2015 Updating and Screening Assessment for Rugby Borough Council

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

May 2015

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Report Reference number	RBC/USA/2015
Date	May 2015

Executive Summary

Rugby Borough Council declared an Air Quality Management Area (AQMA) in 2004 for exceedances of the annual mean nitrogen dioxide (NO_2) objective.

The latest monitoring results for NO_2 indicate that two monitoring locations within the existing AQMA, at locations representative of relevant exposure, exceeded the annual mean NO_2 objective in 2014. These were sites S24 (the Dun Cow, Dunchurch) and S10 (Webb Ellis Pub, Corporation Street).

A further two sites monitored concentrations just within the annual mean NO_2 objective in 2014 (S46 and S49). Whilst site S46 is located outside the existing AQMA, this diffusion tube is not at a location of relevant exposure and corrections for distance undertaken in previous years indicate that annual mean NO_2 concentrations at the nearest location of relevant exposure are significantly lower than measured at this location. Site S49 is within the existing AQMA.

The NO_2 monitoring results in 2014 suggest that the annual mean NO_2 objective is unlikely to be exceeded outside the current AQMA, however the potential for exceedances within the AQMA persists and consequently the AQMA declaration should remain.

Rugby Borough Council suspended continuous monitoring of particulate matter <10µm in diameter (PM_{10}) in June 2012, as PM_{10} concentrations had been well within the annual mean and 24-hour objectives, and exceedances of these objectives were considered unlikely. Monitoring of PM_{10} was however commenced at one site (Parkfield Road, Rugby) in December 2014 to monitor PM_{10} concentrations near the SUEZ Environment Climafuel Manufacturing Facility. The monitoring results obtained to-date (December 2014 – March 2015) indicate that there have been no exceedances of the PM_{10} 24-hour objective, and that monthly mean values are relatively low in comparison to the annual mean objective.

No new significant sources have been identified that could give rise to air quality issues in the Borough.

Increases in the emissions of NO_X and PM_{10} from the Cemex Rugby Cement facility have been assessed. The magnitudes of the increases in emissions are unlikely to result in exceedances of the relevant air quality objectives at any location and the Council does not need to consider this source further at this stage.

In the 2013 Air Quality Progress Report, a proposed biomass boiler at the Queen's Diamond Jubilee Sports Centre development was identified as having the potential to impact upon air quality. A screening assessment was then carried out in the 2014 Air Quality Progress Report, which found that pollutant emissions from the biomass boiler were unlikely to result in significant air quality impacts. This is still the case, and consequently a Detailed Assessment is not required.

Rugby Borough Council proposes to continue to monitor NO_2 within the Borough through the long-term diffusion tube survey. An additional two diffusion tube sites for both NO_2 and VOC have been set up in March 2015 around the Jaguar Land Rover development in Ryton-on-Dunsmore. Results from this monitoring will be reported in the 2016 Air Quality Progress Report. Rugby Borough Council also intends to increase the extent of diffusion tube monitoring around the revised gyratory system as a precautionary measure.

This Air Quality Updating and Screening Assessment 2015 therefore indicates that no Detailed Assessments are required for any of the key air pollutants at this time. The 2015 Action Plan Progress Report is available within the Appendix of this report.

The Council will compile and submit a combined Air Quality Progress Report and Action Plan Progress Report in 2016.

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1 Introduction

1.1 Description of Local Authority Area

Rugby Borough Council is situated in north-east Warwickshire to the west of the M1 and east of Coventry, and is bound to the north by the M6. The Borough covers an area of 138 square miles surrounding the town of Rugby. The main pollutants of concern in Rugby Borough, as in most urban areas of the UK, are associated with road traffic, in particular NO_2 and particulate matter at locations close to busy, congested roads where people may live, work or shop. Previous Review and Assessment reports and local knowledge have identified areas where UK objectives may be exceeded.

Rugby Borough Council has six Part A1 installations that are regulated and inspected by the Environment Agency under the Environmental Permitting (England and Wales) Regulations 2010, including the Cemex cement works, which are located close to the town centre and are a source of NO_X, SO_2 and PM_{10}.

The Borough has a number of other industrial installations of significance in terms of air quality. There is one Part A2 process for the manufacturing of drinks cans which involves solvent based coating processes. In addition there are 37 minor (Part B) installations. Each process / installation is regulated under the Environmental Permitting (England and Wales) Regulations 2010. The processes / installations are regularly inspected by the Rugby Borough Council Regulatory Services unit (formerly Environmental Health) to ensure they are controlling their emissions to atmosphere

The majority of the urban area of Rugby town is classed as a smoke control area making it an offence under the Clean Air Act 1993 to emit smoke from a chimney caused by the burning of unauthorised fuel or the use of an unauthorised appliance.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The 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 exceedances are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m^3	Running annual mean	31.12.2003
	5.00 µg/m^3	Running annual mean	31.12.2010
1,3-Butadiene	2.25 µg/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 µg/m^3	Annual mean	31.12.2004
	0.25 µg/m^3	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m^3	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m^3	Annual mean	31.12.2004
Sulphur dioxide	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/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

Rugby Borough Council completed the required three rounds of Review and Assessment of air quality in its administrative area between 1998 and 2008, comprising:

- Round One:
    - Stage 1 (Review and Assessment) identifying the main sources of air pollution within and around the Borough, reviewing the levels of air

pollutants for which prescribed standards and objectives have been set and estimating the likely future levels.

- Stage 2/3 provided further screening of pollutant concentrations within the area to assess whether the air quality objectives would be achieved by the target date. A more complex assessment of monitoring and modelling in the Borough identified no exceedances of national air quality objectives.

- Round Two:
  - Updating and Screening Assessment (USA) 2003[i]. The USA identified a number of sources that may lead to exceedances of the air quality objectives, thus requiring Rugby Borough Council to proceed to a Detailed Assessment.
  - Detailed Assessment of Air Quality 2004[ii] involved an accurate and detailed study of current and future air quality. The assessment identified that annual average levels of NO_2 were at risk of being exceeded on a number of major roads in the centre of Rugby town and in Dunchurch.
  - Detailed Assessment of Particulate Matter 2005[iii] to investigate the risk of exceedance of the PM_{10} air quality objectives related to emissions (stack, low-level point source and fugitive) from the Cemex cement plant in Rugby. The report concluded that air quality objectives for PM_{10} would be achieved.

The outcome of the 2004 Detailed Assessment led to the declaration of Rugby's AQMA in 2004. A map depicting the extent of the AQMA is shown in Figure 1.1 below.

The resulting Further Assessment[iv] required the local authority to undertake further detailed monitoring of the air quality within the AQMA in order to confirm that the decision to declare the AQMA was justified. The Further Assessment involved calculations to predict the scale of improvement that was needed for each pollutant exceeding the air quality objectives to satisfy those objectives and included source apportionment of pollutant emissions.

The Further Assessment was amended following comments received by Defra, in February 2006. It identified that only one property in the Borough was likely to be exposed to levels above the national air quality objective. Projected future reductions in NO_X emissions and the planned Rugby by-pass (the Rugby Western Relief Road (RWRR)) were anticipated to result in compliance within 2 years.

Between 2006 and 2011 Rugby Borough Council completed the third and fourth rounds of the Review and Assessment process. The following reports were published in fulfilment of LAQM duties:

- Round Three:
    - USA 2006[v], which concluded that the air quality objectives were unlikely to be exceeded at any location within the Borough for six of the seven pollutants assessed. It was concluded that exceedances of the NO_2 objective persisted at several locations within the present AQMA in respect of diffusion tube monitoring results. The declaration of the AQMA was upheld and there was no need to proceed to a Detailed Assessment.
- Round Four:
    - USA 2009[vi], which identified the requirement for a Detailed Assessment due to the development of a new superstore in the town centre and the proposed expansion of the pedestrianised area of the town centre. Updated monitoring results indicated continued exceedances of the annual mean NO_2 objective at a number of locations of relevant exposure. It was concluded that exceedances of the air quality objectives for any of the other key pollutants were very unlikely.
    - Detailed Assessment of Nitrogen Dioxide 2011[vii] concluded from the results of a short-term monitoring programme, implemented as part of the Rugby Pedestrianisation Scheme study, that potential exceedances could occur along a number of streets in Rugby Town Centre as a consequence of poor dispersion, i.e. street canyon effects. Dispersion modelling undertaken during the Detailed Assessment predicted that the highest NO_2 concentrations would be along the B5414 Church Street/North Street/Clifton Road.

Based on the findings of the Detailed Assessment it was recommended that the existing AQMA order remained in place and that the long-term monitoring survey of NO_2 should be continued. Additional recommendations were made to supplement the existing monitoring network with a number of new monitoring locations across the Borough, focusing on pollution hotspots and narrow streets, to provide better information on the spatial variation of pollution concentrations and to assess changes in pollution levels following the completion of the RWRR.

In April 2011, Rugby Borough Council produced a Progress Report[viii] documenting the results of updated monitoring data within the Borough, and new local developments and planning applications with the potential to impact upon local air quality. It also contained details of proposals to set up an Air Quality Monitoring Task Group to carry out a review of the Council's Air Quality Monitoring Network to define a cost-effective strategy for air quality monitoring within the Borough from 2012 onwards.

The 2012 Updating and Screening Assessment[ix] was put out to consultation in May 2012. Updated monitoring results for NO_2 showed that three monitoring locations within the existing AQMA continued to exceed the annual mean NO_2 objective in 2011 but that the annual mean NO_2 objective was not likely to be exceeded at locations outside the AQMA. It was concluded that the current AQMA declaration should remain. Monitoring of PM_{10} indicated that UK air quality objectives were not exceeded at any location in the Borough, although elevated PM_{10} concentrations in the short-term in the Long Lawford area as a result of sizeable construction activity were monitored.

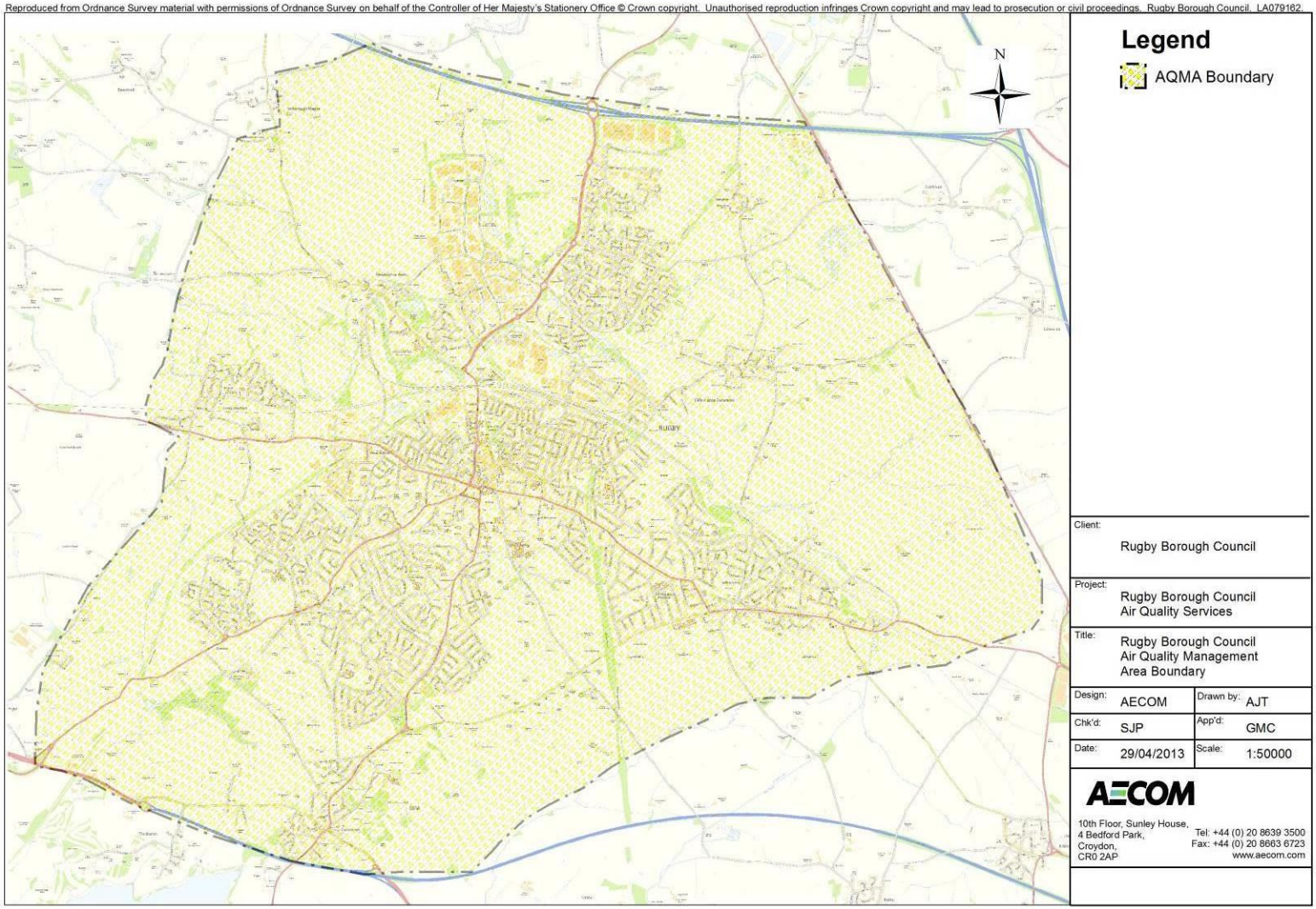
There were no new sources identified that could give rise to air quality issues. Increases in emissions of NO_X and PM_{10} from the Cemex Rugby Cement facility were assessed using dispersion modelling and it was concluded that the increase in emissions was not likely to result in exceedances of the relevant air quality objectives at any location. The consultation process highlighted an error in the input data used in the assessment of emissions from Cemex presented in the 2009 USA and that the same erroneous input data was initially used in the 2012 USA calculations. These

errors were addressed in the final 2012 USA report, which was published in November 2012.

The 2013 Progress Report[x] described the expansion of the diffusion tube monitoring network from 17 sites to 48 sites in preparation for the decommissioning of continuous monitoring activities in the Borough. Exceedances of the annual mean NO_2 objective were monitored at two of the new monitoring locations, therefore representing areas of new exceedances. These were locations in Dunchurch and Whitehall Road, Hillmorton. Both sites of exceedance were within the boundary of the AQMA for NO_2, which was declared in 2004. PM_{10} monitoring which took place before the discontinuation of continuous monitoring showed that annual mean PM_{10} concentrations were well within the annual mean PM_{10} objective at all monitoring locations and that exceedances of the PM_{10} objectives were unlikely at any locations of relevant exposure within the Borough.

In the 2014 Progress Report[xi], exceedances of the 2013 annual mean NO_2 objective were monitored at three diffusion tube monitoring locations, including the site at Dunchurch (site S24), the other two sites being the Webb Ellis Pub, Corporation Street (site S10) and Oxford Road, Ryton (site S46). Site S10 and site S24 are both within the existing AQMA boundary. The exceedance at site S46 was highlighted as of particular concern due to this site being outside the existing AQMA, although correction for distance from the kerb suggested that annual mean NO_2 concentrations at locations of nearby relevant exposure were likely to be well below the annual mean objective. No continuous monitoring of PM_{10} concentrations took place in 2013, as previous PM_{10} monitoring had found concentrations throughout the Borough were well within air quality objectives. The Progress Report concluded that there would be no requirement to proceed to a Detailed Assessment for any pollutant at that time.

Figure 1.1 Map of AQMA Boundaries



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

In August 2011, Rugby Borough Council's Air Quality Monitoring Task Group completed a review of the Council's Air Quality Monitoring Network[xii] to define a cost-effective strategy for air quality monitoring within the Borough beyond the end date of the current Air Quality Monitoring Network contract in June 2012. The review concluded with a recommendation that all continuous monitoring of NO_2 and PM_{10} within the Borough should cease in June 2012. In October 2011, a Cabinet Meeting approved the recommendation detailed within the Review of the Rugby Borough Council Air Quality Monitoring Network that Rugby Borough Council would cease to operate continuous air quality monitoring equipment. All continuous monitoring stations within the Borough were decommissioned in June 2012.

2.1.2 Non-Automatic Monitoring Sites

Rugby Borough Council has operated a network of NO_2 diffusion tubes since 2000. Until April 2012, there were seventeen long-term diffusion tube locations across the Borough.

In April 2012, the diffusion tube network was expanded to 48 sites and triplicate tubes for the purpose of bias correction were co-located alongside the automatic monitoring station at Rugby Road, Leamington Spa. In April 2013, three new diffusion tube monitoring sites were added to the network – two new sites located alongside Daventry Road in Dunchurch, and one new site located in Brinklow. Further details are provided in Table 2.1 and Figures 2.1 to 2.4. An additional two diffusion tube sites for both NO_2 and VOC have since been set up in March 2015 around the Jaguar Land Rover development in Ryton-on-Dunsmore.

Diffusion tubes used in the monitoring survey were supplied and analysed by Environmental Scientific Group (Didcot) using a 50% triethanolamine (TEA) / Acetone preparation. Based upon the new Z-Score Performance criteria, Environmental Scientific Group (Didcot) achieved 100% Z-Scores of $< \pm 2$, (which is interpreted as a satisfactory result and indicative of acceptable laboratory performance) in all WASP NO_2 Laboratory Performance Proficiency Testing Rounds 121 to 124 and AIR-PT rounds AR001 – AR006. Further details of diffusion tube QA / QC and the derivation of bias adjustment factors are presented in Appendix A.

Figure 2.1 Map of Non-Automatic Monitoring Sites within AQMA

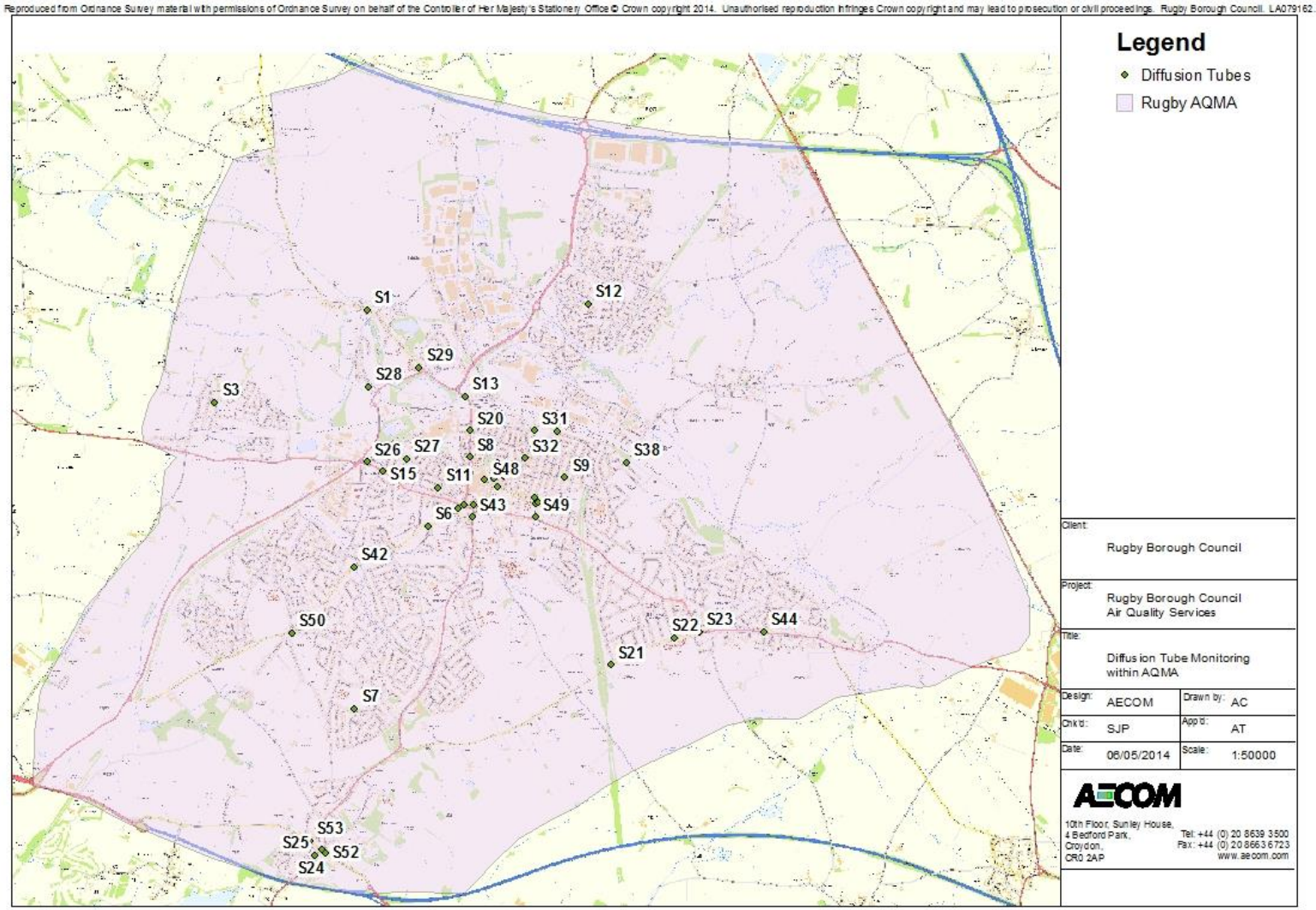


Figure 2.2 Map of Non-Automatic Monitoring Sites (South-West of Rugby Town)

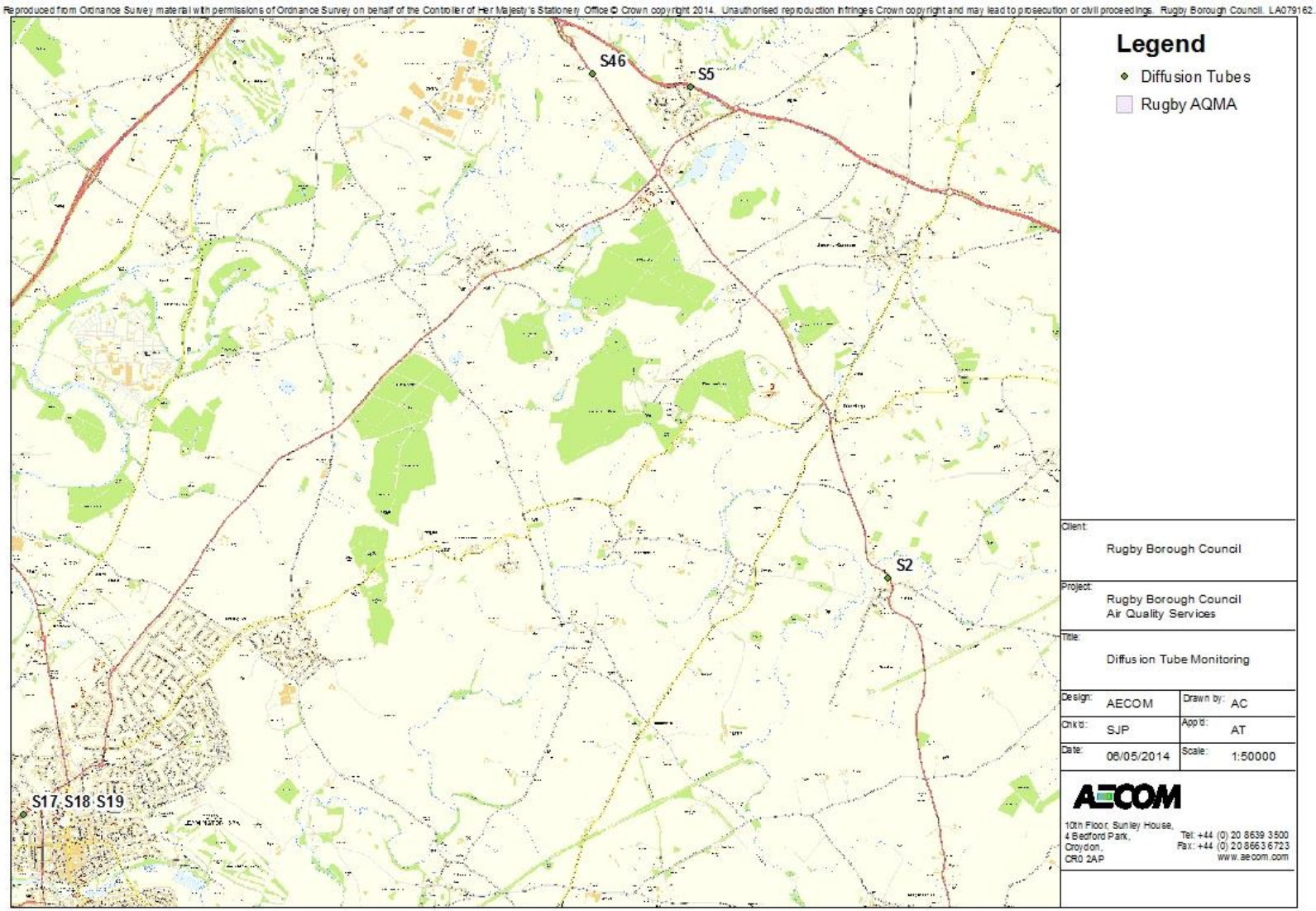


Figure 2.3 Map of Non-Automatic Monitoring Sites (West of Rugby Town)

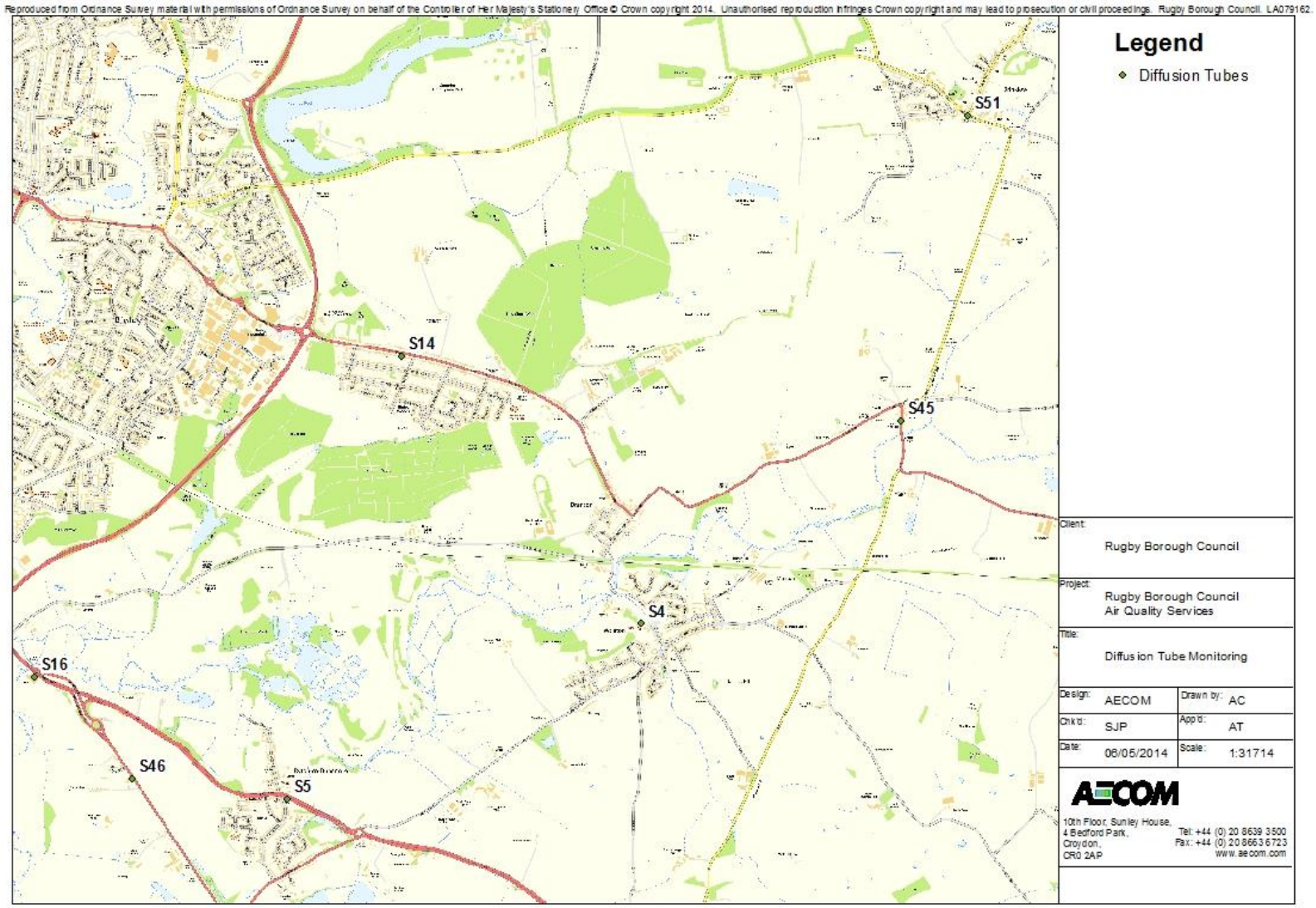


Figure 2.4 Map of Non-Automatic Monitoring Sites (Rugby Town Centre)

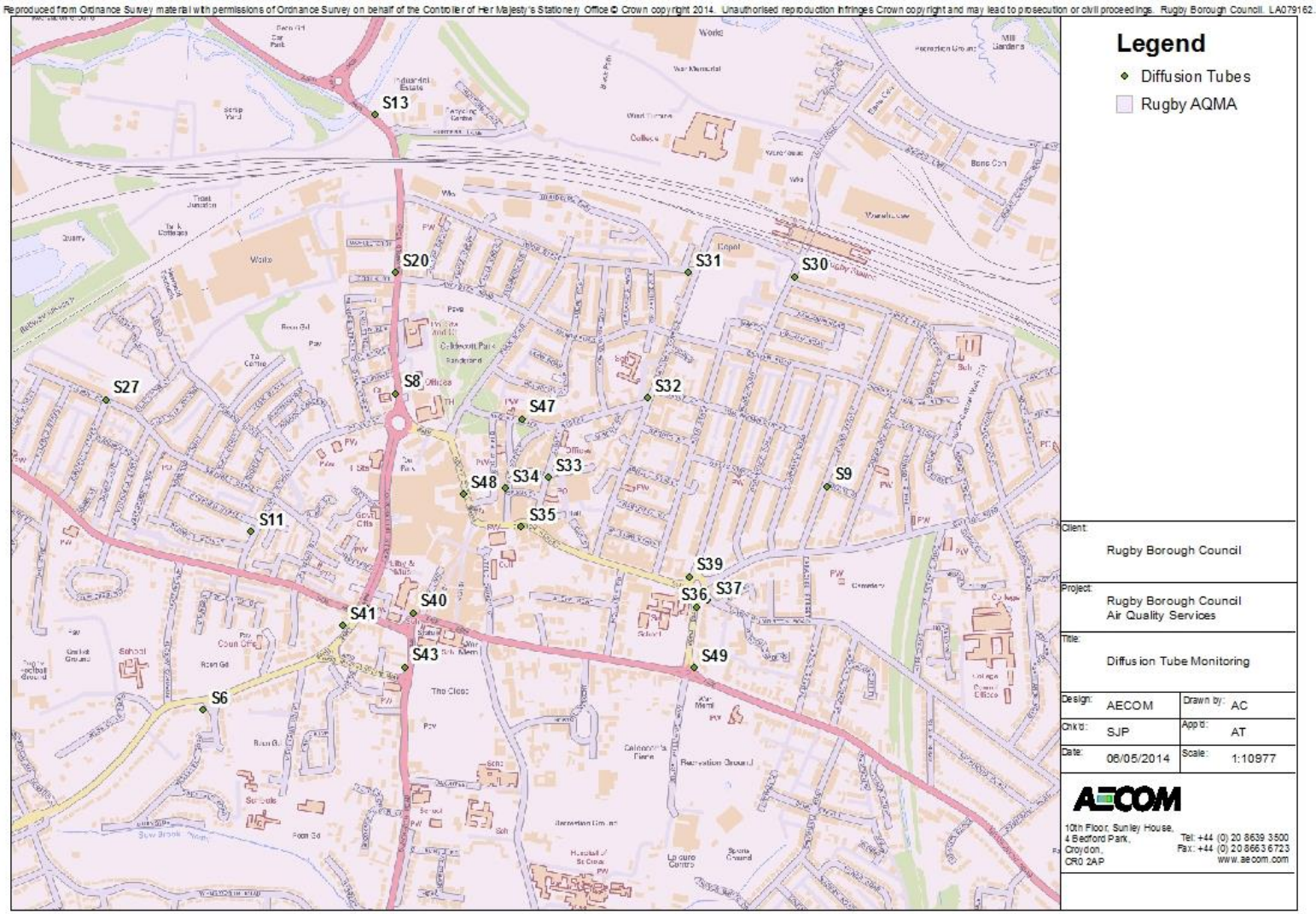


Table 2.1 Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA ?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
S1	10 Newbold Road	Kerbside	449000	277178	2.5	NO_2	Y	N	Y	<1 m	N
S2	Marton A423	Roadside	440830	269008	2.5	NO_2	N	N	Y (5m)	<1 m	N
S3	69 School Street	Urban Background	447316	276162	2.5	NO_2	Y	N	Y	15 m	N
S4	St Margaret's School, Wolston	Urban Background	441131	275648	2.5	NO_2	N	N	N	90 m	N
S5	Ryton Village Hall, High Street	Near-Road	438642	274418	2.5	NO_2	N	N	Y	5 m	Y
S6	2 West Field Road	Urban Background	449671	274795	2.5	NO_2	Y	N	Y	10 m	N
S7	68 Cymbeline Way	Urban Background	448863	272786	2.5	NO_2	Y	N	Y	20 m	N
S8	EHO Treatment, Newbold Road	Roadside	450138	275557	2.5	NO_2	Y	N	Y	<1 m	Y
S9	(Argyle Street) Cambridge Street	Near-Road	451187	275334	2.5	NO_2	Y	N	Y	5 m	N
S10	Webb Ellis Pub, Corporation Street	Roadside	450069	275040	2.5	NO_2	Y	N	Y	5 m	Y
S11	15 Oliver Street	Roadside	449787	275224	2.5	NO_2	Y	N	Y	5 m	N

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA ?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
S12	Boughton Leigh School, Hollowell Way	Urban Background	451445	277245	2.5	NO_2	Y	N	N	56 m (school parking area <1 m)	N
S13	Avon Mill Pub, Newbold Road	Roadside	450088	276229	2.5	NO_2	Y	N	Y (15 m)	4.5 m	N
S14	Binley Woods, Village Hall	Urban Background	439450	277523	2.5	NO_2	N	N	Y	20 m	N
S15	Lawford Road / Jubilee Street, Arnie's Batch	Kerbside	449168	275411	2.5	NO_2	N	N	Y	<1 m	Y
S16	Hotel, London Road A45, Ryton	Near-Road	436867	275275	2.5	NO_2	N	N	Y	19 m	Y
S17	Stamford Gardens, Rugby Road, Leamington. AURN Site	Roadside	431271	266404	2.5	NO_2	N	Y	N/A (Site not within Rugby BC)	6 m	N/A
S18											
S19											
S20	Newbold Road	Roadside	450137	275849	2.5	NO_2	Y	N	N (25 m)	3 m	N
S21	Corner of Percival Road and Ashlawn Road	Roadside	451698	273273	2.5	NO_2	Y	N	N (15 m)	2 m	N
S22	Corner of Fisher Avenue and Ashlawn Road	Roadside	452403	273567	2.5	NO_2	Y	N	N (18 m)	5 m	N
S23	Paddox Pub Corner	Roadside	452672	273633	2.5	NO_2	Y	N	N (13 m)	3 m	Y

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA ?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
S24	Dun Cow, Dunchurch Square	Roadside	448496	271244	2.5	NO_2	Y	N	Y	5 m	Y
S25	Southam Road, 'Crystal', Dunchurch	Roadside	448414	271175	2.5	NO_2	Y	N	Y	2 m	Y
S26	Lawford Road, (former Simms Scrap Yard)	Near-Road	448999	275505	2.5	NO_2	Y	N	Y	20 m	Y
S27	Avenue Road / Campbell Street	Roadside	449435	275543	2.5	NO_2	Y	N	Y	5 m	Y
S28	256 Parkfield Road	Roadside	449011	276329	2.5	NO_2	Y	N	Y	5 m	Y
S29	Avon Valley School	Urban Background	449575	276540	2.5	NO_2	Y	N	Y	35 m	Y
S30	Murray Road (Bus Stop Nr Rail Station)	Roadside	451107	275838	2.5	NO_2	Y	N	Y	3 m	Y
S31	Wood Street / Park Road	Roadside	450848	275849	2.5	NO_2	Y	N	Y	5 m	Y
S32	Railway Terrace, Station Bar	Roadside	450750	275547	2.5	NO_2	Y	N	Y	5 m	Y
S33	Albert Street, Alma Lodge Hotel	Roadside	450510	275355	2.5	NO_2	Y	N	Y	5 m	Y
S34	Regent Street, near Oxfam	Roadside	450405	275329	2.5	NO_2	Y	N	Y	5 m	Y

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA ?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
S35	Church Street, Town Fryer	Roadside	450444	275236	2.5	NO_2	Y	N	Y	5 m	Y
S36	Whitehall Road junction with Clifton Road Roundabout	Roadside	450870	275043	2.5	NO_2	Y	N	N (12 m)	3 m	Y
S37	Lower Hillmorton Road junction with Clifton Road. Roundabout	Roadside	450897	275059	2.5	NO_2	Y	N	N (5 m)	2 m	Y
S38	Clifton Road before railway bridge	Kerbside	451868	275501	2.5	NO_2	Y	N	N (9 m)	< 1 m	N
S39	Clifton Road Roundabout Murray Road	Roadside	450852	275116	2.5	NO_2	Y	N	Y	5 m	Y
S40	Lawrence Sherriff Street, Drury Lane	Near-Road	450181	275029	2.5	NO_2	Y	N	Y	13 m	Y
S41	Bilton Road, Big Yellow House	Near-Road	450010	274998	2.5	NO_2	Y	N	Y	15 m	Y
S42	Bilton Road, near Crow Pie Pub	Roadside	448855	274352	2.5	NO_2	Y	N	N (11 m)	3 m	N
S43	Dunchurch Gyratory Residential	Roadside	450162	274898	2.5	NO_2	Y	N	N (4 m)	3 m	N
S44	High Street, Hillmorton	Roadside	453394	273637	2.5	NO_2	Y	N	N (10 m)	2 m	N

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA ?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
S45	Bretford- electricity pole near 3 Avon Cottages	Roadside	442963	277071	2.5	NO_2	Y	N	N (11 m)	3 m	N
S46	Oxford Road, Ryton Belvedere	Roadside	437555	274561	2.5	NO_2	N	N	N (30 m)	1 m	N
S47	Regent Place	Kerbside	450445	275495	2.5	NO_2	Y	N	N (5 m)	< 1 m	Y
S48	North Street, Nat. West. Bank	Roadside	450304	275314	2.5	NO_2	Y	N	Y (at first floor)	2 m	N
S49	Lesley Suiter House, Whitehall Road, Hillmorton	Roadside	450864	274896	2.5	NO_2	Y	N	N (13 m)	3 m	Y
S50	Bilton Church	Roadside	448169	273625	2.5	NO_2	Y	N	N (18 m)	3 m	N
S51	Brinklow, Brays Close	Roadside	443433	279208	2.5	NO_2	N	N	N (6m)	3 m	N
S52	Daventry Road East, Dunchurch	Roadside	448537	271195	2.5	NO_2	Y	N	N (0.5 m)	3 m	N
S53	Daventry Road West, Dunchurch	Roadside	448361	271334	2.5	NO_2	Y	N	N (4.5 m)	3 m	N

2.2 Comparison of Monitoring Results with Air Quality Objectives

Data from each of the Rugby non-automatic monitoring locations are presented in Section 2.2.1 below, along with a discussion of the results of diffusion tube monitoring in Rugby. Summary tables comparing the measured concentrations with the air quality objectives and providing data capture statistics are included.

2.2.1 Nitrogen Dioxide

Automatic Monitoring Data

Since the continuous monitoring system ceased operation in 2012, there has been no further automatic monitoring of nitrogen dioxide in the Borough.

Diffusion Tube Monitoring Data

Rugby Borough Council now has 53 diffusion tube monitoring sites, including one triplicate co-location study. Monitoring results obtained at these sites in 2014 and in previous years can be found in Table 2.2 and Table 2.3, with trends in monitored concentrations illustrated in Figure 2.4. Data capture in 2014 was generally very good, and as a result seasonal adjustment has only been performed at one site (S50), details of which can be found in Appendix A. Two new diffusion tube sites have recently been set up near the Jaguar Land Rover plant in Ryton-on-Dunsmore, however no results have been obtained from these tubes to-date.

A triplicate co-location site (for the purpose of bias adjustment factor calculation) is located at the AURN continuous monitoring station at Rugby Road in Leamington Spa, since the decommissioning of the continuous monitoring site at Newbold Road in Rugby. A local bias adjustment factor of 0.89 has been calculated from the co-location site and is used in place of the national bias adjustment factor (0.81). Further details of the derivation of bias adjustment factors and discussion of the choice of bias adjustment factor can be found in Appendix A.

After bias adjustment, the 2014 diffusion tube results indicate that the annual mean NO_2 objective was exceeded at only two monitoring sites. The highest NO_2 concentration, 46.4 µg/m^3, was monitored at site S24 (The Dun Cow, Dunchurch

Square), which is almost identical to the value monitored at this site in 2013 (46.6 µg/m^3). The other site to exceed the annual mean NO_2 objective in 2014 was S10 (Webb Ellis Pub, Corporation Street), which recorded an annual mean NO_2 concentration of 40.9 µg/m^3, which is a slight increase from 2013 (40.2 µg/m^3). Sites S24 and S10 are both within the boundaries of the existing AQMA.

There were two further sites that monitored annual mean NO_2 concentrations in 2014 that were very close to the annual mean objective of 40 µg/m^3, namely site S46 (Oxford Road, Ryton Belvedere) and S49 (Lesley Suiter House, Whitehall Road, Hillmorton), where values of 39.5 µg/m^3 and 39.9 µg/m^3 were recorded, respectively.

Additional Diffusion Tube Monitoring in Dunchurch

Following the expansion of the NO_2 diffusion tube monitoring network in April 2012, Rugby Borough Council identified Dunchurch as an area for concern from an air quality perspective due to the identified exceedance at site S24 in Dunchurch. In recognition of this concern, Rugby Borough Council installed 2 additional monitoring sites in Dunchurch in May 2013. These tubes, S52 and S53, showed annual mean concentrations of 23.0 µg/m^3 and 21.2 µg/m^3 in 2013, i.e. significantly below the air objective value of 40 µg/m^3. In 2014, tubes S52 and S53 showed annual mean concentrations of 23.0 and 21.4 µg/m^3 respectively; again well below the air quality objective.

Table 2.2 Results of Nitrogen Dioxide Diffusion Tubes in 2014

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (%)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.89) 2014 (μg/m^3)
S1	10 Newbold Road	Kerbside	Y	N	100%	Y	N	19.5
S2	Marton A423	Roadside	N	N	100%	Y	N	18.4
S3	69 School Street	Urban Background	Y	N	100%	Y	N	15.5
S4	St Margaret's School, Wolston	Urban Background	N	N	100%	Y	N	13.5
S5	Ryton Village Hall, High Street	Near-Road	N	N	100%	Y	N	29.6
S6	2 West Field Road	Urban Background	Y	N	100%	Y	N	15.7
S7	68 Cymbeline Way	Urban Background	Y	N	100%	Y	N	13.1
S8	EHO Treatment, Newbold Road	Roadside	Y	N	83%	Y	N	33.5
S9	(Argyle Street) Cambridge Street	Near-Road	Y	N	100%	Y	N	18.9
S10	Webb Ellis Pub, Corporation Street	Roadside	Y	N	100%	Y	N	**40.9**
S11	15 Oliver Street	Roadside	Y	N	100%	Y	N	25.2

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (%)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.89)
								2014 ($\mu g/m^3$)
S12	Boughton Leigh School, Hollowell Way	Urban Background	Y	N	100%	Y	N	21.7
S13	Avon Mill Pub, Newbold Road	Roadside	Y	N	100%	Y	N	33.4
S14	Binley Woods, Village Hall	Urban Background	N	N	100%	Y	N	17.9
S15	Lawford Road / Jubilee Street, Arnie's Batch	Kerbside	N	N	100%	Y	N	28.9
S16	Hotel, London Road A45, Ryton	Near-Road	N	N	100%	Y	N	22.1
S17	Newbold Road AQMS / Stamford Gardens, Rugby Road, Leamington. AURN Site	Roadside	N	Y	100%	Y	N	20.5
S18		Roadside	N	Y	100%	Y	N	21.3
S19		Roadside	N	Y	100%	Y	N	20.7
S20	Newbold Road	Roadside	Y	N	83%	Y	N	32.6
S21	Corner of Percival Road / Ashlawn Road	Roadside	Y	N	100%	Y	N	24.7

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (%)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.89) 2014 (μg/m^3)
S22	Corner of Fisher Avenue / Ashlawn Road	Roadside	Y	N	100%	Y	N	22.9
S23	Paddox Pub Corner	Roadside	Y	N	92%	Y	N	24.2
S24	Dun Cow, Dunchurch Square	Roadside	Y	N	100%	Y	N	**46.4**
S25	Southam Road, 'Crystal', Dunchurch	Roadside	Y	N	100%	Y	N	31.5
S26	Lawford Road, (former Simms Scrap Yard)	Near-Road	Y	N	100%	Y	N	21.0
S27	Avenue Road / Campbell Street	Roadside	Y	N	92%	Y	N	22.4
S28	256 Parkfield Road	Roadside	Y	N	100%	Y	N	19.7
S29	Avon Valley School	Urban Background	Y	N	100%	Y	N	23.0
S30	Murray Road (Bus Stop Nr Rail Station)	Roadside	Y	N	100%	Y	N	36.1
S31	Wood Street / Park Road	Roadside	Y	N	100%	Y	N	31.6

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (%)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.89)
								2014 (μg/m^3)
S32	Railway Terrace, Station Bar	Roadside	Y	N	100%	Y	N	29.7
S33	Albert Street, Alma Lodge Hotel	Roadside	Y	N	92%	Y	N	25.4
S34	Regent Street, near Oxfam	Roadside	Y	N	92%	Y	N	26.9
S35	Church Street, Town Fryer	Roadside	Y	N	92%	Y	N	34.0
S36	Whitehall Rd junction with Clifton Road Roundabout	Roadside	Y	N	100%	Y	N	34.0
S37	Lower Hillmorton Road junction with Clifton Road. Roundabout	Roadside	Y	N	83%	Y	N	29.9
S38	Clifton Road before railway bridge	Kerbside	Y	N	100%	Y	N	27.9
S39	Clifton Road Roundabout Murray Road	Roadside	Y	N	92%	Y	N	30.0
S40	Lawrence Sherriff Street, Drury Lane	Near-Road	Y	N	100%	Y	N	30.1

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (%)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.89)
								2014 ($\mu g/m^3$)
S41	Bilton Road, Big Yellow House	Near-Road	Y	N	100%	Y	N	25.4
S42	Bilton Road, near Crow Pie Pub	Roadside	Y	N	100%	Y	N	26.4
S43	Dunchurch Gyratory Residential	Roadside	Y	N	100%	Y	N	27.7
S44	High Street, Hillmorton	Roadside	Y	N	83%	Y	N	23.2
S45	Bretford- electricity pole near 3 Avon Cottages	Roadside	Y	N	100%	Y	N	28.3
S46	Oxford Road, Ryton Belvedere	Roadside	Y	N	100%	Y	N	39.5
S47	Regent Place	Kerbside	Y	N	83%	Y	N	33.0
S48	North Street, Nat. West. Bank	Roadside	Y	N	100%	Y	N	36.6
S49	Lesley Suiter House, Whitehall Road, Hillmorton	Roadside	Y	N	92%	Y	N	39.9
S50	Bilton Church	Roadside	Y	N	75%	Y	N	24.8

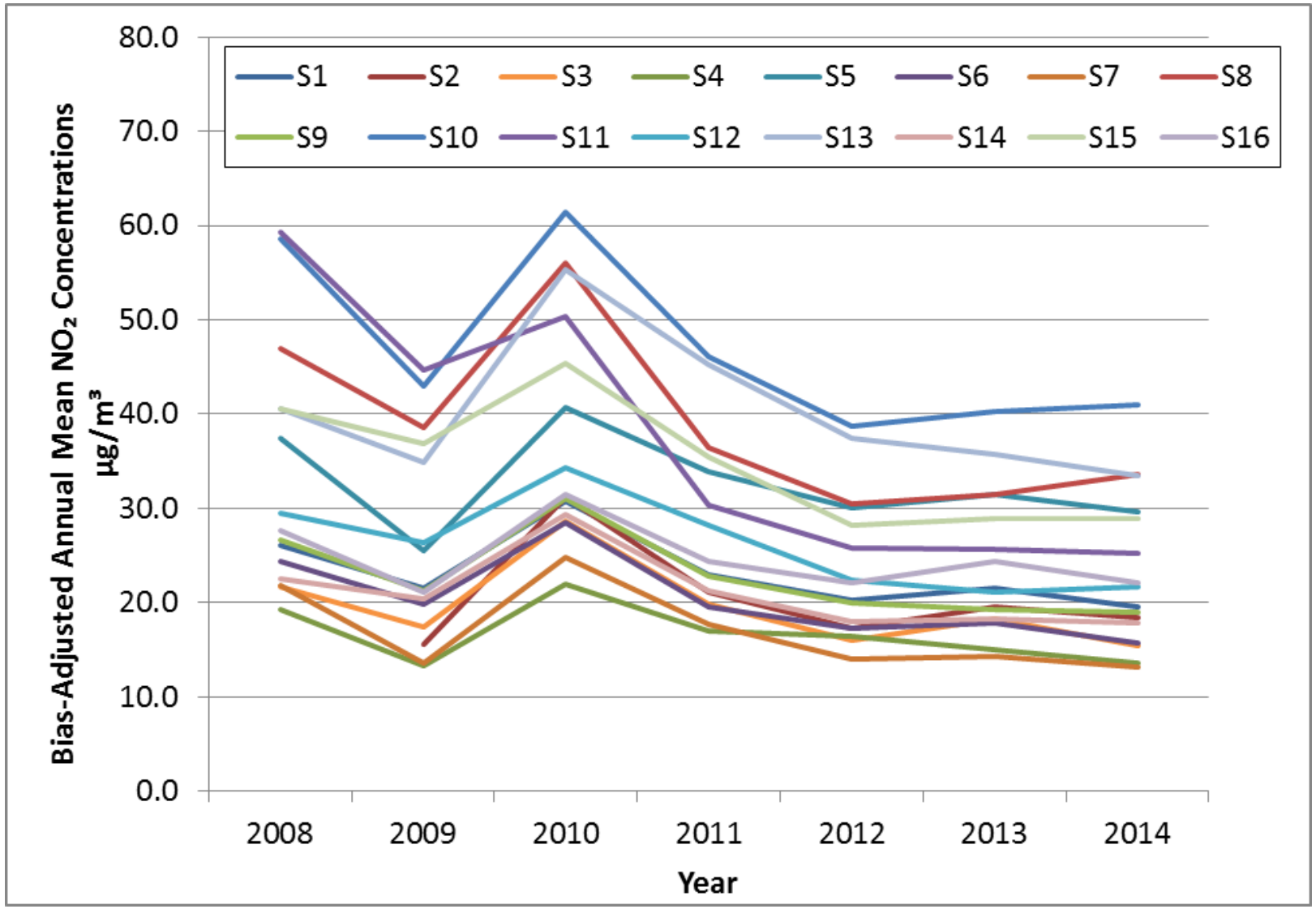
Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (%)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.89)
								2014 (μg/m^3)
S51	Brinklow, Brays Close	Roadside	N	N	100%	Y	N	32.3
S52	Daventry Road East, Dunchurch	Roadside	Y	N	100%	Y	N	23.0
S53	Daventry Road West, Dunchurch	Roadside	Y	N	92%	Y	N	21.4

Table 2.3 Results of Nitrogen Dioxide Diffusion Tubes at Long-Term Monitoring Sites (2010 to 2014)

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias [a]) μg/m^3				
			2010 (Bias Adjustment Factor = 1.14)	2011 (Bias Adjustment Factor = 1.00)	2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.84)	2014 (Bias Adjustment Factor = 0.89)
S1	Kerbside	Y	30.7	23.0	20.3	21.6	19.5
S2	Roadside	N	31.2	21.1	17.3	19.6	18.4
S3	Urban Bgd[b]	Y	28.6	19.8	16.0	18.3	15.5
S4	Urban Bgd	N	21.9	17.0	16.4	15.0	13.5
S5	Near-Road	N	**40.7**	33.9	30.1	31.5	29.6
S6	Urban Bgd	Y	28.5	19.6	17.2	17.9	15.7
S7	Urban Bgd	Y	24.8	17.7	14.0	14.3	13.1
S8	Roadside	Y	**56.0**	36.4	30.5	31.5	33.5
S9	Near-Road	Y	31.0	22.8	19.9	19.2	18.9
S10	Roadside	Y	**61.4**	**46.1**	38.8	**40.2**	**40.9**
S11	Roadside	Y	**50.3**	30.3	25.8	25.6	25.2
S12	Urban Bgd	Y	34.3	28.2	22.4	21.1	21.7
S13	Roadside	Y	**55.3**	**45.2**	37.4	35.7	33.4
S14	Urban Bgd	N	29.4	21.2	18.0	18.3	17.9
S15	Kerbside	N	**45.4**	35.5	28.2	28.9	28.9
S16	Near-Road	N	31.5	24.4	22.1	24.4	22.1

[a] In bold, exceedance of the nitrogen dioxide annual mean AQS objective of 40 μg/m^3. [b] Urban Bgd stands for Urban Background

Figure 2.5 Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites



The trend in bias-adjusted annual mean NO_2 concentrations shown in Figure 2.5 is generally a slight decrease over the time period shown (2008-2014). This trend is particularly evident between 2010 and 2012 as concentrations were elevated in 2010, but there appears to be no significant trend between the years 2012 and 2014, with some sites showing a slight decrease and others showing a slight increase.

2.2.2 PM_{10}

Rugby Borough Council currently monitors particulate matter concentrations (TSP, PM_{10}, $PM_{2.5}$ and PM_1) using a Turnkey Osiris Particle Monitor at one location within the Borough, at Parkfield Road, Rugby. The monitoring is intended to establish baseline concentrations prior to the commencement of operations at the Climafuel Manufacturing Facility and then to monitor concentrations during the operational phase. Monitoring is proposed to be carried out for a 12-month period. The monitoring site was commissioned in December 2014 and Table 2.4 below summarises the results of the monitoring undertaken to date (up to April 2015). It should be noted that the measurement technique employed is not equivalent to reference methods and therefore the results presented below should be considered indicative.

Table 2.4 indicates that average daily mean concentrations recorded at this site, which is in an urban background location, are relatively low in comparison to the national air quality objective (40 µg/m^3), whilst Table 2.5 indicates that no exceedances of the daily mean PM_{10} standard have been recorded to-date.

Table 2.4 Results of Automatic Monitoring of PM_{10} at Parkfield Road: Daily Mean Concentrations

Month	Valid Data Capture for monitoring Period %	Average Daily Mean Concentration µg/m^3			
		TSP	PM_{10}	$PM_{2.5}$	PM_1
Dec 2014	97.9	8.6	7.5	4.9	1.2
Jan 2015	100	10.9	9.4	6.5	1.8
Feb 2015	100	12.6	11.1	7.4	2.1
Mar 2015	100	18.4	16.2	11.3	3.4

Table 2.5 Results of Automatic Monitoring of PM_{10} at Parkfield Road: Number of daily exceedances

Month	Valid Data Capture for monitoring Period %	Number of daily PM_{10} exceedances (50 $\mu g/m^3$)
Dec 2014	97.9	0
Jan 2015	100	0
Feb 2015	100	0
Mar 2015	100	0

2.2.3 Sulphur Dioxide

Rugby Borough Council does not currently undertake any monitoring for sulphur dioxide (SO_2). Continuous monitoring of SO_2 ceased in 2007 following the decommissioning of the Webb Ellis Rugby Club monitoring site. During the period that the site was operational there were no exceedances of any of the objectives relating to SO_2 nor was it considered likely that future exceedances would occur.

2.2.4 Benzene

Rugby Borough Council does not currently undertake any monitoring for benzene. On the basis of historical monitoring it is considered that there are no significant sources that might give rise to exceedances of the air quality objective for benzene at any receptor location within the Borough.

2.2.5 Other pollutants monitored

Rugby Borough Council does not perform monitoring activities for any other pollutants.

2.2.6 Summary of Compliance with AQS Objectives

Rugby Borough Council has examined the results from monitoring in the borough. Concentrations outside of the AQMA are all below the objectives at relevant locations, therefore there is no need to proceed to a Detailed Assessment.

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

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

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

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

3.3 Roads with a High Flow of Buses and/or HGVs.

Rugby Borough Council confirms that there are no new/newly identified roads with high flows of buses/HGVs.

3.4 Junctions

Rugby Borough Council confirms that there are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

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

3.6 Roads with Significantly Changed Traffic Flows

Rugby Town Centre Pedestrianisation

A scheme to extend the existing pedestrianised area near the Clock Tower in Rugby town centre has been developed and consulted upon. It has been agreed by Warwickshire County Council and Rugby Borough Council that the proposal will not be taken forward until other schemes such as the improvement of the Warwick Street Gyratory and Avon Mill/Hunters Lane have been implemented. No further work on the scheme is therefore likely until 2015/16 at the earliest.

Warwick Street Gyratory Improvements

Warwickshire County Council has been successful in securing Local Pinch Point Programme funding from national Government towards an improvement of the Warwick Street Gyratory system in Rugby. The scheme aims to better manage traffic, make journey times more reliable, improve local air quality and make it easier for pedestrians and cyclists to access the town centre. As part of the scheme, traffic signals with pedestrian and cycle crossing facilities will be installed at the junctions of Dunchurch Road / Russelsheim Way and Bilton Road / Russelsheim Way. The scheme also includes Puffin crossings on A428 Lawrence Sheriff Street near Sheep Street and on Barby Road. The County Council is making a local funding contribution of £0.455m towards the scheme, to complement the £1m contribution from the Department for Transport (DfT). Works commenced on site in January 2015, and completion was anticipated by March/April 2015.

An Air Quality Assessment was carried out by ARUP to investigate the potential changes to air quality as a result of the improvements to the gyratory system. The modelling study predicted that changes in annual mean NO_2 concentrations in 2016 would be negligible between the 'with' and 'without' scenario for the majority (93 of 95) of receptor sites. Two sites were predicted to experience concentrations greater than the air quality objective in 2013, with one site expected to achieve a slight beneficial change (66.7 µg/m^3 from 68.6 µg/m^3) with the improvement works, and one site a slight adverse change (46.5 µg/m^3 from 45.7 µg/m^3).

It should be noted that current monitoring of NO_2 concentrations in the vicinity of the gyratory system (site S10, Webb Ellis Pub) indicates that NO_2 concentrations are

significantly lower (40.9 µg/m^3) than those predicted at one location in the ARUP modelling study (66.7 µg/m^3), so caution should be taken when interpreting the predicted NO_2 concentrations from the model. However, Rugby Borough Council intends to increase the extent of NO_2 monitoring around the revised gyratory system as a precautionary measure based on the outcome of the modelling study.

A45/A46 Tollbar End Improvements

Works commenced in January 2014 to improve the A45 Stonebridge Highway and the Tollbar End roundabout in southern Coventry, which are expected to be completed by Autumn 2016. The main purpose of the works is reduce the volume of traffic using Tollbar End roundabout by providing a 2 lane dual carriageway underpass link between the A46 Coventry Eastern bypass and the A45 Stonebridge highway. The associated Environmental Statement[xiii] indicates that the scheme will have a net beneficial impact on local air quality, although there may be increased congestion in the local area during its construction that may result in short-term adverse air quality effects. The A45/A46 Tollbar End roundabout is outside the area administered by Rugby Borough Council, however should significant changes in road traffic volumes occur along the A45 London Road south of the Tollbar End, either as a result of the scheme or its construction, air quality within the area administered by Rugby Borough Council could potentially be affected (e.g. in Ryton-on-Dunsmore). Rugby Borough Council currently undertakes diffusion tube monitoring at two locations in this area (tubes S5 and S16), the results from which in 2014 indicate that pollutant concentrations are currently well below the national air quality objective. Monitoring results from these tubes will continue to be reviewed in order to assess any changes in NO_2 concentrations during the schemes construction or operation.

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

3.7 Bus and Coach Stations

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

4 Other Transport Sources

4.1 Airports

There are no airports within the administrative area of Rugby Borough Council. The nearest airport is Coventry Airport in the neighbouring district of Warwick, which handles fewer than the 10 million passengers per annum threshold to qualify for consideration under LAQM. Previous assessment has shown that the site does not cause significant impact on air quality in Rugby. However, if circumstances change, Coventry Airport may need to be reassessed in the future.

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

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

Rugby Rail Station and the Network Rail Service Depot have been identified as locations where diesel trains may be stationary, whilst passengers embark and disembark and freight is loaded and unloaded. However, stationary times are shorter than the 15 minute threshold detailed in Section B.2 Box 5.4 of TG(09). Rugby Borough Council will continue to monitor these sources in the future.

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

4.2.2 Moving Trains

Table 5.1 of LAQM.TG(09) identifies the section of rail line between Rugby and Birmingham New Street as one with a high usage of diesel locomotives. However, LAQM.TG(09) requires that rail lines need only be considered by local authorities where the annual mean background NO_2 concentration exceeds 25 µg/m^3. A list of

local authorities likely to be affected is available on the LAQM Support Defra webpage[xiv] which does not feature Rugby Borough Council.

NO_2 diffusion tube monitoring at urban background locations around Rugby indicates that the annual mean NO_2 background concentration is less than 25 µg/m^3 and mapped background NO_2 concentrations support this. Moving train emission sources therefore do not need to be considered further.

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

4.3 Ports (Shipping)

The Borough is landlocked and there are no major waterways in the area.

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

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

An Air Quality Assessment was carried out by SLR Consulting for Jaguar Land Rover (JLR) Ryton in November 2014 for a proposed paint facility at Unit DC3, Oxford Road, Ryton-on-Dunsmore. The atmospheric dispersion modelling study conducted found that emissions of NOx and PM_{10} would be "not significant" and emissions of VOCs and CO "insignificant". The study therefore concluded that the emissions to air from the paint facility would not have an unacceptable impact on local air quality.

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

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

Emissions of NO_X and PM_{10} from Cemex cement works in Rugby for the years 2011 to 2014 are presented in Table 5.1.

Table 5.1 Pollutant Emissions (tonnes) from Cemex Rugby Cement Works, 2011 to 2014

Year	Pollutant Emissions (tonnes)	
	NO_X	**PM_{10}**
2011	1,952	13.3
2012	1,682	20.0
2013	1,792	18.0
2014	1,860	19.0
Percentage Change 2013 – 2014	**+3.8%**	**+5.6%**

Note: Data supplied by Environment Agency (Personal communication 21/04/2015)

NO_X and PM_{10} emissions increased by 3.8% and 5.6% respectively between 2013 and 2014, which is well below the 30% threshold outlined in LAQM.TG(09) that would

indicate a “substantial” increase in emissions. Therefore, there is no need to consider NO_X or PM_{10} emissions from Cemex further at this stage.

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

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

Rugby Borough Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.2 Major Fuel (Petrol) Storage Depots

There are no fuel storage depots within the Borough requiring assessment at this time.

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

5.3 Petrol Stations

There are no petrol stations within the Borough requiring assessment at this time.

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

5.4 Poultry Farms

There are no poultry farms within the Borough which may lead to air quality impacts.

Rugby Borough Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

In the 2013 Air Quality Progress Report, a proposed biomass boiler at the Queen's Diamond Jubilee Sports Centre development was identified as having the potential to impact upon air quality. A screening assessment was then carried out in the 2014 Air Quality Progress Report, which found that pollutant emissions from the biomass boiler were unlikely to result in significant air quality impacts. This is still the case, and consequently a Detailed Assessment is not required.

Rugby Borough Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.2 Biomass Combustion – Combined Impacts

Rugby Borough Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.3 Domestic Solid-Fuel Burning

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

6.4 Permitted and Proposed Developments

Rugby Borough Council has received a number of planning applications for various developments that have the potential to impact upon local air quality. The applications listed below are at differing stages in the application process at present.

Rugby Radio Station SUE

The application for outline planning permission for the proposed Rugby Radio Station development was approved in May 2014 although construction is unlikely to begin until early 2016. The development will comprise of:

An urban extension to Rugby for up to 6,200 dwellings together with up to 12,000 m^2 retail (A1), up to 3,500 m^2 financial services (A2) and restaurants (A3 - A5), up to 3,500 m^2 for a hotel (C1), up to 2,900 m^2 of community uses (D1), up to 3,100 m^2 assembly and leisure uses (D2), 31 hectares (up to 106,000 m^2) of commercial and employment space (B1, B2 and B8), and ancillary facilities; a mixed use district centre and 3 subsidiary local centres including retention and re-use of the existing buildings known as 'C' Station (Grade II listed), 'A' Station and some existing agricultural buildings; a secondary school and 3 primary schools; public art; green infrastructure including formal and informal open space and amenity space; retention of existing hedgerows, areas of ridge and furrow and grassland; new woodland areas, allotments and areas for food production, wildlife corridors; supporting infrastructure (comprising utilities including gas, electricity, water, sewerage, telecommunications, and diversions as necessary); sustainable drainage systems including ponds, lakes and water courses; a link road connecting the development to Butlers Leap, estate roads and connections to the surrounding highway, cycleway and pedestrian network; ground remodelling; any necessary demolition and any ground works associated with the removal of any residual copper matting, with all matters reserved for future determination except the three highway junctions on the A428, the two junctions on the A5 and the link road junctions at Butlers Leap and Hillmorton Lane.

Bilton Fields, Ashlawn Road

Current application (outcome not yet determined) for outline planning permission for demolition of existing buildings and subsequent construction of up to 860 dwellings and land for a potential primary school.

Rugby Gateway SUE (Eden Park)

Core Strategy allocated site.

Outline application for residential development (up to 1300 units); employment development (up to 36ha in total, B2 – General Industrial & B8 – Storage & Distribution); community facilities (D1 – Non-residential Institutions) including primary school, nursery and health facility, retail premises (A1 – Retail, A3 – Food & Drink, A4 – Drinking Establishments & A5 - Hot Food Takeaway); open space; associated infrastructure and works including details of access into site (including alterations to highway and existing roundabouts); demolition of existing buildings.

Phase 1 approved for the erection of 244 dwellings with associated open space, infrastructure and ancillary works; alteration to Brownsover Lane and junction with existing roundabout. Phase 2 is to be confirmed and will comprise the erection of 230 dwellings with associated open space, infrastructure and ancillary works; (alteration to Brownsover Lane and junction with existing roundabout). In February 2014 Land at unit 1 of the employment area was granted reserved matter approval for the erection of building for B8 storage and distribution use, with associated access, landscaping and other works. Additional Phase R4 approved in January 2015 for 132 dwellings.

Warehouse Distribution Centre (Former Peugeot Factory) commercial developments, Ryton-On-Dunsmore.

Demolition of factory and construction of Class B8 (warehouse & distribution) with ancillary offices and Class B1(c)/B2/B8 (light industry/general industry/warehouse & distribution with ancillary offices), including vehicles parking and landscaping with access from existing roundabout.

The demolition work has now been completed with Network Rail occupying part of the cleared site with the remainder cleared for development. Three further units are currently under construction for B8 uses with ancillary offices. There are proposals for the use of land for the parking and storage of heavy goods vehicles and trailers with alterations to access and formation of access ramp into the site, plus ancillary development. A vehicle maintenance unit and fuelling and washing facility, security lodge, vehicle parking, landscaping and emergency access are also proposed.

Cawston Lane (R11/1521)

Committee resolution for approval subject to a signed section 106 for an Outline planning application for the development of the site for up to 250 dwellings (Use Class C3), with means of access from Coventry Road and an emergency access from Cawston Lane, together with drainage and flood attenuation measures, the creation of public open space and hard and soft landscaping and associated infrastructure.

Leicester Road

Land at Technology Drive has permission for up to 635 dwellings. Previously approved housing and retail schemes are currently under construction, and final phase of housing has been approved subject to finalisation of related S106 agreement.

Elliotts Field Retail Park

The development has been approved and work has commenced on the demolition of existing units B1 to C2 and car wash, and erection of 12 new (class A1) retail units (with ancillary class A3); Replacement structural frame to Unit A2 subdivision of Unit A2 and the installation of mezzanine floor space; external alterations to Unit A1; erection of 2 no. new café class A3 units; erection of service and access gantry to rear of Unit 1 to Unit 6; reconfiguration of the car park layout; erection of retaining wall to rear of anchor unit and retaining wall adjacent to Leicester Road; creation of 2 no. new service and delivery access/egress points off Old Leicester Road; improvement works to the Old Leicester Road junction; improvements and road widening to Old Leicester Road and Leicester Road, and improvements to the site entrance at Leicester Road; alterations and enhancements to landscaping; creation of new footpath from Leicester Road; and associated works. Planning application approved subject to a call in decision.

Coton House

Committee resolution for approval subject to a signed section 106 for a hybrid planning application seeking full planning permission for the demolition of redundant buildings, alterations to existing access on to A426, change of use and extension of Coton House to form 4 dwellings, construction of garaging to serve Coton House, change of use of stable buildings and extension to form 8 dwellings, change of use of the old dairy and extension to form 1 dwelling, conversion of buildings H, J & K to form 3 dwellings, engineering works to form a noise bund, below ground installation of private sewage treatment plant; and Outline Planning Permission for the provision of a new estate village comprising of the provision of 60 dwellings together with internal access, road layout, car parking, relocation of electricity sub-station, landscaping and open space and 2 bat barns (access and layout to be considered at this stage) (76 dwellings in total).

Warwickshire College

Committee resolution for approval subject to a signed section 106 for an outline application for Class C3 residential development of up to 131 dwellings and provision of 0.4 hectare of land for the provision of a Class C2 Extra Care facility, with associated works and landscaping. All matters reserved except for access.

Evreux Development Site (R13/1916)

On the 30th January 2014 outline approval was granted for the erection of building for retail (Class A1), office (Class B1) and leisure (Classes D2, A3, A4 and A5) uses, with associated works including demolition of existing buildings. All matters reserved except for access.

Junction 1 Retail Park

Application currently being considered for the erection of a terrace of 5 units providing 5,670 m^2 non-food Class A1 retail floorspace together with car parking, landscaping and associated works.

Dipbar Fields (R13/0690)

The outline planning application was approved in November 2014 for the development of the site for up to 86 dwellings (Use Class C3) and associated works

including means of access from the A45/M45 roundabout and an emergency access from Daventry Road. All other matters are reserved.

Leicester Road (land North of Technology Drive) (R13/1612)

The retail development was approved in August 2014 and is under construction: up to 9,964 m^2 (gross internal area) including mezzanines of non-food, bulky goods retail with associated car parking, service areas and landscaping.

Former Cattle Market

The Council owned land not yet developed likely to be marketed for redevelopment (residential / employment / open space)

Former ALBA site Mill Road

Pre application discussions for redevelopment of the site for mixed uses (residential, employment, retail, work/live units). No application has been submitted to date.

Europark A 5

Two current applications being processed:

R12/2253 - Application for 'Part outline planning permission for the erection of two buildings and use for purposes falling within Class B2 (General Industrial) of The Town and Country Planning (Use Classes) Order 1987, as amended, together with ancillary offices and ancillary storage, parking, servicing, drainage and landscaping - all matters reserved.'

R13/2165 – Application for 'Erection of two buildings and use for purposes of an alcohols distillery and alcohols and hydrocarbon warehouse (Use Classes B2 and B8) together with ancillary offices (Class B1): erection of associated energy centre building with flue, botanicals building and external tank farms; access, parking and servicing including weighbridge, earthworks and landscaping, drainage, fencing, demolition of existing buildings and diversion of public right of way R107.'

Ridgeway Farm Ashlawn Road

Current planning application for 80 dwellings. Still to be determined.

Land off Newton Lane Newton

Pre-application discussion on proposals for 30 dwellings. No application received as yet.

7 Fugitive or Uncontrolled Sources

Rugby Borough Council confirms there are no new developments (or changes to existing developments) with fugitive or uncontrolled sources with the potential to give rise to adverse air quality impacts in the borough.

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

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

The latest NO_2 monitoring data with the Borough has indicated an exceedance of the annual mean NO_2 objective (40 µg/m^3) at two diffusion tube monitoring locations during 2014, namely:

- Site S24 (Dun Cow, Dunchurch; 46.4 µg/m^3)
- Site S10 (Webb Ellis Pub, Corporation Street; 40.9 µg/m^3)

The monitored exceedances at sites S24 and S10 are within the boundary of the current AQMA.

In the previous year (2013), one additional site observed an exceedance of the annual mean objective, so the latest monitoring data suggests a slight improvement from 2013 to 2014. The site in question (site S46; Oxford Road, Ryton), which recorded an annual mean NO_2 concentration of 40.9 µg/m^3 in 2013, is outside the existing AQMA, but when corrected for distance to the nearest sensitive receptor, did not exceed the annual mean NO_2 objective. The annual mean NO_2 concentration monitored at this site in 2014 was borderline, with a value very close to the objective (39.5 µg/m^3), however annual mean NO_2 concentrations at the nearest location of relevant exposure are likely to be significantly lower than this value.

Monitored NO_2 concentrations at another site (S49) could also be described as borderline, being very close to the national air quality objective with an annual mean NO_2 concentration of 39.9 µg/m^3. This site is within the existing AQMA.

The NO_2 monitoring results in 2014 suggest that the annual mean NO_2 objective is unlikely to be exceeded outside the current AQMA, however the potential for exceedances within the AQMA persists and consequently the AQMA declaration should remain.

Monitoring of PM_{10} in Rugby Borough Council only re-commenced in December 2014 at one location, after a 2 year period without continuous PM_{10} monitoring. This monitoring will establish baseline PM_{10} concentrations before operations at the SUEZ Environment Climafuel facility begin, and then monitor concentrations for 12 months during operations. Monthly-mean PM_{10} concentrations for December 2014 to March 2015 were relatively low in comparison to the PM_{10} objective, and there were no daily exceedances of the PM_{10} standard (50 µg/m^3) during this period.

8.2 Conclusions from Assessment of Sources

The assessment of road transport and other transport sources has not identified any significant changes in existing sources likely to impact adversely upon air quality in the Borough. An air quality assessment for the Rugby Gyratory system improvement works has been carried out, which suggests that there would be an insignificant change in NO_2 concentrations as a result of the improvement works. Based on this conclusion, a detailed assessment was deemed not required.

A large number of planning applications with the potential to effect local air quality have been received by Rugby Borough Council, some of which have been approved, and some are also under construction. The potential impact of these developments, both in isolation and in combination, will be closely monitored by Rugby Borough Council to establish whether there is any risk of air quality objectives being exceeded at locations of relevant exposure either within or outside the existing AQMA.

8.3 Proposed Actions

This Updating and Screening Assessment has identified that it is **not necessary** to proceed to a Detailed Assessment for any pollutant.

On the basis of the findings of the Updating and Screening Assessment, Rugby Borough Council proposes to undertake the following actions:

- Submit an Air Quality Progress Report in 2016, in accordance with the LAQM Review and Assessment process.
- Continue to operate a network of diffusion tubes throughout the Borough to monitor NO_2 concentrations, and increase the extent of diffusion tube monitoring around the revised gyratory system.
- Maintain the extent of the existing AQMA for NO_2.

In accordance with local planning policy, Rugby Borough Council will continue to ensure that appropriate air quality assessments are submitted during the planning application process to identify those developments that may give rise to unacceptable air quality impacts. In cases where significant adverse air quality impacts are identified, the Council will ensure measures are implemented by the applicant to mitigate or offset such impacts.

Appendix A: QA/QC and Bias Adjustment

QA/QC of diffusion tube monitoring

All NO_2 diffusion tubes used by Rugby Borough Council are supplied and analysed by Environmental Scientific Group (ESG) Didcot using a 50% TEA in Acetone preparation method. Analysis is performed in accordance with standard operating procedure HS/WI/1015 Issue 14. This method conforms to the guidelines set out in Defra's 'Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance', and can be found on the Defra website[xv].

ESG Didcot achieved 100% satisfactory laboratory performance in the Workplace Analysis Scheme for Proficiency (WASP) Rounds 121 – 124 (April 2013 to March 2014), inclusive, based on the z-score assessment criterion. The new AIR-PT scheme combines the two long running LGC Standards STACKS Proficiency Testing (PT) scheme and HSL WASP PT scheme. For April 2014 to February 2015, in testing rounds AR001 to AR006, ESG Didcot achieved a 100% satisfactory score in 3 testing rounds and 75% satisfactory in the most recent round.

Bias Adjustment of Diffusion Tubes

Factor from Local Co-location Study

A local bias adjustment factor for NO_2 Diffusion Tube monitoring was derived from a co-location study carried out at a continuous monitoring station. Triplicate tubes are positioned alongside the NO_X Analyser at Rugby Road, Leamington Spa in 2014. The local bias adjustment factor was calculated as 0.89, with details of the calculation shown in Figure A.1. As shown in the figure, the coefficient of variation (CV) of the triplicate tubes was generally small, indicating high precision, and data capture of the automating monitoring station was also very good.

Figure A.1 NO_2 Diffusion Tube Local Bias Adjustment Calculation, Rugby 2014

Checking Precision and Accuracy of Triplicate Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tubes Measurements										Automatic Method		Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
1	09/01/2014	05/02/2014	24.5	27.4	24.3	25	1.7	7	4.3	25.5	100.0	Good	Good
2	05/02/2014	06/03/2014	25.0	27.7	25.0	26	1.6	6	3.9	20.9	99.7	Good	Good
3	06/03/2014	03/04/2014	30.9	30.7	29.6	30	0.7	2	1.7	23.5	83.0	Good	Good
4	03/04/2014	06/05/2014	21.1	21.9	21.4	21	0.4	2	1.0	21.1	87.5	Good	Good
5	06/05/2014	29/05/2014	18.8	19.4	20.1	19	0.7	3	1.6	17.0	99.6	Good	Good
6	29/05/2014	07/07/2014	16.3	16.0	17.0	16	0.5	3	1.3	15.7	99.9	Good	Good
7	07/07/2014	31/07/2014	18.5	17.9	17.8	18	0.4	2	0.9	16.2	92.0	Good	Good
8	31/07/2014	28/08/2014	17.8	17.3	13.5	16	2.4	15	5.8	12.4	99.6	Good	Good
9	28/08/2014	09/10/2014	23.2	23.7	23.4	23	0.3	1	0.6	23.1	99.6	Good	Good
10	09/10/2014	30/10/2014	20.8	18.5	21.7	20	1.7	8	4.1	17.2	99.8	Good	Good
11	30/10/2014	08/12/2014	29.0	36.0	34.2	33	3.6	11	9.0	32.1	99.8	Good	Good
12	08/12/2014	09/01/2015	30.7	31.3	30.8	31	0.3	1	0.8	25.6	99.6	Good	Good
13													

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Overall survey --> Good precision | Good

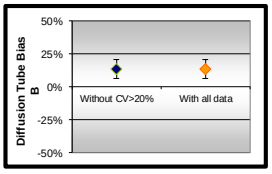
Site Name/ ID:

Precision: 12 out of 12 periods have a CV smaller than 20%

(Check average CV & DC from Accuracy calculations)

Accuracy (with 95% confidence interval) without periods with CV larger than 20%	
Bias calculated using 12 periods of data	
Bias factor A	0.89 (0.84 - 0.95)
Bias B	12% (5% - 19%)
Diffusion Tubes Mean:	23 μgm^{-3}
Mean CV (Precision):	5
Automatic Mean:	21 μgm^{-3}
Data Capture for periods used:	97%
Adjusted Tubes Mean:	21 (20 - 22) μgm^{-3}

Accuracy (with 95% confidence interval) WITH ALL DATA	
Bias calculated using 12 periods of data	
Bias factor A	0.89 (0.84 - 0.95)
Bias B	12% (5% - 19%)
Diffusion Tubes Mean:	23 μgm^{-3}
Mean CV (Precision):	5
Automatic Mean:	21 μgm^{-3}
Data Capture for periods used:	97%
Adjusted Tubes Mean:	21 (20 - 22) μgm^{-3}



Jaume Targa, for AEA
Version 04 - February 2011

National Diffusion Tubes Bias Adjustment Factor

The national diffusion tube bias adjustment factor was obtained from the national Spreadsheet of Bias Adjustment Factors version 03/15[xvi]. Rugby Borough Council use Environmental Scientific Group (ESG) Didcot for diffusion tube preparation and results, using a 50% triethanolamine (TEA) in acetone method. Using these inputs, the national bias adjustment factor was calculated as 0.81. Further details are shown in Figure A.2.

Figure A.2 NO_2 Diffusion Tube National Bias Adjustment Factors, Rugby 2014

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/15

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

This spreadsheet will be updated at the end of June 2015
LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1:	Step 2:	Step 3:	Step 4:								
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	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 a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@uk.bureauveritas.com or 0800 0327953								
Analysed By[1]	**Method** To undo your selection, choose (All) from the pop- up list	**Year[5]** To undo your selection, choose (All)	**Site Type**	**Local Authority**	**Length of Study (months)**	**Diffusion Tube Mean Conc. (Dm) (µg/m³)**	**Automatic Monitor Mean Conc. (Cm) (µg/m³)**	**Bias (B)**	**Tube Precision[6]**	**Bias Adjustment Factor (A) (Cm/Dm)**	
ESG Didcot	50% TEA in acetone	2014	R	Cambridge City Council	12	47	37	25.5%	G	**0.80**	
ESG Didcot	50% TEA in acetone	2014	R	Dumfries and GallowayCouncil	12	35	30	16.5%	G	**0.86**	
ESG Didcot	50% TEA in acetone	2014	UB	Falkirk	12	23	20	19.3%	G	**0.84**	
ESG Didcot	50% TEA in acetone	2014	B	Gravesham Borough Council	12	27	25	11.6%	P	**0.90**	
ESG Didcot	50% TEA in acetone	2014	R	Gravesham Borough Council	12	40	31	29.6%	G	**0.77**	
ESG Didcot	50% TEA in acetone	2014	UB	Kingston upon Hull City Council	12	32	26	22.6%	G	**0.82**	
ESG Didcot	50% TEA in acetone	2014	KS	Marylebone Road Intercomparison	10	109	80	35.2%	P	**0.74**	
ESG Didcot	50% TEA in acetone	2014	R	North East Lincolnshire Council	11	59	49	19.5%	G	**0.84**	
ESG Didcot	50% TEA in acetone	2014	R	North East Lincolnshire Council	11	34	30	12.3%	G	**0.89**	
ESG Didcot	50% TEA in acetone	2014	B	Pembrokeshire Council	11	7	3	110.8%	P	**0.47**	
ESG Didcot	50% TEA in acetone	2014	KS	South Northamptonshire Council	11	43	31	36.5%	G	**0.73**	
ESG Didcot	50% TEA in acetone	2014	UI	Stockton on Tees	11	25	22	17.7%	P	**0.85**	
ESG Didcot	50% TEA in acetone	2014	R	Stockton on Tees	12	21	16	35.2%	G	**0.74**	
ESG Didcot	50% TEA in acetone	2014	R	Swale Borough Council	9	42	33	28.4%	P	**0.78**	
ESG Didcot	50% TEA in acetone	2014	R	Swale Borough Council	12	50	38	31.7%	P	**0.76**	
ESG Didcot	50% TEA in acetone	2014	SU	Thanet District Council	12	19	17	9.0%	P	**0.92**	
ESG Didcot	50% TEA in acetone	2014	R	Thanet District Council	12	28	27	6.0%	P	**0.94**	
ESG Didcot	50% TEA in acetone	2014	R	Wrexham County Borough Council	10	23	22	5.6%	G	**0.95**	
ESG Didcot	50% TEA in acetone	2014	UB	City of York Council	11	24	19	28.4%	P	**0.78**	
ESG Didcot	50% TEA in acetone	2014	R	City of York Council	10	37	27	36.7%	G	**0.73**	
ESG Didcot	50% TEA in acetone	2014	R	City of York Council	11	32	28	12.4%	G	**0.89**	
ESG Didcot	50% TEA in acetone	2014	R	City of York Council	11	40	36	12.7%	G	**0.89**	
ESG Didcot	50% TEA in acetone	2014		**Overall Factor[3] (22 studies)**				Use		**0.81**	

Discussion of Choice of Factor to Use

Using a local diffusion tube bias adjustment factor is preferable, especially when the data used to calculate the local factor are precise and reliable. Given that the data used to calculate the local bias adjustment factor have been shown to be good, the local bias adjustment factor has been used for the purposes of this report. A second reason for using this factor is that it is greater than the national bias adjustment factor, which gives a 'worst-case' scenario for monitored NO_2 concentrations within the Borough.

Short-term to Long-term Data Adjustment

The NO_2 diffusion tube monitoring site S50 (Bilton Church) captured data for only 9 months of the year, and consequently the results from this site required annualisation. 37 out of the 51 diffusion tube monitoring sites yielded a data capture of 100% (12 months), and the results from these sites were used to calculate the ratio of the annual mean NO_2 concentration to the period mean NO_2 concentration, which yielded an annualisation factor of 0.974.

PM Monitoring Adjustment

PM_{10} concentrations at Parkfield Road, Rugby for the monitoring of emissions from the Climafuel manufacturing facility are presented without any correction because the optical measurement method used by the Osiris analysers is not accepted as a reference equivalence measurement method either with or without correction.

Appendix B: Raw NO_2 Diffusion Tube Data, 2014

Table A.1 Raw nitrogen dioxide concentrations (µg/m^3) for 2014

Site Ref	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Data Capture (%)	Annual Mean (µg/m^3)	National Bias-adjusted Mean (µg/m^3)	Local Bias-adjusted Mean (µg/m^3)
S1	24.7	23.9	25.5	18.3	18.5	14.7	17.7	11.9	25.4	23.3	37.9	21.3	100%	21.9	17.8	19.5
S2	27.3	18.4	26.8	19.7	15.9	14.5	21.2	12.9	24.2	19.0	29.3	18.7	100%	20.7	16.7	18.4
S3	19.9	18.5	22.0	14.4	12.9	11.3	13.5	11.0	16.1	1.9 [a]	30.0	21.6	100%	17.4	14.1	15.5
S4	15.1	14.7	21.4	14.4	14.5	9.9	12.8	10.6	13.7	15.8	25.8	13.9	100%	15.2	12.3	13.5
S5	33.8	28.6	41.5	29.5	32.5	33.5	35.8	27.0	40.7	27.5	35.1	33.1	100%	33.2	26.9	29.6
S6	20.6	18.4	21.6	16.4	14.6	9.6	17.0	12.7	20.8	14.9	25.8	19.6	100%	17.7	14.3	15.7
S7	18.1	15.4	19.5	12.5	14.8	9.4	12.9	9.3	13.1	14.0	23.9	14.4	100%	14.8	12.0	13.1
S8	45.0	36.9	37.0	40.8	37.8	NM	37.7	NM	39.4	37.4	33.1	31.8	83%	37.7	30.5	33.5
S9	24.7	24.6	27.2	16.7	16.8	12.8	17.5	13.8	23.7	19.7	30.5	27.3	100%	21.3	17.2	18.9
S10	54.3	50.3	56.4	45.9	47.0	33.1	38.7	35.5	45.9	43.4	54.3	46.9	100%	**46.0**	37.2	**40.9**
S11	29.0	30.2	34.2	26.7	27.1	18.5	25.4	19.9	29.4	28.9	37.3	33.0	100%	28.3	22.9	25.2
S12	30.5	27.6	31.4	20.6	19.1	13.7	20.7	16.4	21.1	22.6	33.7	35.5	100%	24.4	19.8	21.7
S13	52.9	46.1	44.1	37.6	25.3	24.0	34.2	29.7	20.0	33.2	53.2	50.6	100%	37.6	30.4	33.4
S14	19.8	21.6	23.4	17.0	18.5	12.0	19.2	13.3	22.1	16.0	30.1	27.8	100%	20.1	16.3	17.9
S15	45.1	39.1	38.4	29.3	22.3	19.4	25.7	28.5	34.2	28.7	40.5	38.8	100%	32.5	26.3	28.9
S16	20.3	23.9	30.0	25.5	26.5	20.3	27.3	17.5	25.9	21.8	34.7	24.4	100%	24.8	20.1	22.1

Site Ref	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Data Capture (%)	Annual Mean (µg/m^3)	National Bias-adjusted Mean (µg/m^3)	Local Bias-adjusted Mean (µg/m^3)
S17	24.5	25.0	30.9	21.1	18.8	16.3	18.5	17.8	23.2	20.8	29.0	30.7	100%	23.1	18.7	20.5
S18	27.4	27.7	30.7	21.9	19.4	16.0	17.9	17.3	23.7	18.5	36.0	31.3	100%	24.0	19.4	21.3
S19	24.3	25.0	29.6	21.4	20.1	17.0	17.8	13.5	23.4	21.7	34.2	30.8	100%	23.2	18.8	20.7
S20	51.8	43.1	44.9	35.7	NM	31.8	30.3	19.7	38.7	36.9	210.4 [a]	33.9	83%	36.7	29.7	32.6
S21	35.0	26.7	31.2	23.2	24.9	23.0	22.9	18.4	33.5	22.9	41.6	29.7	100%	27.8	22.5	24.7
S22	32.0	27.2	28.8	22.8	26.3	20.5	21.0	16.7	28.1	23.0	33.5	29.1	100%	25.8	20.9	22.9
S23	32.8	25.2	32.9	24.9	29.2	17.0	27.5	17.9	NM	24.1	39.4	28.0	92%	27.2	22.0	24.2
S24	49.8	53.0	54.1	49.6	50.1	38.5	51.8	47.6	55.7	48.6	61.0	65.5	100%	**52.1**	**42.2**	**46.4**
S25	35.2	36.6	39.1	31.2	30.6	31.4	36.5	27.7	42.9	34.1	36.2	43.7	100%	35.4	28.7	31.5
S26	29.1	25.2	21.2	22.3	27.8	17.3	19.4	16.2	24.7	20.7	34.1	25.4	100%	23.6	19.1	21.0
S27	30.1	25.5	28.9	20.6	16.3	0.6 [a]	38.5	15.7	19.2	19.8	34.6	27.5	92%	25.2	20.4	22.4
S28	33.1	24.7	27.5	19.2	15.7	16.3	17.6	13.6	23.8	23.1	27.9	23.3	100%	22.2	17.9	19.7
S29	35.0	31.3	26.8	20.8	22.2	17.6	15.7	16.0	23.4	28.6	43.2	29.9	100%	25.9	21.0	23.0
S30	50.6	41.3	53.1	41.4	39.8	34.1	41.6	26.1	46.1	38.2	38.8	35.3	100%	**40.5**	32.8	36.1
S31	40.1	37.3	44.5	35.3	28.1	26.0	30.6	21.0	35.9	37.0	53.0	37.6	100%	35.5	28.8	31.6
S32	32.2	36.0	36.2	24.6	29.8	17.1	34.8	26.3	53.1	39.9	32.2	38.0	100%	33.4	27.0	29.7
S33	31.3	NM	34.6	22.4	22.5	19.8	26.1	20.3	34.4	28.3	40.5	33.3	92%	28.5	23.1	25.4
S34	38.5	34.0	34.8	24.0	20.2	23.2	29.0	27.0	39.0	32.0	30.3	<0.5 [a]	92%	30.2	24.4	26.9
S35	46.6	41.8	42.5	33.9	33.6	31.8	NM	34.0	42.2	42.0	32.5	39.1	92%	38.2	30.9	34.0

Site Ref	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Data Capture (%)	Annual Mean (µg/m^3)	National Bias-adjusted Mean (µg/m^3)	Local Bias-adjusted Mean (µg/m^3)
S36	35.1	45.5	50.3	35.7	35.5	27.1	35.3	27.1	39.4	41.1	41.8	44.5	100%	38.2	30.9	34.0
S37	37.1	35.1	40.3	28.3	25.9	25.2	50.5	24.7	NM	32.4	36.0	NM	83%	33.6	27.2	29.9
S38	29.2	32.4	35.6	28.3	28.2	26.1	32.8	23.1	34.4	26.2	40.1	40.0	100%	31.4	25.4	27.9
S39	43.3	38.5	NM	27.6	22.8	28.6	22.3	28.2	35.2	36.6	46.6	41.0	92%	33.7	27.3	30.0
S40	30.5	32.7	39.5	31.3	29.0	28.2	32.5	29.9	38.6	29.6	45.6	38.3	100%	33.8	27.4	30.1
S41	29.0	28.7	32.4	30.1	25.5	25.5	26.6	18.4	36.1	28.9	37.9	23.6	100%	28.6	23.1	25.4
S42	35.0	30.3	36.6	28.3	24.0	23.2	25.1	20.7	34.5	27.5	38.9	31.5	100%	29.6	24.0	26.4
S43	28.8	30.4	36.8	27.1	30.2	28.4	28.8	22.8	38.9	26.0	44.4	31.2	100%	31.2	25.2	27.7
S44	NM	28.6	28.8	22.4	27.7	21.4	26.1	27.6	34.8	19.9	NM	23.5	83%	26.1	21.1	23.2
S45	39.0	33.6	38.2	32.3	26.9	22.9	17.5	23.5	34.5	34.5	47.2	32.1	100%	31.9	25.8	28.3
S46	49.4	43.0	44.0	41.5	49.1	45.6	43.6	37.8	50.7	34.6	55.3	38.0	100%	**44.4**	36.0	39.5
S47	40.7	36.2	41.6	36.1	34.1	22.3	35.2	NM	47.3	30.7	46.8	NM	83%	37.1	30.1	33.0
S48	44.6	46.4	45.9	37.5	42.3	31.0	33.3	37.0	42.2	43.1	45.9	44.3	100%	**41.1**	33.3	36.6
S49	47.7	42.0	54.7	41.2	39.7	NM	38.8	40.9	46.3	40.5	54.1	47.3	92%	**44.8**	36.3	39.9
S50	NM	21.2	48.4	23.3	NM	NM	22.2	18.9	28.8	25.5	36.7	32.4	75%	28.6	23.2	24.8 [b]
S51	34.9	38.1	44.4	35.6	33.4	31.0	31.9	29.8	42.4	38.1	41.8	34.3	100%	36.3	29.4	32.3
S52	29.2	26.7	31.7	22.0	23.3	21.4	24.5	18.8	23.6	23.5	36.1	29.4	100%	25.9	20.9	23.0
S53	32.3	26.6	23.5	20.2	20.0	15.0	17.2	NM	20.4	21.3	38.9	28.6	92%	24.0	19.4	21.4

[a] Values were excluded from the analysis as they were deemed to be erroneous measurements.
[b] This value includes an annualisation factor of 0.974. NM = Not Monitored

Appendix C: Air Quality Action Plan Progress

Table A.2 Rugby Borough Council Air Quality Action Plan

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
A	Rugby Western Relief Road (RWRR)	Serve new development at Cawston, Swift Valley, Malpass Farm and Coton Park, and reduce the impact of traffic within the town centre.	WCC	1996-2007	2007-2011	Implementation of the scheme in full	12%	The road was fully opened to traffic in September 2010.	N/A	N/A	

Comments relating to emission reductions

With the opening of the RWRR it was anticipated that traffic flows on certain corridors within the town would decrease and that air quality would improve as a result. Monitoring data showed some significant reductions in traffic levels following the opening of the road, when compared to previous traffic volumes before the road was opened:

A426 Newbold Road - 18% decrease from 24,829 in October 2006 to 20,373 in October 2014.

B4642 Bilton Road - 20% decrease from 15,422 in May 2005 to 12,288 in March 2012.

A426 Dunchurch Road nr. Kingsway - 17% decrease from 13,104 in September 2006 to 10,895 in September 2011.

These traffic reductions have translated into NO_2 air quality improvements. Comparing 2010 and 2011 NO_2 monitoring data decreases in NO_2 annual mean concentrations of 18%- 35% on Newbold Road, 25% on Corporation Street, 40% on Oliver Street, 30% on Bilton Road and 22% on Lawford Road. However reductions considered principally attributable to removal of contraflow measures on Lawford Road, Oliver Street and Newbold Road on completion of RWRR significantly reducing congestion episodes. Contraflow measures also compounded by closure of Parkfield Road during construction phase.
2012 comparison with 2011 demonstrates more moderate but still significant NO_2 reductions of 17%-27% on Newbold Road, 17% on Corporation Street, 16% on Oliver Street, 13% on BIlton Road and 21% on Lawford Road.

Further monitoring and time required for increased diffusion tube network to better assess the impacts of the RWRR. 2014 Air Quality Progress Report should provide better picture.

No.	Measure	Focus	Lead authority	Planning phase	Implemen-tation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
B	Warwick Street Gyratory Improvements	Manage the impact of traffic accessing and passing through the town centre, along with planned housing and employment growth within the town.	WCC	2007-2014	2014/15	Implementation of the scheme in full	Not specified	A major improvement to the Gyratory is proposed to address an existing pinch point and support the significant growth proposed in the Borough Council's adopted Local Development Framework Core Strategy.	WCC has secured Local Pinch Point Programme funding from Government towards the proposed improvement of the Warwick Street Gyratory system. The County Council is making a local funding contribution of £0.455m towards the scheme to complement the £1m contribution from the Department for Transport (DfT).	March/April 2015.	A summary of the air quality assessment results is provided in Appendix G.

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
C	Improvements to Church Street/North Street	Reduce the impact of traffic on the town centre, and allow better access for pedestrians and cyclists. Support the regeneration of the town centre and the growth proposals within the Borough.	WCC	2007-2016	Post-2015/16	Implementation of the scheme in full	Not specified	Pedestrianisation of the area around the Clock Tower on Church Street/North Street was originally considered as part of the 2008 Rugby Transport Study. This identified an opportunity to extend the existing pedestrianised area and allow the delivery of a new civic space within the town centre.	A revised scheme to extend the existing pedestrianised area near the Clock Tower in Rugby town centre was consulted upon during 2013/14. It has been agreed by Warwickshire County Council and Rugby Borough Council that the proposal will not be taken forward until other schemes such as the improvement of the Warwick Street Gyratory and Avon Mill/Hunters Lane have been implemented.	No further work on the scheme is planned until 2015/16 at the earliest.	The timescales for implementation of the scheme have changed as a result of the further consultation which has been carried out on the revised proposal.
D	Decriminalisation of Parking Enforcement within Rugby Borough	Improve the management of traffic within the town centre and the impact of illegal parking.	WCC	2000-2005	2005-2006	Implementation of the scheme in full	Not specified	Scheme fully implemented in 2006	Civil Enforcement Officers continue to enforce town centre and residential streets in Rugby and there has been a noticeable reduction in parked cars and occurrences of congestion caused by illegal or inconsiderate parking. However Since November 2014- On Street parking is no longer under the control of RBC – Solely a WCC function	N/A	Since the commencement of Decriminalisation of Parking (now referred to as Civil Parking Enforcement CPE) on 02/10/06 in Rugby, the introduction of parking charges on some town centre streets together with a high level of enforcement has resulted in less vehicles being parked on the streets and less congestion due to inconsiderate parking. However Since November 2014- On Street parking is no longer under the control of RBC – Solely a WCC function

No.	Measure	Focus	Lead authority	Planning phase	Implemen-tation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
E	Rugby Town Centre 20:20 Vision	Improve public transport. Improve access for pedestrians and cyclists.	RBC/Rugby Town Centre Company	N/A – ongoing initiative	N/A – ongoing initiative	N/A	Not specified	Various target dates.	Rugby BID are starting to consult on updating the Town Centre Strategy.	N/A	No progression. WCC has limited financial resources at the moment to support implementation.
F	Re-routing traffic – Lorry Route Maps and agreements	Reduce the impact of heavy goods vehicles on the transport network of the Borough.	WCC	N/A – ongoing initiative	N/A – ongoing initiative	Reduction in complaints regarding inappropriate lorry movements	Not specified	An initial Advisory Lorry Route Map for the County was produced in 2005. This was subsequently revised and reissued in 2009.	N/A	N/A	

No.	Measure	Focus	Lead authority	Planning phase	Implemen-tation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
G	Variable Message Signing	Reduce the impact of circulating traffic seeking access to the town centre car parks.	WCC	2006-2008	2009	Implementation of the scheme in full	Not specified	Scheme fully implemented in 2009.	N/A	N/A	Evidence from other towns in Warwickshire that Variable Message Signing reduces the unnecessary distance travelled by vehicles looking for parking spaces. In Rugby town centre the impact of Variable Message Signing may have been masked by overall reductions in road traffic brought about by the opening of RWRR.
H	Enforcement of Idling Vehicle Legislation	Reduce number of idling vehicle improving local air quality by reducing emissions to air.	RBC/WCC	Investigation found limitations in the Traffic Management Act which means that Civil Enforcement Officers will be unable to fully enforce	Currently N/A	Currently N/A	Currently N/A	Feasibility of scheme investigated. Decision taken not to proceed with the scheme due to the restrictions in enforcement actions that can be carried out by Civil Enforcement Officers	Due to enforcement patrols by Civil Enforcement Officers, vehicles who have drivers sitting in them with their engine running and found to be parked in restricted parking areas are requested to move their vehicle. However Since November 2014- On Street parking is no longer under the control of RBC – Solely a WCC function		

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
I	Improve the Borough Council Fleet (interims of emissions)	As vehicles are replaced, they are replaced with lower emission vehicles.	RBC	N/A – ongoing initiative	N/A – ongoing initiative	Not specified	Not specified	10 vehicles replaced with Euro 5 up to April 2013 3 vehicles were replaced with Euro V vehicles in 2007/8 and 2008/9 and 2 further vehicles were replaced during 2009/10. No replacements have been made to date during 2010/2011. A further 3 Refuse Vehicles using Euro v technology added in 2012 with 2 more added in April 2013.	5 Euro 6 added to fleet 2014/15	Ongoing N/A	
J	Improve Bus Emissions	The County Council is working with the principal bus operators within the town to reduce bus emissions through their fleet renewal process, and on individual routes when they are upgraded to QBC status.	RBC/WCC	Ongoing	Ongoing	Not specified.	Not specified	Urban Quality Bus Corridor improvements have been made on routes between the Town Centre and Lower Hillmorton/Long Lawford, between Woodlands and the Town Centre, and on the Inter-Urban route between Rugby and Coventry.	No further QBC improvements have been made in the last 12 months due to a lack of resources by the bus operators.	Ongoing initiative	
K	Cycling	Reduce the impact of traffic on the transport network of the Borough (particularly within the urban area of Rugby) by encouraging a shift towards sustainable modes of	WCC	N/A – ongoing initiative	N/A – ongoing initiative	Increase in cycling as a result of individual scheme implementation	Not specified	The basis of a cycle network has been incrementally delivered within Rugby over the last 15 years, using a combination of on and off-carriageway routes. Additional routes will come forward as resources permit and in conjunction with new development.	The Leicester Road viaduct Connect2 scheme opened in 2013/14. The A428 Lawford Road cycleway between Long Lawford and the RWRR is has been completed in 2014 . A bid to the DfT's Cycle Safety	2014	

No.	Measure	Focus	Lead authority	Planning phase	Implemen-tation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
		transport.						The County Council and RBC provide cycle training for young people and adults who are keen to improve their cycle skills. Connect2 scheme is completed. Cycle facilities have been provided as part of RWRR.	fund was successful for a scheme to extend the A428 Lawford Road cycleway from the RWRR to the Town Centre. This scheme has now been completed The County Council and RBC provide cycle training for young people and adults who are keen to improve their cycle skills. – The Community Safety Cycle training in Rugby is provided by WCC, Schools Sport Partnership and RBC Wardens. 15 schools have had training in 2014 by WCC. RBC Wardens will have completed 101 course since 2009 of which 26 have been in the 12 months March 2014– March 15. Bikeability/cycle awareness courses for varying schools in the borough are ongoing. Cycle routes to complement future growth within the Borough continue to be identified and worked up in detail, with funding secured from individual developments.	N/A 2014-2026	

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
L	Walking	Reduce the impact of traffic on the transport network of the Borough (particularly within the urban area of Rugby) by encouraging a shift towards sustainable modes of transport.	WCC	N/A – ongoing initiative	N/A – ongoing initiative	Increase in walking (footfall) as a result of individual scheme implementation	Not specified	The LTP Walking Strategy sets out a series of improvements for pedestrians, including new or upgraded pedestrian crossings, new/widened footways, improved street lighting, provision of new dropped kerbs, and footway resurfacing/ reconstruction.	The cycling improvements described above under Measure K will have significant benefits for pedestrians.	Ongoing	
M	Workplace Travel Plans	Reduce the impact of traffic on the transport network of the Borough (particularly within the urban area of Rugby) by encouraging a shift towards sustainable modes of transport.	WCC	N/A – ongoing initiative	N/A – ongoing initiative	Number of Travel Plans agreed with existing employers and as part of new development	Not specified	Workplace Travel Plans are secured through a S106 agreement as part of new development.	Travel Plans covered by Planning Condition -NPIA Training Centre – Ryton - Rugby Cattle Market, Hotel Use Travel Plans covered by S106 - Herbert Grey College / Caldecott Square Residential Travel Plan - Coton Park East. Application formally submitted. Rugby Radio Station – Site Wide Travel Plan included in S106	N/A	
N	School Travel Plans and Safer Routes to School	Reduce the impact of traffic on the transport network of the Borough (particularly within the urban area of Rugby)	WCC	N/A – ongoing initiative	N/A – ongoing initiative	Reduction in the number of car-based journeys to school	Not specified	The majority of Local Authority run schools within the Borough now have a School Travel Plan in place.	N/A	N/A	

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
		by encouraging a shift towards sustainable modes of transport.									
O	Public Transport Strategy, including the Bus Strategy	Reduce the impact of traffic on the transport network of the Borough (particularly within the urban area of Rugby) by encouraging a shift towards sustainable modes of transport.	WCC	N/A – ongoing initiative	N/A – ongoing initiative	Increase in bus patronage	Not specified	Ongoing implementation of the various strategies which make up the Public Transport Strategy, including the Bus Strategy, Passenger Rail Strategy, Community Transport Strategy, Public Transport Information Strategy and Public Transport Interchange Strategy.	No further significant improvements have been made in the last 12 months due to a lack of resources. A study has been undertaken to look at future bus stop capacity within the town centre and the need or otherwise for a bus interchange to be provided. This piece of work concluded that there is no requirement for either additional bus stop capacity or a bus station in the immediate future.	N/A	
P	Travel Awareness Campaigns	Reduce the impact of traffic on the transport network of the Borough (particularly within the urban area of Rugby) by encouraging a shift towards sustainable modes of transport.	WCC	N/A – ongoing initiative	N/A – ongoing initiative	Reduction in the number of car-based journeys being made within the Borough	Not specified	Ongoing implementation of the Changing Travel Behaviour Strategy and other relevant LTP strategies.	Regular annual events include Bike Week, Walk to School week, and In Town Without My Car Day. The County and Borough Councils both support the national Travel wise initiative.	N/A	
Q	Energy efficiency improvements to Rugby housing & the reduction of	Reduction of carbon emissions from domestic dwellings, the reduction of	Rugby Borough Council	N/A – ongoing initiative	Ongoing	HECA report published March 13, and will be updated at two yearly intervals..	We aim to reduce CO2 emissions in the housing sector to 165.8kt CO2	* Working with our partner, Act on Energy, over 1200 energy enquiries dealt with * Advice sessions at the Town Hall & library;		Ongoing	

No.	Measure	Focus	Lead authority	Planning phase	Implemen-tation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
	fuel poverty. Corporate Property	residents' fuel bills & the alleviation of ill health due to cold, damp housing.					of 2009 (207.3kt CO2) levels by 2020. This will be equivalent to a 20% reduction.	presentations made to health staff, sheltered wardens and at Children's Centres; articles in Tenant Times; press releases on coping with cold weather, energy savings tips, etc.; cold weather alerts issued to front-line staff and 100 community organisations * 300 local landlords contacted with information on the Green Deal, the Landlord Energy Savings Allowance and Energy Performance Certificates * 226 households surveyed in Newbold Town Centre area to assess need for energy improvements, plus health, finance and community support * 122 electric to gas heating upgrades in council properties * 15 boilers serviced through the boiler grant scheme * 5 Renovation Loans given for window replacements * 45 households received energy improvements in Brinklow & Wolvey * A pilot LED trial reduced energy consumption by 76% in communal areas of Patterdale flats			
R	Control Of Industrial Emissions	Reduce the environmental impact of industrial	RBC	N/A – ongoing initiative	N/A – ongoing initiative	97.5% compliance improvements	Not specified	Annual inspection programme complete.	40 Industrial Pollution Processes (100% of inspections completed). All were	N/A	

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
		processes through pollution control regulation							inspected through 2014/2015 – 97.5% compliance improvements where required for pollution at these sites.		
S	Emissions from Domestic and Commercial Sources	Prevent and/or reduce environmental impacts from domestic and commercial emissions.	RBC	N/A – ongoing initiative	N/A – ongoing initiative	Reduction in complaints.	Not specified	Low priority. Low number of complaints.	Ongoing Emissions from domestic and commercial – From 01.01.14 – 31.12.14 Complaints about smoke from chimneys Domestic – 30 Industrial/trade – 1	N/A	Designated smoke Control Area (chimneys) and section 79 of the EPA 1990 actively implemented where problems are identified.
T	Control of Bonfires	Prevent and/or reduce environmental impacts from domestic and commercial emissions.	RBC	N/A – ongoing initiative	N/A – ongoing initiative	Reduction in complaints	Not specified	Low priority. Low number of complaints.	Ongoing From 01.01.14 – 31.12.14. Complaints about bonfires Commercial/Industrial – 27 Domestic – 63		Section 79 of the EPA 1990 actively implemented where problems are identified
U	Planning Development and Planning Applications	Air quality assessments have been requested for land use planning developments that meet AQMA thresholds in the Rugby Borough Local Plan (July 2006. The requirements for future assessments have now been embodied in a new Planning Obligations Supplementary Planning Document	RBC	Ongoing	Ongoing	Not specified	Not specified	Climafuel Facility Malpass Farm, Rugby. Rugby Radio Station Sustainable Urban Extension Rugby Mast Site SUE Rugby Gateway SUE Leicester Road and Rugby College Development (Former Alstom GEC) DIRFT II & III Stretton Croft Mixed Use Development Cattle Market Mixed Use	Ongoing Local Plan (July 2006) superseded with Core Strategy/ Planning Obligations Supplementary Planning Document adopted in March 2012. Section 7 covers Air Quality as well as providing an air quality guidance document for developers that has been agreed by Cabinet 4th February 2013		

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
		adopted in March 2012. This is to ensure that new development does not result in a significant increase in the production of air pollutants and that opportunities are taken to improve air quality, where possible. In some instances where an AQMA threshold has not been met, officer discretionary measures have been utilised where it is felt that a proposed land use development has potential to impact on air quality and should be a material consideration.						Development Cawston Residential Developments- Lime Tree Village Extension, Coton Residential Developments Rugby and Daventry Crematorium and Cemetery Queen Jubilee Sports Centre that will include a biomass boiler Climafuel Manufacturing Facility Distribution Centre (Former Peugeot Factory)- this includes construction of a new roundabout on Oxford Road Barby Pools Marina Long Lawford residential developments Priory Road, Wolston Residential Development Biomass Boiler for Queens Jubilee Leisure Centre Crematorium Facility, Ashlawn Road, Rugby Bilton Fields Ashlawn Road			

No.	Measure	Focus	Lead authority	Planning phase	Implemen-tation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
								Elliots Field Retail Park Evreux Way Development Junction 1Retail Park Dip Bar Fields Europark A 5			

Appendix D: Pollution Prevention and Control Index

Table A.3 Pollution Prevention and Control Index

Company	Address	Post Code	Permit Ref	Grid Reference	Issue Date
Part A2 Processes					
Ball Packaging Europe UK	Pretorian Way Glebe Farm Industrial Estate, Rugby	CV21 2RN	13/PPC	SP 502772	23.02.10
Part B Processes					
Car Spraying					
XK Engineering Limited,	Swallow House, Shilton Industrial Estate Shilton Coventry	CV7 9JY	46/PPC	SP 402855	14.03.12
The Rugby Bodyshoppe,	2 Avon Industrial Estate Butlers Leap Rugby	CV21 3UY	29/PPC	SP 515762	20.12.11
Coating and Surface Treatment of Metals					
Blanc Aero Industries Ltd	Butlers Leap Rugby	CV21 3RQ	69/PPC	SP 518 761	05.09.11
Concrete Batching					
Hope Construction Materials Limited	Brandon Lane Willenhall Coventry	CV3 3GW	6/PPC	SP 386757	04.10.13
CEMEX UK Materials Limited	Unit 11 Dunchurch Trading Estate A45 London Road Dunchurch Rugby	CV23 9LN	8/PPC	SP 458719	27.04.12
Stonemarket Limited	Old Gravel Quarry Oxford Road Ryton-on-Dunsmore Nr Coventry	CV8 3EJ	9/PPC	SP 379741	25.06.08
Breedon	Ling Hall Quarry	CV23 9HH	60/PPC	SP450073	14.06.13

Aggregates Limited	Coal Pit Lane Lawford Heath Rugby			41	
Brinklow Quarry Mortar Plant	Coventry Road Brinklow Rugby	CV23 0NJ	88/EPR	TBC	17.01.13

Company	Address	Post Code	Permit Ref	Grid Reference	Issue Date
Crematoria					
Rainsbrook Cemetery and Crematorium	Ashlawn Road Rugby	CV22 5ET	89/EPR	SP/517/35E	13.01.14
Di-isocyanate					
The Millboard Company	Ryton Lodge Oxford Road Ryton on Dunsmore	CV8 3EJ	51/PPC	SP 405708	28.04.10
Dry Cleaners					
Johnsons Cleaners UK Ltd	35 Clifton Road Rugby	CV21 3QF	65/PPC	TBC	12.12.07
Johnsons Cleaners UK Ltd	Central Processing Unit Unit 17 Gladiator Way Rugby	CV21 1DD	66/PPC	TBC	08.04.10
The Village Dry Cleaners,	63 High Street Hillmorton Rugby	CV21 4EG	70/PPC	TBC	24.08.12
Regal Dry Cleaners (Warwickshire) Ltd	18a Hunters Lane Rugby	CV21 1EA	80/PPC	TBC	02.12.10
Mobile Asphalt Recycling Plant					
Power Plane Limited Highway House	Asfare Business Park Hinckley Road Wolvey	LE10 3HQ	82/EPR	TBC	13.2.13
Mobile Fine Milling Concrete Grinding Plant					
Power Plane Limited Highway House	Asfare Business Park Hinckley Road Wolvey	LE10 3HQ	84/EPR 85/EPR 86/EPR	TBC	26.3.13 26.3.13 26.3.13
Mobile Screening and Crushing Process					
B Reilly & Son	Watling Street	CV23 0AL	52/PPC	TBC	06.03.12

Limited	Nr Rugby				
Brinklow Quarry	Coventry Road Brinklow	CV23 0NJ	72/PPC	SP 421 786	22.05.12
Mr J. White (Whites of Coventry)	Ryton Mill London Road Coventry	CV8 3DX	90/EPR	TBC	03.07.14

Company	Address	Post Code	Permit Ref	Grid Reference	Issue Date

Road Stone Coating Process

Breedon Aggregates Limited	Ling Hall Quarry Coalpit Lane Lawford Heath Nr Rugby Warwickshire	CV23 9HH	71/PPC	TBC	14.06.13

Vapour Recovery Stage I (Petrol Service Station)

Stretton Service Station	350 London Road Stretton On Dunsmore Rugby	CV23 9HX	33/PPC	SP 416733	14.01.15
Pure Fuels (UK) Ltd	(A45 – Northbound) London Road Dunsmore Heath Rugby	CV23 9LG	37/PPC	SP 453719	21.10.09
Gibbetts Cross Station Ltd	Watling Street Shawell, Lutterworth	LE17 6AR	38/PPC	SP 529808	02.12.09
Lawford Road Service Station	Lawford Road, Rugby	CV21 3HQ	39/PPC	SP 493754	10.10.14
Rugby Leicester Road Service Station	Leicester Road, Rugby	CV21 1DJ	40/PPC	SP 501763	10.10.14
Binley Woods Service Station	Coventry Eastern By-pass, Coventry	CV3 2ZZ	41/PPC	SP 382769	10.10.14
Auto Stop Service Station	54 Lawford Road, Rugby	CV21 3EA	42/PPC	SP 500751	24.02.14
Paddox Service Station	339 Hillmorton Road Rugby	CV22 5EZ	43/PPC	SP 527738	17.09.09
Dunchurch Service Station	Coventry Road Dunchurch Rugby	CV22 6RA	47/PPC	SP 484714	18.06.09

Vapour Recovery Stage II (Petrol Service Station)

Sainsbury's Supermarkets Limited	Petrol Station 385 Dunchurch Road, Rugby	CV22 6HU	32/PPC	SP 495726	17.04.13

Company	Address	Post Code	Permit Ref	Grid Reference	Issue Date
Shell Webb Ellis	89 Hillmorton Road Rugby	CV22 5AG	34/PPC	SP 513749	06.11.12
Tesco Stores Limited	1 Leicester Road Rugby	CV21 1RG	35/PPC	SP 506769	02.11.09
ASDA Petroleum Station	Corporation Street Rugby	CV21 2DN	78/PPC	TBC	16.12.10

Waste Oil Burners

Wolston Garage & Engineering	Wolston Nr Coventry	CV8 3HB	23/PPC	SP 413753	12.03.04
Woodlands Service Station	37 Cymbeline Way Bilton Rugby	CV22 6JZ	75/PPC	TBC	14.05.09
T W Tyres	11 Paynes Lane New Bilton Rugby	CV21 2UH	77/PPC	TBC	23.03.09
Binley Woods Service Centre	60-62 Rugby Road Coventry	CV3 2AX	83/EPR	TBC	04.10.11

References

[i] Faber Maunsell (2003). Rugby Borough Council Updating and Screening Assessment 2003.

[ii] Faber Maunsell (2004). Rugby Borough Council Detailed Air Quality Assessment 2004.

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