2018 Air Quality Annual Status Report (ASR)

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

September 2018

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Executive Summary: Air Quality in Our Area

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.

This document is Nuneaton and Bedworth Borough Council's (NBBC) 2018 Annual Status Report (ASR). Results from monitoring by the Council during 2017 are presented and sources of air pollution are identified. The ASR determines those changes since the last assessment that could lead to the risk of an air quality objective being exceeded. It also sets out progress with the Council's Air Quality Action Plan.

Air Quality in Nuneaton and Bedworth Borough Council

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

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3].

Nuneaton and Bedworth Borough Council has declared two Air Quality Management Areas (AQMAs) as a result of exceedances of the annual mean nitrogen dioxide (NO_2) objective, predominantly due to emissions from road traffic. Overall, concentrations of NO_2 have reduced since 2008, however, concentrations have stabilised in the last few years.

Actions to Improve Air Quality

Nuneaton and Bedworth Borough Council is a member of the Coventry and Warwickshire Air Quality Alliance. This group works together, sharing experience and expertise, to implement measures designed to reduce traffic pollution. Work to deliver

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

the eleven Air Quality Action Plan (AQAP) measures is ongoing, and progress was made on a number of measures in 2017.

Local Priorities and Challenges

The main priority for the Council is to meet the NO_2 annual mean objective across the Borough as soon as possible. In 2017 the only two measured exceedances were within AQMA2 on Corporation Street and Midland Road, Nuneaton.

A significant development of housing is proposed in the Borough as part of the Strategic Housing Allocation, within the NBBC draft Borough Plan. The plan also identifies further sites that are proposed for future employment uses.

The potential impacts of these proposals on air quality in the Borough have been the subject of an Air Quality Impact Assessment. This study considers the impacts over the plan period (up to 2030) of delivery of all of the housing and employment sites along with the recommended transport mitigation measures identified in the Strategic Transport Assessment.

The report concludes that air quality throughout the Borough will meet the objective for nitrogen dioxide at the end of the plan period with all proposed developments and mitigation completed.

A number of planning permissions for housing developments have been granted in 2017 on parcels of land to the north of Nuneaton. Increased traffic from these developments has the potential to impact upon air quality in the AQMAs so Air Quality Impact Assessments have been required.

For developments gaining permission in 2017, the 'Overall Significance' of the air quality impacts of each of the developments is classed as Negligible. Pollution concentrations are predicted to be well below the air quality objectives (AQOs) for nitrogen dioxide and particulate matter at the application sites and are not expected to cause any adverse air quality impacts elsewhere.

Local Engagement and How to Get Involved

Everyone can help to improve air quality within Nuneaton and Bedworth. Travel choices can have a significant impact on pollutant emissions; reducing single occupancy car travel (car-sharing); using alternatives such as public transport; and walking and cycling for short journeys all help to reduce emissions.

The AQAP refers to a number of measures which will improve the availability of sustainable travel options. Online tools are also available to help you plan your journey, including Warwickshire County Council's car share database (https://carsharewarwickshire.liftshare.com/default.asp), the 'Choose How You Move' website (https://warwickshire.gov.uk/activetravel) and Facebook page (www.facebook.com/ChooseMoveWarks), walkit.com and cyclestreets.net.

In order to reduce emissions, when travelling by car, excessive acceleration and hard braking should be avoided to reduce the pollution impact of the journey. If replacing a vehicle, a smaller and more fuel efficient vehicle or better still a hybrid or electric vehicle should be considered.

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1 Local Air Quality Management

This report provides an overview of air quality in Nuneaton and Bedworth Borough Council during 2017. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

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

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

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

A summary of AQMAs declared by Nuneaton and Bedworth Borough Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=189. Alternatively, see Appendix D: Maps of Monitoring Locations and AQMAs, which provides a map of air quality monitoring locations in relation to the AQMAs.

Although measured concentrations within the Leicester Road Gyratory AQMA (AQMA1) have met the objectives in recent years, resulting in Defra recommending revocation of the AQMA declaration, there is a possibility that delivery of developments defined in the new Borough Plan for Nuneaton and Bedworth may impact upon air quality within this area in the short-term. This will be influenced in part by the speed at which the defined developments come forward. An assessment has been made of the impact of the Borough Plan proposals; this shows that by 2030 the air quality objectives will be met. We propose, however, to review the Leicester Road Gyratory AQMA upon formal adoption of the Borough Plan for Nuneaton and Bedworth. The new Borough Plan was submitted to the Secretary of State on 6th June 2017 and is currently undergoing examination.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Action Plan
AQMA 1 – Leicester Rd Gyratory, Nuneaton	01/03/2007	NO_2 annual mean	Nuneaton	An area of Nuneaton centred on the Leicester Road Gyratory system and incorporating sections of the Leicester, Old Hinckley and Weddington Roads.	Nuneaton and Bedworth Borough Council, Air Quality Action Plan, 2011
AQMA 2 – Midland Road / Corporation Street, Nuneaton	01/10/2009	NO_2 annual mean	Nuneaton	Centred on Midland Road, Central Avenue and Corporation Street but also includes parts of Manor Court Road.	

☒ **Nuneaton and Bedworth Borough Council confirm the information on UK-Air regarding their AQMAs is up to date**

2.2 Progress and Impact of Measures to address Air Quality in Nuneaton and Bedworth

Defra's appraisal of last year's ASR concluded that the report was well structured, detailed and contained most of the information specified in the Guidance. A number of comments were offered in relation to the Council's AQAP measures, the two AQMAs and the associated monitoring locations within them. Additionally, comments were offered in relation to the distance correction of monitoring data and the presentation of these locations within figures.

In particular, the appraisal included:

"The report is well structured, detailed, and provides most of the information specified in the Guidance. The following comments are made:

1. *The report does not appear to follow the latest template provided. The template should be closely followed in future reports to provide all the information specified in the Guidance.*
2. *The report identifies that there has been no exceedances at AQMA1 (Leicester Road Gyratory) for the last 5 years. On this basis, we recommend that the Council should review the status of this AQMA, and consider revoking AQMA1.*

3. *There are continuing exceedances in AQMA2, with results marginally above objective levels at three monitoring sites. The Council may wish to review the current monitoring locations within this AQMA as a basis for providing evidence to show compliance with the objectives in the next few years, and to link with traffic management measures listed under AQAP1, focussing on areas where there may be known traffic congestion.*
4. *The Action Plan measures listed in Table 2.2 detail progress under outline measures identified within the AQAP. The Council should provide dates for the planning phase, implementation phase and estimate completion where possible, to highlight how the measures are being progressed.*
5. *Distance correction does not appear to have been applied to the data, despite many sites not representing relevant public exposure. This should be carried out in future reports, and can be calculated using the NO_2 Fall-Off with Distance calculator located on the Defra website. Distance corrected results should be presented in Table B.2 and in the final results Table A.7.*
6. *It is not clear that sites labelled in Table A.6 are consistent with the sites labelled within Figure D.1 and D.2 showing monitoring sites within AQMAs. Please ensure the monitoring sites are listed correctly. Sites NB9-12 all appear to be labelled incorrectly.*
7. *The Local Authority has identified how they are working to reduce $PM_{2.5}$ across the Borough, however, there is no mention of collaborating with the Environmental or Public Health teams. This should be considered in future air quality management work."*

The majority of the actions suggested were already in hand and the processing and presentation of monitoring sites, maps and results has been addressed in this report.

Nuneaton and Bedworth Borough Council has taken forward a number of direct measures during the current reporting year of 2017 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
1	Identify and bring forward traffic management improvements in Nuneaton Town Centre, particularly where they will benefit the two AQMAs.	Traffic Management	Strategic Highways Improvements and Road User Charging	WCC / N&BBC	On-going	On-going	Traffic Counts	1 - 2 µg/m^3	WCC are assessing transport implications of Borough Plan growth proposals and have identified a number of transport schemes[4] to mitigate the traffic growth impacts across the Borough including in the town centre. The town centre transport schemes link to the Transforming Nuneaton Town Centre scheme. A business case was submitted to Coventry and Warwickshire Local Enterprise Partnership as part of Growth Deal 3. The bid was successful and a significant sum has been secured towards developing the scheme. Funding will also be sought through S106/CIL contributions. WCC is submitting a bid to the National Productivity and Investment Fund for the A47 between Leicester Rd Bridge and Eastboro Way/Long Shoot[5]. This scheme aims to address congestion issues, remove pinch points and provide pedestrian and cycle facilities	On-going	Funding availability
2	Identify measures to reduce the impact of HGV movements within the area.	Freight and Delivery Management / Traffic Management	Route Management / Traffic Reduction	WCC / N&BBC	On-going	On-going	Traffic Counts	0.2 - 0.5 µg/m^3	The county-wide Lorry Map is kept under regular review by the County Council. The presence of important 'A' and 'B' roads such as the A444 and B4114 within the AQMAs mean that it is difficult to direct HGV and HDV traffic away from them.	On-going	Alternative routes availability

[4] https://www.nuneatonandbedworth.gov.uk/downloads/21026/transport
[5] https://warwickshire.gov.uk/npif

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
3	Increase uptake and implementation of School and Workplace Travel Plans.	Promoting Travel Alternatives	School and Workplace Travel Plans	WCC / N&BBC	On-going	On-going	Usage figures	0.2 - 0.5 µg/m^3	On-going as opportunities arise, and through the development process.	On-going	none
4	Develop, implement and monitor the N&BBC Travel Plan. Explore potential for a Car Club in Nuneaton.	Alternatives to Private Vehicle Use / Promoting Travel Alternatives	Car Clubs / Personalised Travel Planning	N&BBC	On-going	On-going	Usage figures	0 - 0.2 µg/m^3	Travel Plan in place. Implementation and on-going monitoring arrangements to be agreed.	On-going	none
5	i) Include planning policies within the Borough Plan that seek to improve air quality, sustainable transport links and secure Travel Plan agreements. ii) Identify as part of the Borough Plan Infrastructure Delivery Plan specific infrastructure required within the AQMAs or that could relieve the AQMAs. These can then be prioritised alongside the Borough's other infrastructure demands for external funding and	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	N&BBC	On-going	On-going	-	0 - 0.2 µg/m^3	The Borough Plan evidence has allowed Warwickshire County Council to identify schemes and initiatives to improve sustainable transport provision and improve the management of traffic on the network. These will be pursued as funding streams become available. The Transforming Nuneaton Town Centre Scheme and the A47 corridor schemes aim to reduce the level of delay within the identified area. The Nuneaton and Bedworth Borough Council Infrastructure Delivery Plan contains schemes which have been identified through the Strategic Transport Assessment. The Council has also completed assessments of the impact of the Borough Plan on Air Quality within the Borough[6].	On-going	Availability of funding Awaiting outcome of Borough Plan Examination

[6] https://www.nuneatonandbedworth.gov.uk/downloads/file/1412/g5_-_air_quality_assessment_updated_2016
https://www.nuneatonandbedworth.gov.uk/downloads/file/2545/nbbc55_-_air_quality_assessment_

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
	developer contributions/CIL. iii) Encourage developers to take part in pre-application discussions to ensure air quality is considered when formulating a planning application. Developers should ensure good design as a part of their proposals and actively endorse travel planning to minimise and mitigate the impacts of new development upon the AQMA. Where appropriate, development proposals should be accompanied by air quality assessments.								The draft Borough Plan includes an updated and clearer policy on air quality. To support this, Air Quality Guidance for Developers is being produced to show when an Impact Assessment is needed and the potential mitigation measures to be expected		

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
6	Continue to work with WCC and other partners to deliver improvements in emissions where practicable.	Promoting Low Emission Transport / Vehicle Fleet Efficiency	Other	WCC / N&BBC / Public Transport Operators	On-going	On-going	-	1 - 2 µg/m^3	Through capital investment arising from the MIRA Enterprise Zone, Arriva Midlands has funded the provision of four new vehicles to operate on the Service 66 (Nuneaton - MIRA - Hinckley) bus route. It is possible that further funding opportunities to secure the improvement of local bus fleets will arise in response to recent changes to legislation, e.g. The Bus Services Bill. Warwickshire Electric Vehicle Infrastructure Strategy now in place. Warwickshire On-street Residential EV Charging Scheme proposed	On-going	Availability of funding
7	Make details of the air quality measures and annual reports available on the website to ensure accessibility to the consultation and implementation process.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	N&BBC	On-going	On-going	-	0 µg/m^3	To be uploaded to website annually at the appropriate time.	On-going	none
8	Continue to work with Public Health, WCC and the Warwickshire District Authorities on air quality and travel awareness campaigns to raise the profile of air quality in the Borough and County-wide.	Public Information	Other	WCC / N&BBC / Warwickshire local authorities	On-going	On-going	website visitor numbers / Members registration for Car Share	0 - 0.2 µg/m^3	WCC promote sustainable travel modes via their website www.warwickshire.gov.uk/travel showing: WCC car share database, Nuneaton cycle guide, public transport maps and timetables.	On-going	none

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
9	Continue the commitment to undertake air quality monitoring within the Borough to ensure a high standard of data is achieved to assess against air quality objectives.	Policy Guidance and Development Control	Other	N&BBC	On-going	On-going	Data capture	0 µg/m^3	Monitoring continues across the Borough – data capture for 2017 was good at all passive locations	On-going	none
10	Continue to enforce industrial pollution control and nuisance legislation to minimise pollutant emissions from these sources	Environmental Permits	Other	N&BBC	On-going	On-going	Number of inspections	0 - 0.2 µg/m^3	The Borough Council continue a high rate of inspections of industrial installations.	On-going	none
11	Continue to work together with partners to promote and implement energy efficiency measures in the Borough	Promoting Low Emission Plant	Other	N&BBC Department of Energy and Climate Change (DECC) under the Green Deal Communities scheme	On-going	On-going	Number of completed renovations	0 - 0.2 µg/m^3	2015-16 saw the completion of 61 external wall insulations, 491 central heating systems replacements and 32 loft insulations to properties. To date, a total of 336 properties benefitted from external wall insulation Energy efficiency measures now being promoted via the Energy Company Obligation (ECO) : Help to Heat programme and the national Local Authority Flexible Eligibility scheme	On-going	grant funding of £2.1 million now exhausted. Availability of future funding

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

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

Nuneaton and Bedworth Borough Council is working with Public Health Warwickshire to reduce emissions of air pollution across the Borough, to improve air quality within the declared AQMAs and the wider area. The following pollutant emission reduction measures included within the AQAP will also help to reduce emissions of $PM_{2.5}$:

- Traffic management improvements, including reduction of HGV movements;
- Improved integration of public transport, including improvements for bus, rail and community transport infrastructure;
- Encouraging increased uptake and implementation of School Travel Plans, Workplace Travel Plans and continuing to implement and monitor the Nuneaton and Bedworth Borough Council Travel Planning Policy;
- Improving sustainable transport links, improvements for pedestrians and cyclists, endorse travel planning and promoting a Car Club;
- Promoting the Warwickshire Electric Vehicle Infrastructure Strategy and On-street Residential EV Charging Scheme; and
- Promoting and implementing energy efficiency measures across the Borough.

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

3.1 Summary of Monitoring Undertaken

This section sets out what monitoring has taken place and how it compares with air quality objectives.

3.1.1 Automatic Monitoring Sites

There is no automatic monitoring being undertaken within the Borough.

Given the continued decline in NO_2 within AQMA1, a decision was made to decommission the automatic monitoring station at the end of 2016. The automatic monitoring station can be brought back into use and monitoring recommenced if sufficient evidence warrants this.

3.1.2 Non-Automatic Monitoring Sites

Nuneaton and Bedworth Borough Council undertook non-automatic (passive) monitoring of NO_2 at 38 sites during 2017. Three new diffusion tube monitoring locations were commissioned in 2017: NB49 and NB50 near to Bayton Road junction and NB51 on Midland Road. Table A.1 in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and distance correction) are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compares the adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40 µg/m^3.

For diffusion tubes, the full 2017 dataset of monthly mean values is provided in Appendix B.

Figures A.1 – A.4 in Appendix A present the trend in measured NO_2 concentrations at the diffusion tube monitoring sites since 2008. Overall, concentrations have reduced at all sites since 2008 or 2009, although there are variations from site to site, and there is some evidence that the downward trend has been absent in recent years.

Appendix A: Monitoring Results

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

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
AQM(3)	AQM Leicester Rd	Roadside	436844	292251	NO_2	YES	1.5	4.2	NO	1.3
NB01	42 Norman Avenue	Urban Background	435974	291304	NO_2	NO	N/A	N/A	NO	1.9
NB02	5 Conifer Close	Urban Background	436427	287646	NO_2	NO	N/A	N/A	NO	2.1
NB04	72 Coventry Rd Leisure Centre	Façade	435793	286545	NO_2	NO	0	3.6	NO	3.2
NB05	McDonnell Drive	Roadside	434857	284734	NO_2	NO	0	15	NO	2.3
NB06	Tudor Court	Roadside	434313	285292	NO_2	NO	11	0.9	NO	2.9
NB07	115 Newtown Rd	Roadside	435345	286992	NO_2	NO	6	4.4	NO	2.4
NB09	Manor Court Rd (Rooms)	Roadside	435634	292280	NO_2	YES	1.5	2.2	NO	2.4
NB15	Bridge Grove, Leicester Rd	Roadside	436883	292302	NO_2	YES	8	1.4	NO	2.3
NB17	41 Bond St, Balti Hut	Façade	436393	291987	NO_2	NO	0	1.3	NO	2.3
NB18	Wheat Street	Roadside	436525	291863	NO_2	NO	23	4	NO	2.3
NB20	17 Old Hinckley Rd	Façade	436604	292202	NO_2	YES	0	6.9	NO	2.0

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
NB21	36 Old Hinckley Rd	Façade	436691	292271	NO_2	YES	0	8.6	NO	2.0
NB22	58 Old Hinckley Rd	Façade	436810	292306	NO_2	YES	0	8.8	NO	1.9
NB23	46 Leicester Road	Façade	436841	292280	NO_2	YES	0	4.5	NO	2.1
NB24	31 Leicester Rd (School Lodge)	Façade	436812	292196	NO_2	YES	0	11	NO	2.2
NB25	25 Central Avenue	Façade	435814	292274	NO_2	YES	0	6.4	NO	2.1
NB26	26 Central Avenue	Façade	435759	292311	NO_2	YES	0	4.6	NO	2.1
NB27	90 Corporation St	Façade	435959	292098	NO_2	YES	0	4.8	NO	2.4
NB28	138 Corporation St	Façade	435893	292205	NO_2	YES	0	4.7	NO	2.1
NB29	16 Midland Road	Façade	435626	292343	NO_2	YES	0	4	NO	2.1
NB30	50/52 Midland Road	Façade	435554	292378	NO_2	YES	0	3.8	NO	2.1
NB31	376 Longford Road	Façade	435146	284563	NO_2	NO	0	12.7	NO	2.5
NB35	60 Watling Street	Façade	439268	293457	NO_2	NO	0	11.7	NO	1.9
NB36	78 Coventry Rd	Façade	435217	285246	NO_2	NO	0	2.3	NO	2.3
NB37	19 Croft Rd	Façade	435051	291594	NO_2	NO	0	5.8	NO	2.0
NB38	115 Highfield Rd	Façade	437198	290732	NO_2	NO	0	7.2	NO	1.8
NB41	11 Newtown Rd (salon)	Façade	435619	287042	NO_2	NO	0	4.8	NO	2.0

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
NB42	18 George Street	Façade	435655	287135	NO_2	NO	0	8.3	NO	1.8
NB43	43 Hanover Glebe	Façade	436303	290796	NO_2	NO	0	11.6	NO	2.0
NB44	503 Heath End Rd	Roadside	434298	290930	NO_2	NO	2	2.3	NO	2.2
NB45	80 Heath End Rd	Roadside	435593	290728	NO_2	NO	4.6	2.5	NO	2.4
NB46	30 Bermuda Rd	Façade	435135	290583	NO_2	NO	0	9.2	NO	2.0
NB47	6 The Bridleway	Façade	435452	290087	NO_2	NO	0	4.6	NO	2.0
NB48	288 Heath End Rd	Façade	435066	290689	NO_2	NO	0	8.5	NO	2.1
NB49(4)	Co-op, Coventry Rd	Façade	435231	285236	NO_2	NO	0	4.2	NO	2.5
NB50(4)	66 Coventry Rd	Façade	435201	285198	NO_2	NO	0	8.3	NO	2.3
NB51(4)	Abbey Green School	Façade	435638	292357	NO_2	YES	0	5	NO	2.2

Notes:

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

(2) N/A if not applicable.

(3) Duplicate diffusion tube monitoring location.

(4) New monitoring sites installed in 2017. Diffusion tubes NB49 and NB50 were installed on 1st March 2017 and tube NB51 was installed on 11th September 2017.

Table A.2 – Annual Mean NO_2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2017 (%) [2]	NO_2 Annual Mean Concentration (µg/m^3) [3]				
					2013	2014	2015	2016	2017
AQM[4]	Roadside	Duplicate Diffusion Tube	100	100	33.6	31.2	32.4	30.4	30.6
NB01	Urban Background	Diffusion Tube	100	100	21.0	19.9	20.2	20.4	19.2
NB02	Urban Background	Diffusion Tube	100	100	20.5	19.7	19.6	19.2	19.2
NB04	Façade	Diffusion Tube	100	100	35.5	32.4	33.3	34.7	34.3
NB05	Roadside	Diffusion Tube	100	100	33.2	31.2	31.9	30.9	28.4
NB06	Roadside	Diffusion Tube	100	100	34.0	33.7	34.6	34.9	25.7
NB07	Roadside	Diffusion Tube	100	100	33.5	34.4	31.9	31.9	27.5
NB09	Roadside	Diffusion Tube	100	100	30.6	31.0	29.5	30.3	27.4
NB15	Roadside	Diffusion Tube	100	100	31.5	28.6	30.3	29.8	23.7
NB17	Façade	Diffusion Tube	92	92	35.9	32.8	33.4	32.5	30.9
NB18	Roadside	Diffusion Tube	92	92	34.3	30.9	31.9	32.8	26.3
NB20	Façade	Diffusion Tube	100	100	29.6	27.6	25.9	28.5	27.2
NB21	Façade	Diffusion Tube	100	100	29.6	30.6	29.4	30.0	29.6
NB22	Façade	Diffusion Tube	100	100	24.8	25.2	25.2	24.9	25.2
NB23	Façade	Diffusion Tube	100	100	31.4	33.2	32.0	32.9	33.3
NB24	Façade	Diffusion Tube	100	100	31.4	22.8	23.3	24.5	24.3
NB25	Façade	Diffusion Tube	100	100	25.0	31.1	31.7	32.2	32.1
NB26	Façade	Diffusion Tube	100	100	31.1	28.7	29.6	31.4	29.5
NB27	Façade	Diffusion Tube	100	100	37.4	37.2	**40.3**	39.9	**40.6**
NB28	Façade	Diffusion Tube	92	92	37.1	36.5	36.3	36.7	37.2
NB29	Façade	Diffusion Tube	92	92	**40.7**	**41.6**	**43.0**	**43.8**	**44.6**

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2017 (%) [2]	NO_2 Annual Mean Concentration ($\mu g/m^3$) [3]				
					2013	2014	2015	2016	2017
NB30	Façade	Diffusion Tube	58	58	37.8	**40.9**	**41.4**	**40.0**	39.3
NB31	Façade	Diffusion Tube	100	100	37.1	34.2	33.4	34.3	32.1
NB35	Façade	Diffusion Tube	100	100	26.2	24.8	24.8	24.8	23.2
NB36	Façade	Diffusion Tube	100	100	38.1	35.0	36.5	37.6	36.8
NB37	Façade	Diffusion Tube	100	100	32.0	31.6	31.8	33.0	31.9
NB38	Façade	Diffusion Tube	92	92	29.6	28.6	27.4	30.5	30.0
NB41	Façade	Diffusion Tube	75	75	34.8	31.4	32.1	31.2	32.8
NB42	Façade	Diffusion Tube	92	92	28.7	30.4	28.2	28.1	26.2
NB43	Façade	Diffusion Tube	100	100	-	-	27.4	26.9	26.3
NB44	Roadside	Diffusion Tube	83	83	-	-	30.1	30.5	27.1
NB45	Roadside	Diffusion Tube	83	83	-	-	26.3	29.6	28.1
NB46	Façade	Diffusion Tube	100	100	-	-	-	19.8	18.7
NB47	Façade	Diffusion Tube	100	100	-	-	-	18.9	18.6
NB48	Façade	Diffusion Tube	100	100	-	-	-	25.2	25.6
NB49[5]	Façade	Diffusion Tube	100	83	-	-	-	-	32.4
NB50[5]	Façade	Diffusion Tube	100	83	-	-	-	-	32.7
NB51[5]	Façade	Diffusion Tube	100	33	-	-	-	-	26.3

☒ **Diffusion tube data has been bias corrected**

☒ **Annualisation has been conducted where data capture is <75%**

Notes:

Exceedances of the NO_2 annual mean objective of $40\mu g/m^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu g/m^3$, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined.**

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

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

(3) Means for diffusion tubes have been corrected for bias. All means have been annualised as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(4) Duplicate diffusion tube monitoring location. Concentrations have been taken as the average from the two tubes.

(5) New monitoring sites installed in 2017. Diffusion tubes NB49 and NB50 were installed on 1st March 2017 and tube NB51 was installed on 11th September 2017.

Figure A.1 – Trends in Annual Mean NO_2 Concentrations Measured at Diffusion Tube Monitoring Sites AQM-NB20

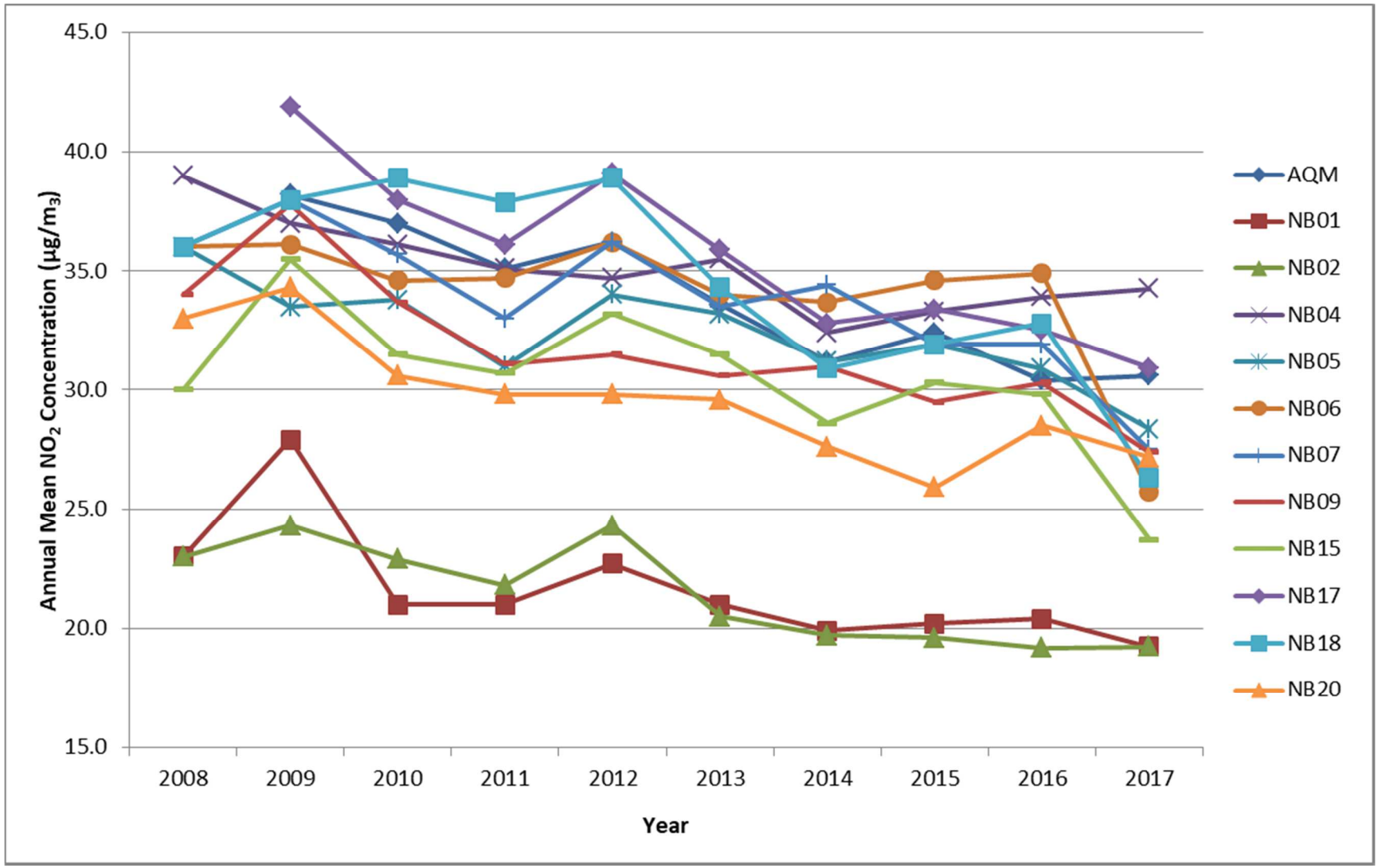


Figure A.2 – Trends in Annual Mean NO_2 Concentrations Measured at Diffusion Tube Monitoring Sites NB21-NB36

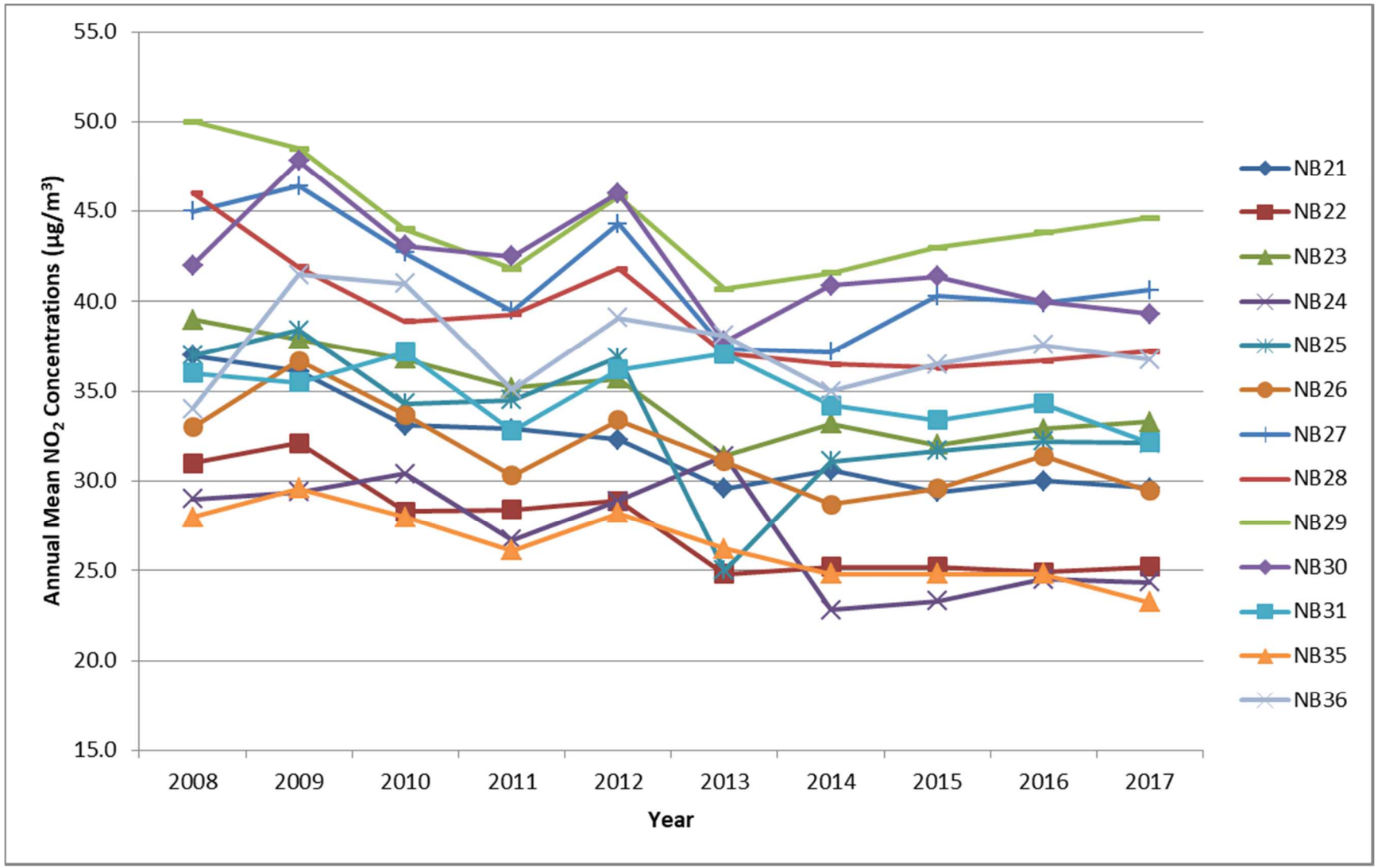
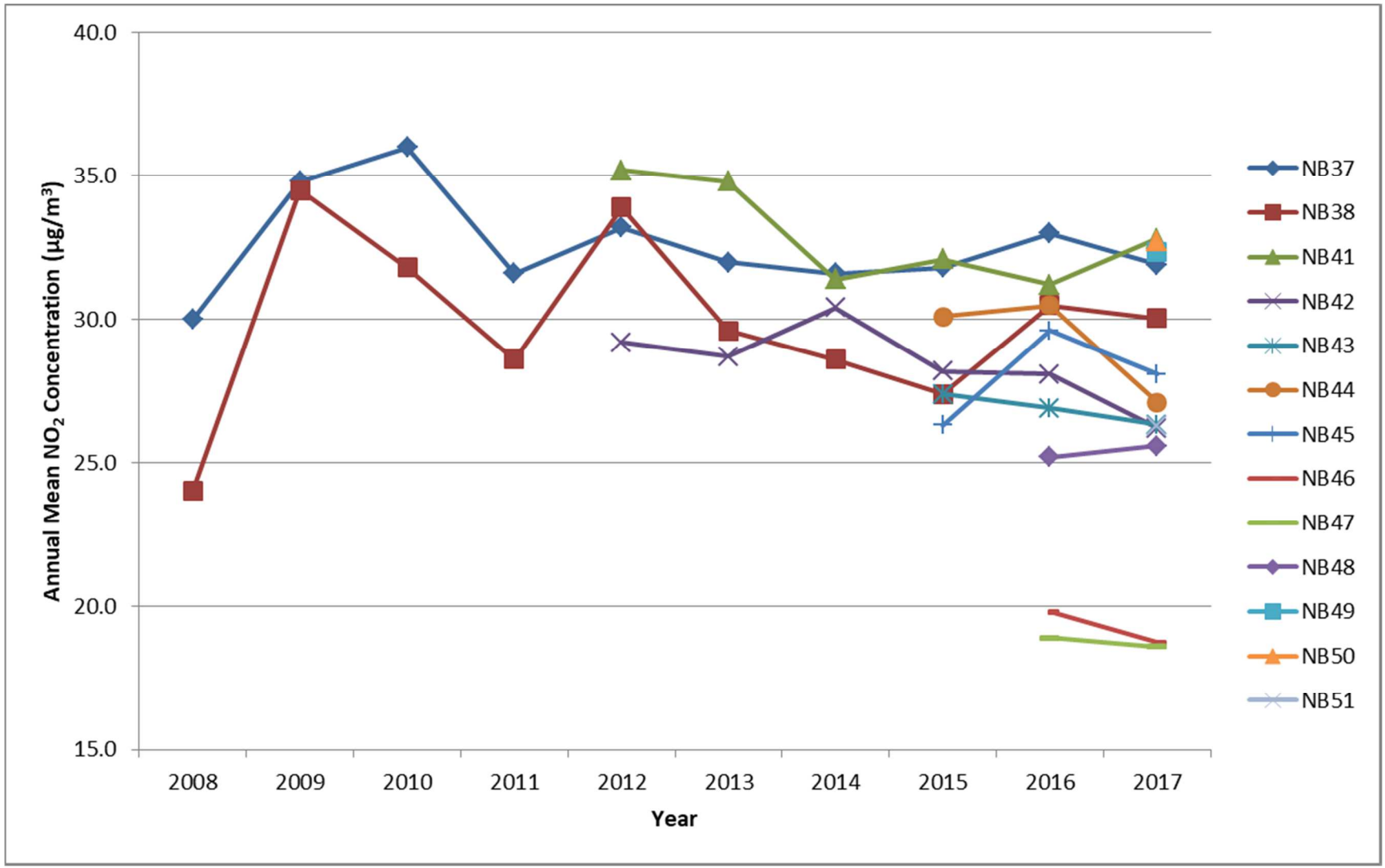


Figure A.3 – Trends in Annual Mean NO_2 Concentrations Measured at Diffusion Tube Monitoring Sites NB37-NB51



Appendix B: Full Monthly Diffusion Tube Results for 2017

Exceedances of the NO_2 objective of 40µg/m^3 are shown in bold in the **'Bias Adjusted (0.89) and Annualised'** and **'Distance Corrected to Nearest Exposure'** Annual Mean columns. Individual monthly mean values in excess of 40µg/m^3 do not indicate an exceedance and may not be compared against the annual mean Air Quality Objective.

Table B.1 – NO_2 Monthly Diffusion Tube Results - 2017

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.89) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
AQM(3)	48.4	40.9	35.5	30.0	31.3	35.2	30.7	31.4	34.9	34.2	39.3	41.4	36.1	32.1	30.7
AQM(3)	45.2	38.3	36.6	30.2	31.1	34.7	30.1	30.5	38.6	34.8		40.8	35.5	31.6	30.2
NB01	33.4	26.2	24.7	16.7	17.7	14.9	13.0	13.0	23.4	20.0	27.9	28.7	21.6	19.2	
NB02	34.8	24.3	20.2	17.0	14.7	13.8	13.6	16.6	21.6	20.8	29.9	31.9	21.6	19.2	
NB04	44.0	38.1	40.9	33.3	32.1	36.9	34.2	32.1	39.2	37.2	48.0	46.3	38.5	34.3	
NB05	45.3	32.8	35.9	30.1	30.8	25.1	26.5	26.2	33.7	24.9	36.4	34.6	31.9	28.4	
NB06	49.6	39.2	40.6	27.9	31.2	36.2	31.0	30.2	41.5	33.6	26.1	37.5	35.4	31.5	25.7
NB07	46.2	40.3	40.2	29.0	32.2	29.3	24.8	28.4	35.0	30.6	39.9	45.2	35.1	31.2	27.5
NB09	47.6	34.7	36.4	28.8	29.9	25.9	24.8	25.9	34.4	27.2	37.9	37.7	32.6	29.0	27.4
NB15	48.1	32.7	38.4	32.5	26.9	28.4	24.2	24.3	33.6	32.4	41.8	36.0	33.3	29.6	23.7
NB17	46.8	39.4		33.8	32.0	27.7	26.8	25.0	38.5	31.3	41.6	39.5	34.8	30.9	
NB18	54.7	41.5	41.4	36.7		33.3	31.2	32.8	42.0	36.6	60.0	48.6	41.7	37.1	26.3

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.89) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
NB20	42.6	32.1	33.3	26.1	28.7	26.2	24.3	23.7	30.2	28.5	35.7	35.1	30.5	27.2	
NB21	45.3	31.7	33.3	29.7	28.6	30.6	26.5	30.2	33.5	33.4	39.6	37.0	33.3	29.6	
NB22	39.8	32.2	30.7	19.3	25.4	23.1	22.0	21.4	29.4	28.5	34.0	33.8	28.3	25.2	
NB23	48.9	39.3	39.8	37.5	29.9	37.2	31.1	31.1	35.5	37.0	41.5	40.3	37.4	33.3	
NB24	38.9	28.5	29.2	23.7	21.8	21.9	21.0	21.9	31.2	24.2	34.7	31.3	27.4	24.3	
NB25	44.8	39.9	41.1	35.2	30.9	34.5	30.8	33.9	33.6	30.1	43.3	35.1	36.1	32.1	
NB26	45.1	32.2	33.4	33.7	27.7	29.0	26.9	25.3	34.8	27.0	39.9	42.3	33.1	29.5	
NB27	54.0	44.0	48.5	51.7	40.6	45.0	38.6	39.2	49.9	38.9	51.7	46.0	45.7	**40.6**	
NB28	55.6	45.5	45.0	38.8		37.9	34.3	35.2	40.2	31.1	47.7	49.0	41.8	37.2	
NB29	54.6	52.1	52.2	52.4	37.1	51.3	45.2	50.6	49.9		58.1	48.0	50.1	**44.6**	
NB30	58.8		46.4	48.8					49.6	43.5	62.3	46.1	50.8	39.3	
NB31	46.9	35.3	36.8	38.4	34.8	30.5	31.3	28.4	41.3	27.3	43.2	39.2	36.1	32.1	
NB35	37.2	23.0	28.1	23.1	22.1	19.0	20.8	21.0	32.3	24.4	30.9	31.3	26.1	23.2	
NB36	53.4	42.7	45.6	37.3	33.9	36.4	34.8	31.5	47.9	38.8	48.5	45.3	41.3	36.8	
NB37	47.7	29.1	37.3	42.4	31.3	32.5	29.6	28.9	36.2	29.4	45.4	40.4	35.8	31.9	
NB38	43.4	28.5	34.6	31.8	25.8		26.0	28.4	40.1	33.4	39.7	39.7	33.8	30.0	
NB41			40.0	39.7	40.1	31.6	30.5		35.3	27.9	44.0	42.8	36.9	32.8	
NB42	42.6	31.6	34.2	25.3	25.7	25.0	23.2	25.2		26.6	32.2	32.2	29.4	26.2	
NB43	42.4	31.8	29.4	28.5	25.9	24.0	21.9	21.5	32.5	24.8	37.1	35.2	29.6	26.3	
NB44	48.5		33.9	31.2	33.5		27.5	24.4	34.7	26.8	38.1	36.5	33.5	29.8	27.1

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.89) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
NB45			47.7	36.7	33.1	30.2	31.3	31.2	40.4	26.0	42.4	49.0	36.8	32.7	28.1
NB46	34.6	24.5	21.2	18.5	18.5	14.3	15.5	15.1	22.4	17.5	24.7	25.6	21.0	18.7	
NB47	33.6	25.2	24.5	17.0	18.2	14.4	14.2	14.7	21.0	17.6	24.6	25.8	20.9	18.6	
NB48	41.9	30.2	29.5	28.1	23.8	24.6	23.4	22.3	27.0	23.8	33.8	36.8	28.8	25.6	
NB49(4)			40.9	34.2	33.4	35.8	32.5	30.3	39.3	31.6	45.7	39.9	36.4	32.4	
NB50(4)			41.7	24.2	32.9	37.9	33.0	32.6	42.0	35.8	41.7	45.5	36.7	32.7	
NB51(4)									30.2	27.1	37.9	36.1	32.8	26.3	

☒ **National bias adjustment factor used**

☒ **Annualisation has been conducted where data capture is <75%**

☒ **Where applicable, data has been distance corrected for relevant exposure**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined.**

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest relevant public exposure.

(3) Duplicate diffusion tube monitoring location.

(4) New monitoring sites installed in 2017. Diffusion tubes NB49 and NB50 were installed on 1st March 2017 and NB51 was installed on 11th September 2017.

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

QA/QC of Diffusion Tube Monitoring

Nuneaton and Bedworth Borough Council deploys diffusion tubes prepared and analysed by Gradko (20% TEA in water method). Tubes are changed on a monthly basis.

Diffusion Tube Bias Adjustment Factors

The roadside automatic monitoring station located at Leicester Road was discontinued at the end of 2016. As such, Nuneaton and Bedworth Borough Council does not currently undertake any automatic monitoring to derive a local bias adjustment factor. A national bias adjustment factor has therefore been taken from the diffusion tube spreadsheet of national comparison studies. This has given a bias adjustment factor of 0.89 for 2017 (based on 34 studies) which has been applied to all 2017 diffusion tube data. The spreadsheet is shown below in Figure C.1.

Figure C.1: National bias adjustment factor spreadsheet

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/18

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 spreadsheet 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 2018
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: Select the Laboratory that Analyses Your Tubes from the Drop-Down List. If a laboratory is not shown, we have no data for this laboratory.

Step 2: Select a Preparation Method from the Drop-Down List. If a preparation method is not shown, we have no data for this method at this laboratory.

Step 3: Select a Year from the Drop-Down List. If a year is not shown, we have no data.

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

If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the 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[2] (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[5]	Bias Adjustment Factor (A) (Cm/Dm)
3	Gradko	20% TEA in water	2017	R	Monmouthshire County Council	9	42	33	26.6%	G	0.79
4	Gradko	20% TEA in water	2017	R	Cheshire West and Chester	11	36	36	1.4%	G	0.99
5	Gradko	20% TEA in water	2017	UI	Crawley Borough Council	12	28	28	-1.2%	G	1.01
6	Gradko	20% TEA in water	2017	R	Borough Council of King's Lynn & West Norfol	12	29	25	16.0%	G	0.86
7	Gradko	20% TEA in water	2017	R	Bath & North East Somerset	12	45	45	-0.2%	G	1.00
8	Gradko	20% TEA in water	2017	R	NOTTINGHAM CITY COUNCIL	12	38	41	-6.6%	G	1.07
9	Gradko	20% TEA in water	2017	R	Lancaster City Council	12	35	32	9.7%	G	0.91
2	Gradko	20% TEA in water	2017	R	Thurrock Borough Council	12	54	52	3.3%	S	0.97
3	Gradko	20% TEA in water	2017	R	Thurrock Borough Council	11	35	33	7.0%	G	0.93
4	Gradko	20% TEA in water	2017	R	Thurrock Borough Council	9	33	29	14.3%	G	0.87
5	Gradko	20% TEA in water	2017	UB	Thurrock Borough Council	11	30	28	8.0%	S	0.93
6	Gradko	20% TEA in water	2017	R	Dudley MBC	12	50	50	0.8%	G	0.99
7	Gradko	20% TEA in water	2017	UB	Dudley MBC	12	24	19	26.6%	G	0.79
8	Gradko	20% TEA in water	2017	R	City of Lincoln Council	12	42	31	33.2%	G	0.75
9	Gradko	20% TEA in water	2017	R	Gedling Borough Council	12	35	31	10.1%	G	0.91
2	Gradko	20% TEA in water	2017	R	Gateshead Council	12	36	37	-2.7%	G	1.03
3	Gradko	20% TEA in water	2017	R	Gateshead Council	12	29	25	17.5%	G	0.85
4	Gradko	20% TEA in water	2017	R	Gateshead Council	12	34	35	-5.3%	G	1.06
9	Gradko	20% TEA in water	2017	R	LB Hounslow	12	65	54	22.2%	G	0.82
0	Gradko	20% TEA in water	2017	R	LB Hounslow	12	59	53	10.6%	G	0.90
1	Gradko	20% TEA in water	2017	B	LB Hounslow	11	28	30	-6.0%	G	1.06
2	Gradko	20% TEA in water	2017	R	LB Hounslow	11	43	34	28.8%	G	0.78
3	Gradko	20% TEA in water	2017	B	LB Hounslow	9	38	33	14.9%	G	0.87
4	Gradko	20% TEA in water	2017	R	LB Hounslow	11	52	42	24.4%	G	0.80
0	Gradko	20% TEA in water	2017	UB	Liverpool	11	20	17	15.2%	G	0.87
5	Gradko	20% TEA in water	2017	R	North Ayrshire Council	12	26	21	23.2%	G	0.81
6	Gradko	20% TEA in water	2017	R	South Gloucestershire Council	12	25	23	10.3%	G	0.91
2	Gradko	20% TEA in water	2017	KS	Marylebone Road Intercomparison	12	101	79	28.6%	G	0.78
7	Gradko	20% TEA in water	2017		**Overall Factor[3] (34 studies)**				**Use**		0.89

Source: http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html

Annualisation: Short-term to Long-term Data Adjustment

For diffusion tube monitoring where data capture for the year was less than 75%, data have been annualised using a ratio factor derived from measured NO_2 concentrations at AURN background automatic monitoring stations located at Walsall Woodlands (WAL4), Birmingham Acocks Green (AGRN), Coventry Allesley (COAL) and Leamington Spa (LEAM). In 2017, all stations had data capture over 97%, except for Birmingham Acocks Green which had 88% data capture. The annual mean and associated period mean concentrations for each of the monitoring stations are outlined in Table C.1 below. The ratio factor applied has then been determined from the average of the ratios from all four monitoring stations.

An annualisation factor of 0.87 was used to scale the NO_2 concentrations at diffusion tube NB30 (valid data capture for 2017 of 58.3%) and for diffusion tube NB51 (valid data capture for 2017 of 33.3%) an annualisation factor of 0.90 was used.

Table C.1: Determination of Annualisation Factors

Site ID	Annual Mean (A_m)	Annual mean Data Capture (%)	*For diffusion tube NB30*			*For diffusion tube NB51*		
			Period Mean (P_m)	*Period Data Capture (%)*	*Ratio Factor (A_m/P_m)*	*Period Mean (P_m)*	*Period Data Capture (%)*	*Ratio Factor (A_m/P_m)*
WAL4	15.88	99.6	18.76	99.8	0.85	18.06	99.9	0.88
AGRN	19.44	88.2	21.66	99.6	0.90	20.41	99.7	0.95
COAL	21.88	97.8	25.78	96.8	0.85	24.32	95.4	0.90
LEAM	23.46	98.5	27.00	99.3	0.87	26.82	99.0	0.87
				Average	**0.87**		**Average**	**0.90**

Distance Correction

Where it was appropriate to calculate the annual mean NO_2 concentration (typically at the nearest residential property), the LAQM distance correction tool[7] was used. Data collected in relation to source (i.e. Kerb) to tube location and source to relevant receptor was used together with the Defra predicted 2017 background concentration[8] for the 1km x 1km grid square in which the measurement/property was located. Results for the tubes requiring distance correction are shown in Table C.2.

[7] https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html
[8] https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html

Table C.2: Distance Corrected Diffusion Tube Concentrations

Site ID	Distance (m)		NO_2 Annual Mean Concentration (µg/m^3)		
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor
AQM(1)	4.2	5.7	15.4	32.1	30.7
AQM(1)	4.2	5.7	15.4	31.6	30.2
NB06	0.9	11.9	20.2	31.5	25.7
NB07	4.4	10.4	16.1	31.2	27.5
NB09	2.2	3.7	16.2	29.0	27.4
NB15	1.4	9.4	15.4	29.6	23.7
NB18	4.0	27.0	16.9	37.1	26.3
NB44	2.3	4.3	11.7	29.8	27.1
NB45	2.5	7.1	14.8	32.7	28.1

Notes:

(1) Duplicate diffusion tube monitoring location.

Appendix D: Maps of Monitoring Locations and AQMAs

Figure D.1: Monitoring at Leicester Rd Gyratory, Nuneaton AQMA

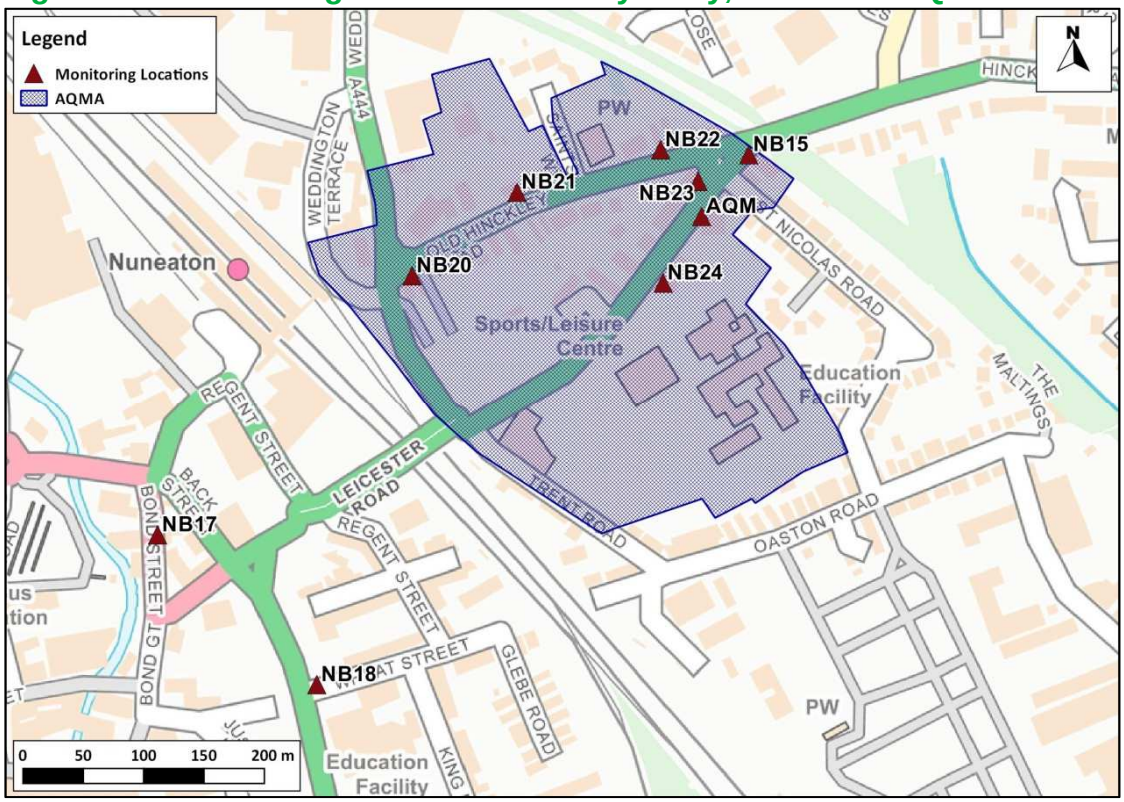


Figure D.2: Monitoring in the Midlands Road/Corporation Street AQMA

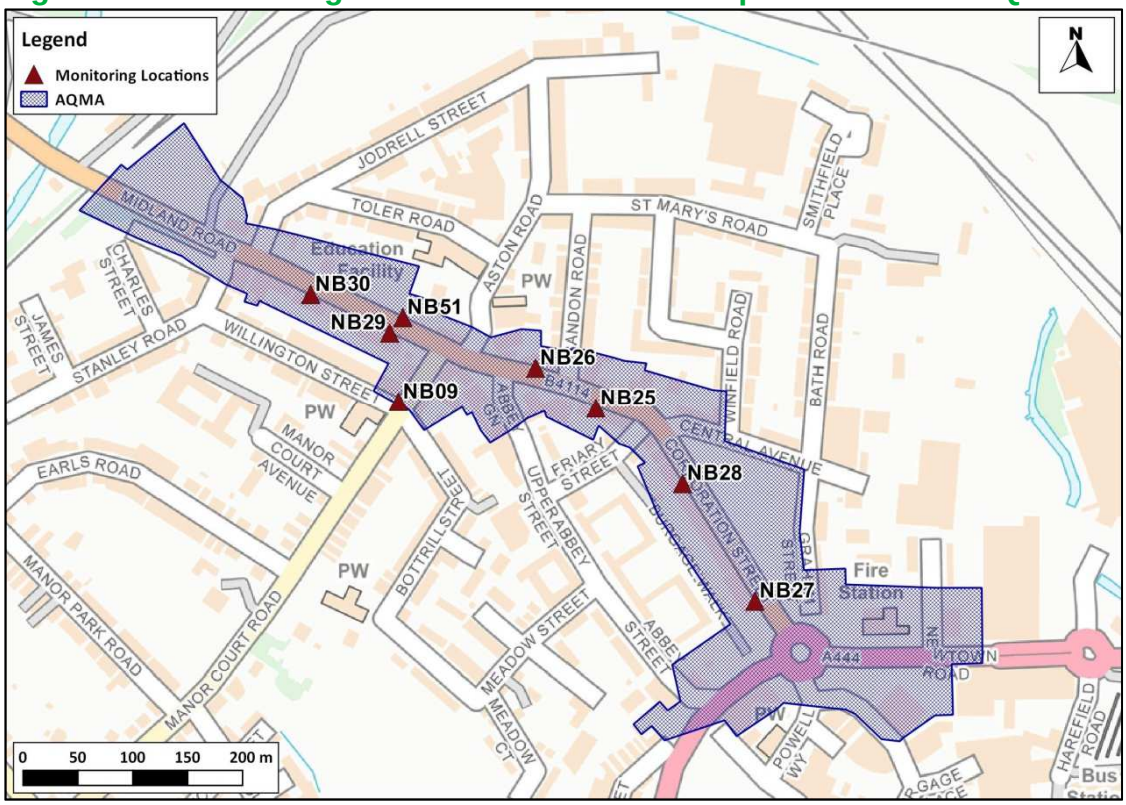


Figure D.3: Monitoring in Chilvers Coton and Attleborough

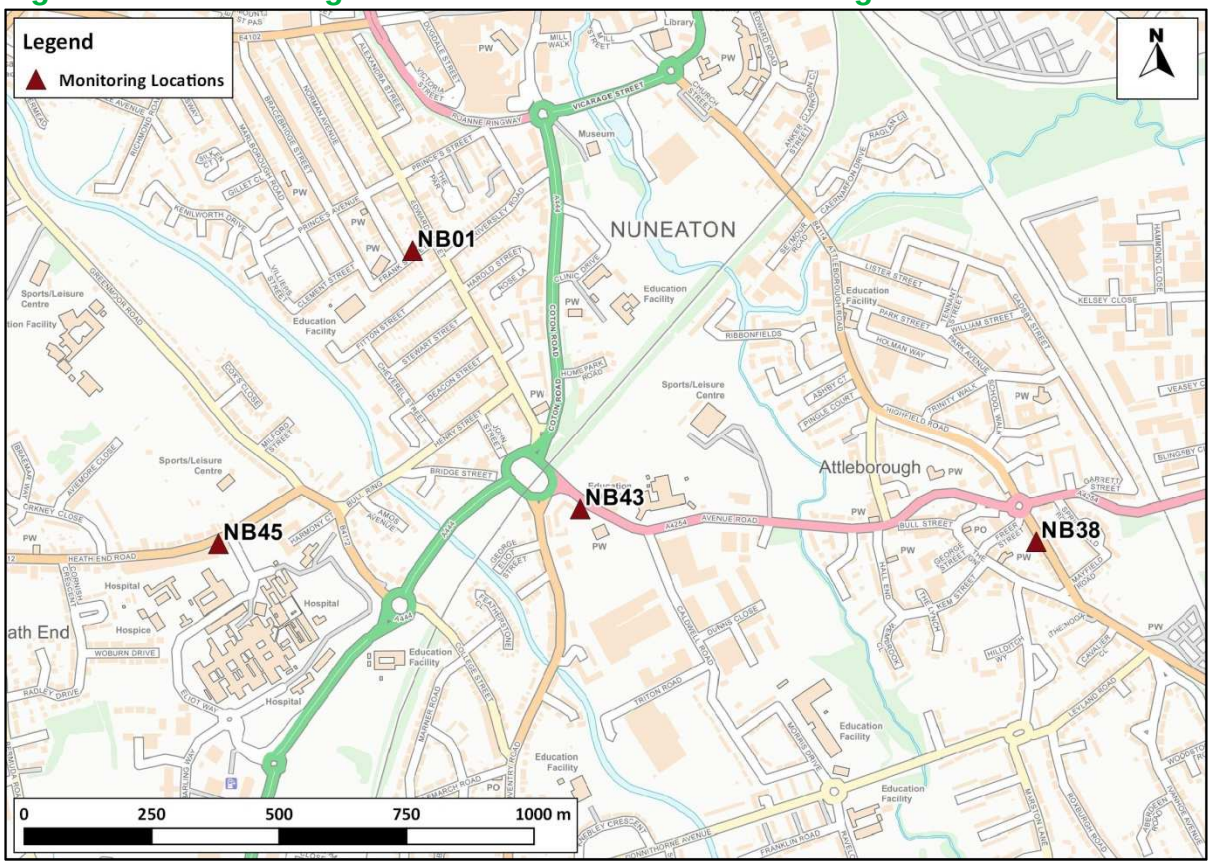


Figure D.4: Monitoring in Bedworth

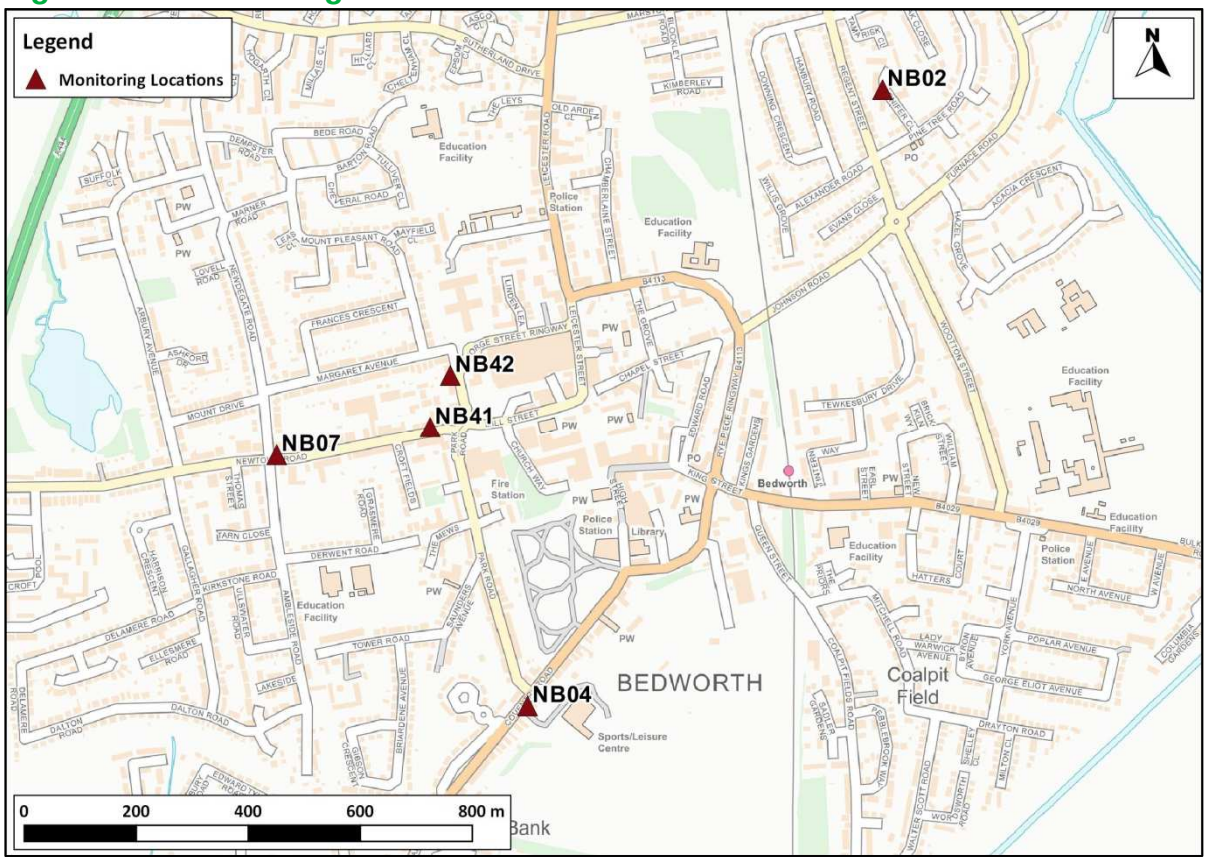


Figure D.5: Monitoring in Exhall

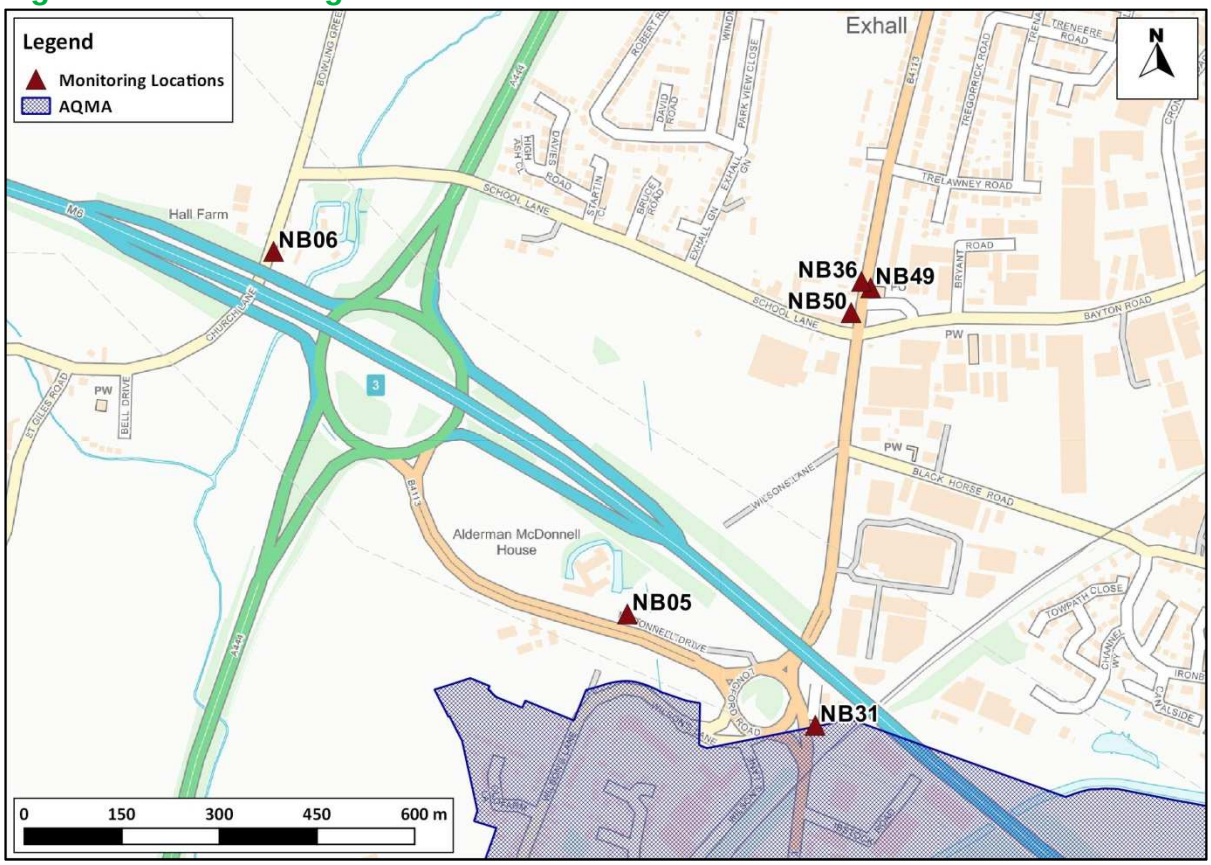


Figure D.6: Monitoring at Watling Street

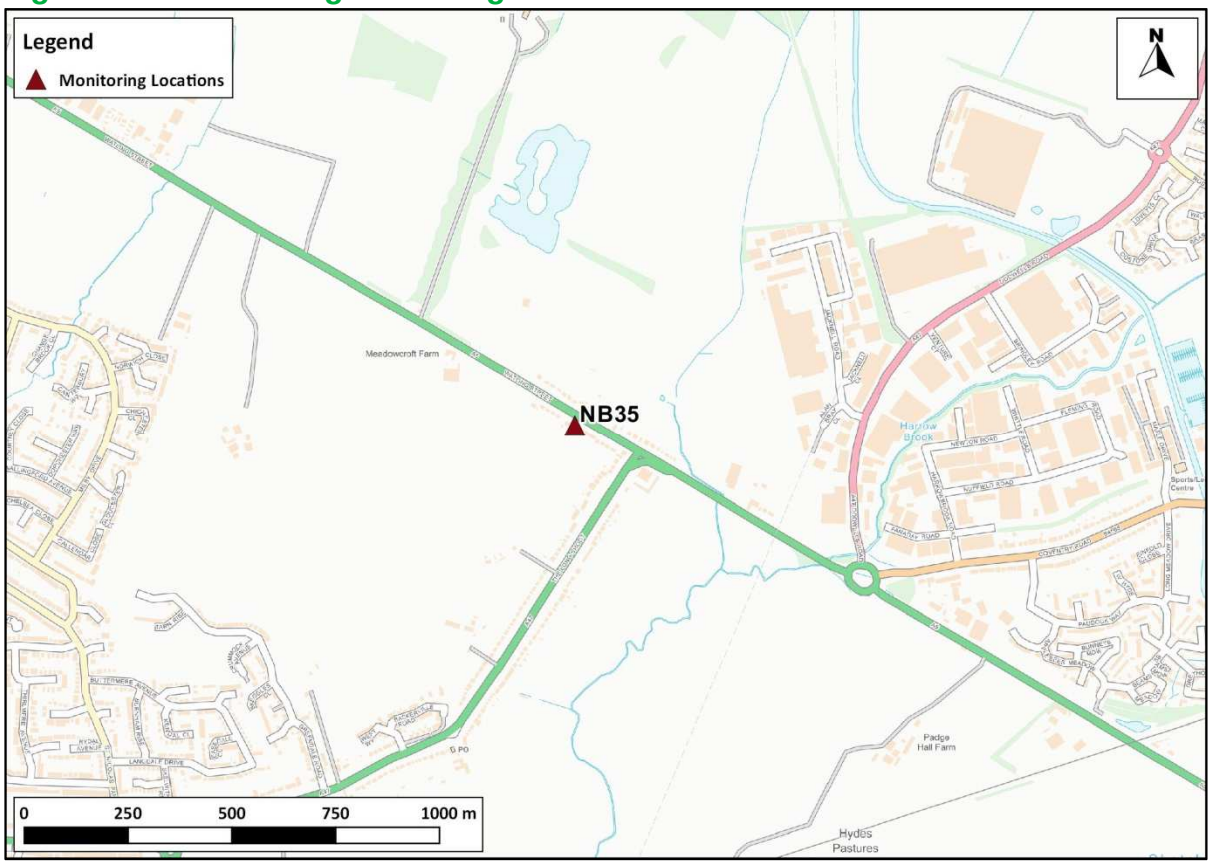
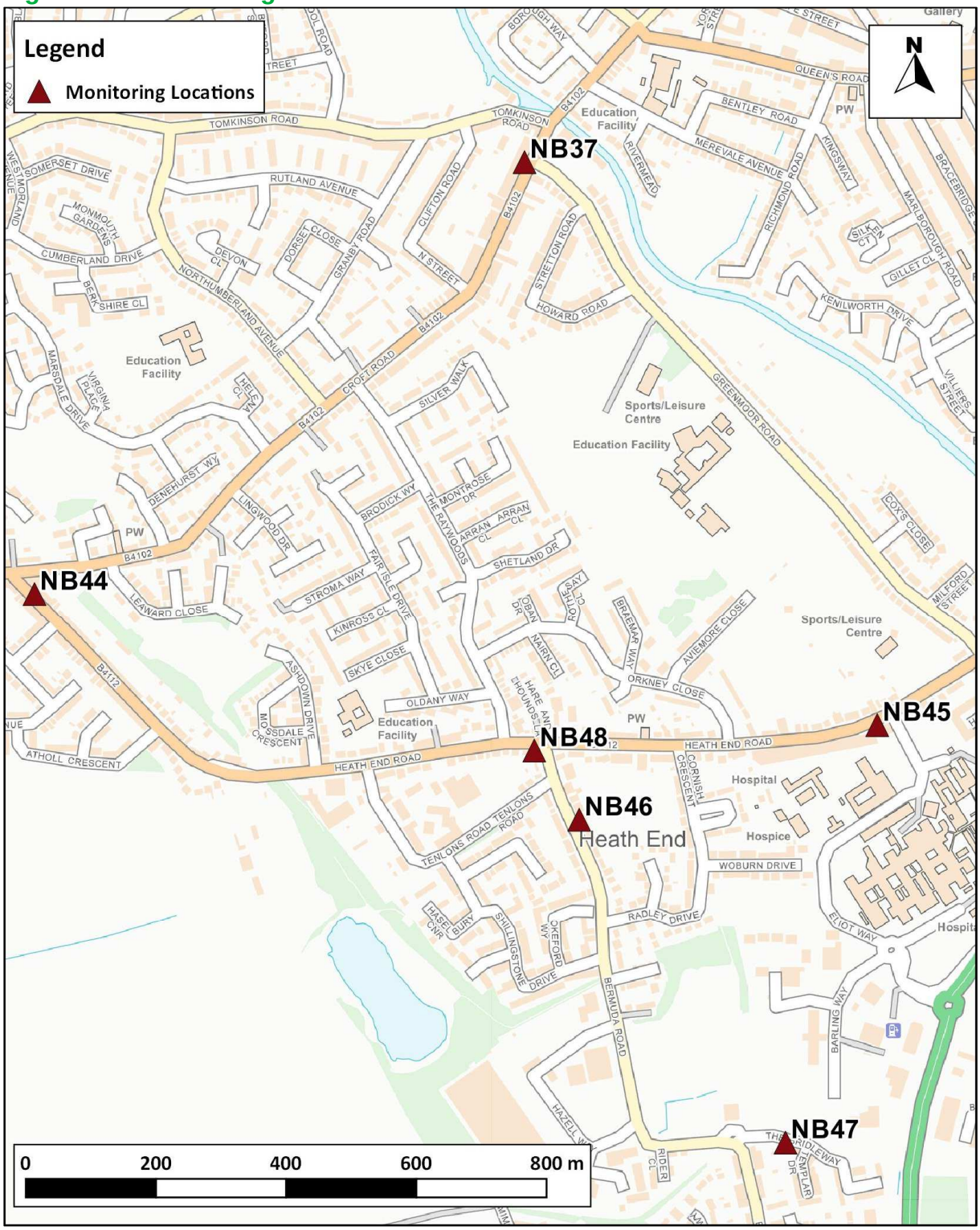


Figure D.7: Monitoring in Heath End



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[9]	
	Concentration	Measured as
Nitrogen Dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m^3	Annual mean
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

[9] The units are in micrograms of pollutant per cubic metre of air (µg/m^3).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQO	Air quality objective
ASR	Air quality Annual Status Report
AURN	Automatic Urban and Rural Network
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
EV	Electric vehicle
Exceedance	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
LAQM	Local Air Quality Management
$\mu g/m^3$	Micrograms per cubic metre
NBBC	Nuneaton and Bedworth Borough Council
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
TEA	Triethanolamine – used to absorb nitrogen dioxide