Way, these were added to the PCs to calculate the PECs. As illustrated in Table 8 above, the PECs within Grove Road are above 70% of the Critical Level throughout the whole habitat site and within the wood on North Dane Way the PECs are above 70% of the Critical Level upto 100m of the roadside.

In accordance with the EA screening criteria, the impact of the emissions from road traffic generated by the Proposed Development cannot be considered to be insignificant within 10m of the roadside within Grove Wood and 5m of the roadside within the wood on North Dane Way.

Eutrophication (Nitrogen Deposition)

Predicted maximum nutrient nitrogen deposition rates arising from emissions of NO_x from the road traffic generated by the Proposed Development are presented in Table 9. The PCs are compared with the relevant critical loads (CL_d) and background concentrations.

Table 9: Predicted Eutrophication Rates (kg N/ha/yr)

Habitat Site	PC	Critical Load CL_d used in assessment	PC (% CL_d)*	Background Deposition Rate
North Downs Woodland	0.0069	5	0.14	28.3
Wouldham to Detling Escarpment SSSI (Transect A)	0.0162	10	0.16	29.7
Wouldham to Detling Escarpment SSSI (Transect B)	0.0363	10	0.36	29.7
Wouldham to Detling Escarpment SSSI (Transect C)	0.0266	10	0.27	29.7
Grove Wood	0.1251	10	1.25	30.4
Wood on North Dane Way (Transect A)	0.0985	10	0.98	31.1
Wood on North Dane Way (Transect B)	0.0679	10	0.68	31.1

The predicted PC nutrient nitrogen deposition rates arising from road vehicles generated by the Proposed Development are low in comparison to the critical loads and the background concentrations. Therefore, the impact on eutrophication is considered to be insignificant.

Discussions and Conclusions

Further detailed modelling has been undertaken in order to determine the likely impact on airborne NO_x concentrations and nitrogen deposition rates within the nearby ecological sites. A number of ecological sites fall within 200m of roads predicted to experience an increase in traffic flows as a result of the Proposed Development, these sites are identified in Table 2 and have been included in this assessment.

The modelling used emission factors obtained from the latest Emission Factor Toolkit provided by Defra. Emission factors obtained for the year 2030 were initially used to assess the opening year of 2030. The results of the modelling indicated that the impact of the exhaust emissions from the additional road traffic generated by the Proposed Development would have an insignificant impact

on the airborne NO_x concentrations and nitrogen deposition rates within the selected ecological habitat sites.

A sensitivity test was also completed using emission factors obtained for the year 2025 to assess the opening year of 2035. This is considered to be a very much worst-case assessment. The results of the sensitivity test indicated that for the SAC and SSSI, the impacts on airborne NO_x concentrations and nitrogen deposition rates remain insignificant.

For the two ancient woodlands (Grove Wood and the wood on North Dane Way), the impact on airborne NO_x concentrations was determined to be potentially significant within 10m of the roadside of Pear Tree Lane for Grove Wood and within 5m of the roadside of North Dane Way.

As the sensitivity test is likely to be very much a worst-case assessment, and only results in small sections of the ancient woodlands potentially experiencing increases in airborne NO_x concentrations and nitrogen depositions rates only slightly in excess of the threshold, it is considered that the impact on airborne NO_x concentrations and nitrogen deposition rates as a result of the traffic generated by the Proposed Development can be considered to be insignificant.

It is therefore considered that the Proposed Development is acceptable in terms of air quality effects on sensitive ecological habitat sites.

Appendix A – Transport Technical Note

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Technical Note

Land at East Hill, Chatham

17-035-024 Rev -

Review of Traffic Data for Air Quality Assessment
Under Habitats Regulations

December 2021

LPA Ref: MC/19/0765
PINS Ref: APP/A2280/W/21/3280915

Rev	Issue Purpose	Author	Checked	Reviewed	Approved	Date
-	Draft	JW	JW	JW	JW	Dec '21

1 Introduction

1.1.1 This note has been prepared to review traffic data input for additional air quality assessment. It builds on work undertaken in support of the Transport Assessment and Environmental Statement submitted as part of the above planning application.

1.1.2 Following this introduction, a brief review of the traffic modelling methodology is provided. Thereafter, consideration is given the traffic impact relative to the geographic location of the receptors. Finally, consideration is given the appropriateness of the assumptions on cumulative impact made within that modelling, for the purposes of the assessment now being conducted.

2 Traffic Modelling Overview

2.1 Use of AIMSUM Model

2.1.1 The traffic modelling conducted within the Transport Assessment and used to inform the Environmental Impact Assessment has utilised Medway Council's own AIMSUM strategic model platform. This allowed the impact of the proposed development to be assessed holistically and accurately.

2.1.2 It should be noted that this platform is the same as that being used by Medway Council is their assessment of the emerging Local Plan and all other major development sites.

2.2 Assessment Year and Scenarios

2.2.1 At the time of the application submission, as remains the case now, Medway Council did not have an up-to-date Local Plan. Nonetheless in scoping with Medway Highways it was agreed that the traffic modelling should seek to consider the cumulative impact of development in the emerging and anticipated Local Plan and therefore its proposed allocations.

2.2.2 Accordingly, the modelling was conducted on the basis of 2035 assessment year, including cumulative development assumptions considered at the time to be appropriate representative of growth with a full Local Plan delivered. The modelling itself was conducted by Medway's consultants and provided to the applicant for use in the planning application assessments.

2.2.3 Modelling was conducted under two scenarios; a 2035 'do-minimum' with all growth and committed development assumptions; and a 2035 'with-development' that added the proposed development, including the highways infrastructure to the do-minimum, thus allowing both a relative appraisal of the development impact and a cumulative appraisal of all growth including the development proposals.

2.3 Geographic Scope of Assessment

2.3.1 The Medway Model assesses the whole of the UA area, with areas outside that (such as neighbouring boroughs) not modelled in detail.

2.3.2 However, the geographic scope of the development impact is considerably less than the entire model area. Accordingly, during scoping a geographic study area was defined for detailed analysis and assessment. This scope was established by initial interrogation of the strategic model to understand the impact of the development across the network and was carried through to the Transport Assessment and EIA as a geographic scope of analysis within which the development impact was considered to be sufficiently material as to warrant assessment.

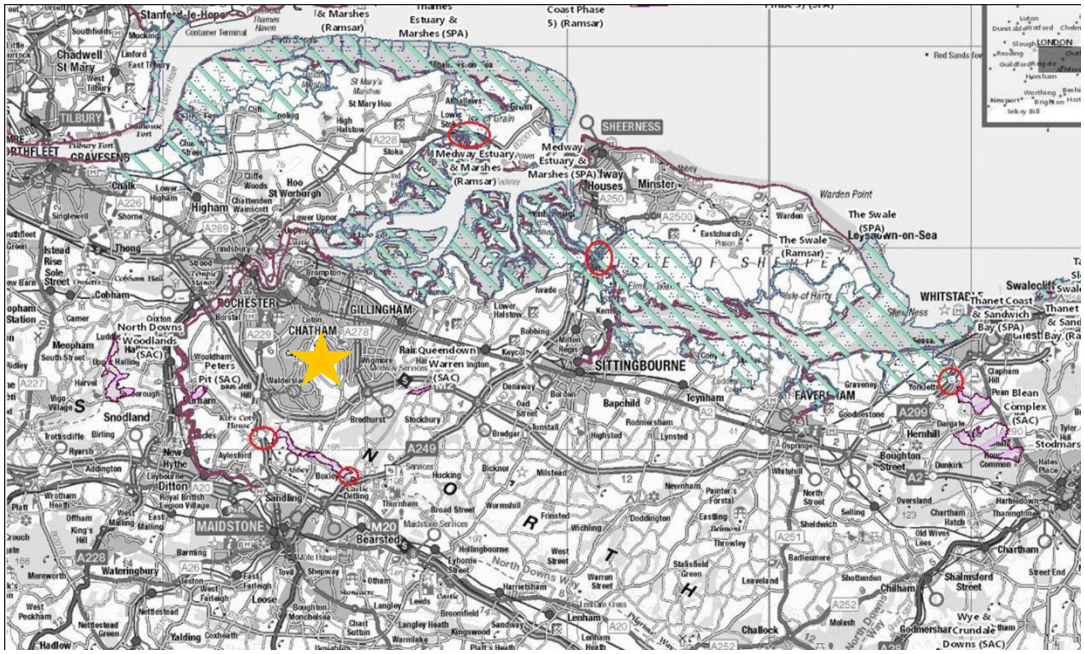
2.3.3 Further details of the resulting scope of analysis can be found within the supporting Transport Assessment and relevant chapters of the ES.

3 Traffic Impact on Receptors

3.1 Receptors

3.1.1 As part of this assessment, **Figure 3.1** below was provided to identify the relevant key highway links (circled in red) for which traffic data was required to be considered for the primary habitat receptors. It is noted that the discussion and conclusions of this report may be used inform the application of data, already provided for other assessments, in the current air quality assessment.

Figure 3.1 – Habitat Receptor Locations



3.1.2 The yellow star indicates the approximate development site location. The receptors are understood to include the following:

1. Medway Estuary and Marshes SPA and Ramsar Site - A249 and A228
2. Thames Esturary and Marshes SP and Ramsar Site - None
3. The Swale SPA and Ramsar Site - A249 and A299
4. The North Downs Woodland SAC - A229 and A249

3.2 Geographic Extent of Development Impact

3.2.1 As noted above, the geographic scope of the impact assessment within the TA and ES was determined through interrogation of the strategic model. Geographic scope of the development traffic impact has been cross-referenced with the locations of the receptors set above and the following conclusions drawn:

A249 (Sheppey Crossing) and A228 (Hoo Peninsula)

3.2.2 Both locations lie outside of the geographic scope of the traffic impact assessment. Both also lie on routes that are effectively strategic cul-de-sac leading to the Isle of Sheppey and the Hoo Peninsula respectively, such that any demand would be negligible and imperceptible within the tolerances of the model forecasting.

A299 (Near Whitstable)

3.2.3 Again, this location lies considerably beyond the geographic scope of the traffic assessment and in practice, beyond the practical scope of the overall Medway transport model. Whilst there is some scope for development generated demand on this section of the A299, it would again be negligible and so limited as to be impractical to forecast.

A249 (At Detling)

3.2.4 This location is geographically closer to the site, but still beyond the scope of the traffic impact assessment. The forecast distribution and assignment of traffic generation and the routing offered by this section of highway is such that essentially no impact is anticipated from the development. This arises from the orientation of the A249 meaning that no traffic would be expected to use the route to/from the development site.

A229 (Bluebell Hill)

3.2.5 Traffic on the A229 (Bluebell Hill) lies within the scope of the traffic impact assessment included in the TA and therefore is forecast to see net changes in flows arising from the development. Accordingly, demand on this route is provided later in this note.

4 Cumulative Impact Assessment

4.1 Requirements

4.1.1 It is understood that the requirements of the assessment of air quality impact on habitats includes the cumulative impact with other plans or projects committed to at the time of the assessment.

4.2 Other Committed Development

4.2.1 As part of this exercise, reference has been made to a list of additional applications, consented since original submission of the application and therefore since the preparation of the original TA and ES. This list is set out within the Proof of Evidence of Peter Canavan for the Council, in particular on pages 20 to 24. Reference should be made to that document for more details. A number of the consents related to reserved matters of scheme already consented, which are not relevant here as the original outline consents would have been accounted for. The principal matter here is whether any of those commitments require additional consideration to be given in order to ensure that that the assessment appropriately reflects the full cumulative scenario.

4.2.2 Within the scope of any strategic level modelling, such as that used here, there are two main considerations. Firstly, there is the matter of scale of development which clearly has the potential to influence extent of impact. Secondly there is location, with some sites more likely to give rise to impact than others if in relative proximity to receptors. I have considered these matters separately below.

4.3 Scale of Growth

4.3.1 As noted above, the 2035 modelling for the TA and EIA included growth and commitments equivalent to a full Local Plan delivery and commensurate with the currently anticipated Objectively Assessed Need over the period at that time. This is understood to have included the modelling of at least 29,463 dwellings to be delivered in the plan period, over the baseline.

4.3.2 Applications that have been granted permission in the previous two years have, according to the Council, been an attempt to maintain delivery in the absence of an adopted Local Plan, rather than in addition to the emerging plan for growth. More recently, Medway have been seeking to plan within the emerging LP for a total of 26,962 dwellings, which is lower than that modelled in the TA and EIA and reflective of the delivery in the interim. Accordingly, it is reasonable to conclude that by 2035 the overall growth in Medway will be no greater than that encapsulated within the modelling in the TA and EIA, rather the latter is likely to represent a reasonable or robust even assumption of the scale of cumulative growth, with no further consideration needing to be given to recent consented development.

4.4 Location of Growth

4.4.1 The modelling included in the TA and EIA was based on a geographic spread of growth understood to be representative of the emerging strategy at the time. Whilst the applicant was not party to the site-specific assumptions imbedded within the modelling, which were provided by Medway Highways, the broad spatial parameters were known. These included growth in the main Medway towns, including riverside development, and large-scale growth on the Hoo Peninsula.

4.4.2 An interrogation of the applications consented in the previous two years has been undertaken. The relevant new committed developments are shaded purple. From this it can be seen that all consented developments lie within the main Medway towns or on the Hoo Penisula. Significantly, none of the consented development lies substantially outside of these areas in the direction of the relevant receptor on the A229, relative to the North Downs Woodland SAC. With specific respect to that receptor, any differences between the modelled growth in the 2035 scenario in the TA and EIA and the specific sites approved in the previous two years would be immaterial.

4.5 Summary

4.5.1 Noting the above, it is considered that the current 2035 traffic modelling used to inform the TA and EIA remains an appropriate cumulative scenario and can be applied for current purposes of further air quality assessment.

5 Supplementary Traffic Data

5.1.1 The above exercise has established the appropriateness of the previous traffic forecasting exercise and therefore the data derived from that. One additional location, traffic on the A229, has been identified as requiring further data which has therefore been derived from the same method as before. Turning movements have been extracted from the datasets made available from that previous traffic modelling exercise. These peak hour turning movements have then been subject to adjustment to Annual Average Daily Traffic forecasts, as necessary for an Air Quality Assessment. The resultant two-way AADT forecasts at this receptor location are presented in Table 5.1 below.

Table 5.1: 2035 Forecast Traffic on A229 South of M2J3 (HGV % for DfT Data)

AADT (Two-way)	2035 Do-Minimum	2035 With-Development
Total Vehs	54,178	54,676
% HGVs[1]	4.10%	4.06%

1. HGV % derived from DfT Data at Count Point ID-46829

Appendix B – Environmental Assessment Levels for the Protection of Vegetation and Ecosystems

Critical Levels

Critical levels are thresholds of airborne pollutant concentrations above which damage may be sustained to sensitive plants and animals.

The critical level for the protection of vegetation and ecosystems as defined by the EU Directive 2008/50/EC and the 2010 UK Air Quality Standards Regulations relevant to this assessment are summarised in Table B1 along with the background concentrations obtained from the APIS website.

Table B1: Critical Levels for the Protection of Vegetation and Ecosystems

Ecological Habitat	Background Concentration (μg/m^3)	Critical Level	
		Averaging Period	Concentration (μg/m^3)
North Downs Woodland SAC	18.64	Annual Mean	30
Wouldham to Detling Escarpment SSSI	20.91		
Grove Wood (ancient woodland)	20.32		
Wood on North Dane Way	20.2		

The critical levels are based on monitoring criteria and only apply in the following areas:

- more than 20 km from agglomerations; and
- more than 5 km away from other built up areas, industrial installations motorways and major roads with a traffic count of more than 50,000 vehicles per day.

Nationally, around 37% of designated sites currently do not fall within the above criteria and are therefore excluded from the objectives. None of the habitat sites within 10 km of the proposed development are sufficiently rural for the objectives to apply; however, the Environment Agency's H1 guidance states that

"the critical levels should be applied at all locations as a matter of policy, as they represent a standard against which to judge ecological harm".

Critical Loads

Critical loads refer to the threshold beyond which deposition of pollutants to water or land results in measurable damage to vegetation and habitats. This takes the form of either gravitational settling of particulate matter (dry deposition) or wet deposition, where atmospheric pollutants dissolve in water vapour and then precipitate to the ground (e.g. as rain, snow, fog etc.).

Critical loads for eutrophication (nutrient nitrogen deposition) and background nutrient nitrogen deposition rates have been obtained from the APIS website and are summarised in Table B2 for the identified habitat sites.

Table B2: Critical Loads (Eutrophication) and Background Nutrient Nitrogen Deposition

Habitat Site	Primary Sensitive Habitat	Critical Load (kg N/ha/a)	Background N Deposition (kg N/ha/a)
North Downs Woodland SAC	Broad-leaved deciduous woodland (63%)	10-20	28.3
	Coniferous Woodland (23%)	5-15	
	Dry grassland (14%)	15-25	
Wouldham to Detling Escarpment SSSI	Woodland (primarily Beech, Ash, Silver Birch and Yew)	10-20	29.7
	Unimproved grassland	15-25	
Grove Wood (ancient woodland)	Broadleaved Deciduous Woodland	10-20	30.4
Wood on North Dane Way	Broadleaved Deciduous Woodland	10-20	31.1

The background nutrient nitrogen deposition rates exceed the critical loads at all of the identified habitat sites.

Appendix C – Verification and Adjustment of Modelled Concentrations

Nitrogen Dioxide (NO_2)

Most nitrogen dioxide (NO_2) is produced in the atmosphere by reaction of nitric oxide (NO) with ozone. It is therefore most appropriate to verify the model in terms of primary pollutant emissions. Verification of concentrations predicted by the ADMS model has followed the methodology presented in LAQM.TG(16).

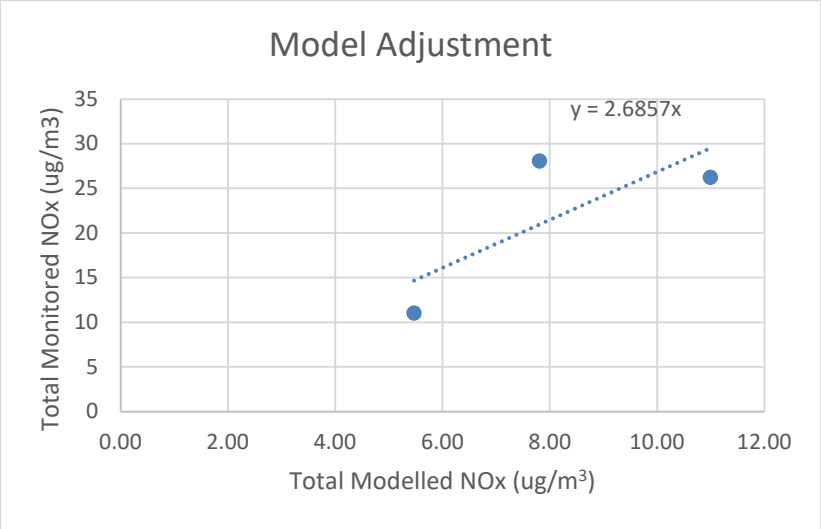
The model has been run to predict annual mean road-NO_x concentrations at three nearby monitoring sites.

The model output of road-NOx (i.e. the component of total NO_x coming from road traffic) has been compared to the 'measured' road-NO_x (Table C1). The 'measured' road NO_x has been calculated from the measured NO_2 concentrations by using the Defra NO_x to NO_2 calculator available on the UK-AIR website.

Table C1: Comparison of Modelled and Monitored NOx concentrations

Monitoring Location	Total Monitored NO_2	Total Monitored NOx	Background NO2	Background NOx	Monitored Road NOx	Modelled Road NOx	Ratio
DT05	30.3	50.3	17.0	24.0	26.25	10.99	2.39
DT09	22.8	35.1	17.0	24.0	11.07	5.47	2.02
DT04	32.5	54.3	18.4	26.2	28.11	7.81	3.60

Figure C1: Comparison of Modelled and Monitored Road NOx concentrations



The results in Table C1 and Figure C1 indicate that the ADMS model under-predicted the road NO_x concentrations at the selected monitoring sites. An adjustment factor was therefore determined as the ratio between the measured road-NO_x contribution and the modelled road-NO_x contribution, forced through zero (2.69). This factor has then been applied to the modelled road-NO_x concentration for each location to provide an adjusted modelled road-NO_x concentration.

Model Uncertainty

An evaluation of model performance has been undertaken to establish confidence in model results. LAQM.TG(16) identifies a number of statistical procedures that are appropriate to evaluate model performance and assess the uncertainty. These include root mean square error (RMSE); fractional bias (FB) and correlation coefficient (CC). These parameters estimate how the model results agree or diverge from the observations. The simplest parameter to calculate and to interpret is the RMSE, which has therefore been used in this assessment to understand the model uncertainty.

The RMSE value calculated after verification was 2.4. Guidance provided in LAQM.TG(16) indicates that for RMSE values higher than 25% of the objective level, that the model should be revisited. Ideally an RMSE value should be within 10% of the air quality objective level. For annual mean NO_2, which has an objective level of 40µg/m^3, this equates to 4µg/m^3. The RMSE value calculated for this assessment is therefore considered to fall within the acceptable limits, therefore the final predictions can be considered to be robust.

Appendix D – Full Results

Results using 2030 Emission Factors

Table D1: Predicted Airborne NOx Concentrations

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
North Downs Woodland SAC			
5	0.05	20.2	67.2
10	0.05	20.1	67.1
15	0.04	20.1	66.9
20	0.04	20.0	66.7
25	0.04	20.0	66.6
30	0.04	19.9	66.4
40	0.04	19.9	66.2
50	0.04	19.8	66.0
60	0.03	19.7	65.7
70	0.03	19.7	65.5
80	0.03	19.6	65.4
90	0.03	19.6	65.2
100	0.03	19.5	65.1
125	0.02	19.4	64.7
150	0.02	19.3	64.5
175	0.02	19.3	64.3
200	0.02	19.2	64.1
Wouldham to Detling Escarpment SSSI (Transect A)			
5	0.11	24.5	81.6
10	0.10	24.3	80.9
15	0.10	24.0	80.1
20	0.09	23.9	79.5
25	0.09	23.8	79.2
30	0.08	23.6	78.8
40	0.07	23.3	77.8
50	0.07	23.2	77.4
60	0.06	23.0	76.7

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
70	0.06	22.8	76.0
80	0.06	22.7	75.6
90	0.05	22.6	75.4
100	0.05	22.5	74.9
125	0.04	22.4	74.5
150	0.04	22.1	73.8
175	0.03	22.0	73.3
200	0.03	21.9	73.1
Wouldham to Detling Escarpment SSSI (Transect B)			
5	0.24	28.9	96.4
10	0.21	27.9	92.9
15	0.19	27.1	90.3
20	0.17	26.5	88.3
25	0.16	26.0	86.7
30	0.14	25.6	85.3
40	0.12	25.0	83.3
50	0.11	24.4	81.5
60	0.10	24.0	80.1
70	0.09	23.7	79.1
80	0.08	23.4	78.2
90	0.07	23.2	77.5
100	0.07	23.0	76.8
125	0.05	22.6	75.5
150	0.05	22.4	74.5
175	0.04	22.2	73.8
200	0.04	22.0	73.3
Wouldham to Detling Escarpment SSSI (Transect C)			
5	0.18	26.7	89.0
10	0.16	26.0	86.6
15	0.14	25.4	84.6
20	0.13	24.9	83.1
25	0.11	24.6	81.9
30	0.10	24.2	80.8
40	0.09	23.7	79.1

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
50	0.08	23.4	77.9
60	0.07	23.1	76.9
70	0.06	22.9	76.2
80	0.06	22.7	75.6
90	0.05	22.5	75.1
100	0.05	22.4	74.7
125	0.04	22.2	73.9
150	0.04	22.0	73.3
175	0.03	21.9	72.9
200	0.03	21.8	72.5
Grove Wood			
5	0.90	25.6	85.2
10	0.72	24.5	81.8
15	0.61	23.9	79.6
20	0.52	23.4	77.9
25	0.45	23.0	76.7
30	0.40	22.7	75.7
40	0.33	22.3	74.4
50	0.28	22.0	73.4
60	0.24	21.8	72.7
70	0.21	21.6	72.1
80	0.19	21.5	71.7
90	0.17	21.4	71.4
100	0.16	21.3	71.1
125	0.13	21.2	70.6
150	0.11	21.1	70.2
175	0.10	21.0	70.0
200	0.09	20.9	69.8
Wood on North Dane Way (Transect A)			
5	0.71	22.7	75.5
10	0.57	22.2	73.9
15	0.49	21.9	72.9
20	0.42	21.6	72.1
25	0.37	21.5	71.6

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
30	0.34	21.3	71.1
40	0.28	21.1	70.5
50	0.24	21.0	70.1
60	0.22	20.9	69.7
70	0.20	20.9	69.5
80	0.18	20.8	69.3
90	0.17	20.8	69.2
100	0.15	20.7	69.0
125	0.13	20.6	68.8
150	0.12	20.6	68.7
175	0.11	20.6	68.6
200	0.10	20.5	68.5
Wood on North Dane Way (Transect B)			
5	0.50	21.9	73.0
10	0.45	21.7	72.4
15	0.41	21.6	72.0
20	0.38	21.5	71.6
25	0.35	21.4	71.3
30	0.33	21.3	71.0
40	0.29	21.2	70.6
50	0.27	21.1	70.2
60	0.24	21.0	70.0
70	0.23	20.9	69.8
80	0.21	20.9	69.6
90	0.20	20.8	69.5
100	0.19	20.8	69.4
125	0.17	20.7	69.1
150	0.15	20.7	69.0
175	0.14	20.6	68.8
200	0.13	20.6	68.7

Table D2: Predicted Nitrogen Deposition Rates

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
North Downs Woodland SAC			
5	0.0041	5	0.08
10	0.0039		0.08
15	0.0038		0.08
20	0.0037		0.07
25	0.0036		0.07
30	0.0035		0.07
40	0.0033		0.07
50	0.0031		0.06
60	0.0029		0.06
70	0.0028		0.06
80	0.0026		0.05
90	0.0025		0.05
100	0.0024		0.05
125	0.0021		0.04
150	0.0019		0.04
175	0.0018		0.04
200	0.0016		0.03
Wouldham to Detling Escarpment SSSI (Transect A)			
5	0.0094	10	0.09
10	0.0088		0.09
15	0.0083		0.08
20	0.0078		0.08
25	0.0075		0.08
30	0.0072		0.07
40	0.0064		0.06
50	0.0061		0.06
60	0.0056		0.06
70	0.0051		0.05
80	0.0048		0.05

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
90	0.0045		0.05
100	0.0042		0.04
125	0.0039		0.04
150	0.0033		0.03
175	0.0030		0.03
200	0.0028		0.03
Wouldham to Detling Escarpment SSSI (Transect B)			
5	0.0209		0.21
10	0.0182		0.18
15	0.0162		0.16
20	0.0147		0.15
25	0.0134		0.13
30	0.0123		0.12
40	0.0108		0.11
50	0.0094		0.09
60	0.0083	10	0.08
70	0.0075		0.08
80	0.0068		0.07
90	0.0063		0.06
100	0.0057		0.06
125	0.0047		0.05
150	0.0040		0.04
175	0.0035		0.03
200	0.0031		0.03
Wouldham to Detling Escarpment SSSI (Transect C)			
5	0.0154		0.15
10	0.0135		0.14
15	0.0120		0.12
20	0.0109	10	0.11
25	0.0099		0.10
30	0.0091		0.09
40	0.0078		0.08

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
50	0.0068		0.07
60	0.0060		0.06
70	0.0055		0.05
80	0.0050		0.05
90	0.0046		0.05
100	0.0043		0.04
125	0.0036		0.04
150	0.0032		0.03
175	0.0028		0.03
200	0.0026		0.03
Grove Wood (Ancient Woodland)			
5	0.0779		0.78
10	0.0625		0.63
15	0.0525		0.52
20	0.0448		0.45
25	0.0393		0.39
30	0.0347		0.35
40	0.0284		0.28
50	0.0239		0.24
60	0.0207	10	0.21
70	0.0182		0.18
80	0.0163		0.16
90	0.0148		0.15
100	0.0135		0.14
125	0.0112		0.11
150	0.0097		0.10
175	0.0086		0.09
200	0.0078		0.08
Wood on North Dane Way (Ancient Woodland) (Transect A)			
5	0.0612		0.61
10	0.0497	10	0.50
15	0.0419		0.42

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
20	0.0364		0.36
25	0.0322		0.32
30	0.0290		0.29
40	0.0243		0.24
50	0.0211		0.21
60	0.0187		0.19
70	0.0169		0.17
80	0.0155		0.15
90	0.0143		0.14
100	0.0134		0.13
125	0.0116		0.12
150	0.0103		0.10
175	0.0094		0.09
200	0.0087		0.09
Wood on North Dane Way (Ancient Woodland) (Transect B)			
5	0.0432		0.43
10	0.0389		0.39
15	0.0355		0.35
20	0.0327		0.33
25	0.0304		0.30
30	0.0284		0.28
40	0.0253		0.25
50	0.0230		0.23
60	0.0211	10	0.21
70	0.0196		0.20
80	0.0183		0.18
90	0.0172		0.17
100	0.0163		0.16
125	0.0144		0.14
150	0.0130		0.13
175	0.0119		0.12
200	0.0109		0.11

Results using 2025 Emission Factors (Sensitivity Test)

Table D3: Predicted Airborne NOx Concentrations

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
North Downs Woodland SAC			
5	0.08	21.3	71.1
10	0.08	21.2	70.7
15	0.07	21.1	70.5
20	0.07	21.1	70.2
25	0.07	21.0	69.9
30	0.07	20.9	69.7
40	0.06	20.8	69.2
50	0.06	20.6	68.8
60	0.06	20.5	68.4
70	0.05	20.4	68.1
80	0.05	20.3	67.8
90	0.05	20.2	67.5
100	0.05	20.2	67.2
125	0.04	20.0	66.7
150	0.04	19.9	66.2
175	0.03	19.8	65.8
200	0.03	19.7	65.5
Wouldham to Detling Escarpment SSSI (Transect A)			
5	0.19	27.1	90.5
10	0.18	26.8	89.3
15	0.17	26.4	88.0
20	0.16	26.1	86.9
25	0.15	25.9	86.3
30	0.14	25.7	85.5
40	0.13	25.1	83.8
50	0.12	24.9	83.1
60	0.11	24.6	81.9
70	0.10	24.2	80.8
80	0.09	24.0	80.1

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
90	0.09	23.9	79.6
100	0.08	23.7	78.9
125	0.08	23.4	78.1
150	0.06	23.1	76.9
175	0.06	22.8	76.0
200	0.05	22.7	75.6
Wouldham to Detling Escarpment SSSI (Transect B)			
5	0.42	34.9	116.3
10	0.37	33.1	110.2
15	0.32	31.7	105.7
20	0.29	30.7	102.2
25	0.27	29.8	99.4
30	0.25	29.1	96.9
40	0.21	28.0	93.4
50	0.19	27.1	90.3
60	0.16	26.4	87.8
70	0.15	25.8	86.0
80	0.13	25.3	84.5
90	0.12	25.0	83.3
100	0.11	24.6	82.1
125	0.09	23.9	79.8
150	0.08	23.4	78.2
175	0.07	23.1	77.0
200	0.06	22.8	76.0
Wouldham to Detling Escarpment SSSI (Transect C)			
5	0.31	31.0	103.5
10	0.27	29.8	99.2
15	0.24	28.8	95.9
20	0.22	28.0	93.2
25	0.20	27.3	91.0
30	0.18	26.7	89.1
40	0.15	25.9	86.2
50	0.13	25.2	84.1
60	0.12	24.7	82.4

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
70	0.10	24.3	81.1
80	0.10	24.0	80.0
90	0.09	23.7	79.1
100	0.08	23.5	78.4
125	0.07	23.1	77.0
150	0.06	22.8	76.0
175	0.05	22.6	75.2
200	0.05	22.4	74.6
Grove Wood			
5	1.45	29.1	97.1
10	1.16	27.4	91.5
15	0.96	26.3	87.8
20	0.82	25.5	84.9
25	0.71	24.9	82.9
30	0.63	24.4	81.2
40	0.51	23.7	78.9
50	0.42	23.2	77.2
60	0.36	22.8	76.1
70	0.31	22.5	75.1
80	0.27	22.3	74.4
90	0.24	22.2	73.9
100	0.22	22.0	73.4
125	0.18	21.8	72.6
150	0.15	21.6	72.0
175	0.12	21.5	71.6
200	0.11	21.4	71.3
Wood on North Dane Way (Transect A)			
5	1.14	24.4	81.2
10	0.92	23.6	78.5
15	0.77	23.0	76.7
20	0.66	22.6	75.5
25	0.58	22.3	74.5
30	0.51	22.1	73.8
40	0.42	21.8	72.7

Distance within Habitat Site (m)	Impact (as % of CL)	PEC	PEC (as % of CL)
50	0.36	21.6	72.0
60	0.32	21.4	71.4
70	0.28	21.3	71.0
80	0.26	21.2	70.7
90	0.23	21.1	70.5
100	0.22	21.1	70.2
125	0.18	21.0	69.9
150	0.16	20.9	69.6
175	0.14	20.8	69.4
200	0.13	20.8	69.3
Wood on North Dane Way (Transect B)			
5	0.79	23.1	77.0
10	0.70	22.8	76.0
15	0.63	22.6	75.2
20	0.58	22.4	74.5
25	0.54	22.2	74.0
30	0.50	22.1	73.5
40	0.44	21.8	72.8
50	0.39	21.7	72.3
60	0.35	21.6	71.8
70	0.32	21.5	71.5
80	0.30	21.4	71.2
90	0.28	21.3	71.0
100	0.26	21.2	70.8
125	0.22	21.1	70.4
150	0.20	21.0	70.1
175	0.17	21.0	69.9
200	0.16	20.9	69.7

Table D4: Predicted Nitrogen Deposition Rates

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
North Downs Woodland SAC			
5	0.0069	5	0.14
10	0.0066		0.13
15	0.0064		0.13
20	0.0062		0.12
25	0.0060		0.12
30	0.0058		0.12
40	0.0054		0.11
50	0.0051		0.10
60	0.0048		0.10
70	0.0046		0.09
80	0.0043		0.09
90	0.0041		0.08
100	0.0039		0.08
125	0.0035		0.07
150	0.0031		0.06
175	0.0028		0.06
200	0.0026		0.05
Wouldham to Detling Escarpment SSSI (Transect A)			
5	0.0162	10	0.16
10	0.0153		0.15
15	0.0143		0.14
20	0.0135		0.13
25	0.0130		0.13
30	0.0123		0.12
40	0.0110		0.11
50	0.0104		0.10
60	0.0095		0.10
70	0.0086		0.09
80	0.0081		0.08

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
90	0.0077		0.08
100	0.0071		0.07
125	0.0065		0.07
150	0.0056		0.06
175	0.0049		0.05
200	0.0046		0.05
Wouldham to Detling Escarpment SSSI (Transect B)			
5	0.0363		0.36
10	0.0316		0.32
15	0.0280		0.28
20	0.0253		0.25
25	0.0231		0.23
30	0.0212		0.21
40	0.0185		0.19
50	0.0161		0.16
60	0.0142	10	0.14
70	0.0128		0.13
80	0.0116		0.12
90	0.0106		0.11
100	0.0097		0.10
125	0.0079		0.08
150	0.0066		0.07
175	0.0057		0.06
200	0.0050		0.05
Wouldham to Detling Escarpment SSSI (Transect C)			
5	0.0266		0.27
10	0.0233		0.23
15	0.0207		0.21
20	0.0186	10	0.19
25	0.0169		0.17
30	0.0154		0.15
40	0.0131		0.13

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
50	0.0114		0.11
60	0.0101		0.10
70	0.0091		0.09
80	0.0082		0.08
90	0.0075		0.08
100	0.0069		0.07
125	0.0058		0.06
150	0.0050		0.05
175	0.0044		0.04
200	0.0040		0.04
Grove Wood (Ancient Woodland)			
5	0.1251		1.25
10	0.0999		1.00
15	0.0833		0.83
20	0.0706		0.71
25	0.0616		0.62
30	0.0541		0.54
40	0.0437		0.44
50	0.0363		0.36
60	0.0309	10	0.31
70	0.0269		0.27
80	0.0237		0.24
90	0.0211		0.21
100	0.0191		0.19
125	0.0152		0.15
150	0.0126		0.13
175	0.0108		0.11
200	0.0094		0.09
Wood on North Dane Way (Ancient Woodland) (Transect A)			
5	0.0985		0.98
10	0.0791	10	0.79
15	0.0662		0.66

Distance within Habitat Site (m)	PC (kg/ha/yr)	Critical Load CL_d used in assessment (kg/ha/yr)	PC (% CL_d)*
20	0.0569		0.57
25	0.0499		0.50
30	0.0445		0.44
40	0.0367		0.37
50	0.0313		0.31
60	0.0274		0.27
70	0.0244		0.24
80	0.0220		0.22
90	0.0201		0.20
100	0.0186		0.19
125	0.0157		0.16
150	0.0138		0.14
175	0.0124		0.12
200	0.0113		0.11
Wood on North Dane Way (Ancient Woodland) (Transect B)			
5	0.0679		0.68
10	0.0606		0.61
15	0.0548		0.55
20	0.0501		0.50
25	0.0463		0.46
30	0.0429		0.43
40	0.0377		0.38
50	0.0337		0.34
60	0.0305	10	0.31
70	0.0279		0.28
80	0.0258		0.26
90	0.0240		0.24
100	0.0224		0.22
125	0.0193		0.19
150	0.0169		0.17
175	0.0150		0.15
200	0.0135		0.13