

Appendix 4

Further Information on Air Quality

Watersplash Farm

Further information request – Air Quality

1. Please provide information on the baseline NO₂ emissions for the local area.

Monitoring of nitrogen dioxide is carried out at all three continuous monitoring stations within the Borough. For the M25 J13 site data is available from 1995 until 2011. Due to funding constraints the M25 monitoring station was closed by the Highways Agency in March 2011 at the end of the financial year. Data from 2002 is available for the Oaks Road station and from November 2006 for the Sunbury Cross station. The annual mean results of monitoring for the past three years are presented in the supplementary table below.

Supplementary Table Annual Mean Nitrogen Dioxide in Spelthorne ¹ Continuous Monitoring Locations			
Location	Annual Mean Concentrations (µg/m ³)		
	2008	2009	2010
Sunbury Cross	35.1	43.2	48.3
Heathrow Oaks Road	35.4	34.4	37.0
M25 J13	52.4	57.0	61.6

The annual average concentration of nitrogen dioxide at the monitoring station in Oaks Road, Stanwell was below the national air quality objective of 40 µg/m³ for annual average in 2010, though it was within 10% of the National Air Quality Objective, and also complies with the objective for hourly mean levels. In 2010 the annual average nitrogen dioxide concentration measured at the Sunbury Cross monitoring station, at 48.3 µg/m³, exceeded the national air quality objective of 40 µg/m³ again. The objective was exceeded for the first time in 2009, and the margin of exceedance in 2010 is greater. This site is considered representative of public exposure. Exceedence of the annual mean nitrogen dioxide AQS objective value has occurred every year since 2003 at the M25 J13 motorway site. The annual average concentrations of NO₂ and NO_x measured at the M25 J13 monitoring station have increased year on year in 2009 and 2010.

In addition to continuous monitoring, Spelthorne Borough Council also has a network of 45 nitrogen dioxide diffusion tube monitoring locations. The results from the three locations nearest to Watersplash Farm are detailed in the supplementary table below.

Supplementary Table Annual Mean Nitrogen Dioxide at locations near Watersplash Farm (Diffusion Tubes)			
Location	Annual Mean Concentrations (µg/m ³)		
	2008	2009	2010
Walton Bridge Rd (SP10)	35.8	33.9	35.7
Halliford Bypass (SP11)	42.8	37.8	37.4
Green Street Sudbury (SP41)	37.1	36.3	37.3

¹ Spelthorne Borough Council 2012 Air Quality Progress Report

2. Please provide information on the screening assessment referred to in paragraph 12.77 of the ES.

The air quality assessment conducted a screening of the potential impacts associated with traffic movements which was conducted using the UK Highways Agency Design Manual for Roads and Bridges (DMRB) Air Quality Screening Method. DMRB: Volume 11 Section 3 Part 1 (HA207/07) dated May 2007 provides guidance on the assessment of the impacts that road projects may have on the air environment. This includes local air quality and emissions of pollutants including carbon dioxide (CO₂). The pollutants of most concern near roads are nitrogen dioxide (NO₂) and particles (PM₁₀) in relation to human health and oxides of nitrogen (NO_x) in relation to vegetation and ecosystems.

DMRB 11.1.1 sets out the aims and objectives of environmental assessment. The overall objective is to define the depth of assessment necessary to enable informed decision-making at as early a stage of the project as possible. The principles of scoping are described in detail in DMRB 11.2.4. The objective of scoping for local air quality is to indicate whether there are likely to be significant impacts associated with particular defined routes.

DMRB 11.3.12 indicates that the scoping assessment requires the obtaining of traffic data for the years to be assessed and identification of roads that are likely to be 'affected' by the proposal. 'Affected roads' are those that meet any of the following criteria:

- road alignment will change by 5 m or more; or
- daily traffic flows will change by 1,000 Annual Average Daily Traffic (AADT) or more; or
- Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; or
- daily average speed will change by 10 km/hr or more; or
- peak hour speed will change by 20 km/hr or more.

The projected number of vehicle movements from the development is estimated at 200, exactly the same as the Highways Agency scoping threshold. Although 200 HDV movements will enter and exit the site some vehicle will turn left and some will turn right, thus distributing the movements. The scoping assessment therefore concluded that there would be no 'affected road'. DMRB 11.3.14 states that if none of the roads in the network meet any of the traffic criteria then the impact of the scheme can be considered to be neutral in terms of local air quality and no further assessment work is needed. The scoping study concluded therefore that no receptors would receive an increase of 200 movements and the guidance therefore indicates that there will be no significant changes in air quality to roadside receptors as a result.