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South Hams
District Council



West Devon
Borough
Council

2016 Air Quality Annual Status Report (ASR)

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

December 2016

Local Authority Officer	James Kershaw
Department	Customer First, Environmental Health & Housing
Address	Follaton House, Plymouth Road, Totnes, TQ9 5NE
Telephone	01803 861287
E-mail	james.kershaw@swdevon.gov.uk
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Executive Summary: Air Quality in Our Area

Air Quality in South Hams and West Devon

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas^{1,2}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion³.

Within the South Hams area there are 3 Air Quality Management Areas, these are located within the towns of Totnes and Ivybridge, and adjacent to the A38 at Dean Prior. The main pollutant of concern is Nitrogen Dioxide associated with road traffic pollution.

The monitoring has shown no meaningful improvements in the air quality levels prior to 2015. 2015 results do appear slightly better but it is too early to say whether this is a trend or a 'blip'. In Totnes, recent monitoring has consistently demonstrated a significant exceedance of the Nitrogen Dioxide limits at one location outside of the declared Air Quality Management Area. Therefore the Council has approved an amendment to the Order to re-draw the boundary thus including the area of the exceedance.

There are no Air Quality Management Areas (AQMA) within West Devon, however major developments within the two major towns of Okehampton and Tavistock have included offsite contributions towards railway and road improvements to offset their impact and to ensure the air quality of West Devon is protected. Nitrogen Dioxide passive monitoring in West Devon has been re-started recently (following a short period of suspension) to check potentially vulnerable locations within these two towns.

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

² Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

Further information on the Councils' air quality management work can be found at the weblinks below, or by contacting Environmental Health.

This Annual Status Report has only limited information because of the major changes that the Councils have undergone in the last eighteen months. However, as will be explained, work is due to get back on track next year.

<http://www.southhams.gov.uk/article/1978/Air-Quality>

<http://westdevon.gov.uk/article/2524/Air-Quality>

Actions to Improve Air Quality

Unfortunately due to competing pressures on staff resources at the District and Devon County Councils (DCC) (ie the Highway Authority) there has been limited work on the Air Quality Action Plans (AQAP).

However since the last updating and screening assessment (USA) was submitted to DEFRA, South Hams District Council has amended the AQMA for Totnes and has managed to re-engage with the Highway Authority and the Town Councils with the hope of drawing up two new more deliverable AQAPs in the next 12 months.

Local Priorities and Challenges

The main priority in the next 12 months is to undertake a review of the AQAPs for Ivybridge and Totnes in consultation with the Highway Authorities (Devon County Council and Highways England) and also with the local communities impacted by the poor air quality.

In West Devon the aim over the next 12 months will be to continue the new monitoring programme at a number of key sites within the Borough where substantial growth in road traffic is likely in the future.

How to Get Involved

If you live within Totnes and are interested in helping to shape the future of the Totnes air quality action plan please get in contact with either the Transition Town Totnes Transport Group (<http://www.transitiontowntotnes.org/groups/transport/>) or Totnes Town Council.

If you live within Ivybridge please contact Ivybridge Town Council with any ideas that you might have for improving the air quality in Ivybridge.

Alternatively please feel free to contact Environmental Health at South Hams District Council or West Devon Borough Council.

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1 Local Air Quality Management

This report provides an overview of air quality in South Hams District Council and West Devon Borough Council areas during 2015-16. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by South Hams District Council and West Devon Borough Council areas to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England can be found in Table E.1 in Appendix E.

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of the objectives.

A summary of AQMAs declared by South Hams District Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=239.

West Devon Borough Council currently does not have any AQMAs.

Table 2.1 – Declared Air Quality Management Areas- South Hams

AQMA Name	Pollutants and Air Quality Objectives	City / Town	One Line Description	Action Plan
Totnes AQMA	NO ₂ annual average objective	Totnes	An area encompassing a stretch of the A385 between True Street junction and the junction of Clay Lane.	South Hams AQAP now defunct http://www.southhams.gov.uk/CHttpHandler.ashx?id=1279&p=0
Ivybridge AQMA	NO ₂ annual average objective	Ivybridge	An area encompassing Western Road in Ivybridge.	South Hams AQAP now defunct http://www.southhams.gov.uk/CHttpHandler.ashx?id=1279&p=0
Dean Prior AQMA	NO ₂ annual average objective	Dean Prior	A single residential property adjacent to the A38 near to Dean Prior.	

2.2 Progress and Impact of Measures to address Air Quality in South Hams District Council

South Hams District Council has not been able to take forward any of the measures in the Council's Action Plans during the current reporting year (2015-2016) due to major restructuring of the Council and competing staff pressures at both South Hams District and Devon County Councils. Table 2.2 has therefore been simplified for the purposes of this year's ASR.

However, over the next reporting year, South Hams District Council expects to devise new deliverable Air Quality Action Plans for Totnes and Ivybridge and to implement a policy in the new Local Development Plan requiring that certain developments provide EV charging points. No further details can be added to Table 2.2 at this stage as the specific measures in the new Air Quality Action Plans have not yet been drawn up. They will however be available for the next Annual Status Report (2016-2017) for the Council.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Progress to Date	Estimated Completion Date	Comments
Development of new Air Quality Action Plans	Policy Guidance and Development	Air Quality Planning and Policy Guidance	SHDC/WDBC	Oct2016-March2017	March-Dec 2017	Have begun to organise meetings with planners and DCC	Dec 2017	Need to start new AQAPs in line with revised Totnes AQMA and new Council-wide Planning document. This follows extensive restructuring of SHDC/WDBC
Promoting use of electric vehicles	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote LEV	SHDC	March 2016	ongoing	Have agreed will be included in new Council planning document		New local plan for SHDC and WDBC will include requirement for certain development to provide EV charging points

2.3 PM_{2.5} – Local Authority Approach to Reducing Emissions and or Concentrations

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

South Hams District Council is taking the following measures to address PM_{2.5}:

Source identification work has commenced and so far the Council has identified a potential major new source being the large scale mineral operations at Drakelands Tungsten Mine and the China Clay quarries at Wotter.

Council Officers will be assessing monitoring strategies with the three major mineral operators in the area in line with the latest air quality guidance for mineral operators from the Institute of Air Quality Management

(http://www.iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf)

Monitoring for PM₁₀ and PM_{2.5} was agreed as part of the planning agreement for a large residential development of a 'new town' at Sherford on the western edge of the South Hams district. This monitoring has now commenced and results are reported on a regular basis to South Hams District Council.

The need to control and reduce PM_{2.5} emissions will be included in our new Air Quality Action Plans (see Section 2.2 and Table 2.2 above).

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Neither South Hams nor West Devon have any automatic (continuous) monitoring sites. The last automatic monitoring for NO₂ undertaken in the South Hams was in 2013 when a nitrogen Dioxide chemiluminescent analyser was in operation on Bridgetown Hill, Totnes. A PM₁₀ 'screening' analyser (an Osiris) was also in operation at the same location until 2014.

3.1.2 Non-Automatic Monitoring Sites

South Hams District Council undertook non- automatic (passive) monitoring of NO₂ at 22 sites during 2015. Table A. in Appendix A shows the details of the sites. West Devon Borough Council did not undertake any air quality monitoring during 2015, but has recommenced a diffusion tube survey for NO₂ in 2016.

Maps showing the location of many of the South Hams monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for “annualisation” and bias. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide

Automatic Monitoring; Nitrogen Dioxide Results:

Neither the chemiluminescent analyser nor the Osiris have been in proper use in the South Hams since 2013; the results obtained before then were included in the 2015 Updating and Screening Assessment (SHDC 2015), and are not therefore reproduced in the Appendix to this report. Previous reports containing the results are available on the South Hams web site at;

<http://www.southhams.gov.uk/article/1978/Air-Quality> or ring Environmental Health on 01803 861234 to request specific results, or to see the 2015 Updating and Screening Assessment (SHDC 2015).

Passive Monitoring: Nitrogen Dioxide Results

The full 2015 dataset of monthly mean values for South Hams District Council diffusion tubes, is provided in Appendix B. As noted in Section 3 above, diffusion tube monitoring for West Devon Borough Council was stopped throughout 2015 but has now recommenced. Results that were obtained prior to 2015 can be found in West Devon Borough Council’s previous Air Quality reports here;

<http://westdevon.gov.uk/article/2524/Air-Quality> or ring Environmental Health on 01803 861234 to request specific results or to see the 2015 Updating and Screening Assessment (WDBC 2015).

For 2015 the only exceedences of the annual average objective for Nitrogen Dioxide in the South Hams were at True Street (within the newly extended Totnes AQMA) and at Dean Prior, next to the A38 trunk road. It is too soon to say whether the apparent improvement at other locations is due to a 'blip' in the figures or genuine improvement in air quality. It is understood that other local authorities in Devon also observed reductions in annual average NO₂ concentrations in 2015.

3.2.2 Particulate Matter (PM10)

Neither the annual mean nor the 24 hour mean objectives were exceeded as measured by the Osiris monitor on Bridgetown Hill up until 2014. The results obtained were included in the 2015 Updating and Screening Assessment (SHDC 2015) and it is not thought to be worthwhile to reproduce the results in the Appendix to this report. As noted above, access to the 2015 USA is available via South Hams District Council Environmental Health.

Appendix A: Monitoring Results-South Hams

Table A.1 – Details of Non-Automatic NO₂ Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
TSH1	Queens tce	roadside	80085	60765	NO ₂	yes	0	5	no	1.5
TSH2	Barn Close	suburban	79981	60865	NO ₂	yes	0	8	no	2.0
TSH3	Pudda-vine	suburban	79612	61407	NO ₂	yes	1	0	no	2.0
TSH4	Devon Ceramic s	kerbside	80246	60715	NO ₂	yes	5	1	no	2.0
TSH5	Bridge-town Hill Tce	kerbside	81097	60510	NO ₂	yes	0	1	no	2.0

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
TSH6	Bridge-town Hill bottom	kerbside	80920	60387	NO ₂	yes	2	1	no	2.5
TSH7	Bridge-town Hill semi	Roadside	80962	60381	NO ₂	yes	0	10	no	2.5
TSH8	Bridge-town hill house	roadside	8100	60461	NO ₂	yes	0	3	no	2.0
TSH9	Bridge-town hill bus	kerbside	81063	60493	NO ₂	yes	0	1	no	2.5
TSH10	Bridge-town	kerbside			NO ₂	No	0	1	no	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
	corner									
TSH11	Bridge-town pub	kerbside			NO ₂	no	1	0	no	2.5
ISH1	End Western Rd	kerbside	63313	56011	NO ₂	yes	1	1	no	2.5
ISH2	Western Rd video	kerbside	63166	55966	NO ₂	yes	3	1	no	2.5
ISH3	Western Rd villas	roadside	63093	55946	NO ₂	yes	0	3	no	1.0
ISH4	imperial	kerbside	63192	55989	NO ₂	yes	5	1	no	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
ISH5	Western Road Tce	kerbside	63220	55981	NO ₂	yes	0	1	no	2.5
ISH6	Sports-mans	roadside			NO ₂	no	1	1	no	2.5
DPSH1	Dean prior farm	Road side	72956	63476	NO ₂	yes	3	2	no	1.0
DPSH2	Dean Prior road	Road side	72995	63484	NO ₂	yes	0	2	no	1.0
DPSH3	Dean Prior sign	roadside	73005	63496	NO ₂	yes	0	5	no	1.0

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
TSH12	True Street junction	Road side	82103	60609	NO ₂	no	2	0	no	1.0
TSH13	Candle-tree	roadside	82066	60579	NO ₂	no	10	0	no	1.0
TWD1	Dolvin Road left	Roadside	48421	74556	NO ₂	no	1	0	no	2.0
TWD2	Dolvin Road right	Roadside	48421	74556	NO ₂	no	1	0	no	2.0
TWD3	Tavi Callington	roadside	47516	74020	NO ₂	no	1	1	no	2.0

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
	Road									
TWD4	Tavi-Plym Road	roadside	47986	73110	NO ₂	no	5	1	no	2.0
OWD1	Charter Hall Oke	roadside	58705	95241	NO ₂	no	2	1	no	1.5
OWD2	Exeter Road Oke	roadside	59007	95246	NO ₂	no	2	1	no	1.5

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).

(2) N/A if not applicable.

Table A.2 – Annual Mean NO₂ Monitoring Results-all are diffusion tube results so type of monitoring column has been replaced with name – for ease of reference.

Site ID	Site Type	Name of site	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2015 (%) ⁽²⁾	NO ₂ Annual Mean Concentration (µg/m ³) ⁽³⁾				
					2011 0.89	2012 0.97	2013 0.95	2014 0.92	2015 0.87
TSH1	Roadside	Queens Tce	n/a	92	34.7	35.2	33.3	35.4	31.5
TSH2	Suburban	Barn Close	n/a	75	22.7	22.9	23.3	23.3	21.4
TSH3	Suburban	Puddavine	n/a	75	25.6	27.7	28.5	35.3	27.1
TSH4	Kerbside	Devon ceramics	n/a	92	29.6	32.7	31.9	31.9	29.0
TSH5	kerbside	BH Tce	n/a	92	43.8	44.2	39.3	44.0	38.0
TSH6	Kerbside	BH bottom	n/a	75	35.4	34.8	34.9	39.8	37.3
TSH7	Roadside	BH Semi	No data avail		21.2	21.9	22.8	21.7	n/a for 2015
TSH8	Roadside	BH hse	n/a	92	33.7	34.2	33.3	32.6	35.8
TSH9	Kerbside	BH bus	n/a	92	35.3	39.5	34.8	36.9	31.8
TSH10	kerbside	BT corner	n/a	75					23.8
TSH11	Kerbside	BT pub	n/a	83					27.2
TSH12	Roadside	True St	n/a	83			51.3	56.3	46.5
TSH13	Roadside	Candletree	n/a	92			32.4	31.9	28.9
ISH1	Kerbside	End WR	n/a	92	34.6	34.8	31.1	33.7	28.3
ISH2	kerbside	WRV	n/a	93	36.8	38.4	35.2	37.2	29.4
ISH3	roadside	WR villa	n/a		26.2	29.4	26.2	31.8	Dis- contin ued
ISH4	kerbside	Imperial	n/a	92	27.3	27.7	27.0	27.0	25.2
ISH5	kerbside	WR Tce	n/a	92	42.7	45.8	44.1	45.6	38.1
ISH6	roadside	Sportsmans	n/a	92					25.9

Site ID	Site Type	Name of site	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2015 (%) ⁽²⁾	NO ₂ Annual Mean Concentration (µg/m ³) ⁽³⁾				
					2011 0.89	2012 0.97	2013 0.95	2014 0.92	2015 0.87
DPSH 1	Roadside	Farm	n/a	92	25.1	25.5	27.8	29.0	24
DPSH 2	Roadside	Road	n/a	92	70.1	67.0	76.4	64.5	64.0
DPSH 3	roadside	sign	n/a	92	37.4	43.5	40.4	42.4	33.8

Notes: Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

(1) data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per Technical Guidance LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Appendix B: Full Monthly Diffusion Tube Results for 2015

Table B.1 – NO₂ Monthly Diffusion Tube Results – 2015 (all May results missing due to major structural change at Council)

Site ID	NO ₂ Mean Concentrations (µg/m ³)													Annual Mean	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted ⁽¹⁾	
	TSH1	38.5	41.4	31.7	42.0		31.0	39.2	35.7	26.8	38.4	37.8			35.2
TSH2	27.7	29.8	21.6				23.0	22.2	23.9	26.3	23.9	22.8	24.6	21.4	
TSH3	33.6	33.9	31.4	31.7		27.9			33.6	34.5	26.6	29.9	31.1	27.1	
TSH4	34.98	40.33	32.49	33.9		29.16	30.46	35.93	38.8	39.15	27.39	23.44	33.27	29.0	
TSH5	40.77	42.71	43.75	53.72		34.29	44.34	42.84	49.02	58.52	35.88	35.1	43.7	38.0	
TSH6	44.02	44.74	42.23				43.7	47.12	40.39	53.03	38.04	32.6	42.9	37.3	
TSH8	34.75	40.77	39.39	42.51		33.31	31.46	35.25	36.54	39.98	33.66	26.24	35.8	31.1	
TSH9	41.67	44.1	37.03	30.52		29.39	36.49	35.62	45.89	51.1	30.01	20.81	36.6	31.8	
TSH10	27.04	27.55	24.17	24.53			19.75	22.36	25.44		19.87	15.28	22.9	19.9	
TSH11	40.2	36.91	30.79			24.23	26.35	28.36	36.2	40.0	26.68	23.19	31.3	27.2	
TSH12	46.7	46.4	54.9			45.7	65.2	56	61	64.6	52.4	41.4	53.4	46.5	
TSH13	31.35	38.73	37.35	45.06		23.96	28.94	33.41	35.06	43.35	26.81	22.64	33.3	28.9	
ISH1	35.64	35.88	33.31	37.98		24.3	28.94	28.52	35.98	34.58	32.57	31.44	32.5	28.3	
ISH2	36.46	40.87	36.98	38.81		23.8	31.9	16.11	35.4	39.33	36.02	35.16	33.7	29.4	

Site ID	NO ₂ Mean Concentrations (µg/m ³)													Annual Mean	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted ⁽¹⁾	
	ISH4	32.63	34.69	30.76	28.34		22.08	25.32	28.04	28.46	31.22	32.65			25.03
ISH5	44.66	49.53	43.59	49.75		32.68	37.93	41.28	40.71	56.59	42.54	42.49	43.8	38.1	
ISH6	30.62	34.27	29.47	32.91		23.53	25.84	27.48	27.75	35.84	31.42	29.12	29.8	25.9	
DPSH1	31.35	23.46	23.95	27.58		18.22	37.57	28.13	36.05	38.12	18.72	20.77	27.6	24.0	
DPSH2	50.35	44.74	39.12	52.02		55.1	74.71	70.91	85.6	93.7	63.02	72.13	63.8	55.5	
DPSH3	25.51	28.18	25.94	33.81		37.95	47.24	47.12	41.62	48.09	47.49	43.42	38.7	33.8	

(1) See Appendix C for details on bias adjustment

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

QA/QC of diffusion tube monitoring

The tubes used by South Hams District Council are supplied, prepared and analysed by Gradko International Ltd. The preparation method used is 20% Triethanolamine (TEA) in Water.

Gradko lays down procedures for tube handling which are followed by Council officers. Gradko has a quality assessment system in place for both the stock Triethanolamine solution and the made-up NO₂ diffusion tubes. In the first case, a stock solution containing a known amount of nitrite is received from AEA Technology Environment once a month. This is measured, and the results are used as part of the UK NO₂ Survey AQ/AC Scheme. This stock solution is used by Gradko International to check the u.v. spectrophotometer calibration graph (which is used in the tube analysis). In the second case, samples of tubes prepared for exposure are periodically spiked with known concentrations of nitrite solution and measured. Blank tube values are also monitored from each new batch of tubes prepared.

The accuracy of the lab measurements is also monitored by participation in an external Laboratory Measurement Proficiency Scheme ie. WASP (implemented by the Health and Safety Laboratory at Sheffield). In addition, Gradko NO₂ analysis is regularly included within the UK NO₂ Field Survey Intercomparison Report co-ordinated by AEA Technology; this survey involves comparison with chemiluminescent measurements.

Appendix 2, Bias Adjustment of diffusion tubes:

Diffusion tube results have been bias adjusted using a 'Bias Adjustment Factor (BAF)' of 0.87. This value is taken from combined values of surveys undertaken across the country and reported on the spreadsheet table version 09/15 available on the defra website at <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>.

Appendix D: Map(s) of Monitoring Locations

Figure 1; Diffusion Tubes in Totnes

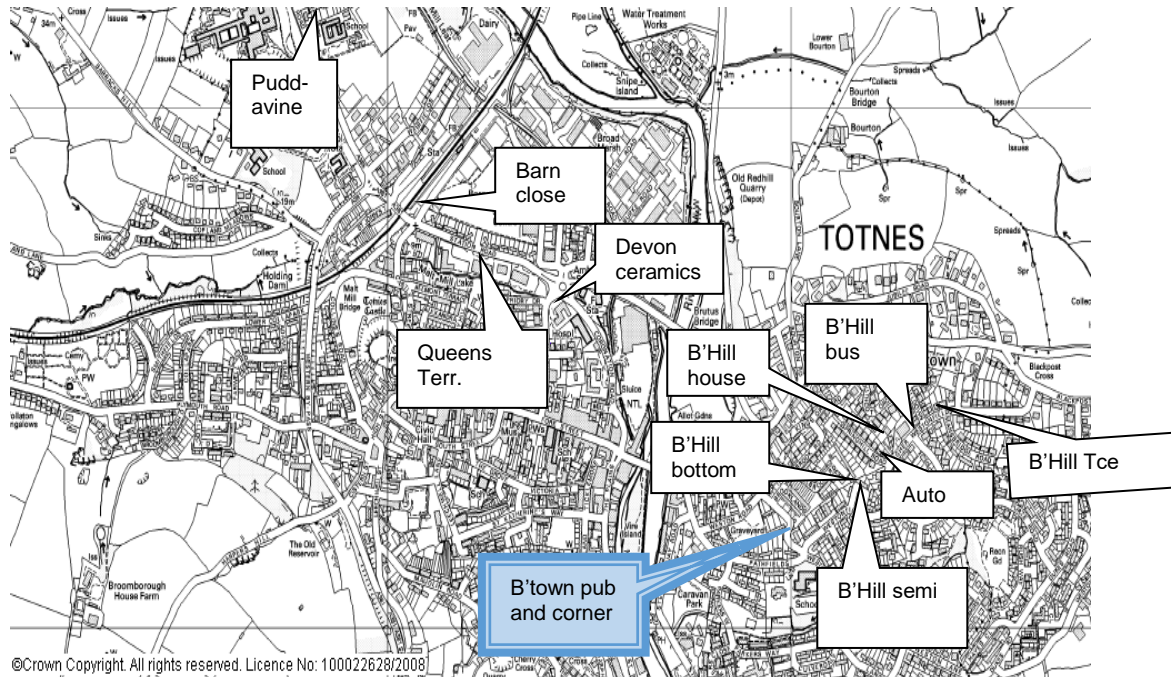


Figure 2; Additional diffusion tubes close to Totnes, on A385

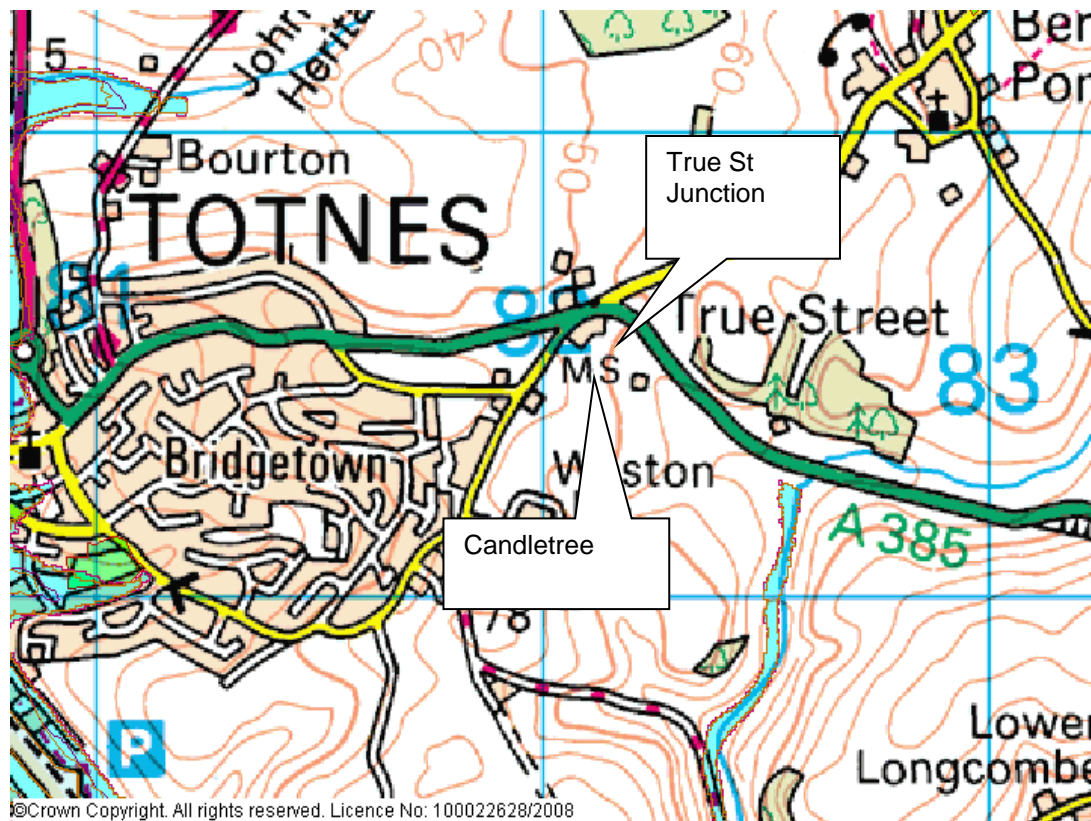


Figure 3; Diffusion Tubes in Ivybridge

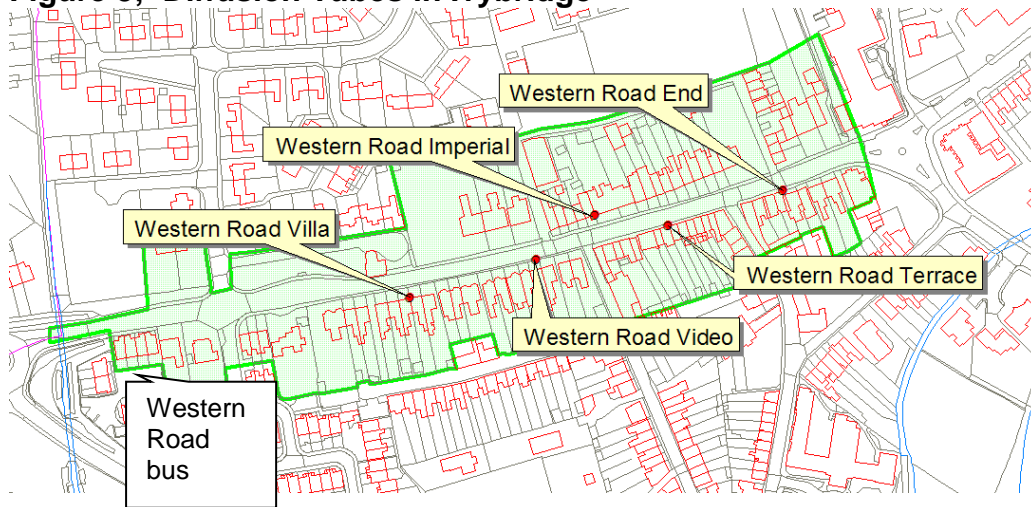
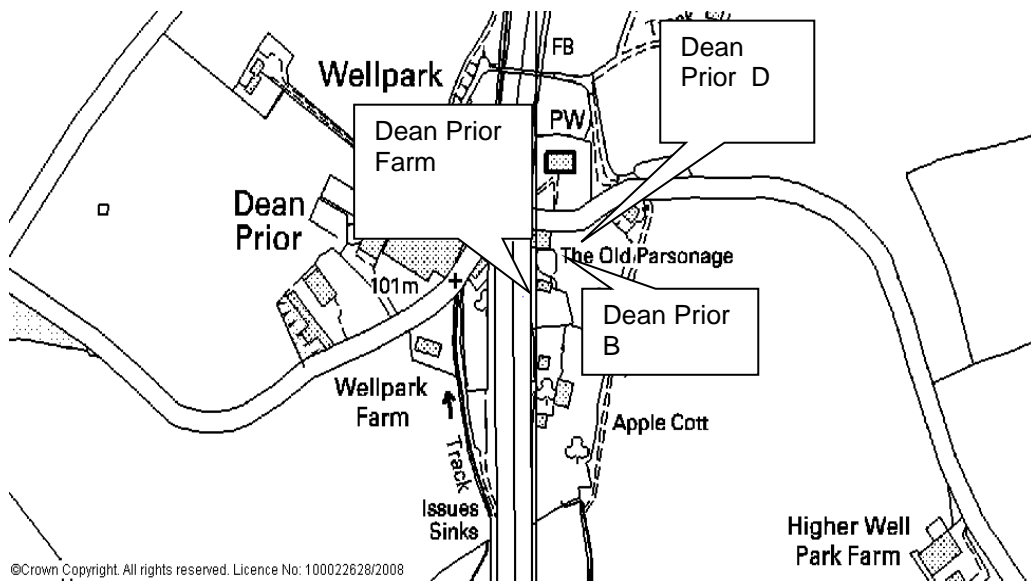


Figure 4. Diffusion Tubes in Dean Prior



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Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective ⁴	
	Concentration	Measured as
Nitrogen Dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m ³	Annual mean
Sulphur Dioxide (SO ₂)	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean

⁴ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide
...	...

References

SHDC 2015

Updating and Screening Assessment 2015

WDBC 2015

Updating and Screening Assessment 2015