

**ASHFORD BOROUGH COUNCIL**

**LOCAL AIR QUALITY MANAGEMENT UPDATING AND SCREENING  
ASSESSMENT 2009**

**AGG07101/BV/AQ**

**APRIL 2009**



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## TABLE OF CONTENTS

TABLE OF CONTENTS .....	i
LIST OF TABLES.....	iii
LIST OF FIGURES.....	iii
Executive Summary .....	4
1 Introduction.....	5
1.1 Description of Local Authority Area .....	5
1.2 Purpose of Report.....	5
1.3 Air Quality Objectives .....	6
1.4 Local Air Quality Management (LAQM).....	8
1.5 Summary of Review and Assessment undertaken by Ashford Borough Council.....	8
2 Updating and Screening Assessment Methodology .....	9
2.1 Input Data .....	11
2.1.1 Traffic data.....	11
2.1.2 Background concentrations.....	11
3 New Monitoring Data.....	12
3.1 Summary of Monitoring Undertaken.....	12
3.1.1 Automatic Monitoring Sites.....	12
3.1.2 Non-Automatic Monitoring Data .....	15
3.2 Comparison of Monitoring Results with AQ Objectives.....	16
3.2.1 Nitrogen dioxide.....	16
3.2.2 Particles (PM <sub>10</sub> ) .....	18
4 Road Traffic Sources.....	20
4.1 Narrow congested streets with residential properties close to the kerb .....	20
4.2 Busy streets where people may spend 1-hour or more close to traffic .....	20
4.3 Roads with a high flow of buses and/or Heavy Goods Vehicles .....	21
4.4 Junctions.....	22
4.5 New roads constructed or proposed since the last round of Review and Assessment .....	22
4.6 Roads with significantly changed traffic.....	22
4.7 Bus and coach stations.....	23
5 Other Transport Sources.....	24
5.1 Airports.....	24
5.2 Railways (diesel and steam trains).....	24
5.2.1 Stationary Trains .....	24
5.2.2 Moving Trains .....	24
5.3 Ports (shipping).....	24
6 Industrial Sources.....	25
6.1 Industrial Installations .....	25

6.1.1	New or Proposed Installations for which an Air Quality Assessment has been carried out .....	25
6.1.2	Existing Installations where emissions have increased substantially or new relevant exposure has been introduced .....	25
6.1.3	New or Significantly Changed Installations with No Previous Air Quality Assessment ..	25
6.2	Major fuel (petrol) storage depots.....	26
6.3	Petrol stations .....	26
6.4	Poultry farms.....	26
7	Commercial and Domestic Sources .....	27
7.1	Biomass combustion.....	27
7.1.1	Biomass combustion - individual installations .....	27
7.1.2	Biomass combustion – combined impacts (PM <sub>10</sub> emissions) .....	27
7.2	Domestic solid-fuel burning (sulphur dioxide emissions) .....	27
8	Fugitive or Uncontrolled Sources .....	27
9	Conclusions and Proposed Actions.....	28
9.1	Conclusions from new monitoring data .....	28
9.2	Conclusions from assessment of sources .....	28
9.3	Proposed Actions.....	28
10	References .....	29
APPENDICES .....		30
Appendix 1	- Traffic data.....	30
Appendix 2	- Nitrogen dioxide diffusion tube results 2008 .....	38
Appendix 3	- DMRB Assessment Inputs.....	39
Appendix 4	- DMRB Assessment Results .....	41
Appendix 5	- List of Industrial Processes .....	42

## LIST OF TABLES

Table 1– Air Quality Objectives included in the Air Quality Regulations for the purpose of Local Air Quality Management .....	7
Table 2– Summary of emission sources and relevant pollutants to be considered as part of the Updating and Screening Assessment.....	10
Table 3– Details of Automatic Monitoring Sites .....	12
Table 4– Details of Non- Automatic Monitoring Sites .....	15
Table 5– Results of Automatic Monitoring for Nitrogen dioxide: Comparison with Annual Mean Objective .....	16
Table 6– Results of nitrogen dioxide diffusion tubes ( $\mu\text{g}/\text{m}^3$ ) .....	17
Table 7– Summary Sheet from Volatile Correction Model.....	18
Table 8– Results of $\text{PM}_{10}$ Automatic Monitoring: Comparison with Annual Mean Objective.....	18
Table 9– Results of $\text{PM}_{10}$ Automatic Monitoring: Comparison with 24-hour Mean Objective .....	19

## LIST OF FIGURES

Figure 1 – Map of monitoring sites in Ashford .....	13
Figure 2 – Map of monitoring sites in Tenterden .....	14

## Executive Summary

Part IV of the Environment Act 1995 places a statutory duty on local authorities to review and assess the air quality within their area and take account of Government Guidance when undertaking such work.

The Updating and Screening Assessment (USA) provides an update with respect to air quality issues within the Borough. There have been a number of changes since the last (third) round of review and assessments which have been taken into account in this assessment; including revised Local Air Quality Management (LAQM) Guidance, modelled background concentration maps, updated NO<sub>x</sub>:NO<sub>2</sub> conversion calculator, updated future year calculation tools and updates on specific sources (rail, poultry farms, biomass). The USA has included consideration of new monitoring data and emissions sources, in addition to any significant changes to existing emission sources identified in the previous rounds. The USA considers the seven priority health based air quality objectives as laid down in Regulations and assesses the likelihood that the air quality objectives will be met by their target dates. If the air quality objectives are unlikely to be met, a detailed assessment will be required.

Having considered each emission source and presented evidence to support the assessment of each, it is concluded that the air quality objectives for benzene, 1, 3-butadiene, carbon monoxide, lead, PM<sub>10</sub> and sulphur dioxide will be met. There is no requirement to undertake a detailed assessment for these pollutants. However, there is an exceedence of the annual mean nitrogen dioxide objective in 2008 identified through monitoring data at one location in Ashford at Lees Road, near the M20 J10. There were no exceedences at this location in previous years.

It should be noted that recent re-modelling of Junction 10 was undertaken to increase capacity of the junction, in the light of significant development proposals and to reduce the potential impact of 'operation stack' when the police use the M20 for parking HGVs when there is a problem at the Port of Dover. The latter issue causes additional congestion by displacing traffic from the M20 onto local roads. There are proposals to address 'operation stack', including KCC proposals to construct a lorry park between J10 and J11, which are under consideration. There are also proposals by the Highway Agency to build a new junction 10A, as the capacity of J10 is insufficient to enable further major development in the southeast part of Ashford. As traffic management plans affecting the M20 J10 are unclear at present, and the Lees Road monitoring may reflect the disruption due to recent changes, Ashford Borough Council does not believe it is prudent to undertake a detailed assessment at this time. The Council will introduce additional monitoring in the area to monitor progress with these traffic management improvements and consider undertaking a detailed assessment should exceedences continue to be measured in 2009.

In addition, it is recommended that Ashford Borough Council undertake additional monitoring of NO<sub>2</sub> at relevant receptor locations at junctions along the A292 Ashford circular where DMRB model predictions in 2008 are above 36µg/m<sup>3</sup>.

### Summary Table

Pollutant	Detailed assessment required?	Sources/Location
<b>Benzene</b>	No	
<b>1, 3 - butadiene</b>	No	
<b>Carbon monoxide</b>	No	
<b>Lead</b>	No	
<b>Nitrogen dioxide</b>	No	Monitoring recommendations at M20 J10 and A292 Ashford circular
<b>PM<sub>10</sub></b>	No	
<b>Sulphur dioxide</b>	No	



## 1 Introduction

### 1.1 Description of Local Authority Area

The largest borough in Kent, Ashford has a fast-growing population which has more than trebled in the last 40 years to around 112,000 residents. Designated by the Government as a growth area, a £2.5 billion investment programme is under way to provide 31,000 new homes and 28,000 jobs by 2031. Although the urban area of Ashford is expanding, much of the borough is rural in character, including protected areas such as Romney Marsh, the North Downs and the High Weald.

The main source of air pollution in the borough is road traffic emissions from major roads, notably the M20, A20, A28 and A292. Other pollution sources, including commercial, industrial and domestic sources, also make a contribution to background pollution concentrations.

### 1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The Local Air Quality Management (LAQM) process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

Bureau Veritas has been commissioned by Ashford Borough Council to undertake the Updating and Screening Assessment (USA) 2009, as part of the fourth round of LAQM Review and Assessment.

The following information has been considered within this assessment:

- Relevant legislative background
- Ashford Borough Council's Review and Assessment of air quality under the Local Air Quality Management (LAQM) regime
- Traffic data provided by Kent County Council; For the purposes of the updating and screening assessment, the Highways Agency's DMRB<sup>1</sup> model has been used to assess traffic data
- Industrial, domestic and other non-traffic related source data provided by Ashford Borough Council
- Monitoring data for 2008 provided by Ashford Borough Council
- Background pollutant concentrations from modelled maps
- Technical guidance and tools provided by Defra<sup>2</sup>

This report sets out the relevant air quality legislation for air quality, provides a review of local air quality management within the administrative area, assesses the air quality for all relevant sources and then summarises the findings of the assessment and potential need for further detailed assessment work.

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<sup>1</sup> Highways Agency's Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 1 Air Quality, May 2007, and accompanying spreadsheet DMRB Screening Method V1.03.xls. July 2007

<sup>2</sup> Local Air Quality Management Technical Guidance LAQM.TG(09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland

### 1.3 Air Quality Objectives

The significance of existing and future pollutant levels are assessed in relation to the national air quality standards and objectives, established by Government. The revised Air Quality Strategy (AQS)<sup>3</sup> for the UK (released in July 2007) provides the over-arching strategic framework for air quality in the UK and contains national air quality standards and objectives established by the UK Government and devolved administrations to protect human health. The air quality objectives incorporated in the AQS and the UK Legislation are derived from the Limit Values prescribed in the EU Directives transposed into national legislation by member states.

The CAFE (Clean Air for Europe) programme was initiated in the late 1990s to draw together previous directives into a single EU Directive on air quality. The Directive 2008/50/EC<sup>4</sup> introduces new obligatory standards for PM<sub>2.5</sub> for Government but places no statutory duty on local Government to work towards achievement.

The Air Quality Standards (England) Regulations 2007<sup>5</sup> came into force on 15<sup>th</sup> February 2007 in order to align and bring together in one statutory instrument the Governments obligations to fulfil the requirements of the CAFE Directive.

The objectives for ten pollutants (benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide particulates - PM<sub>10</sub> and PM<sub>2.5</sub>, ozone and PAHs - Polycyclic Aromatic Hydrocarbons) have been prescribed within the Air Quality Strategy<sup>3</sup> based on The Air Quality Standards (England) Regulations 2007.

This assessment focuses on those pollutants included in Air Quality Regulations for the purpose of Local Air Quality Management, in respect of pollutant sources affecting air quality within the Council's administrative area. The objectives set out in the AQS for these pollutants are presented in the table below.

The UK Government and the Devolved Administrations have also set new national air quality objectives for PM<sub>2.5</sub>. These objectives have not been incorporated into LAQM Regulations, and authorities have no statutory obligation to review and assess air quality against them.

The locations where the AQS objectives apply are defined in the AQS as locations outside buildings or other natural or man-made structures above or below ground where members of the public are regularly present and might reasonably be expected to be exposed [to pollutant concentrations] over the relevant averaging period of the AQS objective. Typically these include residential properties and schools/care homes for longer period (i.e. annual mean) pollutant objectives and high streets for short-term (i.e. 1-hour) pollutant objectives.

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<sup>3</sup> The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland

<sup>4</sup> Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

<sup>5</sup> The Air Quality Standards Regulations 2007, Statutory Instrument No 64, The Stationary Office Limited

**Table 1– Air Quality Objectives included in the Air Quality Regulations for the purpose of Local Air Quality Management**

Pollutant	Objective	Concentration measured as	Date to be achieved by and maintained thereafter
<b>Benzene</b> All authorities	16.25 µg/m <sup>3</sup>	running annual mean	31.12.2003
Authorities in England and Wales only	5.00 µg/m <sup>3</sup>	annual mean	31.12.2010
Authorities in Scotland and Northern Ireland only	3.25 µg/m <sup>3</sup>	running annual mean	31.12.2010
<b>1,3 Butadiene</b> All authorities	2.25 µg/m <sup>3</sup>	running annual mean	31.12.2003
<b>Carbon monoxide</b> Authorities in England, Wales and Northern Ireland only	10.0 µg/m <sup>3</sup>	maximum daily running mean 8-hour	31.12.2003
Authorities in Scotland only	10.0 µg/m <sup>3</sup>	running mean 8-hour	31.12.2003
<b>Lead</b> All authorities	0.5 µg/m <sup>3</sup>	annual mean	31.12.2004
	0.25 µg/m <sup>3</sup>	annual mean	31.12.2008
<b>Nitrogen dioxide</b> <sup>a</sup> All authorities	200 µg/m <sup>3</sup> , not to be exceeded more than 18 times a year	hourly mean	31.12.2005
	40 µg/m <sup>3</sup>	annual mean	31.12.2005
<b>Particles (PM<sub>10</sub>) (gravimetric)</b> <sup>b</sup> All authorities	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 µg/m <sup>3</sup>	annual mean	31.12.2004
Authorities in Scotland only <sup>c</sup>	50 µg/m <sup>3</sup> not to be exceeded more than 7 times a year	24 hour mean	31.12.2010
	18 µg/m <sup>3</sup>	annual mean	31.12.2010
<b>Sulphur dioxide</b> All authorities	350 µg/m <sup>3</sup> not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 µg/m <sup>3</sup> not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 µg/m <sup>3</sup> not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

<sup>a</sup> EU Limit values in respect of nitrogen dioxide to be achieved by 1st January 2010. There are, in addition, separate EU limit values for carbon monoxide, sulphur dioxide, lead and PM10, to be achieved by 2005, and benzene by 2010.

<sup>b</sup> Measured using the European gravimetric transfer sampler or equivalent.

<sup>c</sup> These 2010 air quality objectives for PM10 apply in Scotland only, as set out in the Air Quality (Scotland) Amendment Regulations 2002.

## 1.4 Local Air Quality Management (LAQM)

As established by the Environment Act 1995 Part IV, all local authorities in the UK are under a statutory duty to undertake an air quality assessment within their area and determine whether they are likely to meet the air quality objectives set down by Government for a number of pollutants. The process of review and assessment of air quality undertaken by local authorities is set out under the Local Air Quality Management (LAQM) regime and involves a phased three yearly assessment of local air quality. Where the results of the review and assessment process highlight that problems in the attainment of health-based objectives for air quality will arise, the authority is required to declare an Air Quality Management Area (AQMA) – a geographic area defined by high levels of pollution and exceedences of health-based standards.

The LAQM regime was first set down in the 1997 National Air Quality Strategy (NAQS)<sup>6</sup> and introduced the idea of local authority 'Review and Assessment'. The Government subsequently published policy and technical guidance related to the review and assessment processes in 1998. This guidance has since been reviewed and the latest documents include Policy Guidance (LAQM.PG (09))<sup>7</sup> and Technical Guidance (LAQM.TG (09))<sup>8</sup>. The guidance lays down a progressive, but continuous, framework for the local authorities to carry out their statutory duties to monitor, assess and review air quality in their area and produce action plans to meet the air quality objectives.

Defra and the Devolved Administrations released the latest Policy and Technical Guidance in February 2009, in anticipation of the fourth round of review and assessment. The fourth round begins with this Updating and Screening Assessment, required to be completed by local authorities by the end of April 2009, and builds upon the Council's previous work in the first three rounds.

## 1.5 Summary of Review and Assessment undertaken by Ashford Borough Council

Between 1998 and 2001, Ashford Borough Council undertook its first round of review and assessment of air quality. The first round assessments (Stages 1, 2 and 3) concluded that it was not necessary to declare any Air Quality Management Areas (AQMA) for any pollutant.

The first phase of the second round of review and assessment, the Updating and Screening Assessment (USA), was completed in May 2003 and this provided an update with respect to air quality issues within the borough since the previous round. The USA concluded that a detailed assessment was required for particulates (PM<sub>10</sub>) due to road traffic emissions from the M20 between Junctions 9 & 10. The highest predicted levels were identified at receptors 25m south of the M20, near Canterbury Road. The Detailed Assessment (April 2004) concluded that the objectives would be met at relevant receptors near the M20 and no Air Quality Management Area (AQMA) declaration was required.

The third round of review and assessment, undertaken between 2006 and 2008, concluded that all prescribed objectives would be met and no detailed assessment was required.

There are currently no Air Quality Management Areas in the borough of Ashford.

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<sup>6</sup> DoE, 1997, 'The United Kingdom National Air Quality Strategy', The Stationary Office

<sup>7</sup> Policy Guidance LAQM.PG(09) (2009), Part IV of the Environment Act 1995, Local Air Quality Management, Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland, The Stationery Office

<sup>8</sup> Technical Guidance LAQM.TG (09) (2009), Part IV of the Environment Act 1995, Local Air Quality Management, Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland, The Stationery Office

## 2 Updating and Screening Assessment Methodology

The Updating and Screening Assessment is intended to identify any significant changes that may have occurred since the previous rounds of Review and Assessment were completed. This includes new monitoring data, new or changed emissions sources (either locally or in neighbouring authorities), or any other local changes that might affect air quality e.g. new relevant exposure. The assessment builds on the previous Review and Assessment work undertaken by local authorities.

The Updating and Screening Assessment involves a checklist approach that considers all significant emissions sources relevant to the Air Quality Objectives. The checklists are broadly the same as in the previous rounds, but have been re-ordered so that they follow a source-by-source rather than pollutant-by-pollutant approach. This is to reduce repetition within the screening process for those local authorities that do not have all the listed sources within their area. These can more easily be discounted at an early stage.

A summary of the emission source categories for the Updating and Screening checklists is provided below. The detailed checklists for each source type are then set out in the following sections, as per the methodology provided in Chapter 5 of the Technical Guidance LAQM.TG (09).

The air quality assessment for road traffic emissions sources has been undertaken using the Highways Agency's DMRB<sup>1</sup> model. NO<sub>2</sub> concentrations have been calculated based on the updated NO<sub>x</sub>:NO<sub>2</sub> conversion method provided on behalf of Defra as part of the LAQM.TG(09) tools.

For other sources, the checklist approach to screening and relevant LAQM.TG(09) nomograms have been utilised.

**Table 2– Summary of emission sources and relevant pollutants to be considered as part of the Updating and Screening Assessment**

Reference No.	Emission sources to be assessed	Relevant Pollutants
<b>A. Road Transport Sources</b>		
A.1	Narrow congested streets with residential properties close to the kerb	Nitrogen dioxide
A.2	Busy streets where people may spend 1-hour or more close to traffic	Nitrogen dioxide
A.3	Roads with a high flow of buses and/or HGVs.	Nitrogen dioxide, PM <sub>10</sub>
A.4	Junctions (including busy roads and junctions in Scotland and Northern Ireland)	Nitrogen dioxide, PM <sub>10</sub>
A.5	New roads constructed since the last round of review and assessment	Nitrogen dioxide, PM <sub>10</sub>
A.6	Roads/junctions identified as being close to the objective during the previous round of review and assessment	Nitrogen dioxide, PM <sub>10</sub>
A.7	Roads with significantly changed traffic flows	Nitrogen dioxide, PM <sub>10</sub>
A.8	Bus and coach stations	Nitrogen dioxide
<b>B: Other transport sources</b>		
B.1	Airports	Nitrogen dioxide
B.2	Railway (diesel and steam trains)	Sulphur dioxide, nitrogen dioxide
B.3	Ports (shipping)	Sulphur dioxide
<b>C: Industrial sources</b>		
C.1	Industrial processes (new processes and those with significantly increased emissions)	Benzene, 1,3-butadiene, lead, nitrogen dioxide, sulphur dioxide, PM <sub>10</sub>
C.2	Major petrol storage depots	Benzene
C.3	Petrol Stations	Benzene
C.4	Poultry farms	PM <sub>10</sub>
<b>D: Commercial and domestic sources</b>		
D.1	Biomass combustion	Nitrogen dioxide, PM <sub>10</sub>
D.2	Domestic solid-fuel burning	Sulphur dioxide
<b>E: Fugitive or uncontrolled sources</b>		
E.1	Quarries, landfill sites, opencast coal mining, waste transfer sites, materials handling (i.e. ports, major construction sites)	PM <sub>10</sub>

## 2.1 Input Data

### 2.1.1 Traffic data

Kent County Council, via their consultants Jacobs, provided the annual average daily traffic flows (AADT) and speed data used in this assessment, including relevant projection factors to the baseline year 2008.

Where speed data has not been available, speeds have been based on speed limits, modified according to local conditions to take account of congestion and stop/start vehicle movements at junctions. Speeds were reduced at busy junctions to 20kph to reflect the higher emissions of queuing traffic.

Appendix 1 contains the tabular summary of traffic data provided for the Updating and Screening Assessment for use in the DMRB model.

### 2.1.2 Background concentrations

The DMRB model calculates the pollutant concentrations due to road traffic emissions only. The user must then add the background concentrations (arising from sources other than traffic) to derive the total pollutant concentrations at the relevant receptors modelled.

The background concentrations can be obtained either from appropriate monitoring stations or from Defra maps of modelled background pollutant concentrations. These maps are available at a resolution of 1x1 km for the entire UK. Maps are provided for future years' background pollutant concentrations. The maps can be obtained from the UK Air Quality Information Archive<sup>9</sup>. The maps have been updated from the previous round of review and assessment as part of the LAQM.TG (09) tools released in February 2009. Background concentrations used in the DMRB model runs are shown in Appendix 3.

### 3 New Monitoring Data

Section 3 reviews and assesses all new monitoring data in order to determine whether the air quality objectives are at risk of exceedence.

#### 3.1 Summary of Monitoring Undertaken

##### 3.1.1 Automatic Monitoring Sites

This section provides details of automatic monitoring carried out in 2008, the year covered by this report.

**Table 3– Details of Automatic Monitoring Sites**

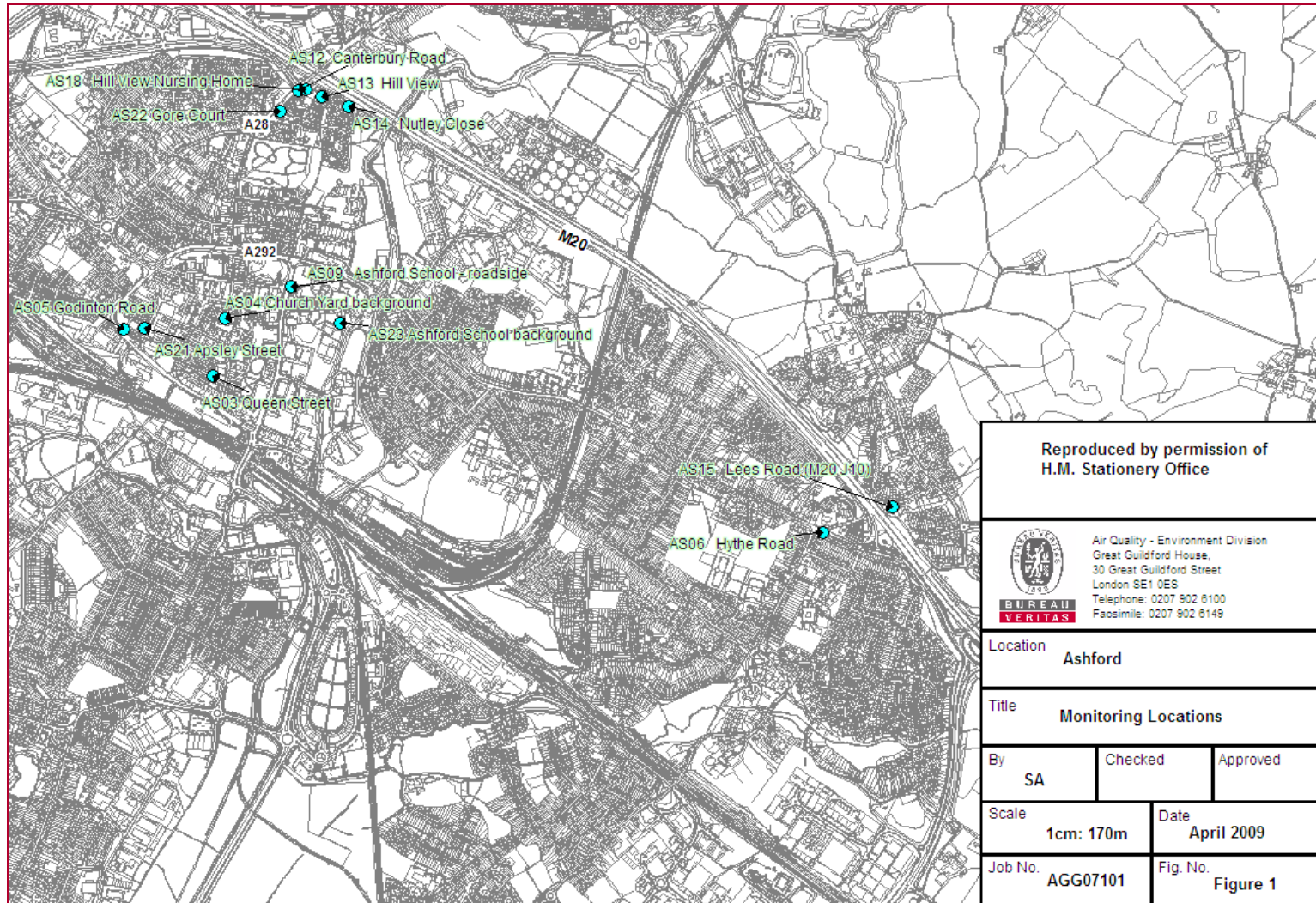
Site Name	Site Type	OS Grid Ref (x,y)	Pollutants Monitored	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
Ashford School Roadside	Roadside	X=601257, y=142864	NO <sub>2</sub> , PM <sub>10</sub>	No	Y-0m	3.3m	No
Ashford School Background	Background	X=601431, Y=142735	O <sub>3</sub> , NO <sub>2</sub> , PM <sub>10</sub>	No	Y-0m	N/A	No

There is currently automatic monitoring of nitrogen dioxide, PM<sub>10</sub> (using a Tapered Element Oscillating Microbalance (TEOM)) and ozone undertaken at one location in the borough, Ashford School background site. This site commenced in September 2008, when it was relocated from its former location at the Ashford School roadside site. The station is owned by the Kent and Medway Air Quality Monitoring Network (KMAQMN) and managed by current network managers AEA. The Council calibrates the site every two weeks. There are triplicate NO<sub>2</sub> diffusion tubes co-located at the site, which provide co-location data for calculation of the bias adjustment factor. However, due to the relocation of the station in 2008, a full year's co-location study at the site was not possible. The ratified monitoring results for 2006 and 2007 for these sites are shown in Table 4. KMAQMN managers AEA have provisionally ratified data for 2008. The Quality Assurance/Quality Control (QA/QC) procedures for the KMAQMN are equivalent to the UK Automatic Urban and Rural Network (AURN) procedures with the exception of the following:

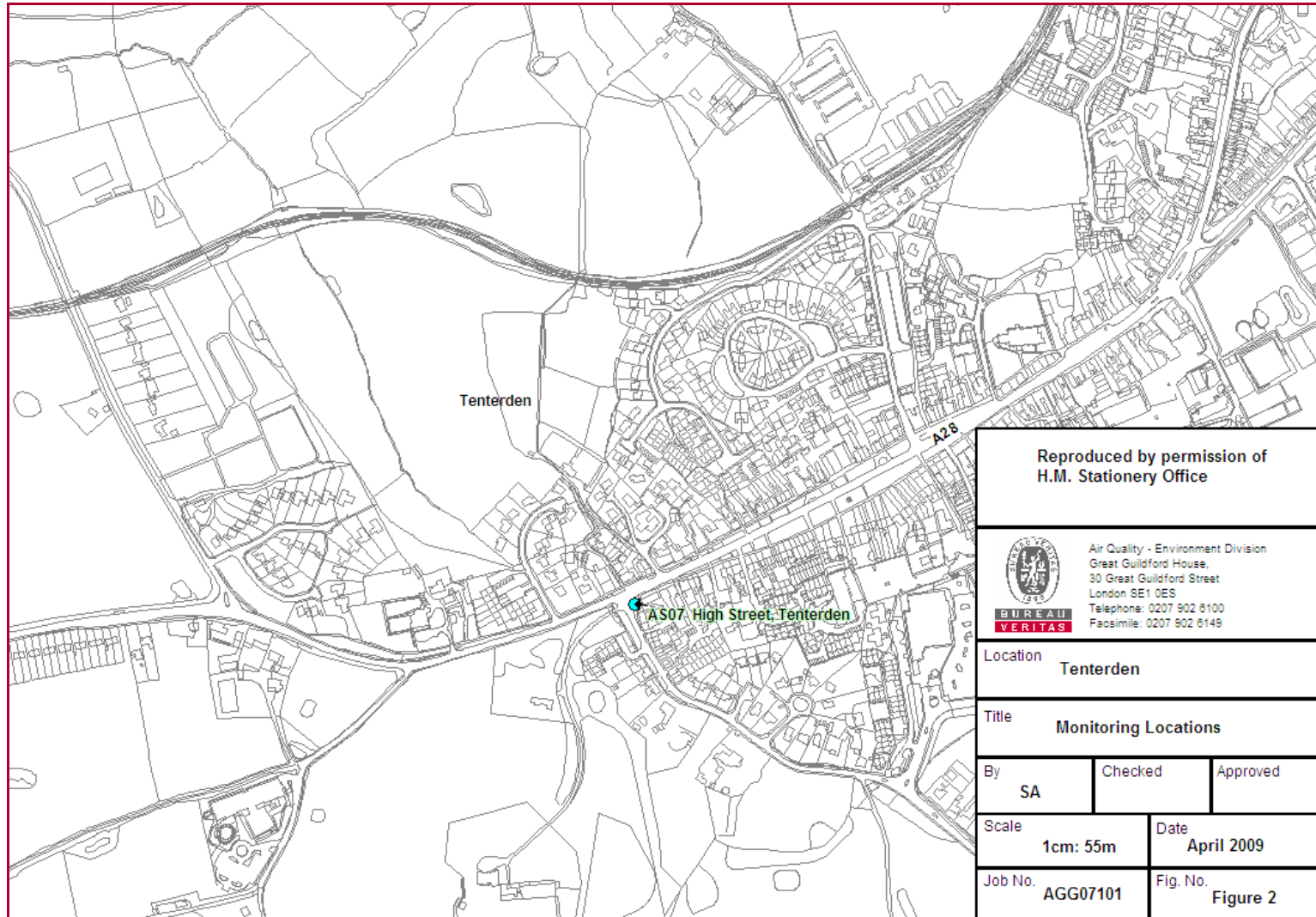
- Calibration of NO<sub>x</sub> analysers with NO gas (AURN also use NO<sub>2</sub>)
- Data checks are done once daily and downloads are done twice daily (AURN are hourly)
- Independent audits of the stations are undertaken annually (AURN are 6 monthly).



**Figure 1 – Map of monitoring sites in Ashford**



**Figure 2 – Map of monitoring sites in Tenterden**



### 3.1.2 Non-Automatic Monitoring Data

Details of the non-automatic monitoring undertaken in the borough are shown below.

**Table 4– Details of Non- Automatic Monitoring Sites**

Site details	Site Type	X	Y	Pollutant monitored	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
AS03 Ashford 5n Queen Street	Roadside	600976	142547	NO <sub>2</sub>	No	Y – in line with facade	3m	No
AS04 Ashford 6n Church Yard	Background	601021	142754	NO <sub>2</sub>	No	N	N/A	No
AS05 Ashford 7n Godinton Road	Roadside	600656	142714	NO <sub>2</sub>	No	Y – in line with facade	4m	No
AS06 Hythe Road	Roadside	603153	141990	NO <sub>2</sub>	No	Y-6m	2m	No
AS07 High Street, Tenterden	Roadside	587945	133079	NO <sub>2</sub>	No	N	8m	No
AS09 Ashford School - roadside (triplicate)	Roadside	601257	142864	NO <sub>2</sub>	No	Y-0m	3.3m	No
AS12 Canterbury Road	Kerbside	601281	143564	NO <sub>2</sub>	No	Y-16m	1m	Yes
AS13 Hill View	Façade	601367	143541	NO <sub>2</sub>	No	Y-0m	45m	No
AS14 Nutley Close	Façade	601460	143509	NO <sub>2</sub>	No	Y-0m	22m	No
AS15 Lees Road (triplicate), M20 J10	Façade	603401	142081	NO <sub>2</sub>	No	Y-0m	30m (M20)	No
AS18 Hill View Nursing Home (triplicate)	Façade	601309	143569	NO <sub>2</sub>	No	Y-0m	16.5m	No
AS21 (was AS05) Apsley Street	Façade	600734	142717	NO <sub>2</sub>	No	Y-0m	3.5m	No
AS22 (was AS12) Gore Court	Façade	601218	143491	NO <sub>2</sub>	No	Y-0m	11m	No
AS23 (was AS09 site moved Sept 08) Ashford School Rural (triplicate)	Background	601431	142735	NO <sub>2</sub>	No	Y-0m	N/A	No

### 3.1.2.1 Nitrogen dioxide diffusion tube data

Outside the continuous monitoring network, Ashford Borough Council undertook monitoring at 14 NO<sub>2</sub> diffusion tubes sites in 2008. The diffusion tubes are supplied and analysed by Harwell Scientifics utilising the 50% Triethanolamine (TEA) in acetone preparation method. Harwell Scientifics participate in the Workplace Analysis Scheme for Proficiency (WASP) for NO<sub>2</sub> diffusion tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO<sub>2</sub> concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance.

With regard to the application of a bias adjustment factor for the diffusion tubes, the technical guidance LAQM.TG (09) and Review and Assessment Helpdesk recommends use of a local bias adjustment factor where available and relevant to diffusion tube sites. Ashford Borough Council has a (triplicate) diffusion tube co-location study at the Ashford School background site. However, the station was relocated during 2008, so there is not a full year's data set. The local bias adjustment factor when calculated for the 8 months of good data capture was 0.75. In the absence of a local co-location study for >9 months, the Review and Assessment Helpdesk spreadsheet of national comparison studies (<http://www.uwe.ac.uk/aqm/review/mguidance.html>) has been used to derive the bias adjustment factor. This was 0.8 in 2008 for this laboratory methodology. For 2006 and 2007 data, the bias adjustment factors have been taken from the Council's previous LAQM annual reports. These were calculated as 0.81 for 2006 and 0.803 for 2007.

## 3.2 Comparison of Monitoring Results with AQ Objectives

### 3.2.1 Nitrogen dioxide

#### 3.2.1.1 Automatic Monitoring Data

The 2008 data shows no exceedence of the annual mean nitrogen dioxide objective at the Ashford School roadside and Ashford School background sites. The Ashford School station was re-located from a roadside to background site in September 2008.

**Table 5– Results of Automatic Monitoring for Nitrogen dioxide: Comparison with Annual Mean Objective**

Site ID	Within AQMA?	Description	Annual mean concentrations (µg/m <sup>3</sup> )		
			2006	2007	2008*
Ashford School roadside	No	Annual Mean NO <sub>2</sub> > 40 µg/m <sup>3</sup>	36	34	32 (34)
		NO <sub>2</sub> Hourly Mean > 200 µg/m <sup>3</sup> for more than 18 times per year	0	1	0
		% Data Capture	99	95	(71)
Ashford School background	No	Annual Mean NO <sub>2</sub> > 40 µg/m <sup>3</sup>	-	-	27 (24)
		NO <sub>2</sub> Hourly Mean > 200 µg/m <sup>3</sup> for more than 18 times per year	-	-	0
		% Data Capture	-	-	(27)

\*Data for 2008 has been provisionally ratified.

Exceedences of the air quality objectives are shown in bold. Short-term data has been annualised to compare against the AQ objectives –shown in brackets.

Data capture less than the recommended 90% is shown in brackets.

### 3.2.1.2 Diffusion Tube Monitoring Data

The nitrogen dioxide diffusion tube data are summarised in the table below. The full dataset (monthly mean values) are included in Appendix 2.

The 2008 diffusion tube results show two sites exceeding the annual mean NO<sub>2</sub> objective. Of these, one is a kerbside site on Canterbury Road. This site was re-located in 2008 to a more appropriate location with relevant exposure (Gore Court). Concentrations at this new site where there is relevant exposure are below the objective. The second site is a façade site on Lees Road, near the M20 J10, where concentrations in 2008 were 43µg/m<sup>3</sup> i.e. above the annual mean objective. Previous years have shown levels below the annual mean objective of 40µg/m<sup>3</sup>. In addition, if the local bias adjustment factor was applied (0.75 based on 8 months data capture), the concentration at this site would be at the objective level (0.75 x 53 = 40µg/m<sup>3</sup>).

It should be noted that recent re-modelling of Junction 10 was undertaken to increase capacity of the junction, in the light of significant development proposals and to reduce the potential impact of 'operation stack' when the Police use the M20 for parking HGVs when there is a problem at the Port of Dover. The latter issue causes additional congestion by displacing traffic from the M20 onto local roads. There are proposals to address 'operation stack', including KCC proposals to construct a lorry park between J10 and J11, which are under consideration. There are also proposals by the Highway Agency to build a new junction 10A, as the capacity of J10 is insufficient to enable further major development in the southeast part of Ashford. As traffic management plans affecting the M20 J10 are unclear at present, and the Lees Road monitoring may reflect the disruption due to recent changes, Ashford Borough Council does not believe it is prudent to undertake a detailed assessment at this time. The Council will consider additional monitoring in the area to monitor progress with these traffic management improvements.

With respect to the hourly NO<sub>2</sub> objective, there could be a potential risk of exceedence of this short-term objective, where the annual mean NO<sub>2</sub> concentration is >60µg/m<sup>3</sup>. There are no monitoring sites in the borough with concentrations above 60µg/m<sup>3</sup>.

**Table 6– Results of nitrogen dioxide diffusion tubes (µg/m<sup>3</sup>)**

Site details	Within AQMA?	Data Capture 2008 %	Annual mean concentrations (µg/m <sup>3</sup> ) adjusted for bias		
			2006 (Bias factor: 0.81)	2007 (Bias factor: 0.803)	2008 (Bias factor: 0.80)
AS03 Ashford 5n Queen Street	No	100	25	25	24
AS04 Ashford 6n Church Yard	No	100	19	22	21
AS05 Ashford 7n Godinton Road	No	33	27	27	23
AS06 Hythe Road	No	100	31	35	36
AS07 High Street, Tenterden	No	100	27	30	29
AS09 Ashford School - roadside (triplicate)	No	75	32	36	34
AS12 Canterbury Road	No	50	48	48	53
AS13 Hill View	No	100	21	29	27
AS14 Nutley Close	No	100	24	32	28
AS15 Lees Road (triplicate), M20 J10	No	100	36	39	43
AS18 Hill View Nursing Home (triplicate)	No	100	25	32	32
AS21 (was AS05) Apsley Street	No	58	-	-	27
AS22 (was AS12) Gore Court	No	50	-	-	37
AS23 (was AS09 site moved Sept 09) Ashford School (triplicate)	No	25	-	-	24

\*Less than 9 months data capture. Annualisation undertaken using five background sites in the Kent & Medway air quality monitoring network (Ashford, Rochester Stoke, Thanet Airport, Tunbridge Wells Town Centre, Swale Sheerness).

### 3.2.2 Particles (PM<sub>10</sub>)

There is currently continuous monitoring of particles (PM<sub>10</sub>) undertaken in the borough at one location in the area, the Ashford School background site, using a Tapered Element Oscillating Microbalance (TEOM). This site was re-located in September 2008 from the Ashford School roadside site.

LAQM.TG (09) sets out the calculation required for TEOM results using the Volatile Correction Model (VCM) to estimate gravimetric equivalent. This replaces use of the previous 1.3 factor. Data for 2008 has been corrected using the VCM model. Data for previous years has been taken from previous LAQM reports and uses the 1.3 factor.

**Table 7– Summary Sheet from Volatile Correction Model**

Summary	Text	Value
Site Name	Ashford School	
Organisation	K&MAQMN	
Start Date	01/01/2008	
End Date	01/01/2009	
TEOM data already corrected with 1.3 factor	No	
EPA Constant A		3
EPA Constant B		1.03
Instrument Temperature		25
Instrument Pressure		1013
Instrument reports to local ambient readings	No	
Timescale	Daily	
Pressure Site	Bexley 4 - Erith (BX4)	
Pressure Site Warning		
Temperature Site	Bexley 4 - Erith (BX4)	
Temperature Site Warning		
FDMS Site 1	Bexley 7 (F) - Thames Rd North (BX6)	
FDMS Site 1 Warning	Correction includes unratified data.	
FDMS Site 2	Tower Hamlets 4 - Blackwall (TH4)	
FDMS Site 2 Warning	Correction includes unratified data.	
FDMS Site 3	Chichester Roadside FDMS (CI3)	
FDMS Site 3 Warning	Correction includes unratified data. Distant site (121km).	

The 2008 results show that the PM<sub>10</sub> objectives are being met at this site.

**Table 8– Results of PM<sub>10</sub> Automatic Monitoring: Comparison with Annual Mean Objective**

Site details	Within AQMA?	Annual mean concentrations (µg/m <sup>3</sup> ) (x1.3)		Data Capture 2008 %	Period mean 2008 (µg/m <sup>3</sup> )*	Annual mean 2008 (µg/m <sup>3</sup> )*
		2006	2007			
Ashford School roadside	No	29	28	65	21 (23)	20 (22)
Ashford School background	No	-	-	23	17 (20)	20 (23)

\*Data for 2008 has been provisionally ratified and VCM corrected. Data has been annualised using Canterbury, Swale and Chatham Luton background sites in the K&MAQMN. Data in brackets shows the mean corrected by 1.3, as per previous correction methodology for TEOM analyser data.

**Table 9– Results of PM<sub>10</sub> Automatic Monitoring: Comparison with 24-hour Mean Objective**

Site details	Within AQMA?	Data Capture 2008 %	Number of Exceedences of hourly mean (50 µg/m <sup>3</sup> ) <i>If data capture &lt; 90%, include the 90<sup>th</sup> %ile of hourly means in brackets.</i>		
			2006	2007	2008*
<b>Ashford School roadside</b>	No	65	12	14	3
<b>Ashford School background</b>	No	23	-	-	3

\*Data for 2008 has been provisionally ratified and VCM corrected. Exceedence days for 2008 have been calculated using the equation =  $-18.5 + 0.00145 \times \text{annual mean}^3 + (206/\text{annual mean})$ . 2006 and 2007 data is gravimetric equivalent (x1.3).

## 4 Road Traffic Sources

The air quality assessment for road traffic emissions sources has been undertaken using the Highways Agency's DMRB<sup>1</sup> model. The DMRB inputs and results are shown in Appendices 3 and 4.

### 4.1 Narrow congested streets with residential properties close to the kerb

There are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb identified by Ashford Borough Council. However, as the criteria for assessment has changed since the previous round of Review and Assessment, this source has been reassessed. The criteria are listed below:

- Daily traffic flow (AADT) should be around 5,000 vehicles/day or more.
- A narrow street will be one with residential properties within 2 m of the kerb, and buildings on both sides of the road (the buildings on the other side of the road can be further from the road than 2 m).
- A congested street will be one with slow moving traffic that is frequently stopping and starting due to pedestrian crossings, parked vehicles etc throughout much of the day (not just during rush hours). The average speed is likely to be less than about 25 kph (15 mph).

The assessment need only consider nitrogen dioxide.

Three roads were identified as narrow streets where the traffic flows are >5000 vehicles/day.

- A28 Tenterden High Street
- A28 Ashford Road, St Michaels
- Vicarage Lane, Ashford

Monitoring is already being undertaken at Tenterden High Street and measured concentrations of NO<sub>2</sub> meet the annual mean objective (29µg/m<sup>3</sup> in 2008).

The A28 Ashford Road at St Michaels has traffic flows which are greater than 10,000 vehicles per day and buildings close to the roadside. Speed data is not available to determine average speeds, but it is unlikely to be <15mph. In addition, background levels are low in this rural part of the borough. The DMRB annual mean NO<sub>2</sub> prediction (assuming twice the NO<sub>2</sub> road contribution) is 20µg/m<sup>3</sup>.

Vicarage Lane in Ashford has just over 5000 vehicles per day, so just falls within this criterion. There are buildings close to the roadside, but the average speed is >15mph. Given the low traffic flow and average speed, it is considered unlikely that there is a risk of exceedence of the annual mean objective at this location. Monitoring data on streets nearby in Ashford suggest measured levels of about 23 -27µg/m<sup>3</sup> in 2008.

Ashford Borough Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

### 4.2 Busy streets where people may spend 1-hour or more close to traffic

There have been no significant changes identified with respect to this criterion, which would warrant a detailed assessment. Improvement measures have been undertaken in Ashford town centre, which have altered traffic flows and pedestrian access, but the changes have not led to greater public exposure to busy streets<sup>9</sup>. The changes are described in more detail below.

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<sup>9</sup> A busy street can be taken to be one with more than 10,000 vehicles per day.



### Transformation of Ashford's Ring Road

Pedestrian access to Ashford town centre has been severely limited by the busy Ring Road that surrounded it. A multi-million pound scheme has been implemented to improve the appearance and character of the town centre, involving alterations to the Ring Road and creating a 'shared space' in the town centre. The alterations aim to improve, not just the access, but also the appearance of the streets. These changes represent a major contribution to the revitalisation of the town and to developments in the surrounding area.

The 'shared space' principle allows motor vehicles, pedestrians and cyclists to occupy the same space and create safer environments, with reduced speeds. 'Shared space' seeks to change the mental maps that drivers create and alert them to a different environment in which pedestrians and cyclists have equal priority. The keys to this are low speeds, a narrow carriageway and the removal of the typical visual clues for drivers, such as information signs and pedestrian guard railing. The 'shared space' philosophy builds on the work of Hans Monderman in Holland and has been used in changes recently completed in Kensington High Street.

The old Ring Road has been 'broken up' and converted into a series of quality streets. Kent County Council, as a member of the Ashford's Future partnership, was responsible for arranging the work to convert the road to two-way traffic and progressively resurface it with higher quality materials.

In addition to changing the traffic flow from one-way to two-way, there has been creation of:

- a new Elwick Street
- a new Elwick Square
- an improved Bank Street
- a West Street 'pocket park' between the carriageways.
- Reducing speeds to 20mph or less and narrowing the carriageway will result in better sharing of road space between pedestrians and drivers.

The new-look Bank Street re-opened in August 2008 and work has now been completed along Elwick Road and West Street, including improved paving and street furniture and a 20mph zone to increase safety.

Further phases will be implemented in conjunction with progress on Victoria Way and Park and Ride, that will reduce the need for traffic to enter the town centre. Ultimately, this scheme aims to provide an attractive place for residents, businesses and visitors, stimulating growth and opening up the town centre.

Ashford Borough Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

### 4.3 Roads with a high flow of buses and/or Heavy Goods Vehicles

Traffic data assessed for the Updating and Screening Assessment show no roads with high flows of buses and heavy goods vehicles >20%.

Ashford Borough Council confirms that there are no new/newly identified roads with high flows of buses and/or heavy goods vehicles.

#### 4.4 Junctions

Ashford circular changed from a one way to two-way traffic management system as of November 2007. Junctions on the A292 Ashford circular therefore have experienced changes in flow and queuing patterns, with congestion occurring at peak hours. These have been assessed using the DMRB model, where traffic data has been available. The results, as shown in Appendix 4, indicate concentrations at junctions along the A292, including Wellesley Road and Somerset Road, meet the annual mean NO<sub>2</sub> objective. However, three junctions are predicted to be above 36µg/m<sup>3</sup>:

- A292 Somerset Road / North Street
- A292 Wellesley Road/ Somerset Road
- A292 Somerset Road / New Street

It is recommended that monitoring be undertaken at relevant receptors along the A292 to confirm compliance with the annual mean objective.

Ashford Borough Council has assessed new/newly identified junctions meeting the criteria in Section A.4 of Box 5.3 in TG(09), and concluded that it will not be necessary to proceed to a Detailed Assessment.

#### 4.5 New roads constructed or proposed since the last round of Review and Assessment

Ashford Borough Council confirms that there are no new/proposed roads.

#### 4.6 Roads with significantly changed traffic

Since the last round of review and assessment there have been traffic management alterations in the borough of Ashford, which will have led to traffic flow changes. The A292 Ashford circular changed from a one way to two-way system on the 3rd November 2007. This has led to peak hour congestion at a number of junctions in the town centre, as discussed in section 4.4. In addition, alterations have been made to the M20 J10 to increase capacity. Ashford Borough Council has been undertaking monitoring of NO<sub>2</sub> at a relevant receptor location near to the M20 J10 in Lees Road, as discussed in section 3.2.

Traffic data available for the Updating and Screening Assessment have been compared with data from the previous round of review and assessment to establish whether there have been significantly changed traffic flows of more than 25%. Two roads in Ashford have experienced changes in flow of >25% - A292 Elwick Street and A292 New Street. These have been assessed using the DMRB model. The results, as shown in Appendix 4, indicate concentrations along the A292 Elwick Street and A292 New Street meet the annual mean NO<sub>2</sub> objective.

Ashford Borough Council has assessed new/newly identified roads with significantly changed traffic flows, and concluded that it will not be necessary to proceed to a Detailed Assessment.

#### 4.7 Bus and coach stations

The assessment considers both nitrogen dioxide and PM<sub>10</sub> emissions at bus stations that are not enclosed with >2500 movements per day. There are no new bus stations or significant changes since the last round of review and assessment.

Ashford Borough Council confirms that there are no relevant bus stations in the Local Authority area.

## 5 Other Transport Sources

### 5.1 Airports

The assessment for airports considers nitrogen dioxide. If there are no airports in the Local Authority area, there is no need to proceed further with this part.

Ashford Borough Council confirms that there are no airports in the Local Authority area.

### 5.2 Railways (diesel and steam trains)

The assessment for stationary trains considers sulphur dioxide emissions, while the assessment for moving diesel trains considers nitrogen dioxide emissions. If there are no railways carrying diesel or steam trains in the Local Authority area, there is no need to proceed further with this part.

#### 5.2.1 Stationary Trains

Ashford Borough Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

#### 5.2.2 Moving Trains

Ashford Borough Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

### 5.3 Ports (shipping)

The assessment for shipping considers sulphur dioxide emissions at busy ports with 5,000 and 15,000 movements per year and relevant exposure within 250 metres. If there are no ports or shipping, there is no need to proceed further with this part. In Ashford borough, there are no ports or shipping.

Ashford Borough Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

## 6 Industrial Sources

### 6.1 Industrial Installations

The assessment of industrial installations considers all of the regulated pollutants, although those most at risk of requiring further work are sulphur dioxide, NO<sub>2</sub>, PM<sub>10</sub> and benzene. A list of industrial processes in the borough is provided in Appendix 5.

#### 6.1.1 New or Proposed Installations for which an Air Quality Assessment has been carried out

There are four new Environment Agency permitted processes since the previous round of review and assessment: two surface treatment of metals processes and two poultry farms. These processes have been considered with regard to their emissions and likely breach of air quality objectives and it is concluded that there are no significant releases to warrant a detailed assessment.

Ashford Borough Council has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

#### 6.1.2 Existing Installations where emissions have increased substantially or new relevant exposure has been introduced

Ashford Borough Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

#### 6.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

There are six new Part B processes permitted by Ashford Borough Council since the last round of review and assessment. These include a tar and bitumen process, a concrete crusher and four dry cleaners. There are no significant emission releases from these processes relevant to the AQS objectives.

Ashford Borough Council has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

## 6.2 Major fuel (petrol) storage depots

The assessment considers benzene, with respect to the 2010 objective.

There are no major fuel (petrol) storage depots within the Local Authority area.

## 6.3 Petrol stations

The assessment considers benzene, with respect to the 2010 objective. Large petrol stations, where annual throughput is more than 2000 m<sup>3</sup> of petrol (2 million litres per annum), and with a busy road nearby of >30000 annual average daily traffic flows, require consideration with respect to relevant exposure.

Ashford Borough Council confirms that there are no petrol stations meeting the specified criteria.

## 6.4 Poultry farms

Farms housing in excess of: 400,000 birds if mechanically ventilated, 200,000 birds if naturally ventilated, and 100,000 birds for any turkey unit, require consideration in this assessment, to establish whether there is relevant exposure within 100m of the poultry units. The assessment needs to consider only PM<sub>10</sub>.

There are two Environment Agency permitted poultry farms in the borough. These are mechanically ventilated, and well below the 400,000 threshold.

Ashford Borough Council confirms that there are no poultry farms in the local authority area meeting the specified criteria.

## 7 Commercial and Domestic Sources

### 7.1 Biomass combustion

#### 7.1.1 Biomass combustion - individual installations

The assessment considers both PM<sub>10</sub> and nitrogen dioxide objectives.

Ashford Borough Council confirms that there are no biomass combustion plants in the Local Authority area which meet this criteria.

#### 7.1.2 Biomass combustion – combined impacts (PM<sub>10</sub> emissions)

Ashford Borough Council confirms that there are no biomass combustion plants in the Local Authority area which meet this criteria.

### 7.2 Domestic solid-fuel burning (sulphur dioxide emissions)

The assessment considers sulphur dioxide emissions (only) from significant areas of residential properties that use solid fuel to heat their houses. 'Significant' areas are those of about 500 x 500 m with more than 50 houses burning coal/smokeless fuel as their primary source of heating. PM<sub>10</sub> from domestic solid fuel burning is covered under the Biomass combustion – combined impacts section above.

Ashford Borough Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

## 8 Fugitive or Uncontrolled Sources

The assessment of fugitive and uncontrolled sources considers the PM<sub>10</sub> objectives. This included consideration to quarries, landfill sites, opencast coal mining, waste transfer sites, and materials handling (i.e. ports, major construction sites). Only locations not covered by previous rounds of review and assessment, or where there is new relevant exposure, require consideration. In the case of proposed new sources, these are only required to be considered if planning approval has been granted.

Ashford Borough Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

## 9 Conclusions and Proposed Actions

### 9.1 Conclusions from new monitoring data

The Updating and Screening Assessment review of new monitoring data has shown that exceedences of the annual mean NO<sub>2</sub> objective were monitored at two monitoring sites in 2008. The first, Canterbury Road, is a kerbside site where there is no relevant exposure. This site was re-located during 2008 to a relevant receptor location. The results to date show no exceedences of the annual mean objective along Canterbury Road, at locations of relevant exposure. The second site, Lees Road, is a façade site on a property nearest to the M20 (J10). Concentrations have been below the objective at this site in previous years, but monitored levels in 2008 were 43µg/m<sup>3</sup>.

It should be noted that recent re-modelling of Junction 10 was undertaken to increase capacity of the junction, in the light of significant development proposals and to reduce the potential impact of 'operation stack' when the Police use the M20 for parking HGVs when there is a problem at the Port of Dover. The latter issue causes additional congestion by displacing traffic from the M20 onto local roads. There are proposals to address 'operation stack', including KCC proposals to construct a lorry park between J10 and J11, which are under consideration. There are also proposals by the Highway Agency to build a new junction 10A, as the capacity of J10 is insufficient to enable further major development in the southeast part of Ashford. As traffic management plans affecting the M20 J10 are unclear at present, and the Lees Road monitoring may reflect the disruption due to recent changes, Ashford Borough Council does not believe it is prudent to undertake a detailed assessment at this time. The Council will introduce additional monitoring in the area to monitor progress with these traffic management improvements and consider undertaking a detailed assessment should exceedences continue to be measured in 2009.

### 9.2 Conclusions from assessment of sources

The Updating and Screening Assessment has reviewed new and significantly changed sources in the borough.

The assessment of road sources has highlighted three areas where annual mean NO<sub>2</sub> concentrations are predicted to be above 36µg/m<sup>3</sup>, but meet the objective of 40µg/m<sup>3</sup>.

- A292 Somerset Road / North Street
- A292 Somerset Road /Wellesley Road
- A292 Somerset Road / New Street

It is recommended that monitoring be undertaken at relevant receptors along the A292 to confirm compliance with the annual mean objective.

### 9.3 Proposed Actions

Proposed actions arising from the Updating and Screening Assessment are as follows:

- Undertake additional monitoring at the M20 J10 for nitrogen dioxide, where an exceedence of the annual mean objective has been monitored;
- Undertake additional monitoring of NO<sub>2</sub> at relevant receptor locations at junctions along the A292 Somerset Road, Ashford where DMRB model predictions in 2008 are above 36µg/m<sup>3</sup>;
- Progress to a 2010 Annual Progress Report; to be completed by end April 2010.



## 10 References

- Highways Agency's Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 1 Air Quality, May 2007, and accompanying spreadsheet DMRB Screening Method V1,03.xls. July 2007
- Local Air Quality Management Technical Guidance LAQM.TG(09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
- Local Air Quality Management Policy Guidance LAQM.PG(09). February 2009. Published by Defra.
- Ashford Borough Council 2008 Local Air Quality Management Annual Progress Report
- Ashford Borough Council 2007 Local Air Quality Management Annual Progress Report
- Ashford Borough Council 2006 Local Air Quality Management Updating and Screening Assessment

## APPENDICES

### Appendix 1 - Traffic data

Site Ref	Data source	Location	X	Y	%HDV <sup>*</sup>	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
-	DFT	A28 Ashford Road	588700	135000	3.2	15148	-	No	X	√	Relevant Exposure
-	DFT	A28 Ashford Road	590000	137300	5.6	9465	-	No	X	X	n/a
-	DFT	A28 Ashford Road	594000	139650	7.1	9643	-	No	X	X	n/a
-	DFT	A28 Ashford Road	597290	141000	4.9	11765	-	No	X	√	Relevant Exposure
-	DFT	A2042 Bad Munstereifel Road	601000	140260	2.8	22316	-	Yes	X	X	n/a
-	DFT	A262 Biddenden Road	588000	136780	4.7	8865	-	No	X	X	n/a
-	DFT	A252 Ashford Road	600000	150320	5.3	4838	-	No	X	X	n/a
-	DFT	A28 Ashford Road	601063	143210	2.5	14494	-	Yes	X	√	Street canyon
-	DFT	A28 Ashford Road	601190	143493	3.1	19695	-	Yes	X	X	n/a
-	DFT	A28 Ashford Road	601440	143700	3.0	25119	-	Yes	X	X	n/a
-	DFT	A28 Ashford Road	602000	144080	4.3	10159	-	Yes	X	X	n/a
-	DFT	A28 Ashford Road	602580	144750	4.1	10208	-	Yes	X	X	n/a
-	DFT	A28 Ashford Road	606000	150000	4.1	9161	-	No	X	X	n/a
-	DFT	A252 Charing Hill	596000	150000	5.9	7097	-	No	X	X	n/a
-	DFT	A28 Chart Road	599500	142940	3.0	27674	-	Yes	X	X	n/a
-	DFT	A28 Chart Road	600200	143170	1.9	9743	-	Yes	X	X	n/a
-	DFT	A292 Elwick Road	600751	142603	2.8	21599	-	Yes	√	√	Substantial change
-	DFT	A2042 Faversham Road	601860	145000	2.8	8332	-	Yes	X	X	n/a
-	DFT	A251 Faversham Road	600600	152000	5.6	6792	-	No	X	X	n/a
-	DFT	A251 Faversham Road	602130	150000	3.6	7408	-	No	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
-	DFT	A20 Fougeres Way	600387	143855	4.2	27566	-	Yes	X	X	n/a
-	DFT	A28 Hastings Road	583540	130000	5.4	5736	-	No	X	X	n/a
-	DFT	A274 Headcorn Road	585240	140000	5.0	7040	-	No	X	X	n/a
-	DFT	A20 Hythe Road	606000	140000	3.8	10850	-	Yes	X	X	n/a
-	DFT	A2070 Kennington Road	603600	142120	3.5	11932	-	No	X	√	Relevant exposure
-	DFT	A20 Maidstone Road	596020	148000	6.4	8518	-	No	X	X	n/a
-	DFT	A20 Maidstone Road	599850	144000	6.4	9491	-	No	X	X	n/a
-	DFT	A292 Maidstone Road	600300	143360	4.8	13246	-	Yes	X	X	n/a
-	DFT	A28 Maidstone Road / New Street	600540	143100	3.3	24083	-	Yes	X	X	n/a
-	DFT	A2070 N/A	601670	139000	5.7	12762	-	No	X	X	n/a
-	DFT	A2070 N/A	603600	141000	5.8	35226	-	Yes	X	X	n/a
-	DFT	A252 N/A	605000	152800	5.8	4330	-	No	X	X	n/a
-	DFT	A28 N/A	583198	127389	5.6	6338	-	No	X	X	n/a
-	DFT	A292 N/A	603000	142070	3.0	13078	-	Yes	X	X	n/a
-	DFT	M20 N/A	596000	147080	18.5	63203	-	No	X	X	n/a
-	DFT	M20 N/A	602000	143200	19.1	56515	-	Yes	X	X	n/a
-	DFT	M20 N/A	608000	138750	16.8	53802	-	Yes	X	X	n/a
-	DFT	A292 New Street	600630	143020	3.9	21440	-	Yes	√	√	Substantial change
-	DFT	A274 North Street	585220	139000	4.6	8255	-	No	X	X	n/a
-	DFT	A2042 Romney Marsh Road	601000	140800	2.8	22183	-	Yes	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
-	DFT	A20 Simone Weil Avenue	601000	143721	4.0	12267	-	Yes	X	X	n/a
-	DFT	A292 Somerset Road	601000	143011	5.1	25567	-	Yes	X	√	Relevant Exposure
-	DFT	A292 Somerset Road	601100	143000	2.9	25142	-	Yes	X	√	Relevant Exposure
-	DFT	A292 Station Road	601210	142645	3.7	22195	-	No	X	X	n/a
-	DFT	A28 Templer Way	600000	143510	9.2	16673	-	No	X	X	n/a
-	DFT	A28 Tenterden Road	585000	131950	5.2	7891	-	No	X	X	n/a
-	DFT	A251 Trinity Road	601000	145370	2.2	6435	-	No	X	X	n/a
-	DFT	A2070 Willesborough Road	602570	144400	2.5	14603	-	No	X	√	Relevant Exposure
-	DFT	A2070 Willesborough Road	603200	143000	2.5	13159	-	No	X	√	Relevant Exposure
00000065	KCC	Tenterden High Street	588262	133267	-	12564	21.7	No	X	√	Street canyon
00000066	KCC	A262 Biddenden	584155	138405	-	4594	35.7	No	X	X	n/a
00000082	KCC	A28 Ashford Road - Wye	603567	147120	-	10747	46.0	No	X	√	Relevant Exposure
00000111	KCC	B2086 Benenden	583246	131709	-	2658	44.3	No	X	X	n/a
00000112	KCC	A268 Sandhurst	582795	127755	-	6114	50.2	No	X	X	n/a
00000120	KCC	Little Chart Qtly site	594550	145862	-	2381	31.9	No	X	X	n/a
00000201	KCC	HAM ST SOUTH	600363	132488	-	1486	40.9	No	X	X	n/a
20020265	KCC	A28 High Halden	589253	137200	-	10725	37.3	No	X	√	Relevant Exposure
20030019	KCC	A292 Hythe Road - Ashford NF09	602023	142500	-	15717	25.8	Yes	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
20050025	KCC	A20 Smeeth	607442	139321	-	7126	52.5	No	X	X	n/a
20050025	KCC	A20 Hythe Road - Smeeth	607442	139321	-	7157	51.3	No	X	X	n/a
20050035	KCC	Faversham Road - Ashford	601620	145580	-	8891	31	No	X	X	n/a
20050046	KCC	A28 Ashford Road - Bethersden	596315	139780	-	10360	48.8	No	X	√	Relevant exposure
20050046	KCC	A28 Ashford Road Bevenden	596315	139780	-	9750	50.2	No	X	√	Relevant exposure
20060034	KCC	A28 Ashford Road St Michaels	588537	135348	-	12670	35.4	No	X	X	n/a
20060088	KCC	Harville Road - Wye	604372	146672	-	2903	40.2	No	X	X	n/a
20060089	KCC	Bramble Lane - Wye	604499	147345	-	1245	36.2	No	X	X	n/a
20060090	KCC	Bridge Street - Wye	604834	146931	-	3917	21.7	No	X	X	n/a
20060091	KCC	Olantigh Road (north) Wye -	605762	147403	-	875	45	No	X	X	n/a
20060092	KCC	Oxenturn Road - Wye	605392	146268	-	1671	31.6	No	X	X	n/a
20060093	KCC	Coldharbour Lane - Wye	606194	146585	-	1519	39.8	No	X	X	n/a
20060094	KCC	Upper Bridge Street - Wye	605554	146750	-	1617	21.2	No	X	X	n/a
20060098	KCC	Bridge Street (east) - Wye	605249	146728	-	1878	19.3	No	X	X	n/a
20060099	KCC	Churchfield Way - Wye	605287	146875	-	3259	24.6	No	X	X	n/a
20060111	KCC	A2042 Romney Marsh Road - Ashford	601175	142625	-	23012	43.4	Yes	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
20060112	KCC	B229 Brookfield Road - Ashford	599853	141543	-	14608	30.2	Yes	X	X	n/a
20060113	KCC	A292 Wellesley Road - Ashford	601246	142875	-	18574	24.2	No	X	√	Relevant exposure
20060114	KCC	Vicarage Lane - Ashford	601170	142630	-	5175	18.7	No	X	√	Street canyon
20060115	KCC	A292 Mace Lane - Ashford	601479	142899	-	18417	30.5	Yes	X	X	n/a
20060116	KCC	A2070 Kennington Road - Ashford	603710	141843	-	18737	28.4	No	X	√	Relevant exposure
20060144	KCC	George Williams Way, Ashford	601969	143926	-	2891	27.1	No	X	X	n/a
20060155	KCC	A28 Rolvenden Road - Tenterden	587660	133026	-	10923	34.6	No	X	√	Relevant exposure
20060180	KCC	A28 Ashford Road - Chilham	607744	153744	-	13744	37.1	No	X	√	Relevant exposure
20070044	KCC	Ashford Road (N) - South Willesborough	602429	140950	-	2156	27.3	No	X	X	n/a
20070045	KCC	Ashford Road (S) - South Willesborough	602327	140835	-	1984	21.6	No	X	X	n/a
20070165	KCC	B2067 Knoll Hill - Lympne	608623	135473	-	1886	44.9	No	X	X	n/a
20070168	KCC	A252 The Street Molash	602896	151953	-	4164	45.4	No	X	X	n/a
20070170	KCC	B2082 Small Hythe Road - Tenterden	588834	131645	-	2748	41.4	No	X	X	n/a
20070172	KCC	A262 Tenterden Road - Biddenden	585473	137238	-	9014	42.7	No	X	X	n/a
20070200	KCC	A292 New Street Ashford	600702	141998	-	17022	24	Yes	√	√	Substantial change
20070201	KCC	North Street - Ashford	601047	143199	-	12849	26.8	No	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

## Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for Assessment
20070202	KCC	A292 Mace Lane Ashford	601462	142900	-	16222	32.2	Yes	X	X	n/a
20070203	KCC	A2072 Romney Marsh Road Ashford	601281	141998	-	23747	41.8	Yes	X	X	n/a
20080001	KCC	Oak Grove Lane - Durrant Green	588327	136716	-	2148	34.7	No	X	X	n/a
2000003	KCC	Romney Marsh Road, Ashford	600592	140059	-	15858	45.5	Yes	X	X	n/a
2000004	KCC	A28 Ashford Road, Ashford	598490	141869	-	10414	40.8	No	X	√	Relevant exposure
2000005	KCC	A20 Maidstone Road, Ashford	600037	143748	-	14447	30.6	No	X	X	n/a
2000007	KCC	A251 Trinity Road, Ashford	600714	144310	-	13851	34.3	Yes	X	√	Relevant exposure
2000008	KCC	A2042 Faversham Road, Ashford	601649	145555	-	8456	31.6	No	X	X	n/a
2000010	KCC	A292 Hythe Road, Ashford	603260	141945	-	12914	24.6	Yes	X	X	n/a
2000051	KCC	A28 Chart Road, Ashford	600198	143166	-	10785	32.0	Yes	X	X	n/a
2000052	KCC	A292 Maidstone Road, Ashford	600314	143335	-	9757	36.6	Yes	X	X	n/a
2000053	KCC	A28 Ashford Road, Ashford	601154	143459	-	18059	29.1	Yes	X	X	n/a
2000054	KCC	A292 Hythe Road, Ashford	602114	142484	-	15311	26.3	Yes	X	X	n/a
2000055	KCC	A2042 Beaver Road, Ashford	601093	142268	-	22018	25.5	Yes	X	X	n/a
34	KCC	A252 Chilham	606117	153413	-	4040	-	No	X	X	n/a
65	KCC	A28 Tenterden	588262	133267	-	13262	-	No	X	√	Street canyon
66	KCC	A262 Biddenden	584200	138424	-	4336	-	No	X	X	n/a
82	KCC	A28 Ashford Road, Wye	603453	146928	-	9890	-	No	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for Assessment
103	KCC	A20 Potters Corner, Ashford	598275	145230	-	11661	-	Yes	X	X	n/a
112	KCC	A268 Sandhurst	582425	127801	-	6495	-	No	X	X	n/a
119	KCC	A28 Bethersden	595715	139420	-	9315	-	No	X	X	n/a
120	KCC	Little Chart	594550	145862	-	2334	-	No	X	X	n/a
127	KCC	B2082 Tenterden	588333	132775	-	3223	-	No	X	X	n/a
130	KCC	B2229 Beaver Lane	600158	141375	-	17961	-	Yes	X	X	n/a
131	KCC	A292 Hythe Road, Ashford	603237	141967	-	12492	-	Yes	X	X	n/a
201	KCC	Ham St. South	600363	132488	-	1846	-	No	X	X	n/a
K612118	KCC	Bad Munstereifel Way	603638	141389	7.0	34,473	-	Yes	X	X	n/a
K612123	KCC	Fougeres Way	600400	143800	6.3	29,661	-	Yes	X	X	n/a
K612197	KCC	Somerset Rd (West)	601000	143000	3.9	25,406	-	Yes	X	√	Junction
K612197	KCC	North Street	601000	143000	3.0	15,344	-	No	X	√	Junction
K612197	KCC	Somerset Road (East)	601000	143000	3.8	26,076	-	Yes	X	√	Junction
K612206	KCC	Ashford Road (A'ford)	603556	147098	5.2	11,555	-	No	X	√	Relevant exposure
K612206	KCC	Wye Rd (Boughton Lees)	603556	147098	2.4	2,175	-	No	X	X	n/a
K612206	KCC	Ashford Rd (C'bury)	603556	147098	4.9	10,096	-	No	X	√	Relevant exposure
K612206	KCC	Harville Rd (Wye)	603556	147098	4.9	3,008	-	No	X	X	n/a
X612362	KCC	A28 Ashford Rd (A'ford)	601282	143580	2.6	20,873	-	Yes	X	X	n/a
X612362	KCC	A20 Simone Weil Ave	601282	143580	3.8	13,363	-	Yes	X	X	n/a
X612362	KCC	A28 Ashford Rd (C'bury)	601282	143580	3.7	24,454	-	Yes	X	X	n/a
X612363	KCC	A28 Ashford Rd (Ashford)	601914	144060	4.0	11,757	-	Yes	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.



### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for Assessment
X612363	KCC	George William Way	601914	144060	1.5	3,128	-	Yes	X	X	n/a
X612363	KCC	A28 Ashford Rd (Ashford)	601914	144060	3.4	19,261	-	Yes	X	X	n/a
X612363	KCC	A251 Faversham Rd	601914	144060	2.5	9,617	-	Yes	X	X	n/a
X612364	KCC	A28 Ashford Rd (Ashford)	602512	144482	4.0	15,192	-	Yes	X	X	n/a
X612364	KCC	Conningbrook	602512	144482	1.1	109	-		X	X	n/a
X612364	KCC	A2070 Willesborough Rd	602512	144482	3.5	12,000	-	Yes	X	X	n/a
X612364	KCC	A28 Ashford Rd (Ashford)	602512	144482	4.0	12,772	-	Yes	X	X	n/a
X612365	KCC	A28 Ashford Rd (Ashford)	602900	145400	4.5	11,945	-	Yes	X	X	n/a
X612365	KCC	Ball Lane	602900	145400	15.4	15	-		X	X	n/a
X612365	KCC	A28 Ashford Rd (Ashford)	602900	145400	4.5	11,942	-	Yes	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

## Appendix 2 - Nitrogen dioxide diffusion tube results 2008

Site details	X	Y	Site type	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Average	Corrected Annual Mean 2008	
AS03 Ashford 5n Queen Street	600976	142547	R	31	50	27	34	32	21	22	18	25	32	37	38	31	24	
AS04 Ashford 6n Church Yard	601021	142754	B	25	41	24	30	25	18	17	15	23	28	32	34	26	21	
AS05 Ashford 7n Godinton Road	600656	142714	R	29	46	25	-	28	site closed moved to AS21							32	23	
AS06 Hythe Road	603153	141990	R	35	57	40	52	63	42	34	25	48	41	52	57	45	36	
AS07 High Street, Tenterden	587945	133079	R	35	52	33	37	42	26	22	27	34	37	47	37	36	29	
AS09 Ashford School - roadside (triplicate)	601257	142864	R	49	59	43	51	38	38	36	31	34	-	-	-	42	34	
AS12 Canterbury Road	601281	143564	K	58	73	71	72	74	64	site closed moved to AS22							69	<b>53</b>
AS13 Hill View	601367	143541	F	32	48	33	38	38	25	24	18	30	34	49	44	34	27	
AS14 Nutley Close	601460	143509	F	25	43	33	39	56	26	26	17	29	37	50	46	35	28	
AS15 Lees Road (triplicate), M20 J10	603401	142081	F	72	67	58	58	30	43	56	57	33	60	60	47	53	<b>43</b>	
AS18 Hill View Nursing Home (triplicate)	601309	143569	F	33	50	37	41	47	34	31	22	38	42	51	47	39	32	
AS21 (was AS05) Apsley Street	600734	142717	F	-	-	-	-	-	23	24	18	30	36	44	44	31	27	
AS22 (was AS12) Gore Court	601218	143491	F	-	-	-	-	-	-	39	34	45	49	51	47	44	37	
AS23 (was AS09 site moved Sept 09) Ashford School Rural (triplicate)	601431	142735	B	-	-	-	-	-	-	-	-	-	31	33	40	34	24	

R= Roadside, B=Background, K=Kerbside, F=Facade. Exceedences of the annual mean objective are highlighted in bold.

### Appendix 3 - DMRB Assessment Inputs

Site Ref	Road Name	Receptor	Distance to receptor (m)	AADT (2008)	% HDV	Speed (kph)	Street canyon (Y/N)?	Background Concentrations		
								2008 NO <sub>x</sub> Annual Mean (µg/m <sup>3</sup> )	2008 NO <sub>2</sub> Annual Mean (µg/m <sup>3</sup> )	2008 PM <sub>10</sub> Annual Mean (µg/m <sup>3</sup> )
1	A28 Ashford Road	1 Ashford Road, St Michaels	5.6	15148	3.2	57.0	N	14.8	12.1	16.5
2	A28 Ashford Road	Willow Cottage, Bethersden	9.6	11765	4.9	78.6	N	14.8	12.1	16.3
3	A28 Ashford Road	10 Ashford Road, Kingsnorth	7.4	14494	2.5	43.1	Y	34.2	24.1	20.4
4	Somerset Road / North Street	1 Somerset Road (East)	12	25741	3.9	20.0	N	34.2	24.1	20.4
4	Somerset Road / North Street	2 Somerset Road (East)	29.6	15344	2.3	20.0	N	34.2	24.1	20.4
5	A292 Elwick Road	60 West Street	11.7	21599	2.8	48.3	N	24.4	18.4	19.7
6	A2070 Kennington Road	56 Kennington Road	8.8	18737	3.5	45.7	N	35	24.5	19.4
7	A292 New Street	74 New Street	11.8	21440	3.9	20.0	N	24.4	18.4	19.7
8	A2070 Willesborough Road	81 Willesborough Road	5.1	12977	2.5	58.0	N	22.1	16.9	18.3
9	A28 Tenterden High Street	50 Tenterden High Street	6.3	12564	3.1	34.9	Y	15.3	12.5	16.7
10	A28 Ashford Road - Wye	Old Saddlers Cottage, Ashford Road, Wye	9.4	10746	4.1	48.3	N	17.2	13.6	16.7
11	A28 High Halden	Jessamine Cottage, Ashford Road	3.9	10725	5.6	60.1	N	14.3	11.7	16.3
12	A292 Wellesley Road - Ashford	5 Wellesley Road	11	18574	3.7	39.0	N	27.	20.4	20.9

### Appendix 3 (Continued) - DMRB Assessment Inputs

Site Ref	Road Name	Receptor	Distance to receptor (m)	AADT (2008)	% HDV	Speed (kph)	Street canyon (Y/N)?	Background Concentrations		
								2008 NO <sub>x</sub> Annual Mean (µg/m <sup>3</sup> )	2008 NO <sub>2</sub> Annual Mean (µg/m <sup>3</sup> )	2008 PM <sub>10</sub> Annual Mean (µg/m <sup>3</sup> )
13	Vicarage Lane / Bank Street - Ashford	33 Bank Street	7.1	5175	3.1	30.1	Y	27.7	20.4	20.9
14	A28 Ashford Road - Chilham	Bagham Cottage, Ashford Road, Chilham	4	13744	4.1	59.7	N	16.5	13.1	16.4
15	A251 Trinity Road, Ashford	117 Trinity Road	7.2	13851	2.8	55.2	N	19.9	15.5	17.5
16	A292 Wellesley Road / Somerset Road	2 Wellesley Road	13	21992	4.4	20	N	27.7	20.4	20.9
16	A292 Wellesley Road / Somerset Road	2 Wellesley Road	22.2	18574	3.3	20	N	27.7	20.4	20.9
17	A292 Station Road / Elwick Road	15 Station Road	16.8	21953	3.7	20	N	27.7	20.4	20.9
17	A292 Station Road / Elwick Road	15 Station Road	28.4	21301	2.7	20	N	27.7	20.4	20.9
18	A292 Somerset Road / New Street	23 Somerset Road	19.7	25214	5.1	20	N	24.4	18.4	19.7
18	A292 Somerset Road / New Street	23 Somerset Road	18.8	21244	3.9	20	N	24.4	18.4	19.7

## Appendix 4 - DMRB Assessment Results

Site Ref	Road Name	Receptor	DMRB Assessment Results				Detailed assessment required?
			2008 NO <sub>x</sub> Annual Mean (µg/m <sup>3</sup> )	2008 NO <sub>2</sub> * Annual Mean (µg/m <sup>3</sup> )	2008 PM <sub>10</sub> Annual Mean (µg/m <sup>3</sup> )	2008 Number of exceedences of 24 hour PM <sub>10</sub>	
1	A28 Ashford Road	1 Ashford Road, St Michaels	32	20	18	2	No
2	A28 Ashford Road	Willow Cottage, Bethersden	30	19	18	1	No
3	A28 Ashford Road	10 Ashford Road, Kingsnorth	47	35	22	6	No
4	Somerset Road / North Street	1 Somerset Road (East)	69	38	25	13	>36 µg/m <sup>3</sup> , recommend monitoring
5	A292 Elwick Road	60 West Street	41	26	22	6	No
6	A2070 Kennington Road	56 Kennington Road	53	32	22	6	No
7	A292 New Street	74 New Street	48	29	23	8	No
8	A2070 Willesborough Road	81 Willesborough Road	35	23	20	3	No
9	A28 Tenterden High Street	50 Tenterden High Street	30	26	19	2	No
10	A28 Ashford Road - Wye	Old Saddlers Cottage, Ashford Road, Wye	30	19	18	2	No
11	A28 High Halden	Jessamine Cottage, Ashford Road	30	19	18	1	No
12	A292 Wellesley Road - Ashford	5 Wellesley Road	46	28	23	8	No
13	Vicarage Lane / Bank Street - Ashford	33 Bank Street	33	25	22	6	No
14	A28 Ashford Road - Chilham	Bagham Cottage, Ashford Road, Chilham	34	21	18	2	No
15	A251 Trinity Road, Ashford	117 Trinity Road	34	22	19	2	No
16	A292 Wellesley Road / Somerset Road	2 Wellesley Road	68	37	26	16	>36 µg/m <sup>3</sup> , recommend monitoring
17	A292 Station Road / Elwick Road	15 Station Road	61	34	26	14	No
18	A292 Somerset Road / New Street	23 Somerset Road	68	36	26	14	>36 µg/m <sup>3</sup> , recommend monitoring

\* NO<sub>2</sub> concentrations calculated from NO<sub>x</sub> using the LAQM.TG (09) NO<sub>x</sub>:NO<sub>2</sub> conversion calculator.

## Appendix 5 - List of Industrial Processes

Process Name	Process Type	PG Note	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
Kent County Crematorium	Cremation of human remains	PG5/2	No	No	No	No	No	No	No
Hothfield Works	Production of roadstone coating	PG3/15	No	No	No	Yes - SO <sub>2</sub> , PM <sub>10</sub>	No	No	No
Hanson Quarry Products Europe Ltd	Batching of Ready Mixed Concrete	PG3/1	No	No	No	No	No	No	No
M J Allen, Cobbs Wood Industrial Estate	Iron Foundry & Non-ferrous Foundry	PG2/1	No	No	No	No	No	No	No
Chilmington Quarry Cemex UK Operations	Batching of Ready Mixed Concrete	PG3/1	No	No	No	No	No	No	No
Brett Concrete Ltd	Batching of Ready Mixed Mortar & Screed	PG3/1	No	No	No	No	No	No	No
Bombardier Transportation UK Ltd	Respraying of rail vehicles	PG 6/41	No	No	No	No	No	No	No
Summer Motors Ltd	Respraying of Road Vehicles	PG6/34	No	No	No	No	No	No	No
Cerium Optical Products	Application of Liquid Adhesive Polymeric Substrate		No	No	No	No	No	No	No
John Knights (ABP) Ltd	Animal Rendering Plant	SG 8	No	No	No	No	No	No	No
Canterbury Accident Refinishing Services	Respraying of Road Vehicles	PG6/34	No	No	No	No	No	No	No
Headley Bros Ltd	Printing onto Paper Substances	PG6/16	No	No	No	No	No	No	No
Quest International	1 Manufacture of Organic Chemicals in Pilot Plant, 2 Manufacture of Aromatic Chemicals	-	No	No	No	No	No	No	No
Alpha Fry Ltd	Manufacture of Chemical Cleaning Compounds	-	No	No	No	No	No	No	No

## Appendix 5 (Continued) – List of Industrial Processes

Process Name	Process Type	PG Note	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
Ashford Accident Repair Centre	Respraying of Road Vehicles	PG6/34	No	No	No	No	No	No	No
Stagecoach East Kent	Respraying of Road Vehicles	PG6/34	No	No	No	No	No	No	No
Sterile Technologies (Newcastle) Ltd.(previously White Rose Environmental)	Clinical Waste Incinerator, William Harvey Hospital	-	No	No	No	Yes - NOx	No	No	No
Rother Valley Timber Ltd	Manufacture of Timber	PG6/2	No	No	No	No	No	No	No
Groundwork South East Plant Ltd	Mobile Concrete Crusher	PG3/16	No	No	No	No	No	No	No
Tesco Stores Ltd Willesborough	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Tesco Stores Ltd Kingsnorth	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
C B Motors Ltd	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Shell UK Oil Products Ltd	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Willesborough & Kennington Garages Limited	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Hothfield Service Station Roc U K Ltd	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
St Michaels Service Station Total UK Ltd	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Sainsbury's Supermarkets Ltd	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Beaver Garage Limited B P Oil U K Ltd	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Murco Service Station	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
East Stour Filling Station	Petrol Vapour Recovery	PG1/14	No	No	No	No	No	No	No
Channel Commercials Ltd	Respraying of Road Vehicles	PG6/34	No	No	No	No	No	No	No
Caffyns Plc	Respraying of Road Vehicles	PG6/34	No	No	No	No	No	No	No
Ashford Road Service Station	Waste Oil Burner	PG1/1	No	No	No	No	No	No	No
Matchvale Ltd	Waste Oil Burner	PG1/1	No	No	No	No	No	No	No

**Appendix 5 (Continued) – List of Industrial Processes**

Process Name	Process Type	PG Note	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
V & V Crushings	Concrete Crusher	PG3/16	Yes	n/a	n/a	No	No	No	No
First Choice Dry Cleaners	Dry Cleaner	PG6/46	Yes	n/a	n/a	No	No	No	No
Sketchley's Cleaners	Dry Cleaner	PG6/46	Yes	n/a	n/a	No	No	No	No
Johnson's, County Square, Ashford	Dry Cleaner	PG6/46	Yes	n/a	n/a	No	No	No	No
Prim Dry Cleaners Ltd	Dry Cleaner	PG6/46	Yes	n/a	n/a	No	No	No	No
Premier Coatings	Tar and Bitumen	PG6/42	Yes	n/a	n/a	No	No	No	No
Paramount Plating Ltd.	Surface treatment, principally acid zinc plating and alochrome.	-	Yes	n/a	n/a	No	No	No	No
Russell Laboratories Ltd.	Surface treatment, principally cadmium plating	-	Yes	n/a	n/a	No	No	No	No
W J Watkins and Son Ltd. Copfield Farm Poultry Unit	Laying hens and pullets	-	Yes	n/a	n/a	Yes, PM <sub>10</sub>	No	No, below threshold	No
Fridays Ltd Pond Farm Poultry Unit	Rearing of commercial laying hens.	-	Yes	n/a	n/a	Yes, PM <sub>10</sub>	No	No, below threshold	No