WYCHAVON DISTRICT COUNCIL

Progress Report

AIR QUALITY

APRIL 2008

PROGRESS REPORT

INTRODUCTION **1**

MONITORING **1**

NITROGEN DIOXIDE DIFFUSION TUBE MONITORING **1**

RESULTS OF THE MONITORING **2**

AQMA **2**

NEW LOCAL DEVELOPMENTS **2**

INDUSTRIAL INSTALLATIONS .....

PART A1 INSTALLATIONS 2
PART A2 INSTALLATIONS 3
PART B INSTALLATIONS 3

NEW RETAIL DEVELOPMENT **3**

NEW ROAD DEVELOPMENT **3**

NEW MINERAL DEVELOPMENT **3**

NEW LANDFILL DEVELOPMENT **3**

MIXED USE DEVELOPMENT (RESIDENTIAL/COMMERCIAL) **4**

CONCLUSION **4**

APPENDIX 1

LIST OF MONITORING SITES AND MAPS

APPENDIX 2

TABLE 1 AND 1A NO_2 MONITORING RESULTS

TABLE 2 AND 2A NO_2 MONITORING RESULTS SWAN LANE

TABLE 3 AND 3A NO_2 MONITORING RESULTS PORT STREET

APPENDIX 3

Introduction

This is Wychavon District Council's progress report for 2007

The Update and Screening Assessment in 2005 concluded that there were likely exceedences of the Nitrogen Dioxide objectives in two areas in Evesham. A detailed assessment was carried out in 2006, the outcome of which was the declaration of an Air Quality Management Area in Port Street Evesham in September 2007.

A detailed assessment of PM10 was also carried out in Hartlebury in the vicinity of Wienerberger Ltd formally Baggeridge Brick Plc. The conclusion of which was that the PM10 objectives were not being exceeded.

These reports can be viewed on www.wychavon.gov.uk

There have been no developments during 2007 that would change previous conclusions that the objectives for Benzene, 1-3 Butadiene, Carbon Monoxide, Lead, and Sulphur Dioxide are unlikely to be exceeded.

The objectives for Nitrogen Dioxide and Particulates (PM_{10}) continue to be reviewed because of their relationship to road transport and also in the case of particulates, developments such as landfill sites.

Monitoring

The monitoring of Nitrogen Dioxide levels using Diffusion Tubes continues to be the only routine air quality monitoring carried out by Wychavon District Council.

Nitrogen Dioxide Diffusion Tube Monitoring

As part of the detailed assessment the number of sites was increased and the monitoring at the sites has been continued during 2007

Gradko International Ltd supplied and analysed the 51 diffusion tubes.

All the sites and their locations are listed and shown on maps in Appendix 1

The results of four sites in Pershore are submitted to NETCEN as part of the National Survey.

During the year some of the tubes have disappeared during the exposure period. This has resulted in gaps in the results at some sites.

Results of the Monitoring

The monitoring results for 2007 are shown in Appendix 2.

The annual roadside averages from 2000 to 2007 at sites other than the additional sites in Swan Lane and Port Street are set out in Appendix 3.

The 2007 results have been adjusted by using the national bias factor derived from the results from 17 studies that have co-located diffusion tubes. The bias factor is 0.89 for tubes that have been prepared using the 20% TEA/ Water method and analysed by Gradko.

The results show that there have been no exceedences of the annual mean at most of the monitoring sites.

However, the triple tube sites EPS2, EPS3, EPS4 Whittington, EPS27, EPS28, EPS29 Wychbold, EPS13, EPS13a, EPS13b Swan Lane, Evesham EPS14, EPS14a, EPS14b Port Street, Evesham show average annual means of 39.40, 38.51, 37.57 and 39.53ug/m^3 respectively and remain of concern. We will therefore continue to monitor at these sites and with the preparation of the action plan for the Port Street AQMA.

Two additional sites have been added at Norton near Worcester to establish a baseline to judge any increase in Nitrogen dioxide concentration arising from a new recycling facility when it commences operation.

Monitoring at all of the sites will continue throughout 2008.

AQMA

Work is continuing on the further assessment and Action Plan for the AQMA in Port Street. It is proposed to have some dispersion modeling carried to assist in source apportionment and determining the required improvement in Air Quality.

New Local Developments

Industrial Processes

Part A1 Processes

Applications were lodged with the Environment Agency in respect of the following A1 activities

BIFFA Waste Services, Whitlenge Lane Hartlebury.	Landfill
BIFFA Waste Services, Waresley Hartlebury.	Landfill
Severn Waste Services Hill and Moor	Landfill
J M Green Bickmarsh Hall	Piggery
Pershore Poultry Farm Throckmorton	Chicken Farm

Part A2 Processes

There have been no new A2 permit applications since the previous progress report.

Part B Processes

During the year following Part B applications were received

WYC/PPC/78/1/06	Avon Cleaners	65 Port Street Evesham WR11 3LF	Dry Cleaner
WYC/PPC/79/1/06	Wm Morrison Plc	The Link Davies Road Evesham WR11 2UT	Dry Cleaner
WYC/PPC/80/1/06	Johnson Cleaners	10 Abbey Road Evesham WR11 4ST	Dry Cleaner
WYC/PPC/81/1/06	Laundromat	50 High Street Pershore WR10 1DP	Dry Cleaner
WYC/PPC/82/1/06	Elite Dry Cleaning	134 High Street Pershore WR10 1EA	Dry Cleaner
WYC/PPC/83/1/06	Ashmores of Broadway	12 Leamington Road Broadway WR12 7DZ	Dry Cleaner
WYC/PPC/84/1/06	Brooklyn Ford Evesham	Enterprise Way Vale Park Evesham WR11 1GS	Waste Oil Burner
WYC/PPC85//1/06	Spencer Commercial	Enterprise Way Vale Park Evesham WR11 1GS	Waste Oil Burner
WYC/PPC/86/1/06	E H Taylor	Oak Park, Ryelands Lane Elmley Lovatt WR9 0QZ	Coating of Metal
WYC/PPC/87/1/06	Executive Cleaners	49 High Street Droitwich WR9 8EP	Dry Cleaner
WYC/PPC/88/1/06	Johnsons Cleaners	27 Andrews Street Droitwich WR9 8DY	Dry Cleaner
WYC/PPC/89/1/07	Alsigns Commercials Ltd	Great Collin Farm Collin Lane Broadway WR12 7PB	Vehicle Refinishing

New Retail Development

During 2007 no new retail development that would have an adverse effect on air quality has received approval.

New Industrial Development

The extension to the Vale Park Industrial Estate, Evesham has commenced. It is not considered that there will be a significant impacted on air quality, as it is located on the Evesham Bypass.

New Road Development

No new road development has taken place since the last progress report.

New Mineral Development

The new clay pit at New House Farm Walton Lane Hartlebury that provides clay for the Hartlebury Works of Wienerberger Ltd formally Baggeridge Brick Plc has been brought into operation. The clay is won from the pit over a six week period once a year. Currently the development has not had an impact on air quality.

New Landfill Development

The proposed landfill activity at Hartlebury Quarry that had previously had its A1 permit application refused has now been granted an IPPC permit and operations may commence in 2008.

Mixed use development (residential/ commercial)

During 2007 no new mixed use developments that would have an adverse effect on air quality were commenced.

Conclusion

We continue to believe that the National Air Quality Objectives for Benzene, 1-3 Butadiene, Carbon Monoxide, Lead, Sulphur Dioxide and Particulate Matter are unlikely to be exceeded in Wychavon District Council.

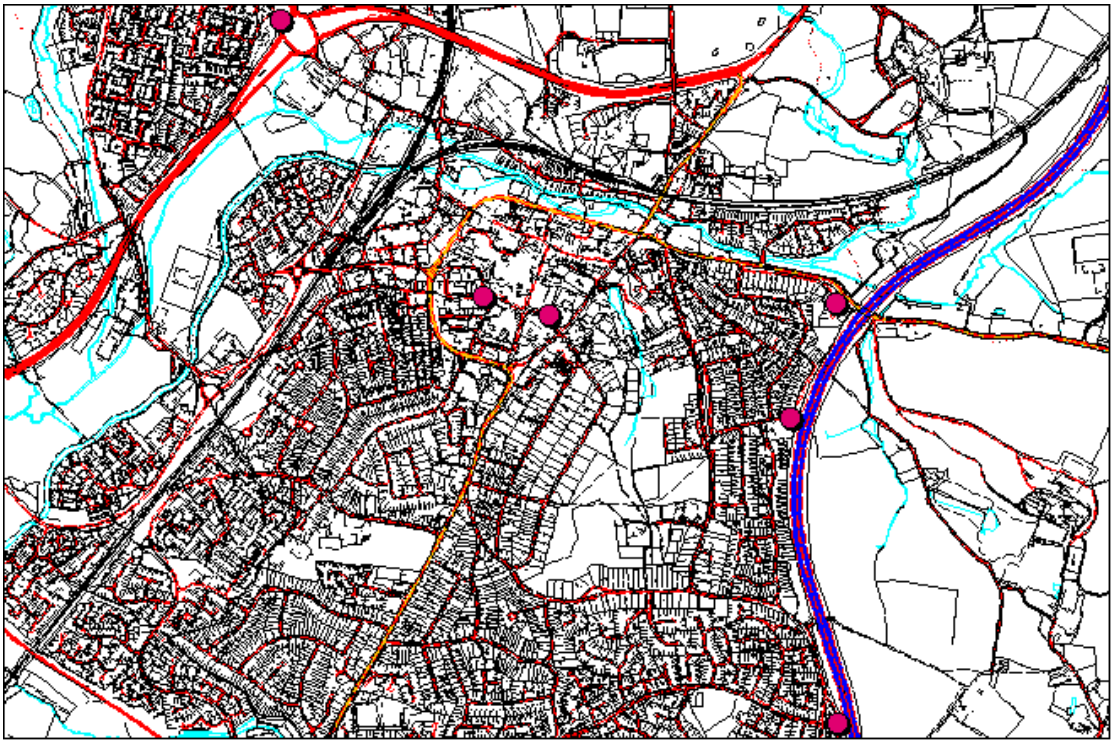
Hot spots for Nitrogen dioxide that continue to be of concern are Port Street and Swan Lane Evesham and at Whittington and Wychbold near to junctions 7 and 5 on the M5.

We will continue to progress the action plan for the AQMA.

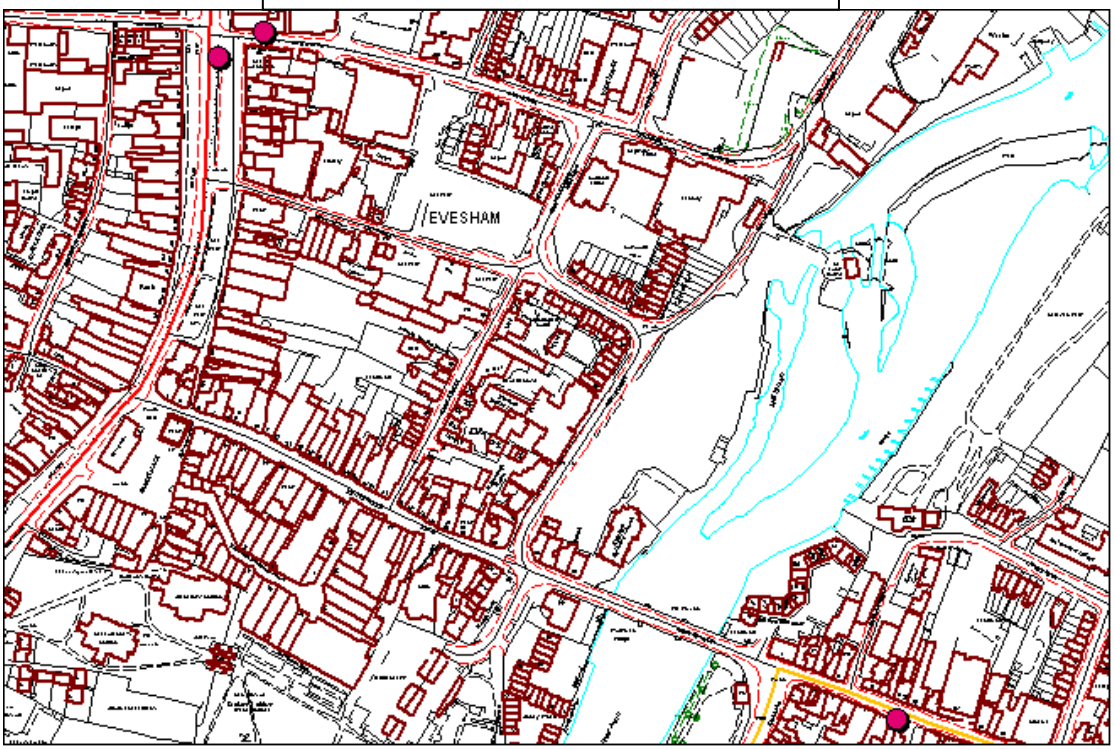
APPENDIX 1

Reference	Location	Site	Description
EPS1	Norton	Church Lane	Roadside near M5
EPS2	Whittington	Nr Swan (LP 50)	Roadside
EPS3	Whittington	Nr Swan (LP 50)	Roadside
EPS4	Whittington	Nr Swan (LP 50)	Roadside
EPS5	Swinesherd	Homeleigh	At house M5 3O metres away
EPS6	Pershore	Civic Centre	Urban Background
EPS8	Pershore	40 High Street	Roadside
EPS9	Pershore	St. Andrews Road	Urban Background
EPS10	Pershore	Broad Street	Roadside
EPS11	Evesham	Port Street	Roadside
EPS13	Evesham	Swan Lane	Roadside Evesham Town Centre
EPS13a	Evesham	Swan Lane	Roadside Evesham Town Centre
EPS13b	Evesham	Swan Lane	Roadside Evesham Town Centre
EPS14	Evesham	Port Street	Roadside Evesham Town Centre
EPS14a	Evesham	Port Street	Roadside Evesham Town Centre
EPS14b	Evesham	Port Street	Roadside Evesham Town Centre
EPS15	Evesham	High Street	Roadside Evesham Town Centre
EPS16	Droitwich	Ombersley Street East	Roadside Droitwich Town Centre
EPS17	Droitwich	St. Andrews Road	Roadside Droitwich Town Centre
EPS18	Droitwich	Hanbury Road (LP34)	Roadside near to M5
EPS19	Droitwich	Mayflower Road (1)	Roadside near to M5
EPS20	Droitwich	Mayflower Road (2)	Roadside near to M5
EPS21	Droitwich	Mayflower Road (3)	Roadside near to M5
EPS22	Droitwich	Tagwell Close (LP4) - (1)	Roadside near to M5
EPS23	Droitwich	Tagwell Close (LP4) - (2)	Roadside near to M5
EPS24	Droitwich	Tagwell Close (LP4) - (3)	Roadside near to M5
EPS25	Droitwich	Westlands	Roadside Droitwich
EPS26	Wychbold	A38 Road	Roadside slip road junction 5 M5
EPS27	Wychbold	Worcester Road (1)	Roadside junction 5 M5
EPS28	Wychbold	Worcester Road (2)	Roadside junction 5 M5
EPS29	Wychbold	Worcester Road (3)	Roadside junction 5 M5
EPS31	Evesham	High Street LP28	Roadside Evesham Town Centre
EPS32	Evesham	Avon Street LP 11	Roadside Evesham Town Centre
EPS33	Evesham	High Street LP32	Roadside Evesham Town Centre
EPS34	Evesham	High Str/ Swan La Camera	Roadside Evesham Town Centre
EPS35	Evesham	Swan Lane LP 2	Roadside Evesham Town Centre
EPS36	Evesham	Swan Lane LP 3	Roadside Evesham Town Centre
EPS37	Evesham	Cowl Street	Roadside Evesham Town Centre
EPS38	Evesham	Swan Lane LP 5	Roadside Evesham Town Centre
EPS39	Evesham	Rynal Street LP 1	Roadside Evesham Town Centre
EPS41	Evesham	Mill Street LP 4	Roadside Evesham Town Centre
EPS42	Evesham	Port Street LP21	Roadside Evesham Town Centre
EPS43	Evesham	Port Street LP40	Roadside Evesham Town Centre
EPS44	Evesham	Long Stay opp cinema	Roadside Evesham Town Centre
EPS45	Evesham	Camera Post opp 33	Roadside Evesham Town Centre
EPS46	Evesham	Castle Street LP1	Roadside Evesham Town Centre
EPS47	Evesham	Castle Str 20 mph sign	Roadside Evesham Town Centre
EPS48	Evesham	Waterside centre RES	Roadside Evesham Town Centre
EPS49	Evesham	LP12 on bridge	Roadside Evesham Town Centre
EPS50	Evesham	Burford Road LP	Roadside Evesham Town Centre

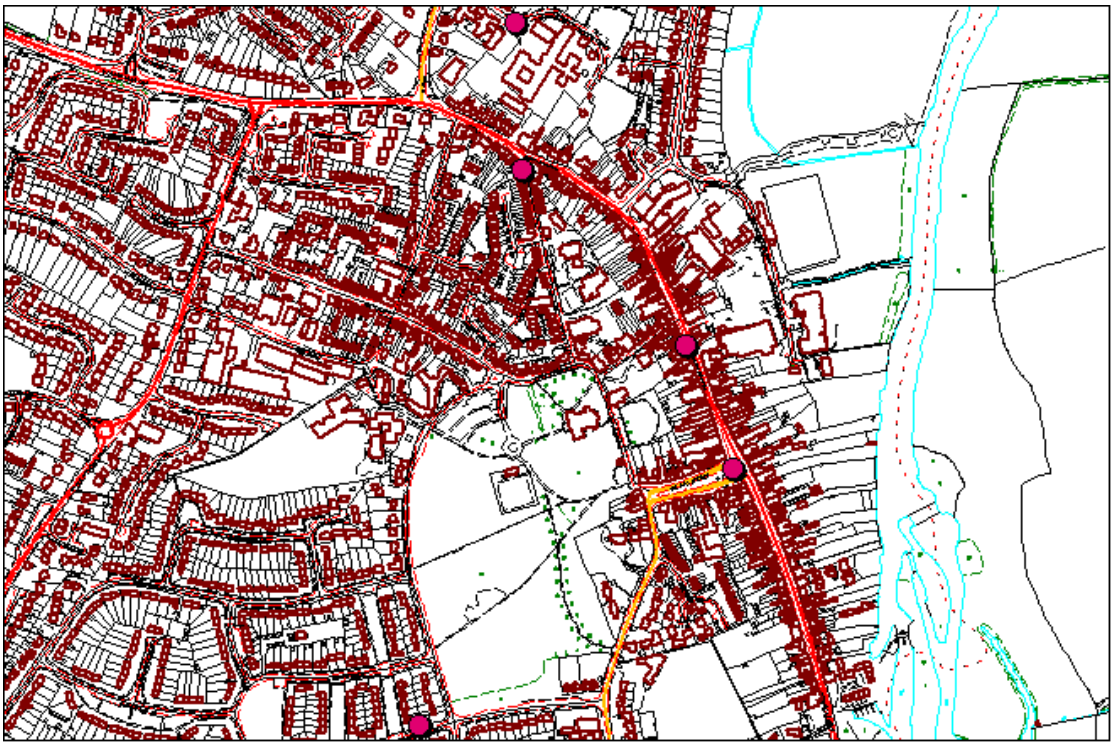
Droitwich NO_2 Diffusion Tube Sites



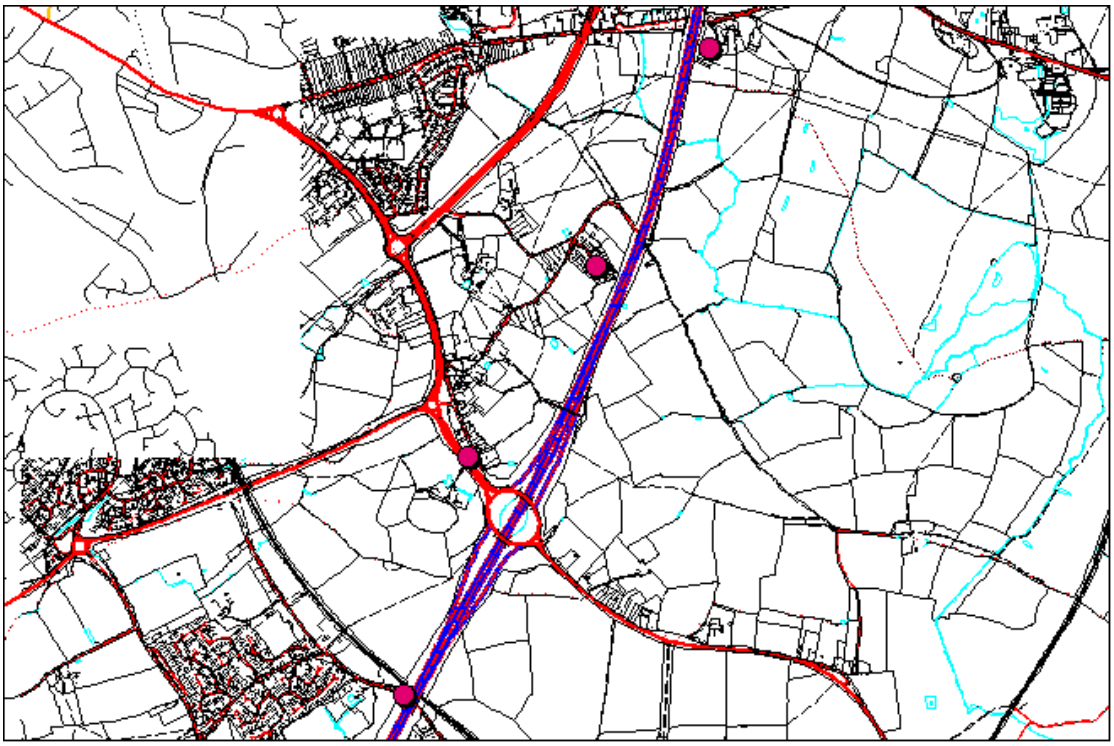
Evesham NO_2 Diffusion Tube Sites



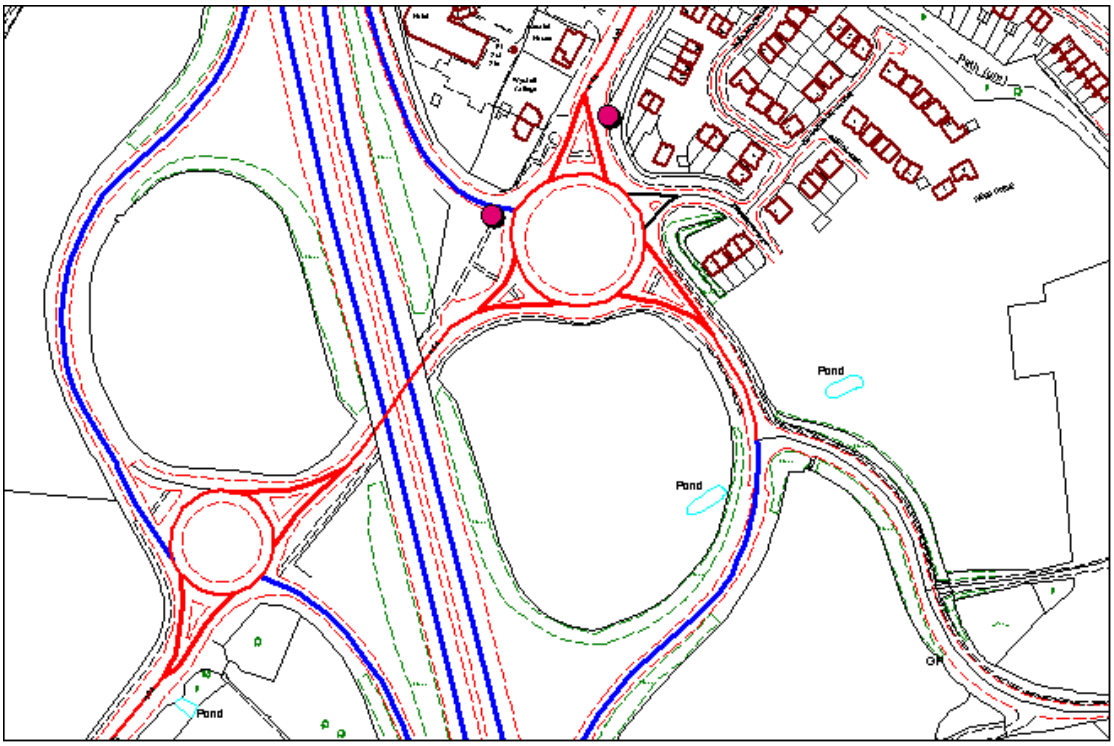
Pershore NO_2 Diffusion Tube Sites



Worcester NO_2 Diffusion Tube

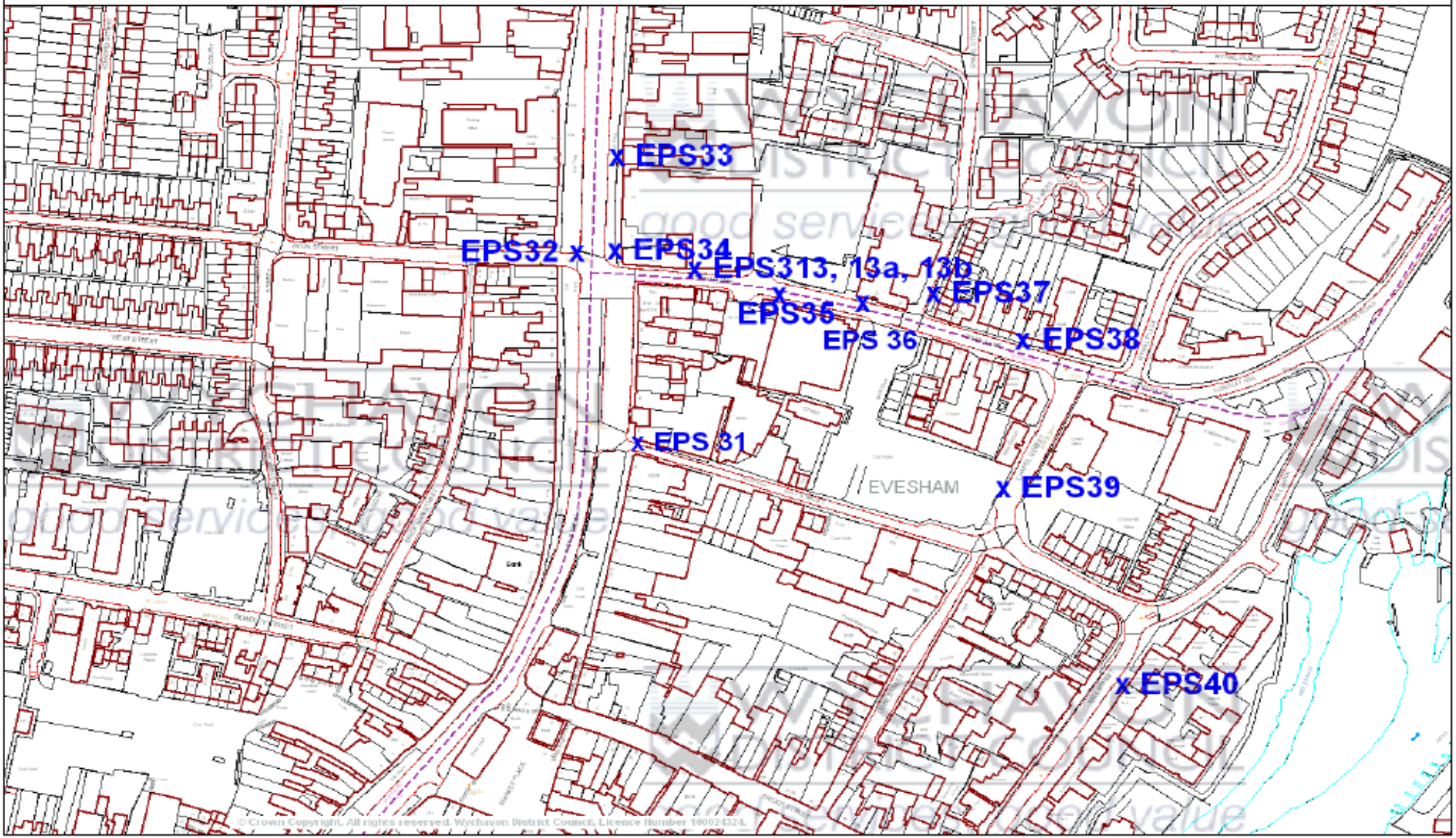


Wychbold NO_2 Diffusion Tube



Title: Figure 2 NO2 tubes High Street,Swan Lane, Chapel Street Evesham

WYCHMAPS IntranetGIS



WYCHAVON DISTRICT COUNCIL
good services, good value

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Wychavon District Council, Licence Number 100024324.

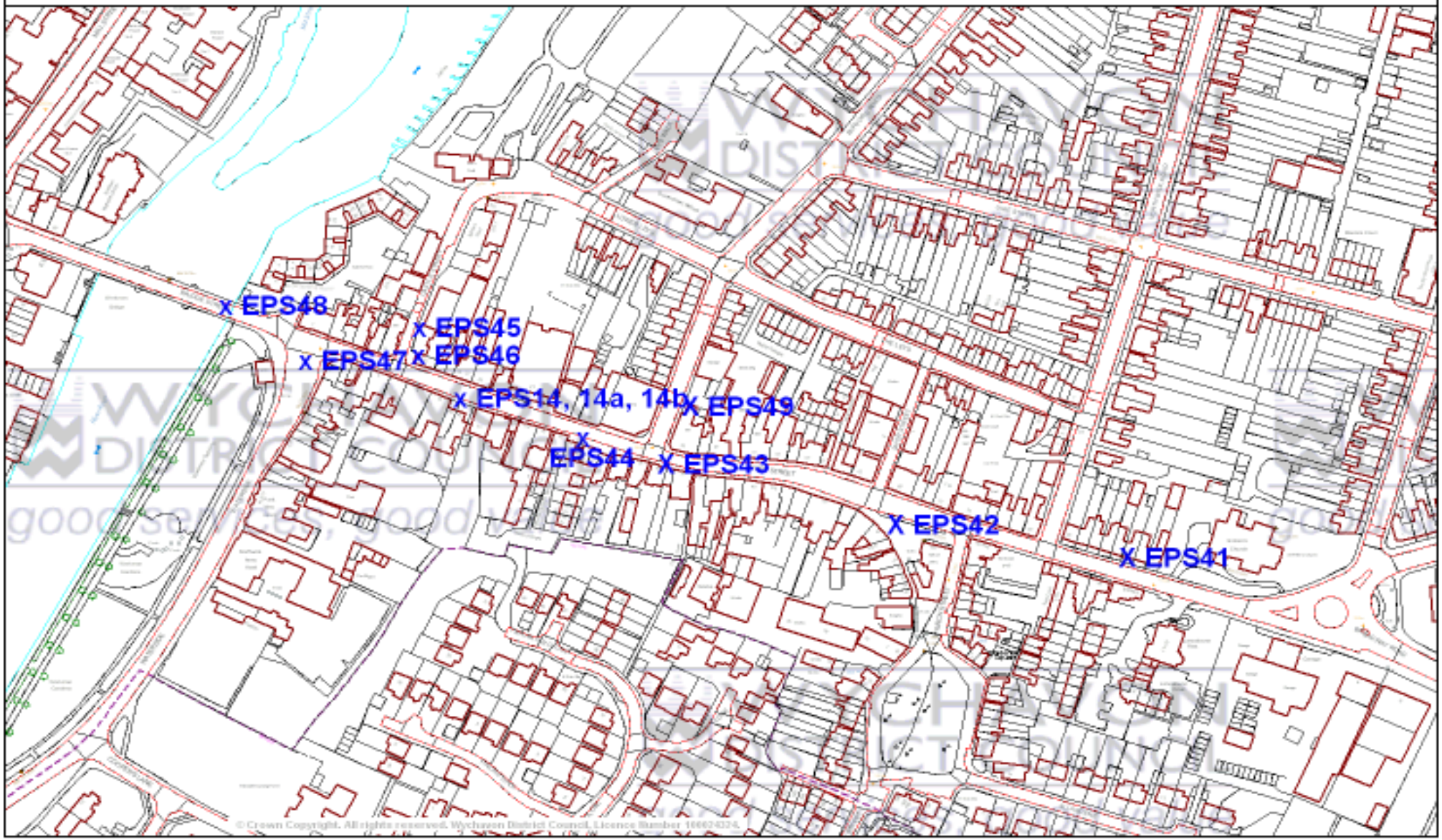
Scale 1/2500

Centre = 403804 E 243942 N

Date 18/4/2007

Produced by Keith Handy

Title: Figure 3 NO2 tubes Port Street Evesham



WYCHAVON DISTRICT COUNCIL
good services, good value

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Wychavon District Council, Licence Number 100024324.

Scale 1/2500

Centre = 404250 E 243619 N

Date 18/4/2007

Produced by Keith Handy

Appendix 2

Results of Diffusion tube Roadside Monitoring 2007

Table 1

			Jan	Feb	March	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Average
EPS1	Norton	Church Lane	36.37	36.55	35.83		65.36	31.97	33.96	35.56	29.47	36.01	41.33	28.32	37.34
EPS2	Whittington	Nr Swan (LP 50)	45.74	68.49	52.11	63.44	54.92	58.28		51.88	52.32	59.66	70.85	58.20	57.81
EPS3	Whittington	Nr Swan (LP 50)	47.58	73.33	53.98	62.67	52.04	55.71		49.71	45.56	74.87	69.78	62.87	58.92
EPS4	Whittington	Nr Swan (LP 50)	50.59	73.10	53.04	64.21	55.10	60.27	53.38	60.27	45.02	70.93	77.08	61.43	60.37
EPS5	Swinesherd	Homeleigh	37.68	37.93	33.58	31.61		24.49		62.32	35.38	32.91			36.99
EPS6	Pershore	Civic Centre	22.50	30.58	25.59	20.57	20.99	14.81	17.77	19.90	17.27	30.77	38.12	35.53	24.53
EPS7	Pershore	High Street	33.61	39.23	34.39	33.36	31.77	25.82	26.76	25.13	24.38	31.69		38.78	31.36
EPS8	Pershore	40 High Street	36.66	44.56	37.00	30.83	32.07	33.59	30.49	31.04	25.09	32.40		71.48	36.84
EPS9	Pershore	St. Andrews Road	16.78	28.37	18.71	19.28	14.03	13.23	11.08	14.52	11.36	25.52	29.96	23.22	19.35
EPS10	Pershore	Broad Street	18.95	39.11	30.38	32.87	28.77	30.26	23.64	25.59	24.65	33.81	40.71	33.77	30.21
EPS16	Droitwich	Ombersley Street East	31.72	43.31	37.28	33.10	33.56	30.00	25.72	28.36	21.41	47.90	40.98	44.85	34.85
EPS17	Droitwich	St. Andrews Road	27.92	41.36	26.69	29.87	27.28	28.58	22.65	21.91	21.72	30.44		38.49	28.81
EPS18	Droitwich	Hanbury Road (LP34)	28.85	42.76	30.74	38.62	29.59	33.33	24.10	25.56	25.19	37.14	37.16	43.49	33.04
EPS19	Droitwich	Mayflower Road (1)	26.12	56.63	40.92	51.24	39.07		27.89	26.76	23.93	37.19	45.39		37.51
EPS20	Droitwich	Mayflower Road (2)	25.73	56.28	34.38	57.14	34.51		27.39	26.93	26.14	42.20	44.38		37.51
EPS21	Droitwich	Mayflower Road (3)	29.47	51.24	44.90	48.24	39.54		26.72	27.10	26.54	47.27	41.69		38.27
EPS22	Droitwich	Tagwell Close (LP4) -(1)	25.79	47.92	44.01	6.23	37.24	39.33	23.99	30.30	20.6	44.62	42.59	42.83	33.79
EPS23	Droitwich	Tagwell Close (LP4) -(2)	27.57	45.91	35.93	45.72	35.35	38.41	24.54	34.40	25.24	41.64	41.34	39.06	36.26
EPS24	Droitwich	Tagwell Close (LP4) - 3)	24.33	47.40	35.27	42.66	32.56	34.64	24.54	33.21	20.60	36.63	32.15	42.97	33.91
EPS25	Droitwich	Westlands			43.35	50.91	54.93	56.98	43.96			36.41		58.02	49.22
EPS26	Wychbold	A38 Road	59.51	67.04	64.39	71.77	79.22	62.69	60.13	68.81	66.38	54.99	70.33	58.09	65.28
EPS27	Wychbold	Worcester Road (1)	58.72	55.47	58.14	59.96	63.97	47.00	47.58	58.88	54.03	60.91	73.36	58.78	58.07
EPS28	Wychbold	Worcester Road (2)	50.69	63.38	52.54	52.74	66.80	56.03	59.69	60.13	33.08	53.13	73.36	63.58	57.10
EPS29	Wychbold	Worcester Road (3)	68.10	68.88	56.93	51.20	64.44	55.03	54.89	55.63	46.10	52.85		62.99	57.91

Appendix 2

Results of Diffusion tube Monitoring 2007 with bias correction and correction for distance to building facade

Table 1a

			Average	Bias	Result	Distance	Result	
EPS1	Norton	Church Lane	37.34	0.89	33.23	0.9	29.91	
EPS2	Whittington	Nr Swan (LP 50)	57.81	0.89	51.45	0.75	38.59	
EPS3	Whittington	Nr Swan (LP 50)	58.92	0.89	52.44	0.75	39.33	
EPS4	Whittington	Nr Swan (LP 50)	60.37	0.89	53.73	0.75	40.3	39.40
EPS5	Swinesherd	Homeleigh	36.99	0.89	32.92	1	32.92	
EPS6	Pershore	Civic Centre	24.53	0.89	21.83	1	21.83	
EPS7	Pershore	High Street	31.36	0.89	27.91	0.9	25.12	
EPS8	Pershore	40 High Street	36.84	0.89	32.79	0.95	31.15	
EPS9	Pershore	St. Andrews Road	19.35	0.89	17.22	1	17.22	
EPS10	Pershore	Broad Street	30.21	0.89	26.89	0.75	20.16	
EPS12	Broadway	Leamington Road	18.50	0.89	16.47	0.9	14.82	
EPS16	Droitwich	Ombersley Street East	34.85	0.89	31.02	0.9	27.91	
EPS17	Droitwich	St. Andrews Road	28.81	0.89	25.64	0.9	23.08	
EPS18	Droitwich	Hanbury Road (LP34)	33.04	0.89	29.41	0.9	26.47	
EPS19	Droitwich	Mayflower Road (1)	37.51	0.89	33.39	0.75	25.04	
EPS20	Droitwich	Mayflower Road (2)	37.51	0.89	33.38	0.75	25.04	
EPS21	Droitwich	Mayflower Road (3)	38.27	0.89	34.06	0.75	25.55	
EPS22	Droitwich	Tagwell Close (LP4) - (1)	33.79	0.89	30.07	0.75	22.55	
EPS23	Droitwich	Tagwell Close (LP4) - (2)	36.26	0.89	32.27	0.75	24.2	
EPS24	Droitwich	Tagwell Close (LP4) - (3)	33.91	0.89	30.18	0.75	22.64	
EPS25	Droitwich	Westlands	49.22	0.89	43.81	0.75	32.86	
EPS26	Wychbold	A38 Road	65.28	0.89	58.1	0.75	43.57	
EPS27	Wychbold	Worcester Road (1)	58.07	0.89	51.68	0.75	38.76	
EPS28	Wychbold	Worcester Road (2)	57.10	0.89	50.82	0.75	38.11	
EPS29	Wychbold	Worcester Road (3)	57.91	0.89	51.54	0.75	38.66	38.51

Appendix 2

Diffusion Tube Roadside Results 2007 Swan Lane

Table 2

			Jan	Feb	March	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec	average	
EPS13	Evesham	Swan Lane	44.15	53.44	36.02	43.92	43.63	38.84	37.18	44.90	38.16	42.38	55.55	50.36	**44.04**	
EPS13a	Evesham	Swan Lane	46.39	49.85	43.95	41.57	42.86	38.16	38.37	47.40	41.17	50.21	55.08	48.79	**45.32**	
EPS13b	Evesham	Swan Lane	40.07	49.67	43.01	41.79	42.62	39.16	35.55	46.44	34.64	51.56	56.57	46.08	**43.93**	44.43*
EPS15	Evesham	High Street	46.14	46.18	44.23	38.73	41.96	43.29	35.38	36.73	35.27	37.94	58.75	47.59	**42.68**	
EPS31	Evesham	High Street LP28	35.62	54.58	41.99	42.72	38.61	35.71	30.37	42.82	40.77	53.86	48.31	46.49	**42.65**	
EPS32	Evesham	Avon Street LP 11	27.55	44.70	33.69	37.36	31.32	27.75	25.07	31.37	24.73	43.51	44.20	45.77	**34.75**	
EPS33	Evesham	High Street LP32	32.42	59.54	36.49	40.86	33.09	33.81	24.96	33.19	26.17	39.17	46.40	44.74	**37.57**	
EPS34	Evesham	High Str/ Swan La Camera	33.92	51.94	42.18	47.85	27.29	39.97	29.86	36.73	25.95	42.21	42.95	47.95	**39.07**	
EPS35	Evesham	Swan Lane LP 2	22.86	44.09	32.02	30.26	31.85	32.88	26.65	33.08	21.22	46.33	48.36	42.28	**34.32**	
EPS36	Evesham	Swan Lane LP 3	33.26	42.38	27.26	29.13	26.70	26.66	19.04	25.49	21.44	40.41	44.84	41.16	**31.48**	
EPS37	Evesham	Cowl Street		37.53	24.76	30.54	24.20	24.90	17.02	23.15	22.34	34.09	39,58	28.88	**26.74**	
EPS38	Evesham	Swan Lane LP 5	31.14	37.18	32.15	33.82	27.83	25.30	21.80	28.17	29.69	33.88	42.89	32.46	**31.36**	
EPS39	Evesham	Chapel Street LP 1	26.11	34.23	24.64	24.87	21.49	20.19	17.18	21.39	18.11	34.28	36.22	28.66	**25.61**	
EPS40	Evesham	Mill Street LP 4	28.67	39.18	28.98	28.53	23.63		21.13	24.27	19.31	29.26	38.72	32.28	**28.54**	

*Average result for tubes 13, 13a, 13b

Nitrogen dioxide concentrations are measured in ug/m^3

e

Diffusion Tube Roadside Results 2007 Swan Lane with bias correction and correction for distance to building façade

Table 2a

			average		**Bias**	**Result**		**Distance**	**Result**	
EPS13	Evesham	Swan Lane	**44.04**		0.89	39.20		0.95	37.24	
EPS13a	Evesham	Swan Lane	**45.32**		0.89	40.33		0.95	38.32	
EPS13b	Evesham	Swan Lane	**43.93**	44.43*	0.89	39.10	39.54*	0.95	37.14	37.57*
EPS15	Evesham	High Street	**42.68**		0.89	37.99		0.95	36.09	
EPS31	Evesham	High Street LP28	**42.65**		0.89	37.96		0.95	36.06	
EPS32	Evesham	Avon Street LP 11	**34.75**		0.89	30.93		1	30.93	
EPS33	Evesham	High Street LP32	**37.57**		0.89	33.44		0.95	31.77	
EPS34	Evesham	High Str/ Swan La Camera	**39.07**		0.89	34.77		0.95	33.03	
EPS35	Evesham	Swan Lane LP 2	**34.32**		0.89	30.55		1	30.55	
EPS36	Evesham	Swan Lane LP 3	**31.48**		0.89	28.02		1	28.02	
EPS37	Evesham	Cowl Street	**26.74**		0.89	23.80		1	23.80	
EPS38	Evesham	Swan Lane LP 5	**31.36**		0.89	27.91		0.95	26.51	
EPS39	Evesham	Chapel Street LP 1	**25.61**		0.89	22.80		0.95	21.66	
EPS40	Evesham	Mill Street LP 4	**28.54**		0.89	25.40		0.95	24.13	

*Average result for tubes 13, 13a, 13b

Nitrogen dioxide concentrations are measured in ug/m^3

APPENDIX 2

Diffusion Tube Roadside Results 2007 Port Street

Table 3

			Jan	Feb	March	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec	average	average
EPS11	Evesham	Port Street							31.93	38.82	26.23	45.58	56.88	49.88	**41.55**	
EPS14	Evesham	Port Street	44.09	57.76	42.41	38.29	48.60	42.78	38.98	41.51	32.40	51.55	45.04	48.49	**44.33**	
EPS14a	Evesham	Port Street	49.18	54.57	43.71	43.81	46.89	49.52	42.93	59.19	29.43	37.70	49.26	49.83	**46.33**	
EPS14b	Evesham	Port Street	47.07	43.60	45.30	35.62	46.41	42.10	44.96	40.26	33.58	36.34	46.94	48.76	**42.58**	44.41*
EPS41	Evesham	Port Street LP21	32.08	44.58	40.92	48.51	38.03	38.16	29.29	34.89		31.84	47.12	43.22	**38.97**	
EPS42	Evesham	Port Street LP40	26.99	41.91	36.82	35.89	33.05	29.15	23.15	26.80	25.51	40.17	59.32	34.95	**34.48**	
EPS43	Evesham	Long Stay opp cinema	37.78	50.33	35.09	38.95	35.72	39.54	32.28	35.35	27.22	31.78	53.78	47.38	**38.77**	
EPS44	Evesham	Camera Post opp 33	41.03	51.54	43.25	37.80	40.81	40.28	40.06	40.14	28.30	46.20	42.01	44.70	**41.34**	
EPS45	Evesham	Castle Street LP1	33.42	41.57	30.15	28.95	24.58	38.42	24.51	26.06	22.35			41.65	**31.17**	
EPS46	Evesham	Castle Str 20 mph sign	23.92	41.22	30.57	31.30	29.91		26.59	30.10	21.54	34.71	48.20	33.93	**32.00**	
EPS47	Evesham	Waterside centre RES	35.21	47.76	32.39	40.10	41.99	26.70	31.16	37.63	27.40	35.61	38.56	29.23	**35.31**	
EPS48	Evesham	LP63 on bridge	24.70	38.19	22.79	32.89	25.35	26.55	20.17	19.16	22.08	29.13	46.23		**27.93**	
EPS49	Evesham	Burford Road LP12	33.45	41.30	33.60	34.20	31.04	26.85	26.82	26.97	21.95	38.82	46.23	41.70	**33.58**	

*Average result for tubes 14, 14a, 14b

Nitrogen dioxide concentrations are measured in ug/m^3

Diffusion Tube Roadside Results 2007 Port Street with bias correction and correction for distance to building facade

Table 3a

			average	average	Bias	Result		Distance	Result	average
EPS11	Evesham	Port Street	**41.55**		0.89	36.98		0.95	35.13	
EPS14	Evesham	Port Street	**44.33**		0.89	39.45		1	39.45	
EPS14a	Evesham	Port Street	**46.33**		0.89	41.24		1	41.24	
EPS14b	Evesham	Port Street	**42.58**	44.41*	0.89	37.89	39.53*	1	37.89	39.53*
EPS41	Evesham	Port Street LP21	**38.97**		0.89	34.68		0.95	32.95	
EPS42	Evesham	Port Street LP40	**34.48**		0.89	30.68		0.95	29.15	
EPS43	Evesham	Long Stay opp cinema	**38.77**		0.89	34.50		1	34.50	
EPS44	Evesham	Camera Post opp 33	**41.34**		0.89	36.80		0.95	34.96	
EPS45	Evesham	Castle Street LP1	**31.17**		0.89	27.74		0.95	26.35	
EPS46	Evesham	Castle Str 20 mph sign	**32.00**		0.89	28.48		0.9	25.63	
EPS47	Evesham	Waterside centre RES	**35.31**		0.89	31.43		0.9	28.28	
EPS48	Evesham	LP63 on bridge	**27.93**		0.89	24.86		1	24.86	
EPS49	Evesham	Burford Road LP12	**33.58**		0.89	29.88		0.75	22.41	

*Average result for tubes 14, 14a, 14b

Nitrogen dioxide concentrations are measured in ug/m^3

Appendix 3

Roadside results 2000 to 2007

		2000	2001	2002	2003	2004	2005	2006	2007
Norton	Church Lane	31.42	24.83	28.3	23.85	29.79	34.24	33.15	37.34
Whittington	Nr Swan (LP 50)	29.83	28.65	29.13	54.92	55.19	50.76	48.0	57.81
Whittington	Nr Swan (LP 50)					38.26	51.01	49.2	58.92
Whittington	Nr Swan (LP 50)					38.20	50.61	48.18	60 37
Swinesherd	Homeleigh			29	22.13	27.98	34.43	29.52	36.99
Pershore	Civic Centre	20.49	18.68	18.95	19.44	27.29	26.01	23.98	24.53
Pershore	High Street	29.5		23.49	25.17	30.61	32.80	30.95	31.96
Pershore	40 High Street				28.26	37.95	34.62	33.52	36.84
Pershore	St. Andrews Road	10.82	11.46	15.28	11.72	23.49	20.86	18.05	19.35
Pershore	Broad Street	31.3	30.56	28.33	23.6	27.79	35.37	27.67	30.21
Broadway	High Street	20.15	18.26	18.15	14.58	18.77	19.97	18.73	
Broadway	Leamington Road	16.67	17.67	16.64	17.88	21.69	22.62	19.03	
Evesham	Swan Lane				33.1	35.17	40.73	37.61	
Evesham	Port Street				32.96	38.58	43.38	47.99	
Evesham	High Street	36.29	40.3	45.46	32.39	40.76	45.01	42.25	
Droitwich	Ombersley Street East	34.59	30.82	26.89	27.34	33.93	34.97	32.58	34.85
Droitwich	St. Andrews Road	29.28	28.27	22.92	24.51	29.86	28.36	28.11	28.81
Droitwich	Hanbury Road (LP34)	19.1		24.14	25.3	28.17	34.65	35.21	33.04
Droitwich	Mayflower Road (1)	28.43		35.66	34.5	29.47	39.85	47.04	37.51
Droitwich	Mayflower Road (2)			37.38	28.57	30.13	39.88	45.03	37.51
Droitwich	Mayflower Road (3)				26.1	25.98	39.24	46.47	38.27
Droitwich	Tagwell Close (LP4) - (1)			32.3	26.83	27.68	31.81	38.36	33.79
Droitwich	Tagwell Close (LP4) - (2)				27.37	24.82	34.26	37.59	36.26
Droitwich	Tagwell Close (LP4) - (3)				25.3	27.76	34.08	36.22	33.91
Droitwich	Westlands	45.65	49.66	57.57	40.77	39.72	49.43	43.00	49.22
Wychbold	A38 Road	50.71	45.84	42.08	42.34	50.22	57.36	57.82	65.28
Wychbold	Worcester Road (1)				35.15	48.52	50.92	52.49	58.07
Wychbold	Worcester Road (2)				35.15	51.33	51.20	49.55	57.10
Wychbold	Worcester Road (3)				34.46	49.62	52.27	52.16	57.91