STROUD DISTRICT COUNCIL
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2010 Air Quality Progress Report

for

Stroud District Council

In fulfillment of Part IV of the Environment Act 1995
Local Air Quality Management

Date April, 2010

Local Authority Officer	Paul Williams Principal Environmental Health Officer MCIEH AMIOA(Dip)

Department	Environmental Protection
Address	Stroud District Council, Ebley Mill, Westward Road, Stroud, Gloucestershire, GL5 4UB
Telephone	01453 754484
e-mail	paul.williams@stroud.gov.uk

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Executive Summary

The main source of pollution of concern in Stroud District Council's district continues to be NO2 generated by transport sources. Following the Updating and Assessment report 2009, the Council has reviewed the location of all its Diffusion Tubes. As a result several rural locations have been deleted, several have been relocated to positions with relevant exposure and several new locations added.

Three of the new locations are situated on the A46 at Painswick. These have been added following concerns that the air quality objective for Nitrogen Dioxide may be exceeded at Painswick High Street which is traffic light controlled due to the narrowness of the street and, due to the proximity of the old natural stone buildings, creates a "canyon" effect.

These extra detectors have been located following liaison with Gloucestershire County Council and the results will be assessed at the end of 2010 with consideration being given to alterations to the traffic management at this location.

Results in this area will however be affected in the spring of 2010 when gas pipe replacement work will result in this road being closed and traffic redirected through the town.

During 2010 some sewer replacement work is to be undertaken in parts of Stroud town and work to reopen the old canal through the town will result in traffic flows around and through the town centre being altered.

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1 Introduction

1.1 Description of Local Authority Area

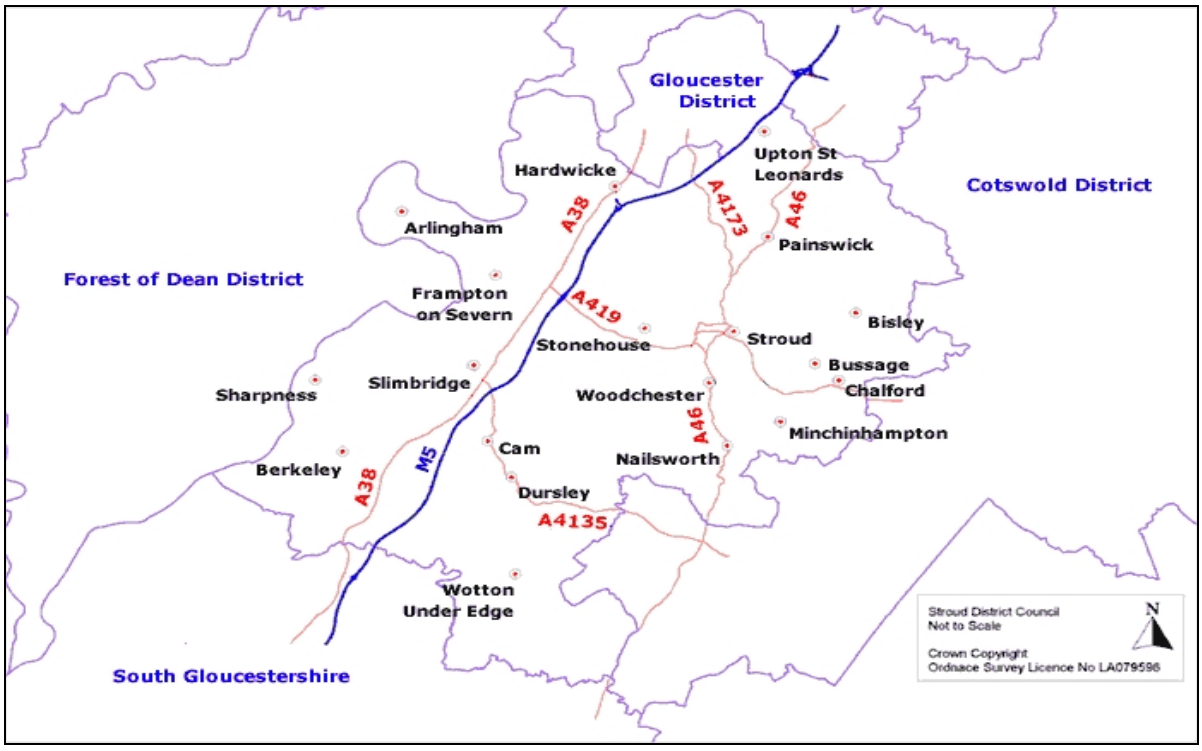
The Stroud District has an area of 453km^2, a population of approximately 108,000 and lies in South West England immediately to the south of Gloucester City, bordering the River Severn on its western edge (Figure 1). The district is divided from the south west to the north east by the M5 motorway. It shares boundaries with Gloucester City Council, Tewkesbury Borough Council, Cotswold District Council, South Gloucestershire Council and across the Severn, The Forest Of Dean District Council. It contains 6 distinct market towns – Berkeley, Dursley, Nailsworth, Stonehouse, Stroud and Wotton under Edge (Figure 2). The city of Bristol is located some 15 miles from the southern boundary.

It is predominantly a rural area and thus attracts tourists and wealthy migrants, often retirees. Three quarters of its population live in the settlements of the Stroud Valleys and the market towns of Cam, Dursley and Wotton under Edge. It also has an industrial heritage, originally based on wool, which has left a strong engineering and manufacturing legacy albeit with no heavy industry.

The most significant influence on air quality within the district is from local road traffic. There are also a number of ‘prescribed processes’ located within the district. These are industrial processes regulated by the Environment Agency Part A (1) processes and by the District Council Part A(2) and Part B processes. These are listed in Appendices B, C and D. None are considered to be of any major influence on local air quality.

Figure 1: Map of Stroud District Council Location

Figure 2: Map of Stroud District Council



1.2 Purpose of Progress Report

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to Local Air Quality Management (LAQM) **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043). They are shown in Table 1. This table shows the objectives in units of microgrammes per cubic metre $\mu g/m^3$ (for carbon monoxide the units used are milligrammes per cubic metre, mg/m^3). Table1. includes the number of permitted exceedences in any given year (where applicable).

Table 1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in England.

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	5.00 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/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 $\mu g/m^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

Stroud District Council has previously undertaken the following Review and Assessment reports (all of which are available at www.stroud.gov.uk/docs/licensing/pollution.asp)

- Updating and Screening Assessment 2003
- Progress Report 2004
- Progress Report 2005
- Updating and Screening Assessment 2006 (Ref 1)
- Progress Report 2007 (Ref 2)
- Progress Report 2008 (Ref 3)
- Updating and Screening Assessment 2009(Ref4)

Up until 2008 none of these reports had identified any locations of potential concern for any of the air quality objectives as specified in Table 1 and there are no current AQMAs within their administrative area.

However the Updating and Screening Assessment 2009 highlighted one location from the diffusion tube network – Cainscross, Stroud – as being a site with an exceedance of the annual mean objective for NO_2 - with a bias adjusted annual result for 2008 of 40.7µg/m^3. However, the diffusion tube location was on a traffic island within a roundabout complex and was not therefore representative of relevant exposure. Also there has been no traffic data available for the road junction in question and the authority has therefore been unable to carry out DMRB (Ref5) predictions.

Stroud District Council carried out a full review of its diffusion tube network at the end of 2009. The above tube has been deleted from the sampling list and replaced by two detectors in the nearby vicinity where there is relevant exposure. Current tube locations are shown in Figure 3 and Table 2.

Several rural sites, with historically very low levels and several non representative sites have also been dropped from Stroud's network.

Sampling results during 2009 suggested that another site Painswick – High Street, could also be a site with the potential for the exceedance of the annual mean objective for NO_2.

Painswick High Street is traffic light controlled due to the narrowness of the street and, due to the proximity of the old natural stone buildings, creates a “canyon” effect.

Working in partnership with Gloucestershire County Council Transport Stroud Council has installed 3 extra diffusion tubes in this area. One, at the other end of the “canyon”, and one at each end of the street, but outside the canyon.

A brief summary of the Review and Assessment reports from Round 3 are below.

Conclusions of Updating and Screening Assessment Report 2006:

- This assessed that the objectives for Carbon Monoxide, Benzene, 1,3-butadiene, Lead, PM_{10}, Sulphur Dioxide were unlikely to be exceeded at any location within the administrative area of Stroud District, and therefore no Detailed Assessments were required.
- The assessment has indicated that the 2005 Nitrogen Dioxide annual mean objective will not be exceeded at any location within the administrative area of Stroud District Council, and therefore a Detailed Assessment will not be required. The assessment also indicated that the 2005 NO_2 hourly objective is unlikely to be exceeded, and therefore a Detailed Assessment will not be required with respect to the hourly mean.
- No new roads or roads with significantly changed flows within the administrative area of Stroud District Council were identified since the last round of Review and Assessment.
- Seven additional small waste oil burners (PG 1/1 (95)) had been permitted in Stroud District Council since the last round of Review and Assessment. It is not considered that these processes would have a significant influence on local air quality within the authority.

Conclusions of Review and Assessment Progress Report 2007:

- From the evidence provided in this report, no exceedences of the air quality objectives are likely to occur at any location within Stroud District Council’s area. As a result of this it was recommended that Stroud District Council undertake a Progress Report in 2008.
- No other exceedences of the air quality objectives for Ozone and Sulphur Dioxide are likely.
- Stroud District Council currently carries out no monitoring for Carbon Monoxide, Benzene, Lead and 1,3-butadiene.

- There are no new developments of significance that will influence air quality in the Stroud District Council area.

Conclusions of Review and Assessment Progress Report 2008:

- From the evidence provided in this report, no exceedences of the air quality objectives are likely to occur at any location within Stroud District Council's area. Therefore, Stroud District Council will undertake an Updating and Screening Assessment 2009.
- Stroud District Council currently carries out no monitoring for Carbon Monoxide, Benzene, Lead, 1,3-butadiene, PM_{10}, SO_2 and Ozone.
- There are no new developments of significance that will influence air quality in the Stroud District Council area.

Conclusions of Updating and Screening Assessment Report 2009:

- From the evidence provided in this report, an exceedence of the air quality objectives for NO2 was shown to occur at one location within Stroud District Council's area, at Cainscross - Stroud.
- Stroud District Council will undertake a full review of its diffusion tube locations with specific attention to the above location.
- Stroud District Council currently carries out no monitoring for Carbon Monoxide, Benzene, Lead, 1,3-butadiene, PM_{10}, SO_2 and Ozone.
- There are no new developments of significance that will influence air quality in the Stroud District Council area.
- Stroud District council will undertake a Progress Report in 2010.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Non-Automatic Monitoring

Stroud District Council undertook NO_2 monitoring with diffusion tubes at 21 sites in 2009. The diffusion tubes were supplied and analysed by Bristol Scientific Services (QA/QC data can be found in Appendix D). Tubes were prepared using 50µl of 20% triethanolamine in water. The tube preparation and subsequent analysis follow the procedures in the harmonised "Practical Guidance" document [(Ref5)]. All diffusion tubes are stored, handled and exposed in accordance with the relevant guidance. All diffusion tubes have a monthly exposure period.

Stroud District Council does not undertake any co-location studies, so bias adjustment factors were obtained from the National Bias Adjustment Factor Spreadsheet (Version v05/09) (Appendix E).

- 2006 – 0.90 for 5 studies
- 2007 – 0.77 for 5 studies
- 2008 – 0.87 for 4 studies
- 2009 – the 2008 factor of 0.86 used rather than the 0.84 from only 2 studies

Figure 3 Maps of Non-Automatic Monitoring Sites

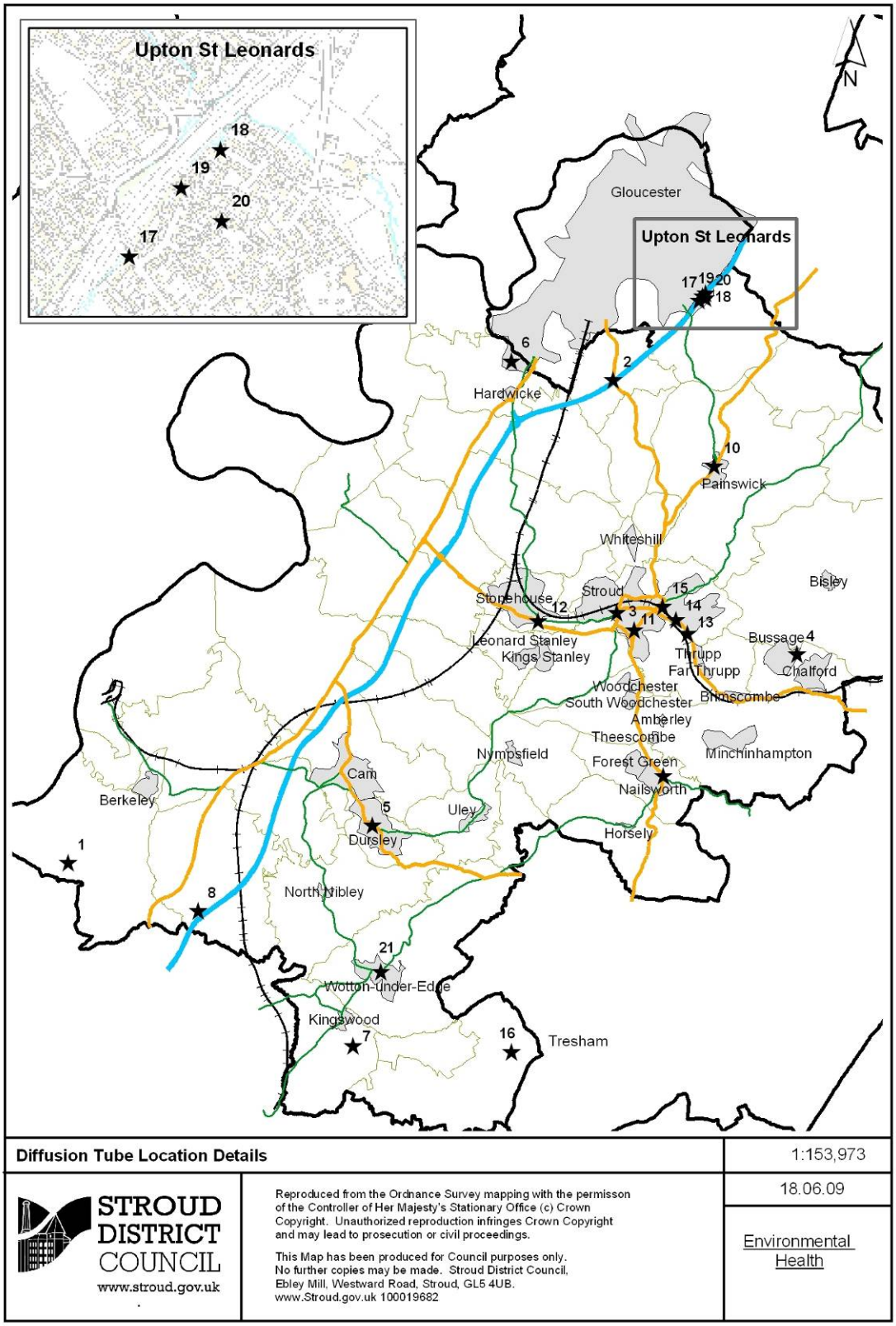


Table 2 Details of Non- Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref		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?
Bevington – M5 Survey	Rural	365780	196898	NO_2	N	N	2m	N/A
Brookthorpe – North View	Roadside	383410	212570	NO_2	N	Y(19.8m)	1m	Y
Cainscross - Tricorn	Kerbside	383514	205023	NO_2	N	N	1.5m	N
Chalford – Manor Farm	Kerbside	389348	203666	NO_2	N	N	1.5m	Y
Dursley – Town Hall	Kerbside	375627	198118	NO_2	N	N	0.5m	Y
Hardwicke – Westland Road	Kerbside	380124	213183	NO_2	N	Y(4.6m)	1.5m	Y
Kingswood – M5 Survey	Rural	374995	190954	NO_2	N	N	0.5m	N/A
Michaelwood – M5 Survey	Other	369975	195342	NO_2	N	N	2.5m	Y
Nailsworth – Bath Road	Kerbside	385016	199727	NO_2	N	N	3.4m	Y
Painswick – High Street Lights	Kerbside	386677	209768	NO_2	N	Y(3.2m)	0.5m	Y
Rodborough – Golden X Junction	Kerbside	384089	204457	NO_2	N	N	1.4m	Y
Stonehouse Roundabout	Roadside	380982	204755	NO_2	N	N	1.2m	Y
Stroud - Bowbridge	Kerbside	385817	204342	NO_2	N	N	0.4m	Y
Stroud – London Road	Roadside	385442	204796	NO_2	N	Y(3.2m)	1.3m	Y
Stroud – Taxi Rank	Kerbside	385000	205215	NO_2	N	N	1.3m	Y
Tresham – M5 Survey	Rural	380121	190760	NO_2	N	N	1.6m	N/A
Upton St Leonards – Ash Path Bridge	Roadside	386187	215144	NO_2	N	N	1.6m	Y
Upton St Leonards – 26 Woodland Green	Kerbside	386386	215378	NO_2	N	Y(12.5m)	0.6m	Y
Upton St Leonards – 50 Woodland Green	Kerbside	386301	215294	NO_2	N	Y(8.8m)	0.5m	Y
Upton St Leonards – 10 Ash Grove	Kerbside	386389	215222	NO_2	N	Y(4.6m)	1.4m	Y
Wotton – Old Town	Kerbside	375894	193369	NO_2	N	N	0.8m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

Two sites have exhibited a small exceedance of the air quality standard for Nitrogen Dioxide. These two sites are Painswick – High Street Lights and Stroud – Bowbridge (Table 3). This is dealt with in later sections of the report. Results for 2007 and 2008 are shown for comparison in Table 4 and Figures 4 and 5.

Following the 2009 Updating and Screening Assessment (REF4) Stroud District Council has carried out a full review of its diffusion tube locations with special attention being given to Stroud – Cainscross, a site which exhibited a small exceedance of the air quality objective for NO2.

Two new locations have been included at Cainscross where there is relevant exposure and the old unsatisfactory location deleted from the survey.

Three new locations have been added at Painswick in liaison with Gloucestershire County Council. Two detectors have been located at each end of, but without, the “canyon” created by the traffic control system in the centre of town. A further detector has been positioned within the “canyon”.

These changes were made in January 2010 and the results will be assessed in the Progress Report 2011.

2.2.1 Nitrogen Dioxide

Table 3 Results of Nitrogen Dioxide Diffusion Tubes 2009

Site ID	Location	Within AQMA?	Data Capture 2009 %	2009 NO_2 Concentrations ($\mu g/m^3$) Adjusted for bias
1	Bevington – M5 Survey	N	91.70	11.58
3	Brookthorpe – North View	N	100.00	32.84
4	Cainscross - Tricorn	N	83.30	35.83
7	Chalford – Manor Farm	N	91.70	16.63
8	Dursley – Town Hall	N	91.70	26.60
10a	Hardwicke – Westland Road	N	100.00	21.06
12	Kingswood – M5 Survey	N	91.70	12.97
13	Michaelwood – M5 Survey	N	100.00	18.88
15	Nailsworth – Bath Road	N	100.00	30.41
16	Painswick – High Street Lights	N	100.00	**40.57**
17	Rod – Golden X Junction	N	91.70	30.73
20	Stonehouse Roundabout	N	100.00	34.25
21	Stroud - Bowbridge	N	100.00	**40.68**
22a	Stroud – London Road	N	91.70	22.25
24	Stroud – Taxi Rank	N	91.70	30.11
25	Tresham – M5 Survey	N	91.70	13.08
27	Upton St Leonards – 50 Woodland Green	N	75.00	29.95
28	Upton St Leonards – 26 Woodland Green	N	91.70	26.21
30	Upton St Leonards – 10 Ash Grove	N	91.70	30.64
31	Upton St Leonards – Ash Path Bridge	N	91.70	22.39
36	Wotton – Old Town	N	83.30	19.63

Table 4 Results of Nitrogen Dioxide Diffusion Tubes 2007 - 2009

* 2008 Bias Adjustment Factor of 0.86 used

Site ID	Location	Within AQMA?	NO_2 Concentrations ($\mu g/m^3$) Adjusted for bias		
			2007	2008	2009*
1	BEVINGTON - M5 SURVEY	N	7.4	12.4	11.58
3	BROOKTHORPE -NORTH VIEW	N	19.7	34.0	32.84
4	CAINSCROSS - TRICORN	N	23.0	**40.7**	35.83
7	CHALFORD -MANOR FARM	N	10.8	17.8	16.63
8	DURSLEY - TOWN HALL	N	15.4	25.2	26.60
10a	HARDWICKE - WESTLAND ROAD	N	12.8	21.6	21.06
12	KINGSWOOD - M5 SURVEY	N	8.6	14.9	12.97
13	MICHAELWOOD - M5 SURVEY	N	12.4	21.7	18.88
15	NAILSWORTH - BATH RD	N	18.2	29.6	30.41
16	PAINSWICK -HIGH ST LIGHTS	N	22.4	36.5	**40.57**
17	ROD - GOLDEN X JUNCTION	N	17.9	29.2	30.73
20	STONEHOUSE ROUNDABOUT	N	21.4	33.5	34.25
21	STROUD - BOWBRIDGE	N	22.3	36.2	**40.68**
22a	STROUD - LONDON ROAD	N	9.4	33.4	22.25
24	STROUD - TAXI RANK	N	18.9	28.6	30.11
25	TRESHAM -M5 SURVEY	N	9.0	15.5	13.08
27	UPTON ST LEONARDS-50 WOODLAND GREEN	N	19.3	22.5	29.95
28	UPTON ST LEONARDS-26 WOODLAND GREEN	N	17.4	28.9	26.21
30	UPTON ST LEONARDS-10 ASH GROVE	N	15.6	23.2	30.64
31	UPTON ST LEONARDS-ASH PATH BRIDGE	N	17.9	32.5	22.39
36	WOTTON - OLD TOWN	N	12.6	19.1	19.63

Figure 4 Trends in Annual Mean Nitrogen Dioxide Concentration Measured at Diffusion Tube Monitoring Sites 1-13 for 2005 - 2009.

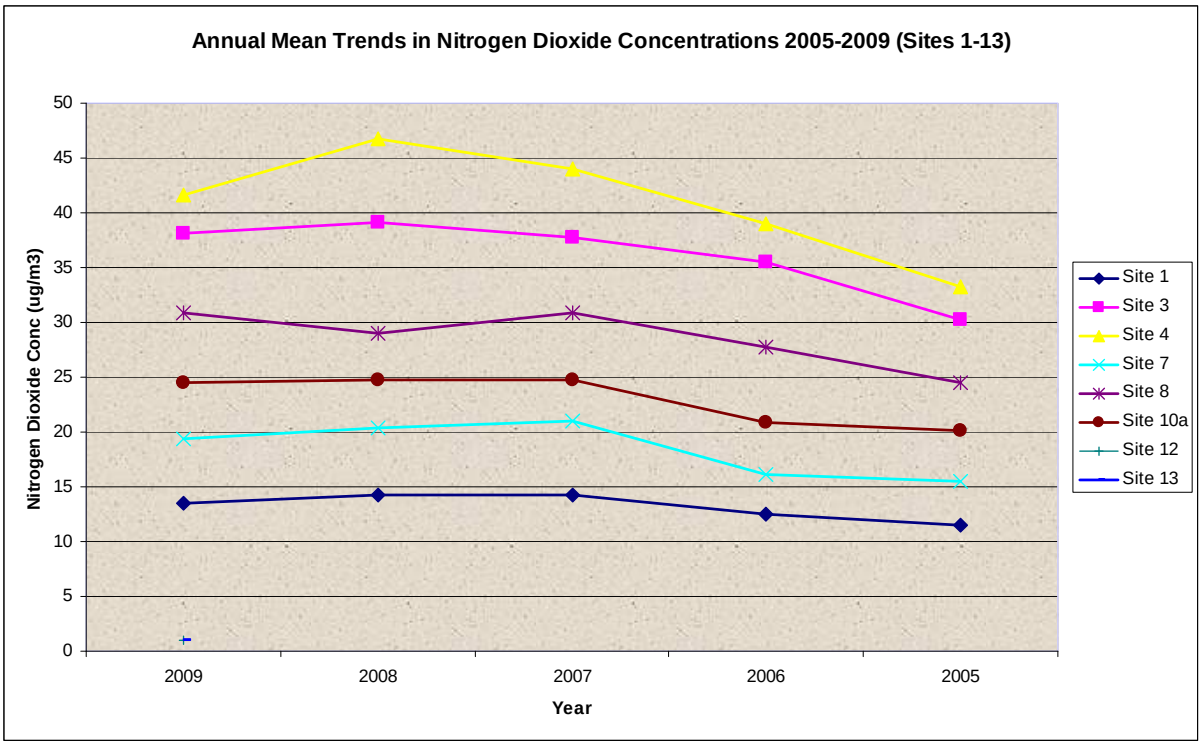
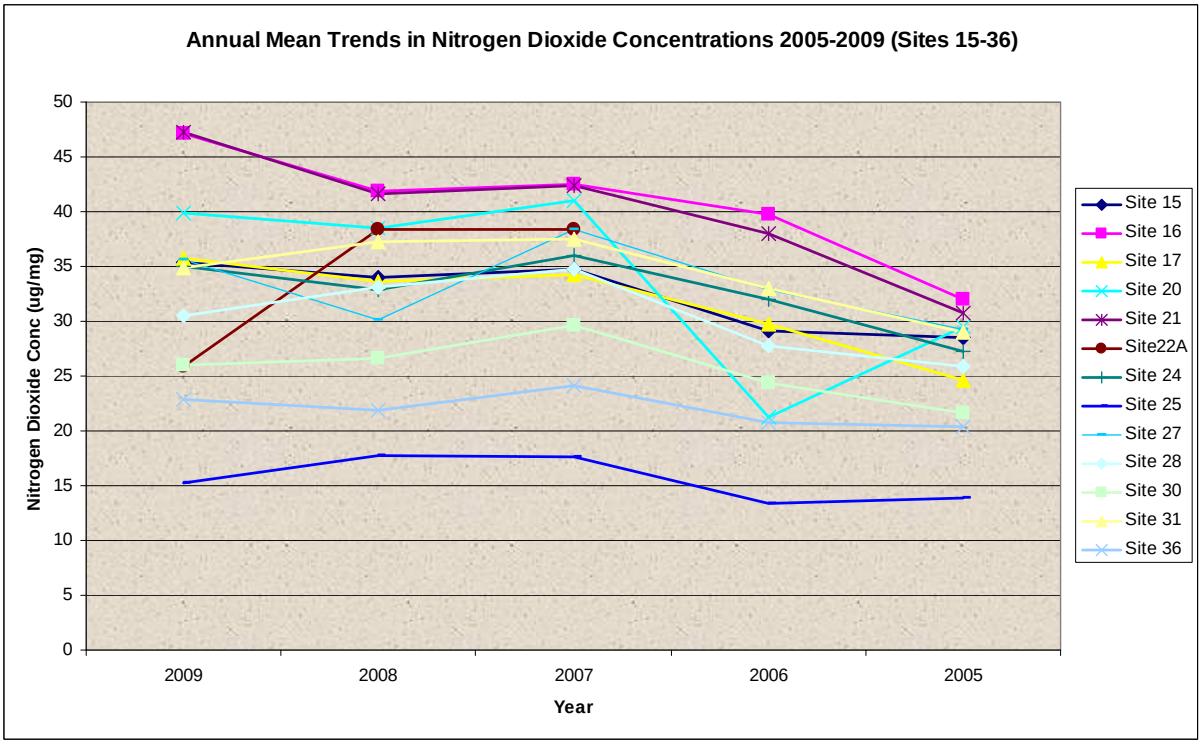


Figure 5 Trends in Annual Mean Nitrogen Dioxide Concentration Measured at Diffusion Tube Monitoring Sites 15-36 for 2005 - 2009.



2.2.1 PM_{10}

Stroud District Council has not undertaken any PM_{10} monitoring within its administrative area since the last Progress Report in 2008.

2.2.2 Sulphur Dioxide

Stroud District Council has not undertaken any SO_2 monitoring within its administrative area since the last Progress Report in 2008

2.2.3 Benzene

Stroud District Council has not undertaken any Benzene monitoring within its administrative area since the last Progress Report in 2008.

2.2.4 Other pollutants monitored

- Stroud District Council has not undertaken any carbon monoxide monitoring within its administrative area since the last Progress Report in 2008.
- Stroud District Council has not undertaken any lead monitoring within its administrative area since the last Progress Report in 2008.
- Stroud District Council has not undertaken any 1,3-butadiene monitoring within its administrative area since the last Progress Report in 2008.

Stroud District Council has examined the results from monitoring in the district. Concentrations are generally below the objectives, therefore there is no need to proceed to a Detailed Assessment. The exception being 2 sites which just exceeded the standard for NO2. Further assessment is proposed at both these locations

3 New Local Developments

3.1 Road Traffic Sources

Stroud District Council confirms that there are no new or newly identified road traffic sources which may have an impact on air quality within the Local Authority area.

3.2 Other Transport Sources

Stroud District Council confirms that there are no new/newly identified non-road traffic sources which may have an impact on air quality within the Local Authority area.

3.3 Industrial Sources

Stroud District Council confirms that there are no new/newly identified industrial sources which may have an impact on air quality within the Local Authority area.

3.4 Commercial and Domestic Sources

Stroud District Council confirms that there are no new/newly identified commercial and domestic sources which may have an impact on air quality within the Local Authority area.

3.5 New Developments with Fugitive or Uncontrolled Sources

Stroud District Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

4 Local / Regional Air Quality Strategy

A County Wide Air Quality Strategy for Gloucestershire was prepared in November 2004 by the Air Quality Research Group, Faculty of Applied Sciences, University of the West of England.

This document is available at:-

http://www.stroud.gov.uk/docs/licensing/pollution.asp

5 Planning Applications

Stroud District Council's Environmental Protection Manager undertakes the planning liaison function for the Environmental Health Service. All plans are considered for any likely impact on local air quality or also if there is any potential for adverse effects upon a new development by any local source of poor air quality.

6 Air Quality Planning Policies

Stroud District Council is in the early stages of drafting its Local Development Framework (LDF). One of the four main topics of the Core Strategy will be Our Environment and Surroundings. The Core Strategy will aim to protect and enhance the natural and built environment of Stroud District. It will also consider more global issues, like how development can help to combat the causes and effects of climate change.

All relevant documents are available at:-

www.stroud.gov.uk/docs/lp/core.asp

7 Local Transport Plans and Strategies

Gloucestershire County Council is currently in the period of the second Gloucestershire Local Transport Plan 2006-2011 (LPT2). During the development of this plan a Strategic Environmental Assessment (SEA) was undertaken under the Strategic Environmental Assessment Regulations (SI 2004 No1633).

Gloucestershire County Council has prepared a draft Local Transport Plan 2011-2026 (LPT3).

All the above and related documents are available at;-

www.gloucestershire.gov.uk/index.cfm?articled=167

Gloucestershire County Council has given consideration to the potential exceedance of the air quality objective for NO_2 of 40 $\mu g/m^3$ annual level, at the traffic lights on the A46 at Painswick. There may be the potential for a Siemans NO_x analyser to be attached to the signals. Following discussions with the County Council, Stroud District Council has installed three further diffusion tubes in the locality. Two of the new tubes are at locations at each end (but outside of) the traffic light controlled “canyon”. The third is on a traffic control camera within the “canyon”.

8 Climate Change Strategies

The Council is committed to improving its environmental performance and has been accredited with ISO 14001 and Eco-Management and Audit Scheme (EMAS) since 1999. In 2007 the Council adopted an Environmental Strategy which set out the long term environmental priorities

- Sustainable consumption and production – *more for less*
- Climate Change and Energy – *confronting our greatest threat*
- Protecting our natural resources and enhancing the environment – *clean, green and safe*
- Keeping the council and local community focused on environment limits – *lets not forget how import the issue is*

Also in 2007 SDC adopted the Nottingham Declaration, set up an Independent Climate Change Panel and worked with the Local Strategic Partnership looking at the effects of Peak Oil and Climate Change.

In 2007/8 the Council signed up to the Carbon Trust - Carbon Management Programme. It sets out the key activities to deliver a 35% reduction in the Council's own emissions from direct operations by the end of 2010/11.

A range of National Indicators were introduced in 2008 and included several environmental indicators –

- NI 185 - Percentage CO2 reduction from LA operations
- NI 186 – Per capita reduction in CO2 emissions in the LA area
- NI 188 – Planning to adapt to Climate Change
- NI 194 - Air quality - local air quality management
- NI 196 - Improved street and environmental cleanliness – fly tipping
- NI 195a - Improved street and environmental cleanliness - levels of litter
- NI 195b - Improved street and environmental cleanliness - levels of detritus
- NI 195c - Improved street and environmental cleanliness - levels of graffiti
- NI 195d - Improved street and environmental cleanliness - levels of fly posting
- NI 197 - Improved local biodiversity – active management of local sites

The Carbon Management Programme is helping to reduce the CO2 emissions from council owned buildings. To help with reducing the NOx emissions from transport the Council is monitoring the emissions recorded in national indicator 194 and has undertaken the Energy Savings Trust - Green Fleet Review. In September 2009 SDC signed to the 10:10 campaign – reducing CO2 emissions by 10% in 2010.

The 7 Gloucestershire Councils have committed themselves under the Gloucestershire Local Area Agreement (LAA) to reach level 3 of National Indicator 188 by end of 2011/12. As at March 2010 all councils were at Level 2. All relevant documentation for NI 188 is available at

http://www.stroud.gov.uk/docs/community/climate_change_glos.asp

Core Strategy and Climate Change

The Council has consulted on the Issues and the Alternative Strategies for consideration in its Core Strategy. The next stage is to progress towards its Preferred Strategy and its submission to the Secretary of State to be subjected to an Examination in Public prior to adoption.

Addressing climate change is central to the proposed strategy and is a direct response to a number of the key issues raised in consultation work. Tackling climate change is a key Government priority for the planning system. In deciding which areas and sites are suitable, and for what type and intensity of development, the Council will take into account the guidelines contained in the Government's supplement to PPS1, which deals with ***Planning and Climate Change*** (December 2007). Assessment criteria relating to climate change are being used to help assess the merits of the Alternative Strategies. These include the ability of new development to help reduce carbon emissions and to provide green infrastructure that can act as carbon sinks to help improve air quality.

The Core Strategy will orchestrate the necessary social, physical and green infrastructure required to ensure that by 2026 we are building sustainable

communities. Transition to a low carbon world would be good for Stroud in a number of important areas:

Air Quality improvement

Opportunities for environmental technology business

Improved community awareness

Remote working could lead to families spending more time together

Healthier lifestyles

More locally grown food, locally sourced products

Lower fuel bills

Increased energy resilience

Climate Change Aims to be addressed in Core Strategy

- To reduce greenhouse gas emissions, specifically reducing energy use, waste, and the use of unsustainable forms of transport.
- To encourage other sectors of the district to reduce their own greenhouse gas emissions
- To prepare for the changes that will happen because of the changing climate.
- To create a behaviour change around how we use our natural resources.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

As can be seen in Table 2 there are two sites which exceeded the air quality objective for NO_2. Also from the Trends in Annual Means shown in Figures 3 and 4 it would appear that most sites are showing a gradual increase in levels from 2005 to 2009. There is therefore the possibility that further sites may exceed the air quality objective for NO_2 in the future.

9.2 Conclusions relating to New Local Developments

There are no new developments of significance that will influence air quality in the Stroud District Council.

9.3 Other Conclusions

Stroud District Council has not reached any other conclusions.

9.4 Proposed Actions

As detailed above Stroud District council will investigate whether there are more relevant exposure locations near to the diffusion tube presently situated on a traffic light at Bowbridge Stroud. Once identified sampling at such locations will commence in January 2011.

10 References

1 – Updating and Screening Assessment 2006

2 – Progress Report 2007

3 – Progress Report 2008

4 – Updating and Screening Assessment 2009

Appendices

Appendix A: QA/QC Data

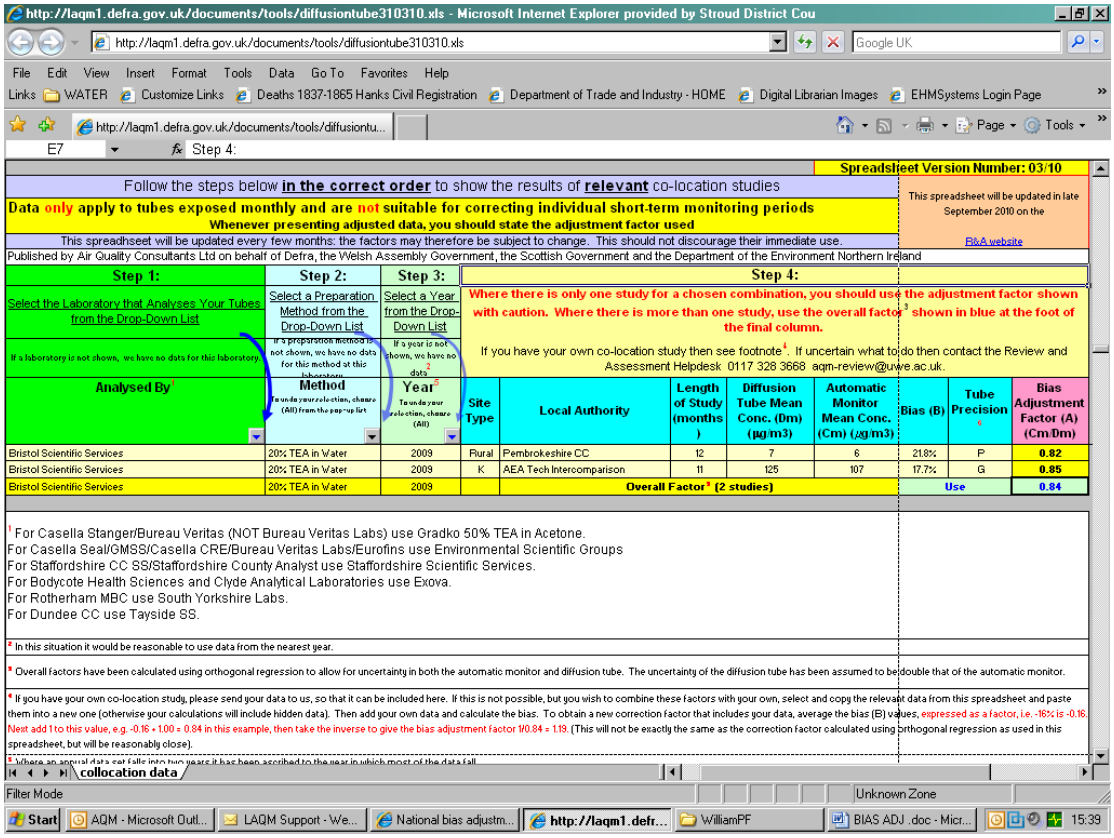
Appendix B: List of A1 Permitted Processes

Appendix C: List of Part A2 Permitted Processes

Appendix D: List of Part B Permitted Processes

Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors



http://laqm1.defra.gov.uk/documents/tools/diffusiontube310310.xls - Microsoft Internet Explorer provided by Stroud District Cou

Spreadsheet Version Number: 03/10

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies

Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods

Whenever presenting adjusted data, you should state the adjustment factor used

This spreadsheet will be updated in late September 2010 on the R&A website

This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

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Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List

Step 2: Select a Preparation Method from the Drop-Down List

Step 3: Select a Year from the Drop-Down List

Step 4: Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.

If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Review and Assessment Helpdesk 0117 328 3668 aqm-review@uwe.ac.uk.

Analysed By[1]	Method	Year[2]	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m3)	Automatic Monitor Mean Conc. (Cm) (µg/m3)	Bias (B)	Tube Precision	Bias Adjustment Factor (A) (Cm/Dm)
Bristol Scientific Services	20% TEA in Water	2009	Rural	Pembrokeshire CC	12	7	6	21.8%	P	0.82
Bristol Scientific Services	20% TEA in Water	2009	K	AEA Tech Intercomparison	11	125	107	17.7%	G	0.85
Bristol Scientific Services	20% TEA in Water	2009		Overall Factor[3] (2 studies)				Use		0.84

[1] For Casella Stanger/Bureau Veritas (NOT Bureau Veritas Labs) use Gradko 50% TEA in Acetone.
For Casella Seal/GMSS/Casella CRE/Bureau Veritas Labs/Eurofins use Environmental Scientific Groups
For Staffordshire CC SS/Staffordshire County Analyst use Staffordshire Scientific Services.
For Bodycote Health Sciences and Clyde Analytical Laboratories use Exova.
For Rotherham MBC use South Yorkshire Labs.
For Dundee CC use Tayside SS.

[2] In this situation it would be reasonable to use data from the nearest year.

[3] Overall factors have been calculated using orthogonal regression to allow for uncertainty in both the automatic monitor and diffusion tube. The uncertainty of the diffusion tube has been assumed to be double that of the automatic monitor.

[4] If you have your own co-location study, please send your data to us, so that it can be included here. If this is not possible, but you wish to combine these factors with your own, select and copy the relevant data from this spreadsheet and paste them into a new one (otherwise your calculations will include hidden data). Then add your own data and calculate the bias. To obtain a new correction factor that includes your data, average the bias (B) values, expressed as a factor, i.e. -16% is -0.16. Next add 1 to this value, e.g. -0.16 + 1.00 = 0.84 in this example, then take the inverse to give the bias adjustment factor 1/0.84 = 1.19. (This will not be exactly the same as the correction factor calculated using orthogonal regression as used in this spreadsheet, but will be reasonably close).

[5] Where an annual data set falls into two years it has been ascribed to the year in which most of the data fall.

collocation data

Filter Mode | Unknown Zone

Discussion of Choice of Factor to Use

As can be seen above, as the Overall Factor for Bristol Scientific Services is based on only 2 studies it is suggested that it would be reasonable to use data from the nearest year. The Council have accordingly used the 2008 Bias Adjustment Factor of 0.86.

Short-term to Long-term Data adjustment

No sites in 2009 had less than 9 months of monitoring therefore no short-term to long-term adjusted ratios needed to be calculated in accordance with the guidance from Box 3.2 of LAQM TG(09).

QA/QC of diffusion tube monitoring

Table 5 illustrates laboratories that have demonstrated satisfactory performance in the WASP scheme for analysis of NO_2 diffusion tubes, January 2008 – January 2009. Stroud District Council use Bristol Scientific Services whose performance good.

Table 5 Laboratories performance through WASP

Laboratory	Performance on basis of RPI, OLD CRITERIA, best 4 out of the 5 rounds 100-104	Performance on basis of RPI, NEW CRITERIA, best 4 out of the 5 rounds 100-104
Aberdeen Public Analysts	Good	Good
Bodycote Clyde Analytical	Acceptable	Acceptable
Bristol City Council	Good	Good
Bureau Veritas	Good	Acceptable
Cardiff Scientific Services	Good	Good
Dundee City Council (Tayside)	Good	Acceptable
Edinburgh City Council	Good	Good
Glasgow Scientific Service	Good	Good
Gradko	Good	Good
Harwell Scientifics	Good	Good
Kent Scientific Services	Good	Good
Kirklees MBC	Good	Acceptable
Lambeth Scientific Services	Good	Good
Lancashire County Analysts	Good	Good
Milton Keynes Council	Good	Acceptable
Northampton Borough Council	Good	Good
South Yorkshire Laboratories	Good	Good
Staffordshire County Council	Good	Good
University of Essex	Good	Acceptable
Walsall MBC	Acceptable	Acceptable
West Yorks Analytical Services	Good	Good

For further information about any particular laboratory's performance, please contact the laboratory directly. If you have any questions about these performance criteria, or the context in which they apply, please contact Alison Loader at AEA, on 0870 190 6518, or e-mail alison.loader@aeat.co.uk. For more general enquiries about the WASP scheme, please contact Hannah Clark at HSL, hannah.clark@hsl.gov.uk.

Appendix B: List of A1 Permitted Processes

Environment Agency permitted installations involving Part A1 prescribed activities regulated under the Environmental Permitting (England & Wales) Regulations 2007.

Reference	Premises	Prescribed Activity
BV3146	Stonehouse Battery Factory, Schlumberger WCP Ltd, Brunel Way. Stroudwater Business Park, Stonehouse, Glos, GL10 3SX	Section 4.2 A(1))b) -any manufacturing activity which uses, or which is likely to result in the release to air or into water of, any halogens, hydrogen halides or any compounds mentioned in paragraph (a)(vi) of the PPC Regulations 2000
HP3635PM	RMC Environmental Services Ltd, Frampton Landfill, Perryway, Frampton on Severn, Glos, GL2 7HS	Section 5.2 A(1) – disposal of waste by landfill
XP3938SF	Nu-Pro Surface Treatments Ltd, Eagle Works, London Road, Thrupp, Stroud, Glos, GL5 2BA	Section 4.2 A(1)(h) – unless falling within another section of this schedule, any activity, other than the combustion or incineration or carbonaceous material as defined in the Interpretation of Part A(1) of Section 1.2 of this schedule, which is likely to result in the release into the air of any acid forming oxide of nitrogen
BP3532SW	Severnside Dairies, Dairy Crest Ltd, Oldends Lane, Stonehouse, Glos, GL10 2DG	Six activities under Section 6.8 Part A(1)(e) – treating and processing of milk and Section 5.3 Part A(1)(c)(A) – disposal of non-hazardous waste
PP3232SB	Norit (UK) Ltd, Purton Carbon Ltd, Purton Water Treatmrnt Works, Riddle Street, Purton, Glos, GL13 9HN	Section 5.4 A(1)(c) – cleaning or regenerating carbon
HP3537ML	Faccenda Group Ltd, Highwood Farm, Kingswood, Wotton under Edge, Glos, GL12 8JU	Section 6.9 A(1)(a)(i) –intensive farming – rearing of poultry in an installation with more than 40,000 poultry
BP3498VC/ T001	New Earth Solutions Group Ltd, The Factory, Sharpness Docks, Berkeley, Glos, GL13 9UD	Section 5.3 A(1)(c) – disposal of waste other than by incineration or landfill

Appendix C: List of A2 Permitted Processes

Local Authority Pollution Prevention and Control (LAPPC) permitted installations involving Part A2 prescribed activities regulated under the Environmental Permitting (England & Wales) Regulations 2007.

Reference	Premises	Prescribed Activity
LA-IPPC/77	Nu-Pro Surface Treatments Ltd, Eagle Works, London Road Thrupp, GL5 2BA	Surface treatment of metals and plastic materials

Appendix D: List of Part B Permitted Processes

Local Authority Pollution Prevention and Control (LAPPC) permitted installations involving Part B prescribed activities regulated under the Environmental Permitting (England & Wales) Regulations 2007.

Reference	Premises	Prescribed Activity
LAPPC/2	Silvey Brothers Limited, The Garage, Saul, Glos, GL2 7LW	Waste oil burner
LAPPC/6	Fourways Garage, Middle Hill, Chalford, Stroud, Glos, GL6 8BD	Waste oil burner
LAPPC/7	Holbrook Garage, Bisley, Stroud, Glos, GL6 7AX	Waste oil burner
LAPPC/9	D M Foundries, London Road, Stroud, Glos, GL5 2AZ	Foundry
LAPPC/17	Dragon Alfa Cement Ltd, Sharpness Docks, Glos, GL13 9UA	Unloading cement
LAPPC/18	Cullimores Mix Ltd, Netherhills, Whitminster, Glos, GL2 7PQ	Bulk use of cement
LAPPC/20	Olympic Varnish Co Ltd, The Dockyard, Brimscombe, Stroud, Glos, GL5 2TQ	Paper coating
LAPPC/24	Sharpness Docks Ltd, Sharpness Docks, Glos, GL13 9UA	Coal
LAPPC/34	Kellaway Building Supplies Ltd, The Old Ryeford Saw Mills, Stonehouse, Glos, GL10 3HE	Bulk use of cement
LAPPC/38	Snax 24 Ltd, London Road, Stroud, Glos, GL5 2AX	Petrol filling station
LAPPC/39	Tesco Stores Ltd, Stratford Road, Stroud, Glos, GL5 4AG	Petrol filling station
LAPPC/40	Dudbridge Superstop, Dudbridge, Stroud, Glos, GL5 3HP	Petrol filling station
LAPPC/41	Bear Street Garage, Bear Street, Wotton under Edge, Glos, GL12 7DF	Petrol filling station
LAPPC/42	Bristol Street Ford, London Road, Stroud, Glos, GL5 2AX	Petrol filling station
LAPPC/43	Millwood Motor Co Ltd, Cam, Glos, GL11 5DH	Petrol filling station
LAPPC/44	Shell Nailsworth, Stroud Road, Nailsworth, Glos, GL6 0BE	Petrol filling station
LAPPC/45	UMA (UK) Ltd, 14 Ebley Road, Stonehouse, Glos, GL10 2LH	Petrol filling station
LAPPC/46	Cross Keys, Bristol Road, Hardwicke, Glos, GL2 4RQ	Petrol filling station
LAPPC/48	Wild Goose Garage, 27 Kingshill Road, Dursley, Glos, GL11 4BJ	Petrol filling station
LAPPC/50	Shell Oldbury, Westend Roundabout, Stonehouse, Glos, GL10 2SY	Petrol filling station

LAPPC/51	Bridge Service Station 2-6 Gloucester Road, Stonehouse, Glos, GL10 2PB	Petrol filling station
LAPPC/53	Berkeley Heath Motors, A38 Berkeley, Glos GL13 9ET	Petrol filling station
LAPPC/54	Fromebridge Self Service, Whitminster, Glos GL2 7PG	Petrol filling station
LAPPC/55	Michaelwood Services Northbound M5, Lower Wick, Dursley, Glos GL11 6DD	Petrol filling station
LAPPC/56	Michaelwood Services Southbound M5, Lower Wick, Dursley, Glos GL11 6DD	Petrol filling station
LAPPC/61	Fourways Garage, Fourways Garage (Chalford) Ltd, Middle Hill, Chalford, Stroud, Glos, GL6 8BD	Petrol filling station
LAPPC/63	Severn Vale Service Centre, Perryway Garage, Frampton-on-Severn, GL2 7HS	Waste oil burner
LAPPC/64	Holbrook Garage, Bisley, Stroud, Glos, GL6 7AX	Petrol filling station
LAPPC/67	Smith's (Gloucester) Ltd, Alkerton Court, Eastington, Stonehouse, Glos. GL10 3AQ	Mobile crusher
LAPPC/68	Car Clinic, Kingswood Garage, Kingswood Glos, GL12 8RA	Waste oil burner
LAPPC/69	M & N Motor Services, Davids Lane, Nympsfield, Stonehouse, Glos, GL10 3UG.	Waste oil burner
LAPPC/70	Lakeside Garage, Stroud Road, Nailsworth, Glos GL6 0BE	Waste oil burner
LAPPC/72	Stroud Tyre Co Ltd, Units 5-6 Wallbridge Industrial Estate, Bath Road, Stroud, Glos, GL5 3JU	Waste oil burner
LAPPC/73	Roadspeed Units 5-6 Wallbridge Industrial Estate, Bath Road, Stroud, Glos, GL5 3JU	Waste oil burner
LAPPC/75	Stonehouse Commercials, Unit 9A Ryeford Ind. Estate, Stonehouse, Glos GL10 3HE	Waste oil burner
LAPPC/76	Cotswold Crusher Hire, 24 The Martins, Westrip, Stroud Glos, GL5 4PQ	Mobile crusher
LA-IPPC/77	Nu-Pro Surface Treatments Ltd, Eagle Works, London Road Thrupp, GL5 2BA	Coating aircraft components and Surface treatment of metals
LAPPC/78	The Premier Kitchen Company, Q1, Quadrant Buisness Park, Quedgeley Gl2 2RN	Timber activity and combustion
LAPPC/80	Gloucester Composites Ltd, Fox House, Stonedale Road, Stonehouse, GL10 3SA	Manufacture of fibre reinforced plastic
LAPPC/81	STC Services (Stroud) Ltd, Unit L1A, Bath Road Trading Estate, GL5 3QF	Waste oil burner
LAPPC/82	Severn Plywoods Ltd, 14 Gloucester Road, Stonehouse, GL10 2PB	Timber activity and combustion
LAPPC/83	Smith's (Gloucester) Ltd, Alkerton Court, Eastington, Stonehouse, Glos. GL10 3AQ	Mobile crusher
LAPPC/84	Millclean Dry cleaners & Launderers, 35 Westward Road, Cainscross, Stroud, Glos GL5 4JA.	Dry cleaner
LAPPC/85	Johnson The Cleaners, 6 Kendrick Street, Stroud, Glos GL5 1AA	Dry cleaner
LAPPC/86	Atkins Autos, Old Brewery Yard, Cainscross, Stroud, Glos GL5 4JW	Waste oil burner
LAPPC/87	Russells Dry Cleaners, 47 George Street, Mill Yard, Nailsworth, GL6 0AG	Dry cleaner
LAPPC/88	Dry Cleaners at Gerards, 35D Parsonage Street, Dursley, Glos, GL11 4BP	Dry cleaner

LAPPC/89	Cemex Ltd, Cemex Ltd, Chesnut Lane, Stroud, GL5 3EN	Bulk use of cement
LAPPC/90	VMR Autos Unit J1, Drycott Business Park, Cam Dursley, GL11 5DQ	Waste oil burner
LAPPC/93	Smith's (Gloucester) Ltd, Alkerton Court, Eastington, Stonehouse, Glos. GL10 3AQ	Mobile crusher
LAPPC/94	Smith's (Gloucester) Ltd, Alkerton Court, Eastington, Stonehouse, Glos. GL10 3AQ	Mobile crusher
LAPPC/95	Smith's (Gloucester) Ltd, Alkerton Court, Eastington, Stonehouse, Glos. GL10 3AQ	Mobile crusher
LAPPC/96	Abbey Surfacing, Parkend Farm, Moreton Valence, Glos, GL2 7NG	Mobile crusher