CLAIRE

Chiltern's Local AIR & Environment

Progress Report for the Chiltern District

April 2005

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Bucks Air Quality Management Group

BAQMG

Title	Air Quality Progress Report for the Chiltern District
Customer	Chiltern District Council
Report status	Issue 1

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Executive Summary

The UK Government published its strategic policy framework for air quality management in 1995 establishing national strategies and policies on air quality which culminated in the Environment Act, 1995. The Air Quality Strategy provides a framework for air quality control through air quality management and air quality standards. These and other air quality standards[a] and their objectives have been enacted through the Air Quality Regulations in 1997, 2000 and 2002. The Environment Act 1995 requires Local Authorities to undertake air quality reviews. In areas where an air quality objective is not anticipated to be met, Local Authorities are required to establish Air Quality Management Areas and implement action plans to improve air quality.

The first round of air quality review and assessments were completed by Netcen for Chiltern District Council. The Council was then required to proceed to the second round of review and assessment in which sources of emissions to air were reassessed to identify whether the situation had changed since the first round, and if so, what impact this may have had on predicted exceedences of the air quality objectives.

The second round of review and assessment was undertaken in 2003 as required by DEFRA. It consisted of an Updating and Screening Assessment undertaken by Netcen, which updated the Stage 1 and 2 Review and Assessment previously undertaken for all pollutants identified in the Air Quality Regulations.

A Detailed Assessment, equivalent to the previous Stage 3 assessments was not required and therefore a second Progress Report is the next step in reviewing and managing air quality.

The last Progress Report concluded that Chiltern District Council was not required to carry out a Detailed Review and Assessment for carbon monoxide, benzene, 1,3-butadiene, lead, nitrogen dioxide, sulphur dioxide or PM_{10} , based on the monitoring data and bias correction factors at that time.

Air quality is still an evolving subject with a constant supply of updated information, models, factors and technical methods. For this reason, the very latest assumptions and numerical factors have been utilised in this Progress Report.

Consideration is given to any major developments or changes since last year, additional monitoring undertaken in 2004 and any resulting recommendations or actions.

This Progress Report indicates areas that have a requirement for further consideration and/ or monitoring.

[a] Refers to standards recommended by the Expert Panel on Air Quality Standards. Recommended standards are set purely with regard to scientific and medical evidence on the effects of the particular pollutants on health, at levels at which risks to public health, including vulnerable groups, are very small or regarded as negligible.

Contents

Acronyms and definitions used in this report

AADTF	Annual Average Daily Traffic Flow
ADMS	an atmospheric dispersion model
AQDD	an EU directive (part of EU law) - Common Position on Air Quality Daughter Directives, commonly referred to as the Air Quality Daughter Directive
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
AURN	Automatic Urban and Rural Network (Defra funded air quality monitoring network)
base case	In the context of this report, the emissions or concentrations predicted at the date of the relevant air quality objective (2005 for nitrogen dioxide)
CO	Carbon monoxide
d.f.	degrees of freedom (in statistical analysis of data)
DETR	Department of the Environment Transport and the Regions (now Defra)
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EPA	Environmental Protection Act
EPAQS	Expert Panel on Air Quality Standards (UK panel)
EU	European Union
GIS	Geographical Information System
kerbside	0 to 1 m from the kerb
Limit Value	An EU definition for an air quality standard of a pollutant listed in the air quality directives
n	number of pairs of data
NAEI	National Atmospheric Emission Inventory
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
NRTF	National Road Traffic Forecast
ppb	parts per billion
r	the correlation coefficient (between two variables)
receptor	In the context of this study, the relevant location where air quality is assessed or predicted (for example, houses, hospitals and schools)
roadside	1 to 5 m from the kerb
SD	standard deviation (of a range of data)
SEPA	Scottish Environment Protection Agency
SO_2	Sulphur dioxide
TEA	Triethanolamine
TEMPRO	A piece of software produced by the Defra used to forecast traffic flow increases
TEOM	Tapered Element Oscillating Microbalance
TEOM (Grav.)	TEOM Measurements expressed as the equivalent value from a gravimetric monitor
V/V	Volume ratio

DEFRA Progress Report requirements compliance checklist
This section has been introduced to indicate where the work expected by DEFRA has been undertaken in relation to the Progress Report

Work area	Included or considered?	Location within the report and comments
General		
• Report progress on implementing air quality management	yes	Throughout
• Report progress in achieving or maintaining concentrations below objectives	yes	Throughout
Monitoring		
• Map of monitoring locations	yes	Chapter 5
• Include new monitoring locations AND results	yes	Chapter 5.7 & 5.3.3
• Summary of monitoring data and comparison to objectives.	yes	Chapter 5
• Details of monitoring locations	yes	Chapter 5.2
• QA/QC/ Bias/ Adjustment Factors and procedures for passive monitoring	yes	Chapter 5.4
• Details of the laboratory, tube preparation method, exposure period.	yes	Chapter 5.4
• Description of new monitoring sites and why they were set up.	yes	Chapter 5.7
• When reporting results, local circumstances that may have affected the results should be added.	yes	Chapter 5.5
• Evidence of trends over recent years should be included.	yes	Chapter 5.8
New Local Developments		
• New Part A Industrial Processes considered	yes	Chapter 6
• New Part B Industrial processes considered?	yes	Chapter 6
• New Retail Developments	yes	Chapter 6
• New Road Schemes	yes	Chapter 6
• New developments – Mineral	yes	Chapter 6
• New developments – Landfill Sites	yes	Chapter 6
• New developments – Mixed Use Developments	yes	Chapter 6
ADDITIONAL ELEMENTS :		
Progress on pollutants not covered by LAQM		
• Odour complaints	yes	Chapter 7.1
• Dust complaints	yes	Chapter 7. 2
• Radiation Monitoring	yes	Chapter 7. 3
Pro- Active work on Air Quality		
• Air Quality Strategy	yes	Chapter 9
• Working with Planners	yes	Chapter 10
• Local Transport Plans	yes	Chapter 11
• Planning Policy	yes	Chapter 10
Planning & Policies		
• Procedures	yes	Chapter 10
• Log of planning applications for new developments	yes	Chapter 10 & 6
• Major Developments	yes	Chapter 10 & 6
• Retail Developments	yes	Chapter 10 & 6
• List of policies in local plan	yes	Chapter 10
Local Transport Plans & Strategies		
• Is this considered in the Progress report?	yes	Chapter 11

1 Introduction to the Second Progress Report for Chiltern DC

1.1 PURPOSE OF THE PROGRESS REPORT

Progress reports have been introduced into the Air Quality Review & Assessment program to develop a longer-term vision for both LAQM and the Review & Assessment process. The need to keep the process going and prevent stop-starting of LAQM is seen as a method of ensuring continuity and keeping the profile and importance of air quality high.

The main aims of a Progress Report are to:

- retain the profile of LAQM within authorities
- provide a means for updating the public on air quality information
- help the Local Authority respond to requests for air quality information.
- provide key information and thinking to assist in other policy areas, such as transport and land use planning.
- provide a ready source of information on air quality for developers carrying out environmental assessments for new schemes.
- provide a timely indication of the need for further measures to improve air quality, rather than delaying until the next full round of Review & Assessment

1.2 AIMS OF THE REPORT

The overall aims of the Progress Report should be to:

- report progress on implementing local air quality management
- report progress in achieving, or in many cases maintaining, concentrations below the air quality objectives.

It is considered by DEFRA that these aims can best be achieved by addressing three main issues:

- New monitoring results
- New technical guidance
- New local developments that might affect local air quality.

1.3 RELEVANT GUIDANCE DOCUMENTATION

This report takes into account the guidance in:

LAQM.TG (03), published January 2003, LAQM.PRG (03) published January 2004, LAQM.PGA (05) published March 2005.

1.4 POLLUTANTS CONSIDERED IN THIS REPORT

All pollutants included in the Air Quality Regulations[2] for the purposes of Review and Assessment have been considered in this report.

2 The UK Air Quality Strategy

2.1 NATIONAL AIR QUALITY STANDARDS

The Government prepared the Air Quality Strategy for England, Scotland, Wales and Northern Ireland for consultation in August 1999. It was published in January 2000 (DETR, 2000). The Air Quality Strategy uses national air quality standards to enable air quality to be measured and assessed. These also provide the means by which objectives and timescales for the achievement of objectives can be set. These standards and associated specific objectives to be achieved between 2003 and 2010 are shown in Table 1.1. The table shows the standards in mass concentrations ($\mu g\ m^{-3}$) with the number of exceedences that are permitted (where applicable) and the equivalent percentile.

Table 1.1 Objectives included in the Air Quality Regulations 2000 and (Amendment) Regulations 2002 for the purpose of Local Air Quality Management

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene			
All authorities	16.25 $\mu g\ m^{-3}$	Running annual mean	31.12.2003
England & Wales only	5.00 $\mu g\ m^{-3}$	Annual mean	31.12.2010
Scotland & N. Ireland	3.25 $\mu g\ m^{-3}$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g\ m^{-3}$	Running annual mean	31.12.2003
Carbon monoxide			
England, Wales & NI only	10.0 $mg\ m^{-3}$	Maximum daily running 8-hour mean	31.12.2003
Scotland only	10.0 $\mu g\ m^{-3}$	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g\ m^{-3}$	Annual mean	31.12.2004
	0.25 $\mu g\ m^{-3}$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g\ m^{-3}$ not to be exceeded more than 18 times a year	1 hour mean	31.12.2005
	40 $\mu g\ m^{-3}$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g\ m^{-3}$, 35 times a year	24 hour mean	31.12.2004
All Authorities	40 $\mu g\ m^{-3}$	Annual mean	31.12.2004
Scotland only	50 $\mu g\ m^{-3}$, 7 times a year	24 hour mean	31.12.2010
	18 $\mu g\ m^{-3}$	Annual mean	31.12.2010
Sulphur dioxide	350 $\mu g\ m^{-3}$, 24 times a year	1 hour mean	31.12.2004
	125 $\mu g\ m^{-3}$, 3 times a year	24 hour mean	31.12.2004
	266 $\mu g\ m^{-3}$, 35 times a year	15 minute mean	31.12.2005

From the work undertaken in our Review & Assessment and USA it may be concluded that targets for 2003 were achieved.

2.2 TIMESCALES TO ACHIEVE THE OBJECTIVES FOR THE POLLUTANTS IN AIR QUALITY STRATEGY

In most local authorities in the UK, objectives will be met for most of the pollutants within the timescale of the objectives shown. The Government has recognised the problems associated with achieving the standard for ozone and this will not therefore be a statutory requirement. Ozone is a secondary pollutant and transboundary in nature and it is recognised that local authorities themselves can exert little influence on concentrations when they are the result of regional primary emission patterns.

Brief details of steps in the second Round of the Air Quality Review and Assessment process

Level of Assessment	Objective	Approach	Completed?
Updating and Screening	To identify those matters that have changed since the last review and assessment, which might lead to a risk of an air quality objective being exceeded	Use a checklist to identify significant changes that require further consideration. Where such changes are identified, than apply simple screening tools to decide whether there is sufficient risk of an exceedence of an objective to justify a Detailed Assessment	Yes, this stage was completed on schedule and the results accepted for all pollutants by DEFRA
Detailed Assessment	To provide an accurate assessment of the likelihood of an air quality objective being exceeded at locations with relevant exposure. This should be sufficiently detailed to allow the designation or amendment of any necessary AQMAs	Use quality-assured monitoring and validated modelling methods to determine current and future pollutant concentrations in areas where there is a significant risk of exceeding an air quality objective.	A Detailed Assessment was not required as a result of the findings of the USA report.
Annual Progress reports	Local authorities should prepare annual air quality Progress Reports between subsequent rounds of reviews and assessments.	Production of this will ensure continuity in the LAQM process.	This report represents Chilterns second Annual Progress Report.

3 Information used to support this report.

3.1 THE FIRST ROUND OF REVIEW AND ASSESSMENT OF AIR QUALITY FOR CHILTERN DISTRICT COUNCIL

Chiltern District Council has completed the following review and assessments of air quality in the first round.

- Stage 1 and Stage 2 (March 1999)

The Stage 1 and Stage 2 report concluded that air quality objectives within Chiltern district were likely to be met for 2005 and no further assessment was required in the first round of review and assessment.

The full report is available for download from www.chiltern.gov.uk/CLAIRE

3.2 THE UPDATING & SCREENING ASSESSMENT OF AIR QUALITY FOR CHILTERN DISTRICT COUNCIL

Chiltern District Council completed a USA for air quality in 2003. It concluded that the air quality objectives were likely to be met for all pollutants and a detailed assessment would not be required.

The full report is available for download from www.chiltern.gov.uk/CLAIRE

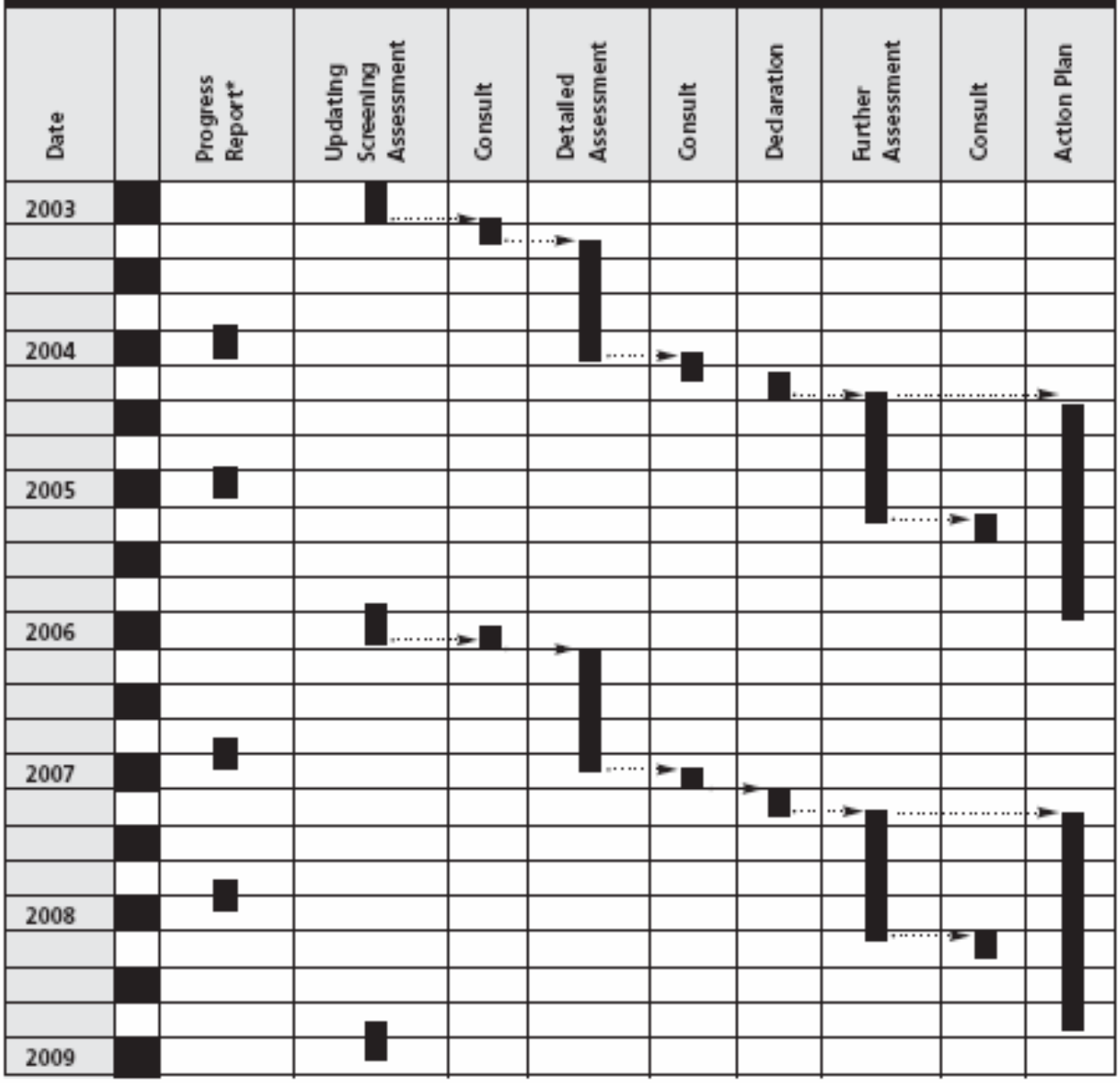
3.3 PROGRESS REPORT 2004

Chiltern District Council completed the progress report for air quality in 2004. It concluded that the air quality objectives were likely to be met for all pollutants and a detailed assessment would not be required. It did however recommend additional monitoring with passive diffusion tubes along Berkhampstead Road in Chesham. This area was showing the greatest elevations of Nitrogen Dioxide. The report was based on AEA Technology Intercomparison Bias.

The full report is available for download from www.chiltern.gov.uk/CLAIRE

3.4 SCHEDULE FOR FUTURE REPORTING

Box 1.2: Timetable for Progress Reports within Review and Assessment System



* This timetable for Progress Reports does not apply in Northern Ireland, nor in London in 2004. It also does not apply for any authority carrying out a Detailed Assessment in 2003/4 and 2006/7.

4 Conclusions from the last USA Report

4.1 CARBON MONOXIDE

Although there is no monitoring data for carbon monoxide within Chiltern district, it is unlikely that ambient concentrations are above the objective. There are no roads in the district with relevant exposure which can be classified as 'very busy' according to the criteria in the guidance. Consequently, Chiltern District Council was not required to carry out a Detailed Review and Assessment for carbon monoxide.

4.2 BENZENE

There are no roads in Chiltern which can be classified as 'very busy' according to the criteria in the guidance. There are no petrol stations with a throughput greater than 2 million litres and with relevant exposure within 10m of the pumps. Chiltern District Council was not required to carry out a Detailed Review and Assessment for benzene.

4.3 1,3-BUTADIENE

Estimated background concentrations indicate that the objective for 1,3-butadiene is likely to be achieved by the end of 2003. There are no significant industrial sources which have the potential to emit 1,3-butadiene. Consequently, Chiltern District Council was not required to carry out a Detailed Review and Assessment for 1,3-butadiene.

4.4 LEAD

Emissions of lead from industrial processes in and around Chiltern district are not likely to exceed the objectives for lead to be achieved in 2004 and 2008. The Council was not required to carry out a Detailed Review and Assessment for lead.

4.5 NITROGEN DIOXIDE

There are no significant industrial sources of nitrogen dioxide in Chiltern district. The DMRB screening tool indicates that nitrogen dioxide levels at sites of relevant exposure alongside the district's roads are unlikely to exceed the 2005 annual mean limit value. Furthermore, diffusion tube data also indicate that the 2005 annual mean nitrogen dioxide concentrations will be below the limit value at the measurement sites. Consequently Chiltern District Council was not required to carry out a Detailed Review and Assessment for nitrogen dioxide in 2004.

4.6 SULPHUR DIOXIDE

There are no significant industrial or domestic sources of sulphur dioxide in Chiltern district. Chiltern District Council was not required to carry out a Detailed Review and Assessment for sulphur dioxide.

4.7 PM_{10}

The DMRB screening model indicates that the annual mean objective of 40 μgm^{-3} for PM_{10} will be met in 2004 and the number of 24-hour mean exceedences is likely to be lower than 35 at receptors near road junctions. Chiltern District Council was not required to undertake a detailed assessment for PM_{10}.

The 2010 annual mean may exceed 20 μgm^{-3} at relevant locations in 2010 due, in part, to the background contribution predicted by the NAEI for PM_{10} being very near the objective.

4.8 SUMMARY AND RECOMMENDATIONS OF THE USA

Chiltern District Council was not required to undertake a detailed review and assessment for any Air Quality Strategy pollutants, based on the technical guidance. This was agreed by DEFRA.

5 New Monitoring Results

We have continued to monitor air quality using passive nitrogen dioxide tubes. The locations of all the sites can be seen on the map below. An interactive version can be found on the CLAIRE website at www.chiltern.gov.uk/CLAIRE. We do not currently have an automatic continuous monitor and there are no national network monitoring sites within the district.

The district has several air quality monitoring locations for nitrogen dioxide which use diffusion tubes and this network was expanded following the USA report in 2003 and again after last years Progress Report. At the time of writing this report, we monitor at 27 roadside locations and 1 background location.

Benzene monitoring was undertaken in 1998 and 1999 but there are currently no benzene monitoring sites in the District.

There are two general types of air pollution monitoring available to test the quality of the air: automatic and non-automatic.

5.1 TYPES OF MONITORING

5.1.1 Non-automatic:

In the Chiltern District we have a network of non automated 'diffusion tubes'. These provide a relatively simple method of screening air quality in an area, to give a general indication of average pollution concentrations over a period of weeks or months.

The sampler consists of a small plastic tube open at one end and an absorbent packed at the other. The absorbent used depends on the pollutant gas to be monitored; we measure nitrogen dioxide as it is a good indicator of traffic related emissions. We have also in the past undertaken benzene monitoring.

Tubes are exposed for four weeks at a time and then sent to a laboratory for analysis.

This technique is useful in highlighting 'hotspots' of high concentrations where more detailed studies may be required in the future. We have recently increased the number of monitoring locations from 13 to 25 and also incorporated dual located sites and co-location of tubes at neighbouring automatic sites. This allows for greater coverage of the district and also better accuracy and precision.

5.1.2 Automatic Monitors:

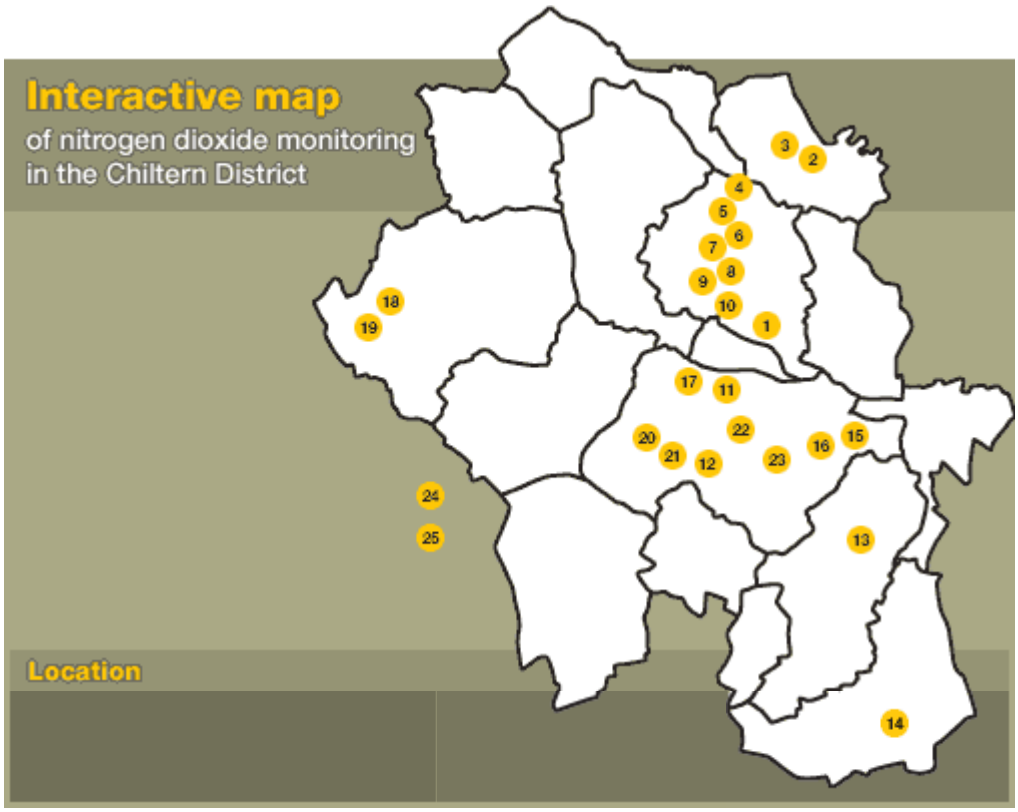
Chiltern is part of the Bucks Air Quality Management Group, and as such is able to work closely with neighbouring authorities. At this time it is felt that we do not require a continuous monitor of our own and that the non-automatic monitoring is able to provide us with an acceptable picture of air quality across the district. Automatic monitors are very expensive to purchase and maintain with regular calibrations and on site attention needed very frequently.

We do, however, have full access to 'background' continuous monitoring results from both Wycombe DC and Aylesbury Vale DC in order to monitor changes continuously. These produce high-resolution measurements for pollutants such as ozone, oxides of nitrogen, sulphur dioxide, carbon monoxide and PM10 particulates.

5.2 THE LOCATION OF MONITORING UNDERTAKEN IN THE CHILTERN DISTRICT.

5.2.1 Map to show location of monitoring for Nitrogen Dioxide in Chiltern.

The following map shows the locations of current monitoring sites at the time of writing this report, an interactive version is also available on CLAIRE.



5.2.2 Chiltern monitoring locations and their current status.

Site ID	Location	Distance from Kerb	In Use? 2004/5
1	Moor Road Chesham	NA	✗
2	St Mary's Way Chesham	1m	✓
3	Broad Street Chesham, bottom of White Hill	NA	✗
4	Nashleigh Hill Chesham	NA	✗
5	Tesco Petrol Station Old Amersham	NA	✗
6	London Road West Amersham, bottom of Station Road	NA	✗
7	Hill Avenue Amersham	NA	✗
8	Sycamore Road Amersham	NA	✗
9	Rickmansworth Road Amersham	NA	✓
10	High Street Chalfont St Peter	1m	✓
11	White Lion Road Amersham	NA	✓
12	Chalfont Station Road, Nightingales Corner	NA	✓
13	The Pheasant Chalfont St Giles	1.2m	✓
14	Gore Hill Old Amersham	1.5m	✓
15	Stanley Hill Amersham	1m	✓
16	Chesham Police Station, Broad Street	1m	✓
17	Chesham flats by opticians, Broad Street	1.2m	✓
18	Jolly Sportsman Pub,End of Berkhampstead Road	1.2m	✓
19	Chesham opp 170 Berkhampstead Road	1m	✓
20	Chesham at 305 Berkhampstead Road	1m	✓
21	Chesham by 336 Berkhampstead Road	1m	✓
22	Chesham opposite 5 Nashleigh Hill Chesham nr Petrol	1m	✓
23	Chesham opposite St Columba Church, Berkhampstead Rd	1m	✓
24	Ashley green , by speed Camera, Chesham ROAD	0.5m	✓
25	Ashley green , by Bus stop/Church, Chesham ROAD	1.2m	✓
26	Little Chalfont, on back of sign	5m	✓
27	Nightingales Corner, on sign on roundabout,	2m	✓
28	Hervines Park, on drain pipe on town building	BACKGROUND	✓
29	End of Broombarn Lane, Great Missenden, on sign	0.5m	✓
30	Outside Chequers Pub, Prestwood	1m	✓
31	Old Amersham near speed calming measures	0.5m	✓
32	Amersham Hospital, Whielden Street, Next to fly over	In Road on speed calming	✓
33	Bottom of Stanley Hill, Amersham	1m	✓
34	Station Road, Amersham, opp number 76	1m	✓
35	Jolly Sportsman Public House 2nd Dual Tube	1.2m	✓
36	Opposite side of road to Jolly Sportsman	1.2m	✓

5.3 NEW MONITORING SITES

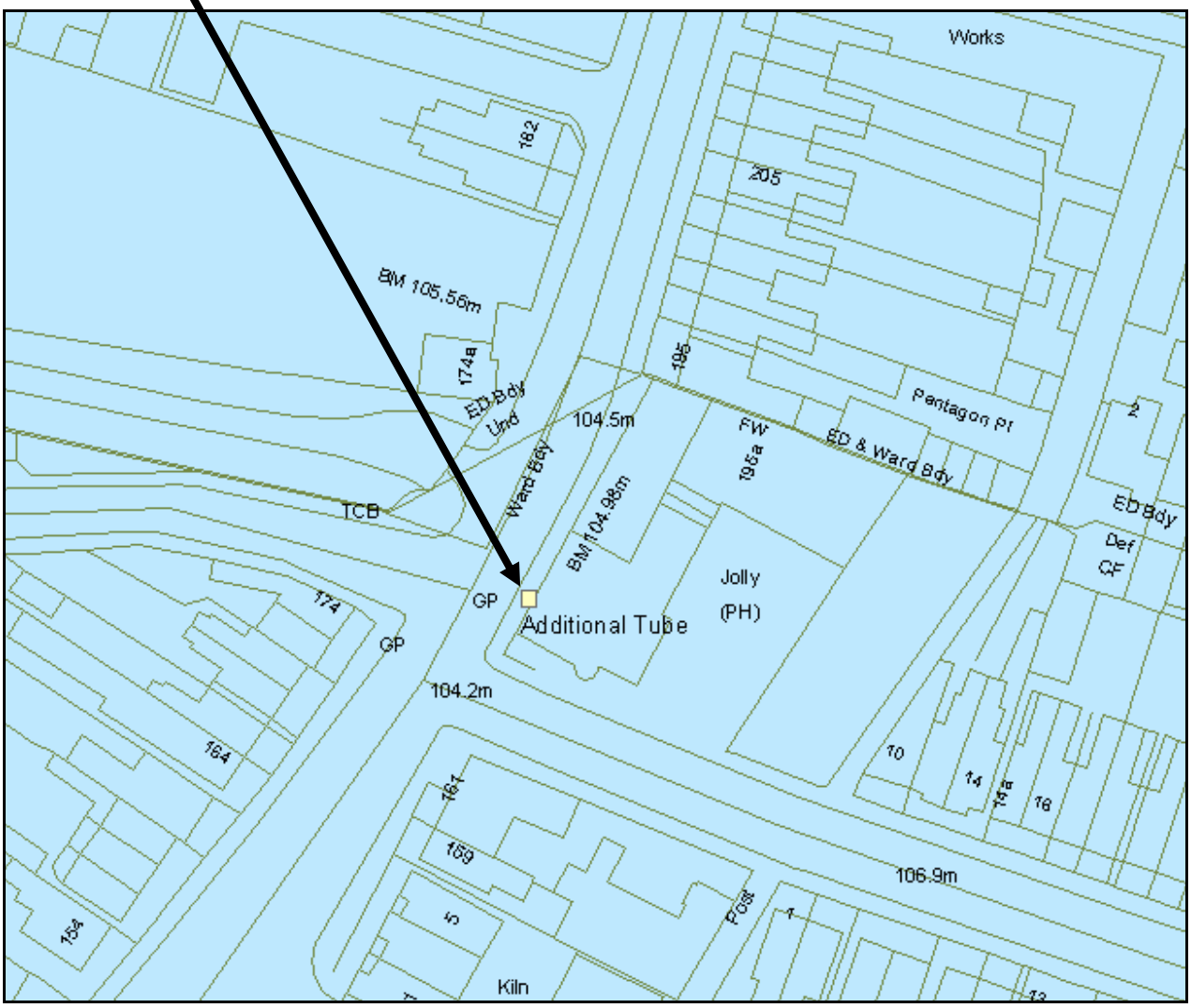
5.3.1 Reasons for new site selections

In 2003, we managed to secure funding for an additional 22 NO2 monitoring tubes. Some of these were used to provide duplicate tubes at some sites and some were used to cover areas that we considered may have the potential to have elevated levels and a corresponding receptor. (Exact details of the locations can be found online at CLAIRE, or in last years Progress Report)

In 2004, we extended this further by adding another tube in Berkhampstead Road in the area highlighted to be of elevated Nitrogen Dioxide and also across the road from this location. Detailed below are the 2 new tube locations:

5.3.2 Additional Co-Location tube, Jolly Sportsman Public House.

Location Map



Type:

Road/Kerbside location

Description:

This site was chosen based on the elevated Nitrogen Dioxide readings of last year.

5.3.3 Corner of Berkhampstead Road and

Location Map

Type:

Road/Kerbside location

Description:

This site was chosen based on the elevated Nitrogen Dioxide readings of last year in this area. It is located across the road from the Jolly Sportsman Public House at the same junction.

5.4 SUMMARY TABLES OF CONCENTRATIONS:

IMPORTANT:
Please note that values from the 2002 data set below have been recalculated using the newer bias adjustment factors from the DEFRA co-location database that were not available at the time of writing the original reports.

5.4.1 Historical Data 2002

Annual Mean Nitrogen Dioxide Concentrations μgm^{-3} (2002)

Site ID	Location	YEAR AVER	ORIGINAL NETCEN	NEW BIAS CORRECT	NEW 2005 PREDICTED
1	Moor Road Chesham	20.4	18.1	25.9	23.84
2	St Mary's Way Chesham	31.6	28.1	40.1	36.91
3	Broad Street Chesham, bottom of White Hill	27.1	24.1	34.41	31.68
4	Nashleigh Hill Chesham	27.6	24.6	35.05	32.26
5	Tesco Petrol Station Old Amersham	26.2	23.3	33.27	30.63
6	London Road West Amersham, bottom of Station Road	28.4	25.3	36.06	33.19
7	Hill Avenue Amersham	20.7	18.5	26.29	24.20
8	Sycamore Road Amersham	30.4	27.1	38.6	35.53
9	Rickmansworth Road Amersham	22.8	20.3	28.95	26.65
10	High Street Chalfont St Peter	27.6	24.6	35.05	32.26
11	White Lion Road Amersham	24.1	21.4	30.61	28.18
12	Chalfont Station Road, Nightingales Corner	24.3	21.7	30.86	28.41
13	The Pheasant Chalfont St Giles	28	25	35.56	32.73
14	Gore Hill Old Amersham	29.8	26.5	37.84	34.83
15	Stanley Hill Amersham	28.3	25.2	35.94	33.08
16	Chesham Police Station, Broad Street	26.3	23.4	33.4	30.75
17	Chesham flats by opticians, Broad Street	32.3	28.8	41.02	37.76
18	Chesham Jolly Sportsman Pub, End of Berkhampstead Road	38	33.8	48.26	44.43
19	Chesham opp 170 Berkhampstead Road	29.6	26.4	37.6	34.61
20	Chesham at 305 Berkhampstead Road	28	24.9	35.56	32.73
21	Chesham by 336 Berkhampstead Road	33.5	29.8	42.54	39.16
22	Chesham opposite 5 Nashleigh Hill Chesham nr Petrol	26	23.2	33.02	30.40
23	Chesham opposite St Columba Church, Berkhampstead Rd	22.6	20.1	28.7	26.42
24	Ashley green , by speed Camera, Chesham Road	16.9	15	21.46	19.75
25	Ashley green , by Bus stop/Church, Chesham road	21.8	19.4	27.68	25.48

5.4.2 Historical Data 2003

Annual Mean Nitrogen Dioxide Concentrations μgm^{-3} (2003)

Site ID	Location	YEAR AVER	ORIGINAL NETCEN	BIAS CORRECT	2005 PREDICTED
1	Moor Road Chesham	-	-	-	-
2	St Mary's Way Chesham	32.4	28.8	34.35	32.53
3	Broad Street Chesham, bottom of White Hill	-	-	-	-
4	Nashleigh Hill Chesham	-	-	-	-
5	Tesco Petrol Station Old Amersham	-	-	-	-
6	London Road West Amersham, bottom of Station Road	-	-	-	-
7	Hill Avenue Amersham	-	-	-	-
8	Sycamore Road Amersham	-	-	-	-
9	Rickmansworth Road Amersham	28	24.9	29.68	28.11
10	High Street Chalfont St Peter	27.3	24.3	28.9	27.37
11	White Lion Road Amersham	-	-	-	-
12	Chalfont Station Road, Nightingales Corner	-	-	-	-
13	The Pheasant Chalfont St Giles	36.6	32.6	38.8	36.74
14	Gore Hill Old Amersham	36.8	32.6	39.01	36.94
15	Stanley Hill Amersham	-	-	-	-
16	Chesham Police Station, Broad Street	37	33	39.22	37.14
17	Chesham flats by opticians, Broad Street	36.3	32	38.48	36.44
18	Chesham Jolly Sportsman Pub, End of Berkhampstead Road	42.9	38.2	45.47	43.06
19	Chesham opp 170 Berkhampstead Road	38	33.8	40.28	38.14
20	Chesham at 305 Berkhampstead Road	33.4	30	35.4	33.52
21	Chesham by 336 Berkhampstead Road	32.7	29.1	34.66	32.82
22	Chesham opposite 5 Nashleigh Hill Chesham nr Petrol	28.8	25.6	30.53	28.91
23	Chesham opposite St Columba Church, Berkhampstead Rd	27.4	24.4	29.04	27.5
24	Ashley green , by speed Camera, Chesham Road	23.9	21.3	25.33	23.98
25	Ashley green , by Bus stop/Church, Chesham road	23.1	20.6	24.48	23.18
26	Little Chalfont, on back of sign	19.9	17.7	21.09	19.97
27	Nightingales Corner, on sign on roundabout,	30.1	26.8	31.91	30.22
28	Hervines Park, on drain pipe on town building	17.6	15.7	18.65	17.66
29	End of Broombarn Lane, Great Missenden, on sign	22.8	20.3	24.17	22.89
30	Outside Chequers Pub, Prestwood	22.4	19.9	23.74	22.48
31	Old Amersham near speed calming measures	22.2	19.75	23.53	22.28
32	Amersham Hospital, Whielden Street, Next to fly over	30	26.7	31.8	30.11
33	Bottom of Stanley Hill, Amersham	33	29.4	34.98	33.13
34	Station Road, Amersham, opp number 76	34	30.3	36.04	34.13
35	Jolly Sportsman Public House 2nd Dual Tube	NA	NA	NA	NA
36	Opposite side of road to Jolly Sportsman	NA	NA	NA	NA

Please note that final values from the 2003 data set above have been recalculated using the newer bias adjustment factors from the DEFRA co-location database that were not available at the time of writing the original reports.

5.4.3 New Data 2004

Annual Mean Nitrogen Dioxide Concentrations μgm^{-3} (2004)

Site ID	Location	YEAR AVER	BIAS CORRECT	2005 PREDICTED
1	Moor Road Chesham	-	-	-
2	St Mary's Way Chesham	30.53	33.58	32.71
3	Broad Street Chesham, bottom of White Hill	-	-	-
4	Nashleigh Hill Chesham	-	-	-
5	Tesco Petrol Station Old Amersham	-	-	-
6	London Road West Amersham, bottom of Station Road	-	-	-
7	Hill Avenue Amersham	-	-	-
8	Sycamore Road Amersham	-	-	-
9	Rickmansworth Road Amersham	27.24	29.96	29.18
10	High Street Chalfont St Peter	31.07	34.17	33.28
11	White Lion Road Amersham	-	-	-
12	Chalfont Station Road, Nightingales Corner	-	-	-
13	The Pheasant Chalfont St Giles	33.87	37.26	36.29
14	Gore Hill Old Amersham	35.1	38.61	37.6
15	Stanley Hill Amersham	-	-	-
16	Chesham Police Station, Broad Street	37.97	41.77	40.68
17	Chesham flats by opticians, Broad Street	39.89	43.87	42.73
18	Chesham Jolly Sportsman Pub, End of Berkhampstead Road	37.93	41.72	40.63
19	Chesham opp 170 Berkhampstead Road	42.86	47.1	45.87
20	Chesham at 305 Berkhampstead Road	34.62	38.08	37.09
21	Chesham by 336 Berkhampstead Road	35.47	39.02	38
22	Chesham opposite 5 Nashleigh Hill Chesham nr Petrol	30.45	33.49	32.62
23	Chesham opposite St Columba Church, Berkhampstead Rd	28.84	31.72	30.89
24	Ashley green , by speed Camera, Chesham Road	20.41	22.45	21.86
25	Ashley green , by Bus stop/Church, Chesham road	21.49	23.63	23.01
26	Little Chalfont, on back of sign	20.97	23.07	22.47
27	Nightingales Corner, on sign on roundabout,	27.73	30.5	29.27
28	Hervines Park, on drain pipe on town building	15.9	17.49	17.03
29	End of Broombarn Lane, Great Missenden, on sign	21.25	23.37	22.76
30	Outside Chequers Pub, Prestwood	24.33	26.76	26.06
31	Old Amersham near speed calming measures	24.35	26.78	26.08
32	Amersham Hospital, Whielden Street, Next to fly over	29.73	32.7	31.85
33	Bottom of Stanley Hill, Amersham	34.22	37.64	36.66
34	Station Road, Amersham, opp number 76	30.99	34.09	33.2
35	Jolly Sportsman Public House 2nd Dual Tube	37.02	40.72	39.66
36	Opposite side of road to Jolly Sportsman	29.26	32.19	31.35

5.4.4 Key to results tables:

YEAR AVE =	Original (uncorrected) measured value for the year
ORIGINAL NETCEN =	Corrected value based on AEA Intercomparison
BIAS CORRECT =	New corrected value based on Co-Location Database
2005 PREDICTED =	Predicted Final Value for 2005

5.4.5 Bias Adjustments:

Bias adjustment was calculated using the following calculations:

Lab Bias Correction based on DEFRA Guidance as noted below

Final Factor from Co-Location Database: **1.10**

Overall Factor (12 studies) ,
Gradko,
50% TEA in Acetone,

5.4.6 Forward tracking predictions to 2005:

This was undertaken using the latest technical guidance issued by DEFRA. It was also repeated on historical data in 2002 and 2003. the exact formula is detailed below:

Technical guidance 2004 to 2005 conversion = 0.892/0.915
x value
therefore 0.974 x value

5.5 QUALITY, ADJUSTMENTS & BIAS

5.5.1 General Quality Control:

Monitoring is undertaken on a monthly basis for Nitrogen Dioxide.

Incoming samples are stored in a fridge used solely for this purpose. Exposed tubes are packaged in an airtight bag for return to the laboratory for analysis. The lab (Gradko) monitors accuracy on a monthly basis with an external proficiency scheme (Workplace Analysis Scheme for Efficiency). The lab also partakes in the NETCEN Field Inter-comparison Exercise. The lab also works in accordance of UKAS Accreditation for Nitrogen Dioxide passive tubes.

The lab previous to this was GMSS but used the same tube method. Since the USA, the monitoring sites are nearly all ‘dual tube’ to provide greater precision and reliability.

5.5.2 Adjustments and Bias Correction:

Following discussions with the Review and Assessment Helpdesk a new set of co-location data was provided for use on 2004 data. This was made up of 12 studies and therefore can be considered suitably detailed for proposed use as a bias adjustment for Gradko, 50% TEA in Acetone tubes.

In the last progress report, USA and Stage 2 assessment, the AEA Tech Inter-comparison bias value was used. For the purpose of identifying trends it was also felt that bias factors from the database should be retrospectively applied to both 2002 and 2003 data. These have been incorporated into the tables and figures.

5.5.3 Data Collection period:

Another factor that may have contributed to an increase for 2004 is that the May and July monitoring periods were not available due to Laboratory Error and therefore the year 2004 is based upon 10 months of data. In addition it may be speculated that the months of May and July should see some of the lowest readings as schools, universities would be on half term holiday and summer holidays in July.

5.6 LOCAL CIRCUMSTANCES

There are no significant industrial sources of nitrogen dioxide in Chiltern district. The DMRB screening tool used for the USA indicated that nitrogen dioxide levels at sites of relevant exposure alongside the district's roads were unlikely to exceed the 2005 annual mean limit value.

Diffusion tube data from the USA and also the further monitoring data gained since then also indicate that the 2005 annual mean nitrogen dioxide concentrations will be below the limit value at all sites except Berkhampstead road/ Broad Street in Chesham. The sites along Berkhampstead road are kerbside/roadside and are not located on the facade of the residential/ commercial buildings along the road.

5.7 DISCUSSION OF RESULTS

5.7.1 Amersham areas:

Looking at the 2004 results it can be seen that all monitored areas of Amersham are predicted to meet the 2005 targets for Nitrogen Dioxide, based on passive monitoring.

5.7.2 Chesham areas:

Elevated levels can be seen along Berkhampstead Road/ Broad Street. Bias correction is at a level of 1.10 and this is therefore providing a large adjustment to the actual raw data collected.

Site ID	Location	2002	2003	2004
				(Figures predicted to 2005)
16	Chesham Police Station, Broad Street	30.75	37.14	40.68
17	Chesham flats by opticians, Broad Street	37.76	36.44	42.73
18	Chesham Jolly Sportsman Pub, End of Berkhampstead Road	44.43	43.06	40.63
19	Chesham opp 170 Berkhampstead Road	34.61	38.14	45.87
35	Jolly Sportsman Public House 2nd Dual Tube	-	-	39.66

The locations of each of the monitors is kerbside, each within a meter of the kerb. They were also positioned carefully as to represent the worst possible locations along the road (next to junctions etc). It is therefore considered that they are representative of worst case positions.

It is important at this stage to note that they DO NOT represent actual levels at potential receptor sites as defined under LAQM guidance, but kerbside levels. However, if the bias correction figure is considered to be as accurate as possible it would appear that there is potential for exceedences of the National Air Quality Objectives for the 2055 Nitrogen Dioxide target at the measured locations.

It is therefore proposed that a more detailed assessment for this stretch of road is undertaken either with additional passive monitoring at actual receptor locations (i.e. residential building facades) or with modelling. This would be undertaken following feedback from DEFRA and before the next official Review & Assessment stage.

5.7.3 Other areas:

All other areas that have been measured outside of the main urban areas of Amersham and Chesham are predicted to meet the 2005 targets for Nitrogen Dioxide, based on the passive monitoring results.

5.7.4 Background:

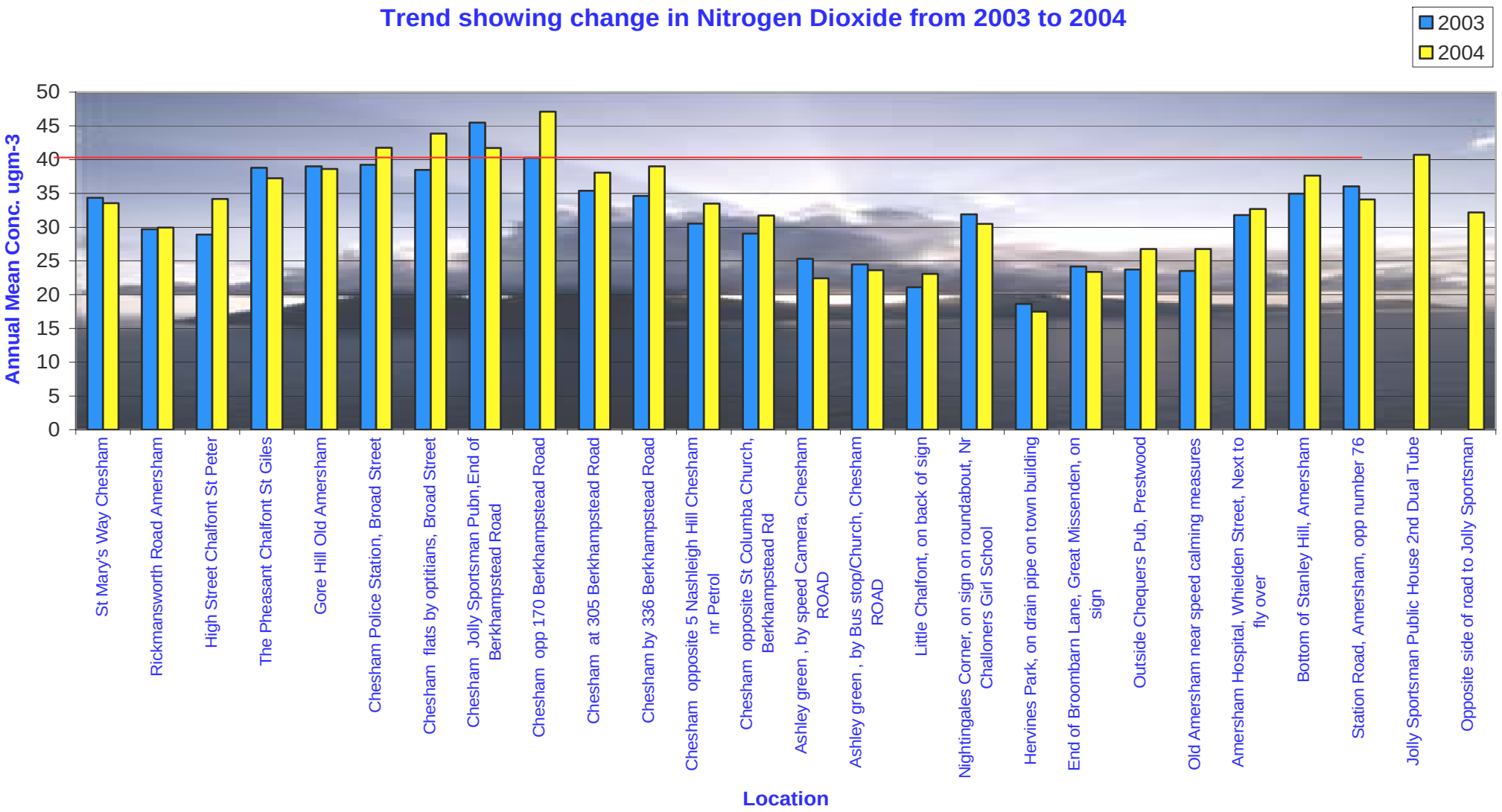
The background site was selected to provide a benchmark to measure other sites against and establish a ‘best case’ level for the majority of the district. It can be seen that this location will meet the 2005 target for Nitrogen Dioxide based on passive monitoring.

5.8 TRENDS IN CONCENTRATIONS (FOR LAST 3 YEARS):

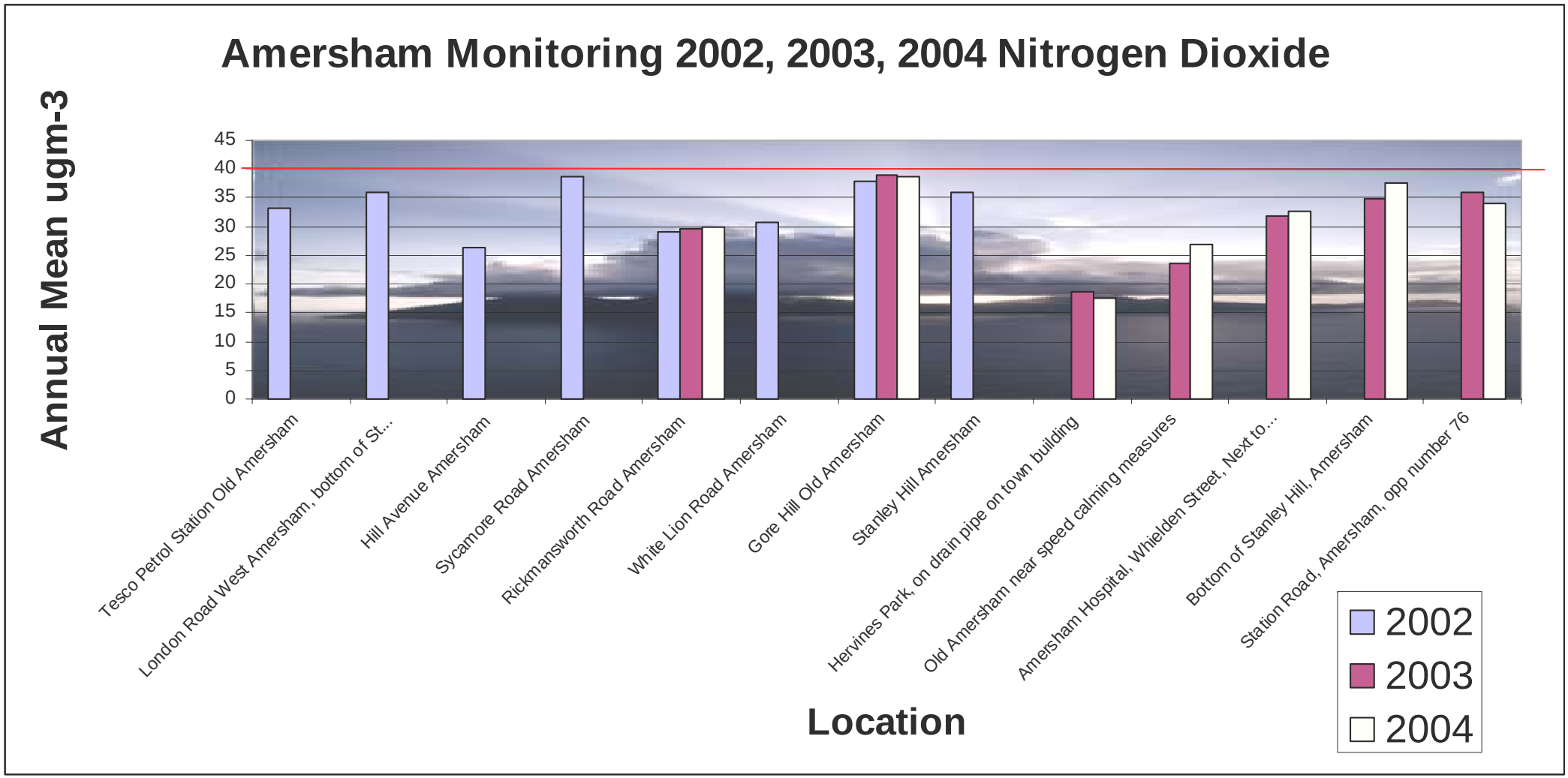
The table below shows the bias corrected results of NO_2 monitoring over the last 3 years.

Site ID	Location	2002	2003	2004
1	Moor Road Chesham	25.9	NA	NA
2	St Mary's Way Chesham	40.1	34.35	33.58
3	Broad Street Chesham, bottom of White Hill	34.41	NA	NA
4	Nashleigh Hill Chesham	35.05	NA	NA
5	Tesco Petrol Station Old Amersham	33.27	NA	NA
6	London Road West Amersham, bottom of Station Road	36.06	NA	NA
7	Hill Avenue Amersham	26.29	NA	NA
8	Sycamore Road Amersham	38.6	NA	NA
9	Rickmansworth Road Amersham	28.95	29.68	29.96
10	High Street Chalfont St Peter	35.05	28.9	34.17
11	White Lion Road Amersham	30.61	NA	NA
12	Chalfont Station Road, Nightingales Corner	30.86	NA	NA
13	The Pheasant Chalfont St Giles	35.56	38.8	37.26
14	Gore Hill Old Amersham	37.84	39.01	38.61
15	Stanley Hill Amersham	35.94	NA	NA
16	Chesham Police Station, Broad Street	33.4	39.22	41.77
17	Chesham flats by opticians, Broad Street	41.02	38.48	43.87
18	Chesham Jolly Sportsman Pub, End of Berkhampstead Road	48.26	45.47	41.72
19	Chesham opp 170 Berkhampstead Road	37.6	40.28	47.1
20	Chesham at 305 Berkhampstead Road	35.56	35.4	38.08
21	Chesham by 336 Berkhampstead Road	42.54	34.66	39.02
22	Chesham opposite 5 Nashleigh Hill Chesham nr Petrol	33.02	30.53	33.49
23	Chesham opposite St Columba Church, Berkhampstead Rd	28.7	29.04	31.72
24	Ashley green , by speed Camera, Chesham Road	21.46	25.33	22.45
25	Ashley green , by Bus stop/Church, Chesham road	27.68	24.48	23.63
26	Little Chalfont, on back of sign	NA	21.09	23.07
27	Nightingales Corner, on sign on roundabout,	NA	31.91	30.5
28	Hervines Park, on drain pipe on town building	NA	18.65	17.49
29	End of Broombarn Lane, Great Missenden, on sign	NA	24.17	23.37
30	Outside Chequers Pub, Prestwood	NA	23.74	26.76
31	Old Amersham near speed calming measures	NA	23.53	26.78
32	Amersham Hospital, Whielden Street, Next to fly over	NA	31.8	32.7
33	Bottom of Stanley Hill, Amersham	NA	34.98	37.64
34	Station Road, Amersham, opp number 76	NA	36.04	34.09
35	Jolly Sportsman Public House 2nd Dual Tube	NA	NA	40.72
36	Opposite side of road to Jolly Sportsman	NA	NA	32.19

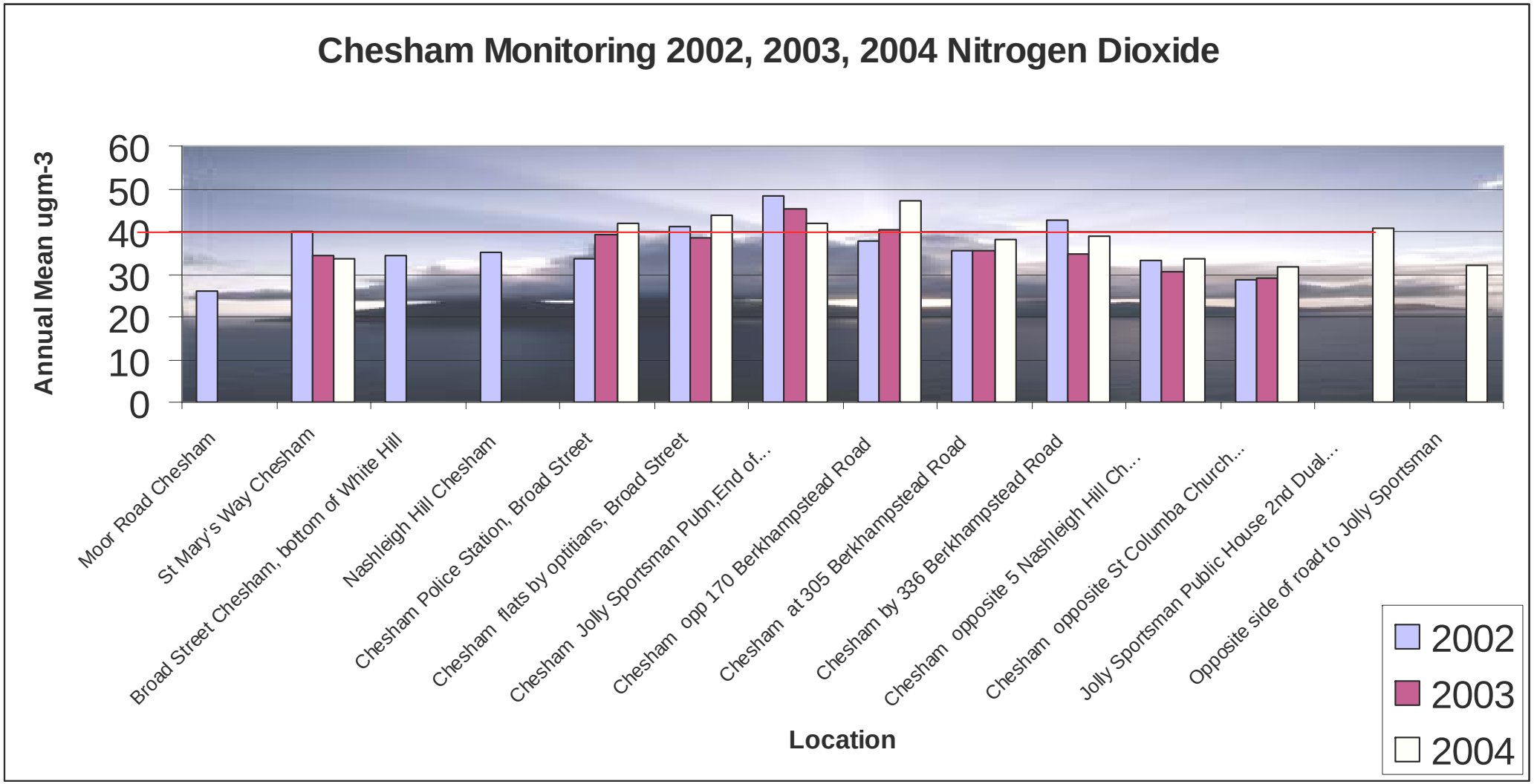
5.8.1 Graph to show overall trends of Nitrogen Dioxide across the District:



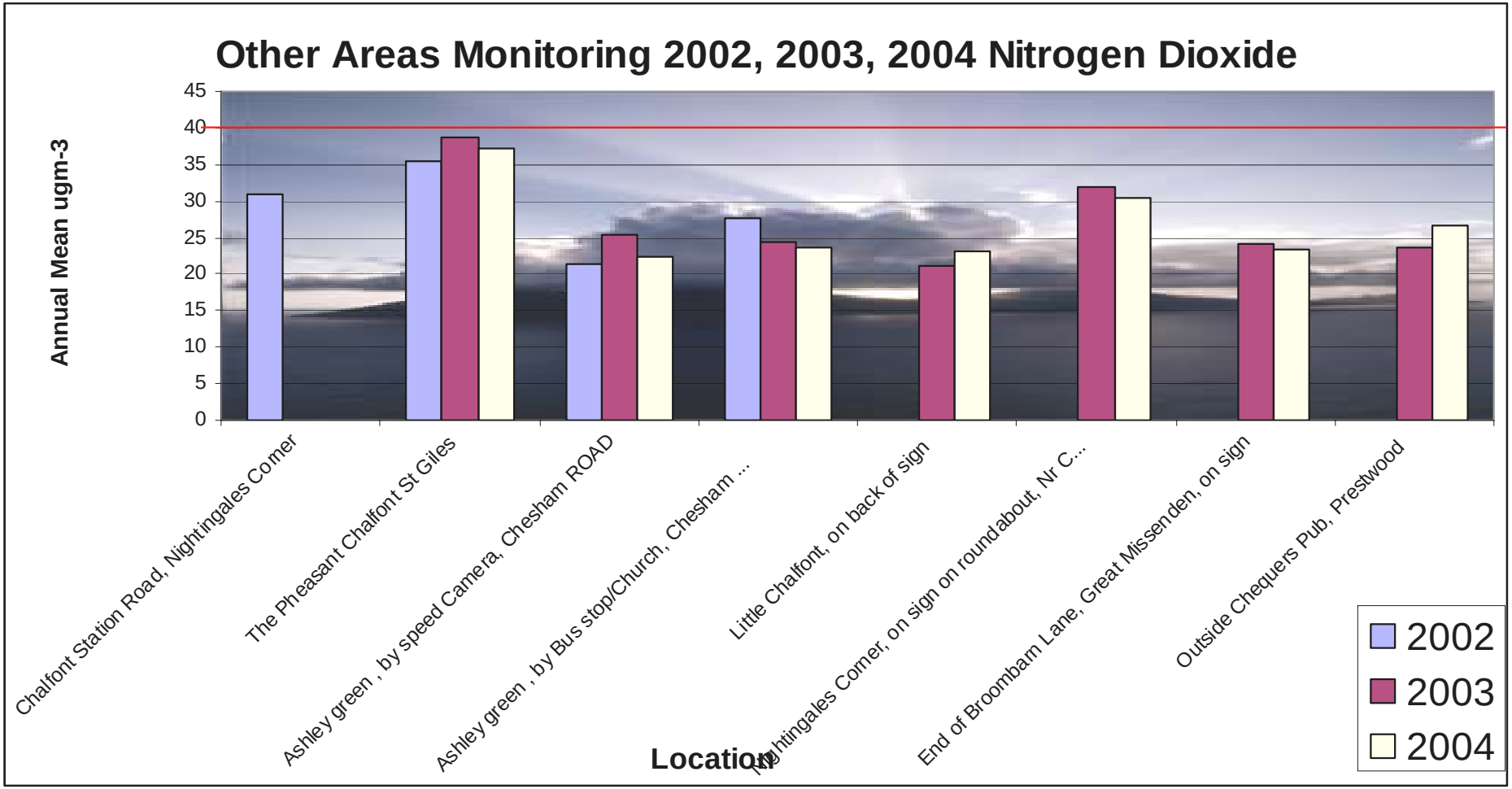
5.8.2 Graph to show overall trends of Nitrogen Dioxide across Amersham:



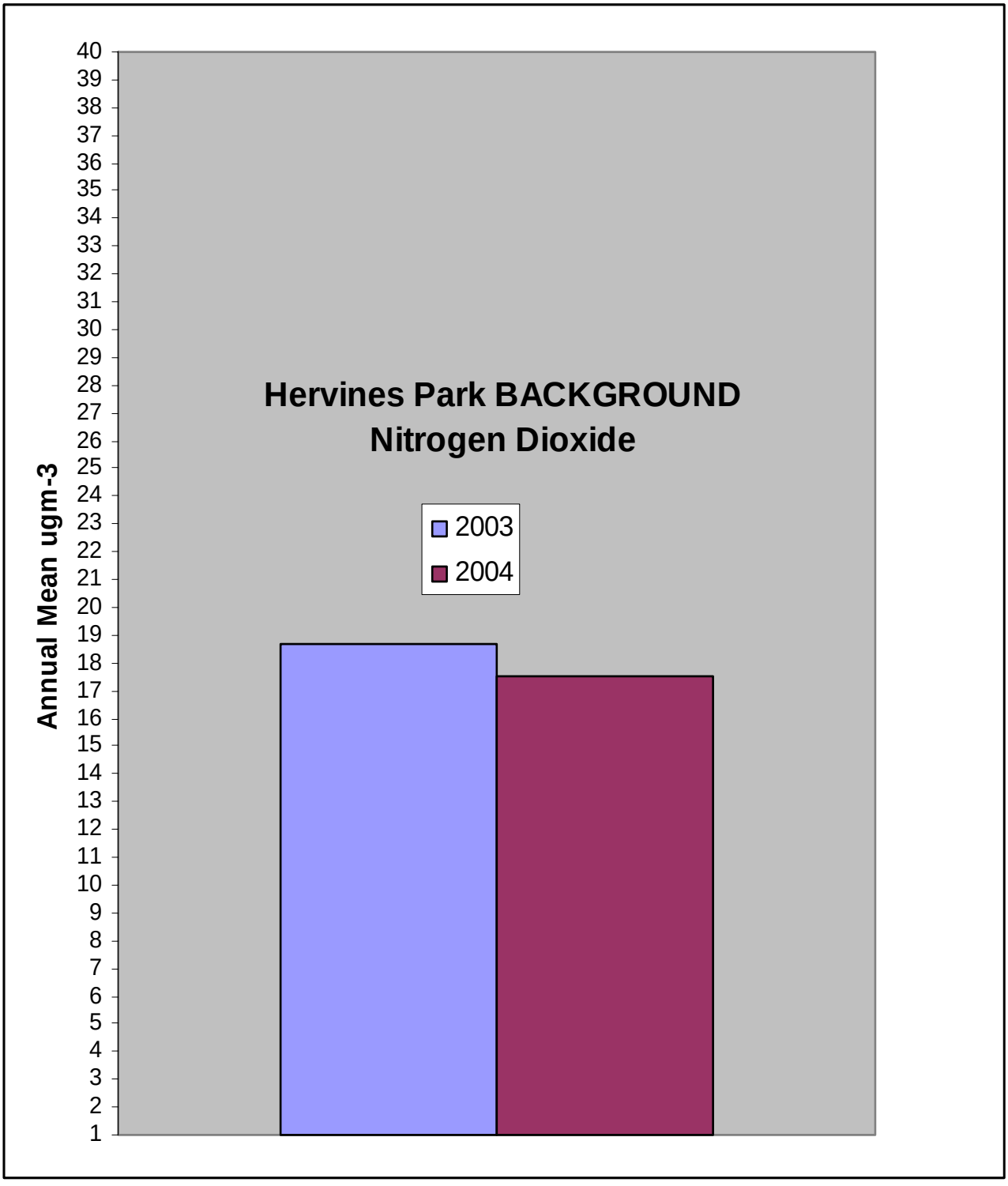
5.8.3 Graph to show overall trends of Nitrogen Dioxide across Chesham



5.8.4 Graph to show overall trends of Nitrogen Dioxide across the District:



5.8.5 Graph to show overall trends of Nitrogen Dioxide at our Background monitoring location.



5.8.6 Trends

2003 to 2004: Out of 24 sites monitored over both years, 10 showed decreases in concentrations. The remaining 14 showed very slight increases.

Background monitoring is also now undertaken and this showed a slight decrease from 18.65 to 17.49 ugm-3. The background site is located away from any major roads in a park area.

Looking at all the results, with comparison to past years, a definitive pattern or trend for the whole District is not visible at this time.

5.9 MONITORING (OTHER POLLUTANTS):

5.9.1 Carbon Monoxide

There are still no roads in the district with relevant exposure which can be classified as 'very busy' (see p43 of Chilterns USA report for definitions) according to the criteria in the guidance. Consequently, Chiltern District Council was not required to carry out a Detailed Review and has not undertaken any additional monitoring.

5.9.2 Benzene

There are no roads in Chiltern which can be classified as 'very busy' according to the criteria in the guidance. There are no petrol stations with a throughput greater than 2 million litres and with relevant exposure within 10m of the pumps. Chiltern District Council was not required to carry out a Detailed Review and has therefore not undertaken any additional monitoring

5.9.3 1,3 Butadiene

There are no significant industrial sources which have the potential to emit 1,3-butadiene. Consequently, Chiltern District Council was not required to carry out a Detailed Review and Assessment for 1,3-butadiene and has not undertaken further monitoring.

5.9.4 Lead

Emissions of lead from industrial processes in and around Chiltern district are not likely to exceed the objectives for lead to be achieved in 2004 and 2008. The Council was not required to carry out a Detailed Review and Assessment for lead.

5.9.5 Sulphur Dioxide

There are no significant industrial or domestic sources of sulphur dioxide in Chiltern district. Chiltern District Council was not required to carry out a Detailed Review and Assessment for sulphur dioxide. Since the USA, there has not been any significant industrial activity that may have resulted in any change to the situation.

5.9.6 PM10

The DMRB screening model indicated that the annual mean objective of 40 μgm^{-3} for PM_{10} will be met in 2004 and the number of 24-hour mean exceedences is likely to be lower than 35 at receptors near road junctions. Chiltern District Council was not required to undertake a detailed assessment for PM_{10}.

The DMRB model predicted that annual mean concentration 24-hour exceedence targets will be met in 2004. In addition, the predicted number of exceedences of the daily mean

concentration would be lower than the objectives in 2004 and 2010. The predicted 2010 annual mean concentration is higher than the 2010 objective concentration of 20 µg m^{-3} at locations near the M25 however; there is still no relevant exposure in the district at locations near to the M25.

The 2010 annual mean may exceed 20 μgm^{-3} at relevant locations in 2010 due, in part, to the background contribution predicted by the NAEI for PM_{10} being very near the objective. We will continue to give PM10 a higher priority for this reason in future Review & Assessments.

6 NEW LOCAL DEVELOPMENTS:

PROPOSED DEVELOPMENTS WHICH MAY AFFECT AIR QUALITY:

6.1 INDUSTRY

There are no significant industrial developments currently planned in the district or have taken place since last years report was prepared.

6.2 PART A, A2 AND B INDUSTRIAL PROCESSES

There are several Part B Industrial processes in the district but no Part A processes. A full list is given in Appendix 2. Emission data has been supplied to the council for selected processes.

New Part A Processes - None
New Part B Processes – None
New Part A2 Processes – None

6.3 NEW LANDFILL, QUARRY OR MINERAL SITES

It is believed that we have no new landfill sites, quarries or mineral sites within the District area.

6.4 NEW HOUSING

A need for some 1,800 additional dwellings was identified in the 1997 Local plan. The bulk of the development is in Chesham and Amersham. The current Local Plan is being reviewed and consideration will be given to air quality impacts.

6.5 TRANSPORT

Policies are in place for development of walking, cycling, and rail transport. The Council is currently working on a Green Transport Plan for its Offices in Amersham. This will promote the use of alternative transport options and car sharing. Home working will also be developed as part of the plan.

6.6 NEW ROAD SCHEMES

Neither the County Council nor ourselves have at this time any major plans for any new road schemes in the District.

As a positive step we are currently working with the County Council on the development of a transport strategy for Chesham and Amersham. A Freight Partnership has also been set up with key stakeholders in order to improve freight movement across the County of Bucks. We are represented on this group and have brought air quality to the attention of members. A strategy for freight will be produced at the end of the year/ early 2005.

6.7 RETAIL DEVELOPMENTS

Having consideration to the forthcoming ‘Local Plan’ changes and discussions with the Planning Division, there are no significant developments to significantly expand any of our retail hubs in the district. There are also no plans to introduce any new hubs.

7 Pollutants not covered by LAQM

7.1 ODOUR COMPLAINTS

- Odour Agricultural other than slurry
- Odour Agricultural – slurry
- Odour Commercial/Industrial
- Odour Domestic
- Odour Other
- Other Air Pollution

Type of Complaint / Request for service	2003	2004
Odour Agricultural other than slurry	1	5
Odour Agricultural – slurry	3	1
Odour Commercial/Industrial	13	16
Odour Domestic	17	18
Odour Other	14	19
Other Air Pollution	32	40
TOTAL	80	99

SOURCE: - UNIFORM DATA Chiltern DC

7.2 SMOKE/DUST COMPLAINTS

- Smoke – Agricultural bonfires
- Smoke – Trade bonfires
- Smoke – Domestic bonfires
- Dark Smoke

Type of Complaint / Request for service	2003	2004
Smoke – Agricultural bonfires	10	12
Smoke – Trade bonfires	52	68
Smoke – Domestic bonfires	95	92
Dark Smoke	2	1
TOTAL	159	173

SOURCE: - UNIFORM DATA Chiltern DC

The results above indicate that the general level of complaints to the Council with regard to Atmospheric Issues has risen slightly but remains generally at a similar level to 2003.

7.3 RADIATION MONITORING

Radiation monitoring is undertaken in the Chiltern District by both the Environment Agency and the Food Standards Agency. We review all the monitoring reports produced and comment on applications/ proposals where possible. We have a good working relationship with both agencies. We are also part of a National/County Alert warning system for radiation and are statutory consultees for applications and licences issued by the Environment Agency.

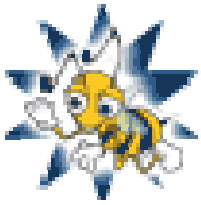
Further information can be found at: www.chiltern.gov.uk/environment

8 Pro-Active work on air quality

As we do not have an AQMA at this current time, at an early stage we defined some broad principles in order to keep the profile of air quality high in the district:

- Aim to reduce air pollution wherever feasible to do so.
- Inform the public about air quality in the District/County.
- Ensure that all relevant activities of the Council consider Air Quality.
- Work in partnership with neighbouring authorities, the Primary Care trust and County Council on air quality matters.
- Support national initiatives to reduce air pollution.

8.1 FORMATION OF CLAIRE



Last year we continued to develop the CLAIRE branded air quality website.

The site provides a wealth of information suitable for all backgrounds and ages on air quality. The site was designed following requests and feedback from local schools interested in air quality and environmental issues and residents that need more detailed information

The site aims to provide information on all aspects of air quality in the Chiltern District and also how that fits into the bigger National picture. Additional information on topics such as acid rain and global warming are also provided as what we do in Chiltern also contributes to the global atmosphere!

The site is broadly divided into 2 main areas – Information for younger audience or the 'Kids Zone' and the rest of the information that is aimed at an older audience. For the younger audience we have marked their areas with a small bumblebee for easy identification.

We have tried to make the site as interesting as possible and included all the areas that we get asked about frequently. We have also included things that you may not be aware of and projects that are taking place currently or will be available soon.

This site is used in conjunction with our 'County Wide' sister site – BucksAirQuality.Net that provides information on air quality across Buckinghamshire.

A Screenshot from the 'CLAIRE' site

(Winning the best LA Air Quality Website in the UK 2003 and 2004, from Air Quality Management Journal).

8.2 ALTERNATIVE FUELS

We actively encourage the use of alternative fuels. For example we have a policy to reduce the taxi licensing fees on LPG vehicles. A major filling station in Amersham also provides LPG to the public.

This year we have had a new waste management contract and have the newer Euro standard engines with fitted particulate traps on the refuse vehicles. We believe this sets a good example to our customers.

In addition we are currently considering alternative fuelled vehicles for our car parking section.

8.3 SCHOOL TRAVEL PLANS

The County Council work very hard in producing tailor made travel plans for schools in the District. For example: Crocodile Trails may be set up and ways to improve safety to and from schools are promoted. For further information on Safer Routes to Schools Initiatives please visit www.buckscc.gov.uk

8.4 BUCKS CAR SHARE

We support Bucks Car Share and will be actively promoting its use to residents and employees over the coming year. The project is funded by the County and is a free to use service. We have in the past had poster promotions and a car free day.

8.5 PROMOTION OF CYCLING AND WALKING

A large proportion of our pro-active work is undertaken on a County-Wide basis. We support local initiatives and attend local events to promote the reduction in car use and ways to reduce air pollution. A lot of promotion is done on alternatives to the car. For example, we produce Chiltern Heritage Cycling Leaflets that detail the cycling routes in the district. We also actively promote walking and provide comprehensive details on routes available.

8.6 SMOKY VEHICLE REPORTING SERVICE

We offer a smoky vehicle reporting service for lorries, buses and coaches with free post leaflets available at our Offices and local libraries etc. The service is also available from both the Bucks Air Quality website and CLAIRE websites.

8.7 PREVENTION OF AIR POLLUTION THROUGH PLANNING

Please see Chapter 10 for details.

8.8 CUT YOUR ENGINE CAMPAIGN

In collaboration with the team and transport planners, we launched our first “Cut your Engines” signs last year. Response has been very positive. Air Quality Packs of information for children were also produced and made available on our website for use of schools.

The campaign has raised the profile of air quality with radio and press pieces and has been used to try and provide information to local schools. For further details please visit the CLAIRE site.

9 Bucks Air Quality Strategy

The Strategic Environmental Protection Team at Chiltern is currently leading the formulation of a County Wide Air Quality Strategy. Working within the BAQMG (Bucks Air Quality Management Group) framework with the thinking that by joining forces much more can be achieved and a reduced cost.

The strategy will pull together various initiatives and set out how Buckinghamshire will improve air quality. The strategy is nearing completion with many initiatives have already taken place and begun producing results. It will be closely linked with the emerging Local Transport Plan and its air quality section.

Air quality data for each of the districts is brought together at www.bucksairquality.net .

It also provides a resource for issues taking place on a County basis. This site holds a lot of detailed information but also links to each individual council area. It undertook a redesign in 2004 as shown below.

A Screenshot of BucksAirQuality.Net website.

Examples of where joint working is useful are monitoring results for a road or motorway that may cross through more than one of the District Council areas. It is important to remember that air pollution does NOT respect authority boundaries and borders.

The strategy will be posted on the BAQ and CLAIRE sites following completion.

9.1 CLIMATE CHANGE

As a key emerging issue, we may consider climate change in more detail within the remit of air quality work and are moving towards integrating climate change further. We are awaiting further guidance from DEFRA on possible ways to accomplish this and consider it to be a very important theme. We are also looking at Sustainable development and working towards renewable energy targets through a more unified approach, seeking help from planners and other Divisions. Sustainability has risen up the agenda and we

again see this as a key principle in guiding the Councils future activities. It is envisaged that the Bucks group will try to co-ordinate actions to allow for a County wide perspective to be applied to individual Districts work.

10 Planning and Policies

10.1 WORKING WITH PLANNERS

In the Chiltern District, we do not have an AQMA at this time. It is therefore important that we work with planners to prevent the need for one in the future. Although we currently work together, more in terms of potential nuisance, we would also have regard to general air quality issues. This may be in terms of additional traffic movements on a new development, new roads or routes and the like.

In the Chiltern District, the scope for major developments is fairly limited. However, consideration of the air quality objectives and reference to the Review & Assessment work will be made in such a case.

Individual developments have the potential to affect local air quality concentrations. For example, bus stations or car parks with large movements of vehicles are not best located close to narrow, residential streets.

10.2 PLANNING POLICY/ LOCAL PLAN

Population projections show a probable decrease in the population of the Chiltern District of over 10,000 from 1996 to 2011. In particular, the 0-15 and 30-44 year age groups are expected to see the greatest decreases, with falls of 29% and 32% respectively

Environmental Protection is expressly considered in the current Chilterns Local Plan under policy:

POLICY GC9
Throughout the District, the Council will not grant permission for any development likely to generate unacceptable levels of air, water or ground pollution or give rise to pollution problems resulting from the disturbance of contaminated land. The Council will also refuse any development that would be in close proximity to existing sources of pollution. In appropriate cases the Council will positively support proposals for the alleviation of pollution. Where development is acceptable in accordance with this Policy, planning permission will be granted provided that other Policies in this Local Plan would also be complied with. This Policy does not relate to noise, which is the subject of Policies GC7 and GC8.

POLICY GC9 Continued..

3.44 Some developments can have an unacceptable effect on the local environment because they produce pollution. Pollution can be of many types, some will be air pollution such as smell, smoke, fumes, soot, ash, dust or grit, others will be ground or water pollution through use of chemicals and solvents etc. These types of pollution can have a detrimental effect on the health and amenities of nearby communities and on wildlife. Therefore, pollution generating developments will be resisted by the Council unless the types of pollution can be reduced by other means. This Policy is supported by Government Guidance and by policies in the Structure Plan. Noise pollution is covered by Policies GC7 and GC8.

3.45 In some parts of the District potentially polluting forms of development already exist. These developments are often long established and are potentially sensitive. Therefore the Council will restrict any proposed development which would be in close proximity to an existing development where it is considered the health and amenities of the new occupiers could be at risk. This Policy is supported by both the Structure Plan and by the PPG on Planning and Pollution Control, which states that Local Plan Policies should take account of the need to separate potentially polluting and other land uses to reduce conflicts and to protect the natural environment.

Adopted Chiltern District Local Plan 1997 including Adopted Alterations 2001 General Criteria for Development

Chiltern District Local Plan to Chiltern Local Development Framework

At present the Council is carrying out background work to review the Local Plan and produce parts of the new Chiltern Local Development Framework (LDF). This will include updated planning policies with regard to Air Quality. It will also include greater consideration of the new PPS24 guidance.

The three year timetable for the review is called the Local Development Scheme (LDS).

The LDS on this website was approved by the Government Office for the South East (GOSE) and the Planning Inspectorate on 22nd March 2005. It is expected that the Council will resolve to bring the document into effect on 14th June 2005.

10.3 PROCEDURES

A formal procedure is in place with regard to commenting upon environmentally sensitive developments with the planning team. The Strategic Environmental Protection team will be consulted in writing to add comments, conditions or discuss concerns with regard to submitted plans that may influence air quality in the wider sense and also in terms of nuisance prevention.

We also receive a list of all incoming planning applications and may request applications that have not been identified by planners as having environmental issues.

10.4 LOG OF PLANNING APPLICATIONS FOR NEW DEVELOPMENTS AND MAJOR DEVELOPMENTS

Being a relatively small and predominantly ‘rural’ council, we do not expect to have many developments that may significantly affect air quality both on an individual basis or when grouped by area. However it is still important to have a strategic overview as well as ensuring that the Councils Local Plan takes full account of air quality issues.

If a major new development was proposed then an environmental assessment would be required.

11 Local Transport Plans & Strategies

Transport emissions make up by far the largest percentage of air pollution in the Chiltern District.

As such it is important that the Council gets involved with trying to influence transport policy and planning. This role is undertaken at County level and we regularly contribute to Environmental Impact Assessments and work with the transport specialists in trying to minimise both environmental degradation and reductions in air quality.

For example an ongoing project involves the monitoring of air quality at a location with newly installed speed bumps to try and gage the effect on air quality. This information will be used when considering further speed control measures.

In terms of air quality we have a good relationship with the County and Transport Planners. We contribute to the local transport plans and have a dynamic relationship, with support always prevalent. To this end, the Bucks Air Quality Management Group meets quarterly to ensure air quality issues remain a high priority for both ourselves and the County. We also have undertaken joint projects including the County website, publicity, school campaigns and extra monitoring.

11.1 LOCAL TRANSPORT PLAN 2

Currently in development, the next Transport Plan for Buckinghamshire has air quality as one of its 4 key priorities. Innovative features such as air quality buffer zones are currently being discussed. These would allow for an earlier indication of problem hot-spots, before they exceed the National standards. This will provide a possible way to combat any worsening areas prior to them developing into AQMA's. Earlier action may therefore be identified and taken. It will also feature a raft of measures that will contribute to maintaining the good levels of air quality throughout the District.

11.2 CHESHAM & AMERSHAM TRANSPORT STUDY (CATS)

As an off-shoot project, the CATS study will look at Chesham and Amersham Urban areas in terms of transport related issues. CATS aims to enable people to travel safely, quickly and conveniently to access key services by any means of transport and will be an important part of the Second Local Transport Plan.

Again, air quality being a shared priority with monitoring data used to provide an indication of areas that may need to be targeted. Berkhampstead road was identified from the last Progress report, showing higher elevations of Nitrogen Dioxide and this will therefore feature heavily in the report. We are already incorporating actions to address any increased levels in this stretch of road.

12 References

- Part IV of the Environment Act 1995. Local Air Quality Management. Technical Guidance LAQM.TG (03) January 2003.

- The Air Quality regulations (2000) and The Air Quality (England) Amendment Regulations 2002.

- DETR (2000) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Department of the Environment, Transport and the Regions. Cm 4548, SE 2000/3, NIA 7.

- Air Quality Review and Assessment, Stage one and stage two. 1999, AEA Technology plc, Report AEAT-5334/20615014 Issue 2

- Air Quality Review and Assessment, USA Report. 2003, AEA Technology plc, Report AEAT

- Air Quality Progress Report 2004, Chiltern District Council.

Appendix 1
Authorised/Permitted Processes in the Chiltern District.

Part A and B Processes in Chiltern (excluding petrol stations)

Part A/Part B Ref	Company	Comment
Part A	-	No Part A processes
Part B/A2		
Combustion processes		
3	Chilterns Crematorium	Crematoria
Other processes		
1	Chesham Car repairs	Respraying of road vehicles
2	Draycast Foundry	Iron, steel and non-ferrous foundry
4	Dunton Brothers	Brickworks – Subject to Clean Air Act
5	Matthews Brickworks	Manufacture of clay and refractory goods-Subject to Clean Air Act
6	Clark Contracting Mobile	Mobile Crusher

Petrol stations in Chiltern

Reference	Company
Petrol stations	
70/P233	Total, Amersham Rd, Chesham
77/P227	Total, Vale Rd, Chesham
79/P1155	Shell, London Rd, Missenden
71/P150	Shell, Woodside Rd, Amersham
87/P80	BP, White Lion rd, Amersham
82/P239	BP. Amersham Rd, Chesham
78/P1364	Tesco, London Rd, Amersham
78/P72	Knotty Green Garage, Penn Rd, Beaconsfield
83/P119	Stevens, Pond Approach, Holmer Green
86/P130	Tesco, Gravel Hill, Chalfont St Peter
84/P252	Ogglesby's, Ashley Green Rd, Chesham

Appendix 2
Co-Location Database Extract.

Analysed By[1]	Method To undo your selection, choose (All) from the pop-up list	Year[5] To undo your selection, choose (All)	Site Type[6]	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m3)	Automatic Monitor Mean Conc. (Cm) (µg/m3)	Bias (B)	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	50% TEA in Acetone	2004	UC	Sheffield CC	12	30	34	-11.4%	**1.13**
Gradko	50% TEA in Acetone	2004	UB	Sheffield CC	11	29	42	-31.1%	**1.45**
Gradko	50% TEA in Acetone	2004	B	Sandwell MBC	10	30	29	2.9%	**0.97**
Gradko	50% TEA in Acetone	2004	UC	LB Camden	12	49	49	0.0%	**1.00**
Gradko	50% TEA in Acetone	2004	UB	LB Hounslow	10	33	48	-30.6%	**1.44**
Gradko	50% TEA in Acetone	2004	R	LB Hounslow	11	65	69	-5.1%	**1.05**
Gradko	50% TEA in Acetone	2004	R	LB Hounslow	12	52	48	9.1%	**0.92**
Gradko	50% TEA in Acetone	2004	UC	Slough BC	12	34	34	-1.4%	**1.01**
Gradko	50% TEA in Acetone	2004	Su	Slough BC	12	28	31	-8.6%	**1.09**
Gradko	50% TEA in Acetone	2004	Su	Telford & Wrekin BC	11	29	38	-23.6%	**1.31**
Gradko	50% TEA in Acetone	2004	R	LB Southwark	12	56	59	-4.7%	**1.05**
Gradko	50% TEA in Acetone	2004	UB	AEA Tech Intercomparison	11	24	25	-1.3%	**1.01**