2025 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995 Local Air Quality Management, as amended by the Environment Act 2021

June 2025

Information	Cannock Chase Council Details
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Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Service of Cannock Chase Council.

This ASR has been approved by:

Gabrielle Whitehouse

Head of Regulatory Services

Cannock Chase Council welcomes comments on this ASR, which should be directed to the local authority officer.

Endorsement from the Director of Health & Care, Staffordshire County Council

Staffordshire County Council (SCC) is committed to working with partners to ensure that Cannock Chase will be a place where improved health and wellbeing is experienced by all. Poor air quality has a negative impact on public health, with potentially serious consequences for individuals, families, and communities. Identifying problem areas and ensuring that actions are taken to improve air quality forms an important element in protecting the health and wellbeing of Cannock Chase Council's residents. Improving air quality is often a complex issue, presenting a multi-agency challenge – so it is essential that all agencies work together effectively to deliver improvements where they are needed.

As Director of Health and Care across Staffordshire I endorse this Annual Status Report which sets out Cannock Chase Council's actions in conjunction with SCC and other partners approach to reducing human made pollution especially particulate matter.

Since the update of the Environment Act 2021 there is now a statutory duty imposed on Local Authorities in England to reduce $PM_{2.5}$, a number of the measures are complementary with those being undertaken to improve Air Quality. Many of Cannock Chase Council's activities to reduce NO_2 also can reduce particulates. To this end Cannock Chase Council has worked with a number of SCC projects/departments, such as:

The **Air Aware** project (phase 2) ran until March 2023 with Defra funding, however The Air Aware project continues with joint funding from SCC Public Health and Connectivity Teams on a recurring basis. The project delivers behaviour change to increase active travel, decrease car use, and raise awareness of air quality issues through five elements. These are business and school engagement, communications and campaigns, electric vehicles, and air quality monitoring in targeted locations. Campaigns include Anti-Idling, walking and cycle activities and Clean Air Day. These have been countywide engaging a large number of businesses and schools. The programme focuses on reducing levels of NO and PM, which are monitored at key locations.

Electric Vehicle project who are working in a consortium to install EV charging hubs for people without easy access to EV charging where they live via LEVI funding.

In addition, **Levelling up Fund 2** Schemes will improve a number of major roads around the county, reduce journey times, put greener, cleaner buses on main roads, improve walking and cycling routes and reduce the impact of housing and commercial developments.

Finally, it's worth mentioning both **Climate Change** and **The Local Transport Plan 4** (LTP4). SCC have signed up to the Climate Emergency and since signing up have reduced its Carbon footprint by 50%. We are now also now working towards LTP4, with our Local Authority partners. LTP4 will come into effect later this year (2025) and will have a positive effect on Air Quality over the coming years.

Dr Richard Harling MBE, FFPH, MBBS, MSc

Director of Health and Care

Staffordshire County Council

May 2025

Executive Summary: Air Quality in Our Area

Air Quality in Cannock Chase

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Low-income communities are also disproportionately impacted by poor air quality, exacerbating health and social inequalities.

Table ES 1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from.

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

Cannock Chase Council has one air quality management area (AQMA 2, Watling Street, Norton Canes), which was declared due to concentrations of NO_2 exceeding the annual air quality objective of 40 µg/m^3 at a relevant receptor. Air quality in AQMA 2 has continually met the objective since 2020, and so revocation will be considered in 2025.

The upgrade of the automatic NO_2 monitoring station (to include $PM_{2.5}$) at Heath Hayes was completed in November 2024. The highest modelled background concentration of $PM_{2.5}$ is in Bridgtown (9.8 µg/m^3).

Cannock Chase Council will continue to work with partner organisations on air quality awareness campaigns and transport management strategies. Cannock Chase Council will also enforce its smoke control order where appropriate.

Conclusions and Priorities

Air quality monitoring data for 2024 suggests that the annual air quality objective for NO_2 of 40 µg/m^3 is being met at all monitoring locations and that trends are stable. The revocation of AQMA 2 will be considered in 2025.

If AQMA 2 is revoked, it will be necessary to produce an air quality strategy, which sets out how Cannock Chase Council will continue to work with stakeholders to improve air quality across the District. If AQMA is not revoked, it will be necessary to produce an air quality management area action plan for AQMA 2.

How to get Involved

Cannock Chase Council welcomes comments and suggestions on how to improve air quality. Enquiries can be directed as follows:

Write to:	Environmental Protection, Cannock Chase Council, Beecroft Road, Cannock, Staffordshire ST18 0YS
Email:	environmentalhealth@cannockchasedc.gov.uk
Telephone:	01543 462621
Website:	https://www.cannockchasedc.gov.uk/residents/environmental-health/environmental-protection/air-quality-management

Local authorities across Staffordshire regularly meet to discuss air quality issues and initiatives as part of the Air Quality Forum.

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1 Local Air Quality Management

This report provides an overview of air quality in the District of Cannock Chase during 2024. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), 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 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 order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Cannock Chase Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1 (Appendix E: Summary of Air Quality Objectives in England).

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 should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

A summary of AQMAs declared by Cannock Chase Council can be found in Table 2.1. The table presents a description of the AQMAs that were designated within the District of Cannock Chase. Appendix D: Maps of Monitoring Locations and AQMAs provides maps of the AQMAs and air quality monitoring locations in relation to the AQMAs. The relevant air quality objective for NO_2 is 40 µg/m^3 (annual mean).

The Council will consider revocation of AQMA 2 during 2025

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
AQMA 2	Declared 1/9/2014	NO_2 annual mean	A5 Watling Street, Churchbridge to Norton Canes	YES	36.2	25.3	5	AQMA declared after publication of latest AQAP	https://uk-air.Defra.gov.uk/aqma/details?aqma_ref=1575

☒ **Cannock Chase Council confirms the information on UK-Air regarding their AQMAs is up to date.**

☒ **Cannock Chase Council confirms that all current AQAPs have been submitted to Defra.**

2.2 Progress and Impact of Measures to address Air Quality in Cannock Chase

Cannock Council's initial 2024 ASR was rejected by Defra; a revised submission was approved, Defra comments on which are presented in Table 2.2.

Table 2.2 – 2024 ASR Appraisal.

Comment	Initial Defra Comment	Revised Defra Comment	Cannock Chase Council Response
1	There are discrepancies between the ASR and excel spreadsheet that must be amended. There are entries (Measures 7 and 10) that have been included in Table 2.2 of the excel spreadsheet but are missing from Table 2.5 in the ASR document. Additionally, 2023 monitoring data and data captures have not been added to Table A.3 and A.5 of excel spreadsheet.	*This comment has since been sufficiently rectified such that there are no longer any discrepancies between the report and the excel spreadsheet.*	N/A
1	The council have mentioned that they will consider revocation of AQMA no. 2 for 2024. This decision is supported by recent monitoring data, which shows 4 consecutive years of compliance with the AQOs. After an additional year of compliance, the council must take steps to revoke this AQMA in accordance with LAQM.TG22. Progress on this is expected in next year's ASR.	N/A	Noted.
2	The council have provided detailed progress against last year's priorities and clear priorities for the coming year. This is commended and should be continued in future ASRs.	N/A	Noted.
3	The council has provided a detailed list of measures to improve air quality, including funding status and progress to date. However, some measures do not have specific KPIs to measure success and reductions in emissions from measures have been marked unknown, it is recommended that the council explains how the measure reduces emissions in this section, i.e. reduced congestion, promotion of air quality awareness, increase in sustainable transport	*The council have commented that KPI's have been included where possible and that qualitative reduction in pollutants will be added to next year's ASR.*	Noted.
4	The council have made reference to Defra background maps and the PHOF indicator to give additional context for baseline $PM_{2.5}$ concentrations which is encouraged.	N/A	Noted.
5	Trends in monitoring data are discussed in detail and are specific to key areas of concern within the district, i.e., AQMAs and former AQMAs. It is also clear that the council uses this data to review and update their monitoring network, with expansions made to increase their coverage. This is encouraging to see.	N/A	Noted.
6	The Council are missing "Additional Air Quality Works Undertaken by the Council during 2023" from their report which should be clarified in future ASRs.	*This comment has been addressed such that the Additional Air Quality Works for 2023 have been clarified.*	N/A
7	Good QA/QC measures have been demonstrated including reference to the AIR-PT scheme, but it is recommended that the council include screenshots of the National Diffusion Tube Bias Adjustment Factors Spreadsheet to provide additional proof of calculation. As well as this, though the council have provided both a Local and National bias adjustment factor they have not provided comparison between them, nor have they justified their choice of factor.	*This comment has been addressed as the report now includes a screenshot of the National Diffusion Tube Bias Adjustment Factors Spreadsheet for additional context, however they have not provided explanation for why the National factor was chosen over the Local factor.*	Noted and addressed.
8	The Council has mentioned it as a response to Defra comments from last year, but they have not explicitly stated in the report which analytical method was used to analyse their diffusion tubes. This should be clearly stated in future reports for clarification.	*This comment has been addressed; the report now clearly states the analytical method used within the QA/QC section.*	N/A
9	Table B.1 states that the bias adjustment factor used is 0.87 when Appendix C states that the factor used is 0.86. The data within the table appears to use 0.86 which matches the National bias adjustment factor spreadsheet, but this should be corrected in future ASRs.	*This comment has been rectified such that bias adjustment factor is constant across the whole report.*	N/A
10	The council have not provided many recommendations to help engage the public and promote good air quality, it is recommended that they recommend sustainable travel alternatives and provide links to websites where they can learn more such that they can easily get involved.	N/A	

Progress on measures identified for completion in the 2024 ASR is outlined in Table 2.3

Table 2.3 – Progress on 2024 Air Quality Priorities

Priority	Measure	2024 ASR Comments	2025 ASR Comments
1	Proposed revocation of AQMA 2	The air quality objectives at AQMA 2 have been achieved for four consecutive years. It is appropriate to consider revoking AQMA 2 in 2024.	A proposal to revoke AQMA 2 is due to go to public consultation in 2025.
2	Ongoing air quality monitoring and data review	Data collected in 2024 will be analysed as part of the 2025 ASR.	Data collected in 2024 has been reviewed as part of this report.
3	Review current air quality monitoring arrangements	AURN $PM_{2.5}$ monitoring station upgrade anticipated in 2024. It may be appropriate to review the diffusion tube monitoring programme.	The A5190 AURN was upgraded to include $PM_{2.5}$ monitoring in November 2024. It may be appropriate to review the diffusion tube monitoring programme.
4	Develop a local air quality strategy or air quality management action plan.	It will be necessary to develop an air quality strategy or an air quality management area action plan.	Preparation of an appropriate strategy will follow consultation on revoking AQMA 2.
5	Partnership working with Staffordshire County Council	Staffordshire County Council have significant influence on schools and run educational and business awareness campaigns, including 'Air Aware' and the 'Staffordshire Business and Environment Network'. Staffordshire County Council have been successful in obtaining 'Levelling Up' funding to deliver local highways infrastructure improvements on the A34 at Cannock town centre and to provide a low/zero emission bus service between Stafford and Cannock.	Work continues with Staffordshire County Council to deliver on these measures, although support for 'Air Aware' was reduced in 2024.
6	Adoption of a Green Travel Strategy	Cannock Chase Council is developing a Green Travel Strategy with the following key aims: • To Increase the uptake of active and green transportation whilst reducing the number of car journeys across the District. • To drive the uptake of ULEV vehicle use, whilst reducing the number of petrol and diesel vehicle journeys. • To work with partners to support the future increase in number of publicly available vehicle charging/ fuelling points. • To understand current reasons and choices of modes of transport within the District to understand how we can influence the uptake of future sustainable modes of transport and improve air quality. • To help develop complementary planning policies and strategic projects. To set an example, by developing an ULEV local authority fleet, adopting a staff travel plan, running green events and engaging with businesses through economic development programmes.	Cannock Chase Council and Stafford Borough Council have adopted a joint Climate Change Strategy and a joint Climate Change Action Plan; the Green Travel Strategy will be adopted in 2025.
7	Adoption of an Ultra-Low Emission Vehicle Charging Delivery Strategy	Cannock Chase Council is developing an Ultra-low Emission Vehicle Strategy with the following key aims: • To work towards Cannock Chase Council's vehicle fleet producing zero emissions by 2030 or as early as practicable after that date. • To provide adequate, safe and secure charging/fuelling locations across the District. To provide suitable dedicated charging locations within the District for our taxi operators.	Cannock Chase Council and Stafford Borough Council have adopted a joint Climate Change Strategy and a joint Climate Change Action Plan. The Council will continue to work toward adopting more sustainable
8	Develop planning policies that require developer contributions towards sustainable transport	The Cannock Chase Council Local Plan 2018-2039 is in development; it is anticipated that this will be adopted in 2024. The current draft includes policies on sustainable transport.	The Cannock Chase Council Local Plan is currently being examined by the Planning Inspectorate. It is anticipated that it will be adopted in 2025.
9	Produce a Developer's Guide to Air Quality	A draft Air Quality Developer's Guide has been prepared. However, the guide requires a review to ensure alignment with the policies under the 2018-2039 Local Plan. The Developer Guide should be published following adoption of the 2018-2039 Local Plan (anticipated in 2024).	The Air Quality Developer's Guide will be reviewed following adoption of the Local Plan.

Cannock Chase Council's air quality priorities for 2025 are presented in Table 2.4.

Table 2.4 – Air Quality Priorities for 2025

Priority	Measure	Comment
1	Proposed revocation of AQMA 2	The air quality objectives at AQMA 2 have been achieved for five consecutive years. Revocation of AQMA 2 will be considered in 2025.
2	Ongoing air quality monitoring and data review	Air quality data collected in 2025 will be reviewed in the 2026 ASR.
3	Review current air quality monitoring arrangements	It may be appropriate to review the diffusion tube monitoring programme.
4	Develop a local air quality strategy or air quality management action plan.	It will be necessary to develop an air quality strategy or (subject to the outcome of any proposal to revoke AQMA 2), an air quality management area action plan.
5	Partnership working with Staffordshire County Council	Staffordshire County Council have significant influence on schools and run educational and business awareness campaigns, including 'Air Aware' and the 'Staffordshire Business and Environment Network'. Staffordshire County Council have been successful in obtaining 'Levelling Up' funding to deliver local highways infrastructure improvements on the A34 at Cannock town centre and to provide a low/zero emission bus service between Stafford and Cannock.
6	Adoption of a Green Travel Strategy	Cannock Chase Council is developing a Green Travel Strategy with the following key aims: • To Increase the uptake of active and green transportation whilst reducing the number of car journeys across the District. • To drive the uptake of ULEV vehicle use, whilst reducing the number of petrol and diesel vehicle journeys. • To work with partners to support the future increase in number of publicly available vehicle charging/ fuelling points. • To understand current reasons and choices of modes of transport within the District to understand how we can influence the uptake of future sustainable modes of transport and improve air quality. • To help develop complementary planning policies and strategic projects. • To set an example, by developing an ULEV local authority fleet, adopting a staff travel plan, running green events and engaging with businesses through economic development programmes.
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8	Develop planning policies that require developer contributions towards sustainable transport	The Cannock Chase Council Local Plan 2018-2039 is in development; it is anticipated that this will be adopted in 2025. The current draft includes policies on sustainable transport.
9	Produce a Developer's Guide to Air Quality	A draft Air Quality Developer's Guide has been prepared. However, the guide requires a review to ensure alignment with the policies under the 2018-2039 Local Plan. The Developer Guide should be published following adoption of the 2018-2039 Local Plan (anticipated in 2025).

The principal challenges and barriers to implementation that Cannock Chase Council anticipates facing are:

- Staff resource (time).
- Funding to deliver sustainable transport infrastructure.
- In 2023, Cannock Chase Council and Stafford Borough Council entered into a shared services agreement, which is being implemented.
- In 2024, the Government announced plans to restructure local government, which will result in the abolition of Cannock Chase Council. Responsibility for local air quality management will pass to the successor council.

Details of nine measures relating to air quality that have been completed or are in progress (for the reporting year of 2024) are set out in Table 2.5.

Table 2.5 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Air Aware - School Travel Plans	Promoting Travel Alternatives	School Travel Plans	2018	2024	Staffordshire County Council	DEFRA/ Staffordshire County Council	YES	Partially Funded	£100k - £500k	Implementation	Unknown	Number of schools participating	5 schools participated in the scheme, 2 of which are still engaged.	Air Aware has been incorporated into mainstream school engagement through SCC. https://www.staffordshire.gov.uk/Transport/Sustainable-Travel/Air-Quality/Schools.aspx
2	Air Aware - School anti-Idling Campaigns	Public Information	Via other mechanisms	2019	2024	Staffordshire County Council	DEFRA/ Staffordshire County Council	YES	Partially Funded	< £10k	Implementation	Unknown	Number of schools participating	4 schools participated in the campaign.	Awareness campaign for those who drive to school. Participants sign a pledge and receive reminder emails.
3	Public awareness campaigns	Public Information	Via other mechanisms	2018	2040	Staffordshire County Council	DEFRA/ Staffordshire County Council	YES	Funded	£50k - £100k	Implementation	Unknown	N/A		
4	Staffordshire Business Environment Network	Promoting Travel Alternatives	Workplace Travel Planning	2012	2040	Staffordshire County Council	Staffordshire County Council	NO	Not Funded	< £10k	Implementation	Unknown	Number of businesses participating	60 businesses engaged with this service in Cannock in 2024.	
5	Home working	Promoting Travel Alternatives	Encourage / Facilitate homeworking	2013	2040	Cannock Chase Council	N/A	NO	Not Funded	< £10k	Implementation	Unknown	N/A	Home working policy implemented in 2013.	
6	Cycle 2 Work Scheme	Promoting Travel Alternatives	Promotion of cycling	2015	2040	Cannock Chase Council	Cycle scheme	NO	Not Funded	< £10k	Implementation	Unknown	Number of staff taking up measure	No staff uptake in 2025.	
7	Active Travel Fund	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2021	2024	Staffordshire County Council	Department of Transport	NO	Funded	£1 million - £10 million	Completed	Unknown	Length of cycle path installed/ upgraded	Complete	850 m of cycle paths installed.
8	Taxi Licensing Policy	Promoting Low Emission Transport	Taxi Licensing conditions	2023	2030	Cannock Chase Council	N/A	NO	Funded	< £10k	Implementation	Unknown	Proportion of licensed vehicles as hybrid or electric	2024 Diesel - 59.3% Petrol - 8.3% Hybrid - 31% Electric - 1.4%	2023 (baseline): Diesel – 74.6% Petrol – 8.6% Hybrid – 16.4% LPG – 0.4%
9	Levelling Up Fund 2	Promoting Travel Alternatives	Promotion of cycling	2024	2024	Staffordshire County Council	Ministry of Housing, Communities & Local Government	NO	Funded	£100k - £500k	Completed	Unknown	Length of cycle path installed	Complete	

Note:

The wider measures that Staffordshire County Council take to reduce pollution are in their Climate Change Annual Report (see Table 2.6).

Cannock Chase Council worked in partnership with the following stakeholders during 2024:

- Staffordshire County Council.
- Energy Saving Trust.
- Staffordshire Air Quality Forum (liaison group representing local authority officers across Staffordshire).

Policies of relevance to air quality are presented in Table 2.6.

Table 2.6 – Plans and Strategies Aligned to Air Quality

Plan or Strategy	Authority	Summary	Web Link
Costed Net Zero Action Plan	Cannock Chase Council	This policy identifies and assesses measures to achieve net zero carbon emissions by 2030.	https://www.cannockchasedc.gov.uk/sites/default/files/costed_net_zero_action_plan.pdf (2.3 Mb).
Cannock Chase Local Plan 2018-2039	Cannock Chase Council	The proposed Local Plan sets planning policy. Strategic objective 5 is focused on the provision of sustainable transport and communications infrastructure.	https://www.cannockchasedc.gov.uk/sites/default/files/06-local_plan_2018_to_2039_reg_19_consultation_rpt_cabinet_250822.pdf (10.3 Mb).
		Planning policies require the potential impact of nitrogen emissions from development on the Cannock Chase Special Area of Conservation to be assessed.	https://www.cannockchasedc.gov.uk/residents/planning-building/planning-policy/cannock-chase-special-area-conservation-sac
Hackney Carriage/Private Hire Driver, Vehicle & Operator Licensing Policy	Cannock Chase Council	Annex F details the migration toward hybrid, electric and hydrogen vehicles in the licensed private hire/taxi fleet.	https://www.cannockchasedc.gov.uk/sites/default/files/document-library/Revised%20Taxi%20Policy%202023%20Final_0.pdf (0.5 Mb)
Climate Change Strategy 2025-2030	Cannock Chase & Stafford Borough Councils	The Climate Change Strategy includes a pledge to support green travel planning, and to move toward a low carbon fuel fleet by 2030.	Not currently available
Climate Change Action Plan 2025-2030	Cannock Chase & Stafford Borough Councils	The Climate Change Action Plan includes measures to decarbonise the taxi fleet, procure electric vehicles, reduce engine idling, and to develop the electric vehicle charging infrastructure throughout the district.	Not currently available
Climate Change Action Plan 2025-2030	Staffordshire County Council	This plan includes measures to reduce transport emissions. Progress is reported on annually.	https://www.staffordshire.gov.uk/Environment/Climate-Change/Documents/CCAP-2025-30-Accessible-version.pdf (7.72 Mb)
Public Electric Vehicle Charging Infrastructure Strategy 2023	Staffordshire County Council	This strategy seeks to coordinate the development of electric vehicle charge points across the county.	https://www.staffordshire.gov.uk/Transport/Sustainable-travel/Electric-vehicles/02-SCC-Public-EV-Charging-Strategy-V3-3.pdf%20 (17 Mb)
Cannock Chase Integrated Transport Strategy 2013-2028	Staffordshire County Council	This strategy prioritises expenditure on transport improvements across Cannock.	https://www.staffordshire.gov.uk/Transport/transportplanning/documents/Documents/Cannock-Transport.pdf (2.7 Mb)
Local Transport Plan 2011	Staffordshire County Council	The Local Transport Plan is supported by a series of complementary policies: • Bus Service Improvement Plan 2021 • Local Cycling and Walking Infrastructure Plan 2021 • Freight Strategy Plan 2019 • Highways Infrastructure Asset Management Plan 2022 • Rail Strategy 2016	https://www.staffordshire.gov.uk/Transport/transportplanning/localtransportplan/home.aspx

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[1], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$ - particulate matter smaller than 2.5 micrometres). There is clear evidence that $PM_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 establish the following targets for $PM_{2.5}$:

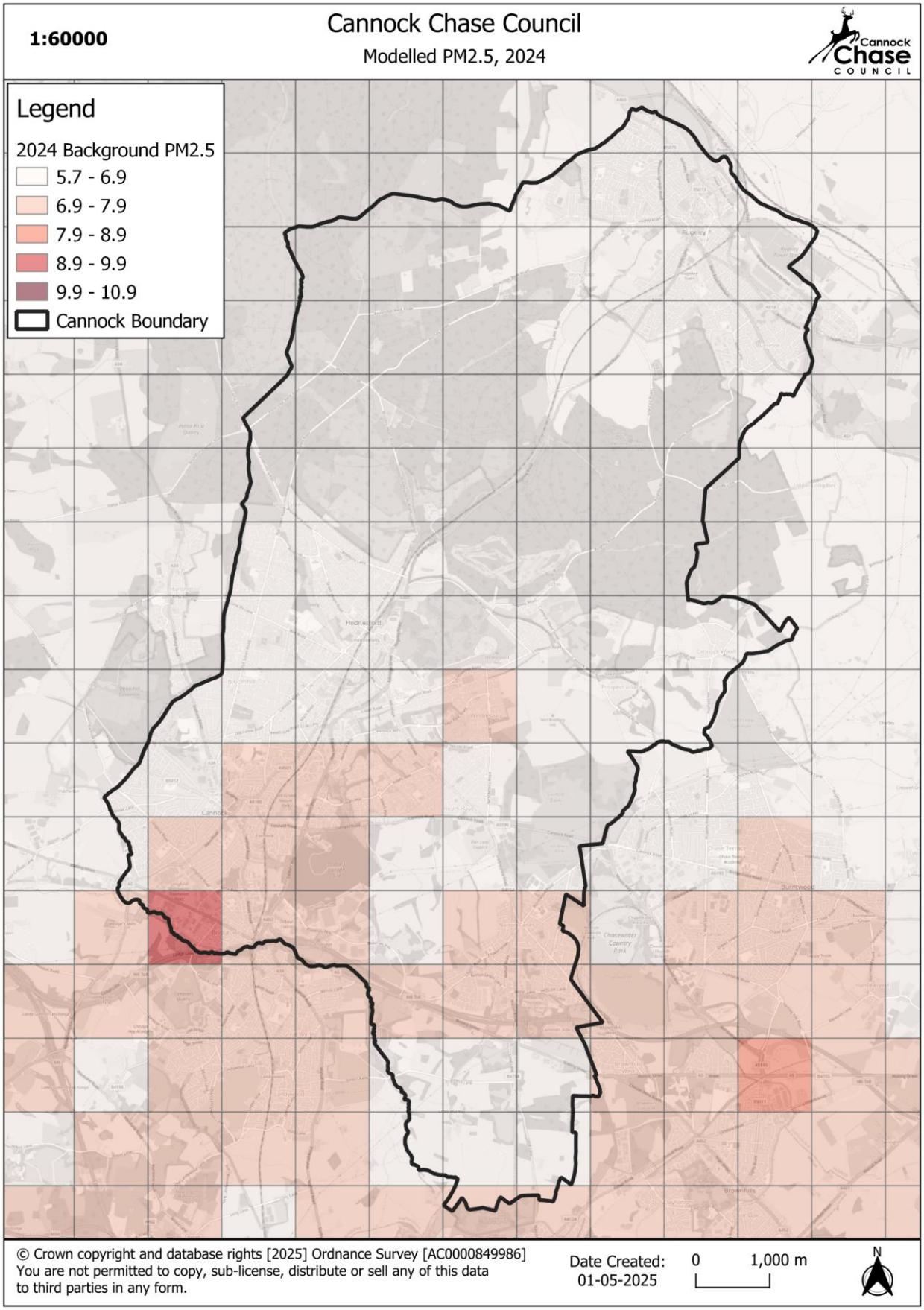
- 10 µg/m^3 annual mean (to be achieved by 2040).
- A 35% reduction in population exposure by 2040 (2016-2018 baseline).

2.3.1 Background $PM_{2.5}$ in Cannock Chase

DEFRA modelled background concentrations of $PM_{2.5}$, based on 2021 data (with a resolution of 1 km^2), are presented as Figure 2.1. Modelled background concentrations of $PM_{2.5}$ peak in Bridgtown (9.8 µg/m^3), and generally decrease from the south to the north.

[1] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

Figure 2.1 - Modelled Background $PM_{2.5}$ in Cannock



Elevated background $PM_{2.5}$ concentrations coincide with two major highways:

- The A5/Watling Street.
- The M6 Toll.

Watling Street runs northwest to southeast through the south of the District and is split into two parts. The western part cuts through Bridgtown, a mixed commercial and residential area. The eastern part passes through a largely agricultural area, lined with sporadic residential and commercial properties.

The M6 Toll runs west to east through the south of the District, along the southern extent of Norton Canes, before meeting the District boundary at Brownhills West.

2.3.2 Public Health Outcomes Framework

The contribution of particulate air pollution to mortality across Cannock Chase District (according to the Office for Health Improvement and Disparities 'Public Health Outcomes Framework') is presented as Figure 2.2 and Table 2.7 (the latest data covers the period 2018-2023).

Caution should be exercised when assessing this data, as factors other than particulate pollution (such as depravation) are likely to influence these outcomes. Relevant characteristics of Cannock Chase District to consider include:

- Cannock Chase District lies within a former coalfield; the last colliery closed in 1990. Coal miners are at a higher risk of developing respiratory ailments, such as silicosis, coal workers pneumoconiosis and COPD, from occupational exposure to particulates. Data on the proportion and age of the local population who worked in the mining industry is not available.
- 12.7% of the District's population are income deprived (the 114th most deprived of 316 local authorities in England).

That 'mortality associated with particulate pollution' is lower in Cannock than the average in England is testament to the high air quality of the District, particularly when taking into account the characteristics of the area (which would be expected to influence toward higher mortality rates).

Figure 2.2 - Fraction of Mortality Attributable to Particulate Air Pollution

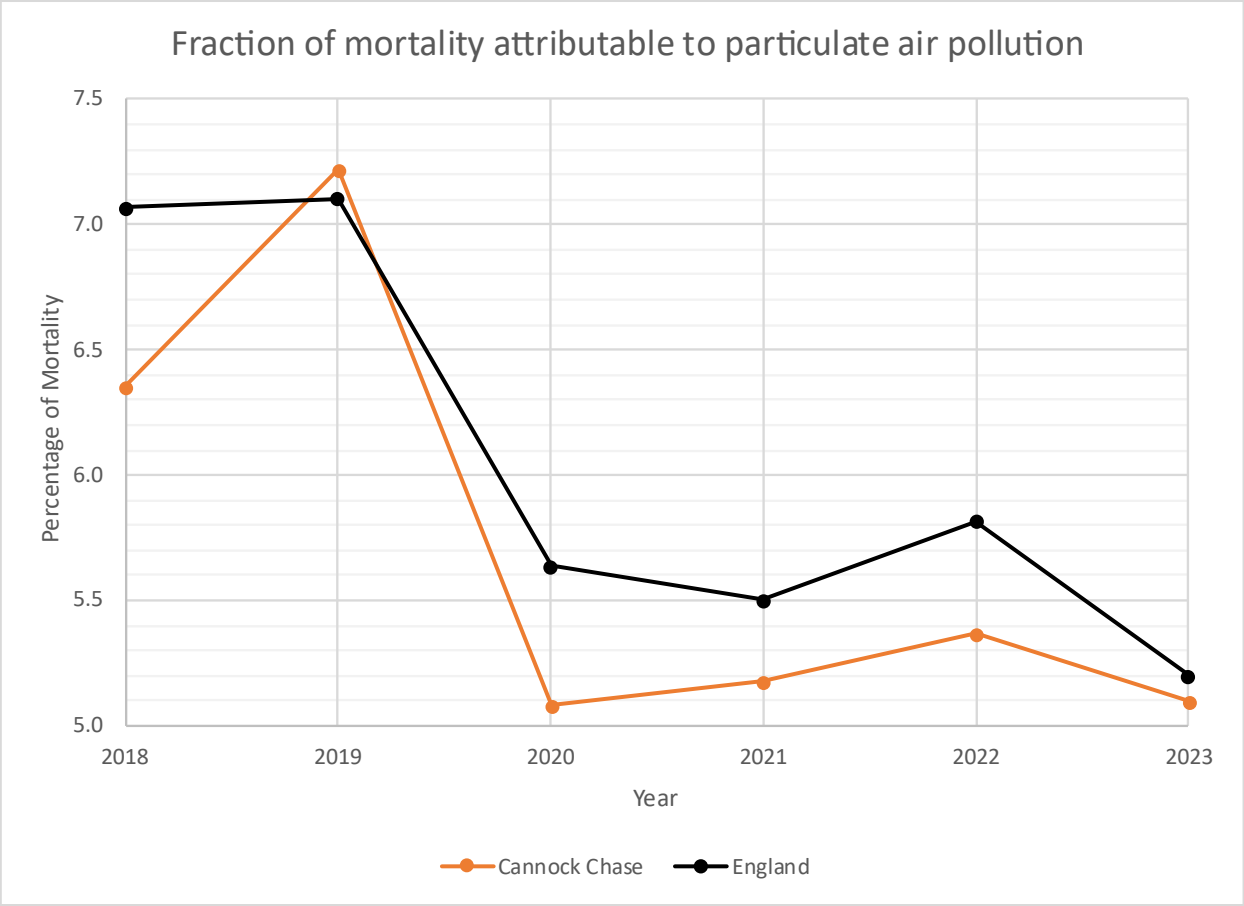


Table 2.7 – Fraction of Mortality Attributable to Particulate Air Pollution

Year	Area	Result (%)	Area	Result (%)
2018	England	7.1	Cannock Chase District	6.4
2019	England	7.1	Cannock Chase District	7.2
2020	England	5.6	Cannock Chase District	5.1
2021	England	5.5	Cannock Chase District	5.2
2022	England	5.8	Cannock Chase District	5.4
2023	England	5.2	Cannock Chase District	5.1

2.3.3 Smoke Control

The Cannock Chase District Council Smoke Control Order 2024, which covers the entire district and includes moored vessels within its scope, came into force on 1st September 2024.

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

This section sets out the monitoring undertaken in 2024 by Cannock Chase Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Automatic (continuous) monitoring for NO_2 (full year) and $PM_{2.5}$ (from November) was undertaken at the Cannock A5190 Roadside monitoring site in 2024. Table A.1 in Appendix A provides further details. Information can be found on the UK Air website (https://uk-air.Defra.gov.uk/networks/site-info?site_id=CANK&view=View).

The location of the monitoring site is provided in Appendix D (please note that the monitoring station is co-located with diffusion tubes HHMS 1-3).

3.1.2 Non-Automatic Monitoring Sites

Cannock Chase Council undertook non-automatic (i.e. passive) monitoring of NO_2 at 21 sites during 2024. Table A.2 in Appendix A presents the details of the non-automatic 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/or 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 (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40 µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2024 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200 µg/m^3, not to be exceeded more than 18 times per year.

The monitoring results are discussed below.

Former AQMA 1

Monitoring is undertaken at three locations:

- BTL-B (mounted on a drain pipe at 87 Watling Street, 4.7 m to the south of a traffic light controlled junction).
- 67 WS (mounted on a drain pipe at 87 Watling Street, 7.5 m to the south of the carriageway).
- 54 WS (mounted on a drain pipe at 54 Watling Street, 4.9 m to the north of the carriageway).

NO_2 concentrations show a slightly reducing trend across the 2020 - 2024 monitoring period. NO_2 at BTL-B and 54 WS closely correlate, both properties being the same approximate distance from the carriageway; NO_2 at 54 WS is markedly lower, likely due to the greater distance from the carriageway (than BTL-B and 54 WS).

Concentrations of NO_2 continue to comfortably meet the annual objective.

AQMA 2

Air quality monitoring is undertaken within AQMA 2 at three locations:

- 268 WS (mounted on a lamp post on the south side of Watling Street, 1.9 m from the carriageway; the relevant receptor is an additional 0.3 m from the carriageway).
- 268 WSA (mounted on a road sign on the north side of Watling Street, 5.2 m from carriageway - there are no relevant receptors nearby).
- 268 WSB (mounted on a road sign on the north side of Watling Street, 1.2 m from carriageway - there are no relevant receptors nearby).

Monitoring demonstrates continuous compliance with the annual objective over the last 5 years.

Former AQMA 3

The monitoring results exhibit a broadly similar trend to those observed in AQMA 1 and AQMA 2.

Monitoring at HHFW indicates NO_2 concentrations have declined, with the 2024 data returning a concentration of 32.5 $\mu g/m^3$. Traffic congestion at this location is the likely cause of the relatively elevated NO_2.

NO_2 concentrations at CNKRD are stable, 2024 data returned a concentration of 22.4 $\mu g/m^3$, which meet the air quality objective.

Monitoring results from HH01 (at a primary school) comfortably meet the air quality objective, as do the results from HHMS (which is co-located with an automated monitoring station, HHMS).

Non-AQMA Locations

Monitoring is undertaken at the A460 to record background NO_2 in the Cannock Chase Special Area of Conservation, for town and country planning purposes; there are no relevant receptors (vis-a-vis local air quality management) at that location, but the data is included for information.

Monitoring at HH01 is undertaken as part of the Air Aware campaign for the associated school. FW01 and GM01 were discontinued in June 2024, and have not been assessed in this report.

The remaining monitoring data indicates compliance with the relevant air quality objective.

Summary

The monitoring data suggests that NO_2 is declining across the district and that relevant objectives are being met.

Five years of monitoring data demonstrate continuous compliance with the annual NO_2 air quality objective at 268 WS, and continues to support the revocation of AQMA 2.

3.2.2 Particulate Matter ($PM_{2.5}$)

The AURN at Heath Hayes (HHMS) was upgraded to include monitoring for $PM_{2.5}$; monitoring commenced on 11 November 2024.

The available data returned an average $PM_{2.5}$ concentration of 5.5 µg/m^3 across the relevant monitoring period (11 November 2024 - 8 January 2025).

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m)	Distance to kerb of nearest road (m)	Inlet Height (m)
HHMS	Cannock A5190 Roadside	Roadside	401392	309954	NO_2, $PM_{2.5}$	No	Chemiluminescent; FIDAS	3.6	6.6	1.8

Notes:

$PM_{2.5}$ monitoring commenced 11 November 2024.

Site information can be found here: https://uk-air.Defra.gov.uk/networks/site-info?site_id=CANK&view=View.

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
MORT-2	Cannock Mortuary	Urban Background	397588	309730	NO_2	No	NA	NA	No	2.3
BTL-B	87 Watling Street, Bridgtown	Roadside	397952	308567	NO_2	No	0	4.7	No	2.1
67 WS	67 Watling Street, Bridgtown	Roadside	398051	308512	NO_2	No	-0.2	7.5	No	2.0
54 WS	54 Watling Street, Bridgtown	Roadside	398250	308428	NO_2	No	0	4.9	No	2.1
268 WS	268 Watling Street	Roadside	400726	307423	NO_2	AQMA 2	0.3	1.9	No	2.0
268 WSA	268 Watling Street A	Roadside	400635	307478	NO_2	AQMA 2	NA	5.2	No	1.5
268 WSB	268 Watling Street B	Roadside	400864	307385	NO_2	AQMA 2	NA	1.2	No	2.1
HHFW	Five Ways Inn, Heath Hayes	Roadside	401565	309939	NO_2	No	0	1.5	No	2.3
CNKRD	Cannock Road, Heath Hayes	Roadside	401465	309956	NO_2	No	11.8	1.5	No	2.1
HHMS1 HHMS2 HHMS3	Cannock A5190 AURN	Roadside	401392	309954	NO_2	No	3.6	6.6	Yes	2.0
HF	Horsefair, Rugeley	Roadside	404475	317730	NO_2	No	0	6.4	No	2.4
LICH RD	A5190 Lichfield Road, Cannock	Roadside	398976	309865	NO_2	No	12.9	1.6	No	2.4
HH01	Heath Hayes Academy, Cannock	Roadside	401630	310593	NO_2	No	NA	1.6	No	2.7
FW01	Five Ways Primary, Heath Hayes	Roadside	400900	310607	NO_2	No	NA	2.0	No	2.8
GM01	Gorsemoor Primary, Heath Hayes	Roadside	400723	310186	NO_2	No	NA	5.1	No	2.0
A460	A460, Rugeley	Roadside	403009	315930	NO_2	No	NA	1.5	No	2.0
69 CH ST	69 Church Street, Rugeley	Kerbside	404081	318200	NO_2	No	0.3	0.9	No	2.2
3 FORGE RD	3 Forge Road, Rugeley	Roadside	404607	318006	NO_2	No	0.3	1.1	No	2.2
104 MAIN RD	104 Main Road, Brereton	Roadside	405385	316306	NO_2	No	0.7	2.8	No	2.2
28 STN RD	28 Station Road, Hednesford	Roadside	400015	312651	NO_2	No	0.9	1.4	No	2.3
CRC	219 Cannock Road, Chadsmoor	Roadside	399017	311653	NO_2	No	0.1	2.2	No	2.3

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
HHMS	401392	309954	Roadside	99	99	14.4	15.7	13.8	14.6	14.2

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Reported concentrations are those at the location of the monitoring site (annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

The annual mean concentrations are presented as µg/m^3.

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

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(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%).

Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
MORT-2	397588	309730	Urban Background	92.5	92.5				12.0	10.3
BTL-B	397952	308567	Roadside	100.0	100.0	25.6	27.0	25.9	25.5	21.5
67 WS	398051	308512	Roadside	100.0	100.0	17.9	20.1	18.6	17.6	15.0
54 WS	398250	308428	Roadside	92.5	92.5	24.7	21.9	26.6	25.5	20.6
268 WS	400726	307423	Roadside	100.0	100.0	27.6	27.1	28.9	27.4	25.3
268 WSA	400635	307478	Roadside	100.0	100.0	28.2	29.0	28.2	27.1	24.2
268 WSB	400864	307385	Roadside	100.0	100.0	31.6	18.4	38.7	39.7	34.5
HHFW	401565	309939	Roadside	100.0	100.0	31.4	32.5	36.6	36.9	32.5
CNKRD	401465	309956	Roadside	100.0	100.0	25.0	25.7	26.7	26.2	22.4
HHMS1 HHMS2 HHMS3	401392	309954	Roadside	100.0	100.0	16.2	19.3	17.1	16.6	14.1
HF	404475	317730	Roadside	100.0	100.0	24.1	25.8	25.2	22.7	20.8
LICH RD	398976	309865	Roadside	100.0	100.0	23.4	26.2	24.8	25.1	21.5
HH01	401630	310593	Roadside	100.0	100.0	14.1	17.6	14.9	14.6	11.8
FW01	400900	310607	Roadside	83.3	39.9	18.3	25.1	19.0	18.4	16.7
GM01	400723	310186	Roadside	100.0	49.1	12.9	16.1	14.2	13.3	10.8
A460	403009	315930	Roadside	90.8	90.8			16.8	16.3	13.6
69 CH ST	404081	318200	Kerbside	83.3	83.3				18.1	16.0
3 FORGE RD	404607	318006	Roadside	92.5	92.5				18.0	16.8
104 MAIN RD	405385	316306	Roadside	100.0	100.0				12.4	12.8
28 STN RD	400015	312651	Roadside	100.0	100.0				21.7	17.9
CRC	399017	311653	Roadside	92.5	92.5				23.1	20.9

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

The annual mean concentrations are presented as µg/m^3.

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

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

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(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%).

Figure A.1 – Trends in Annual Mean NO_2 Concentrations for Former AQMA 1

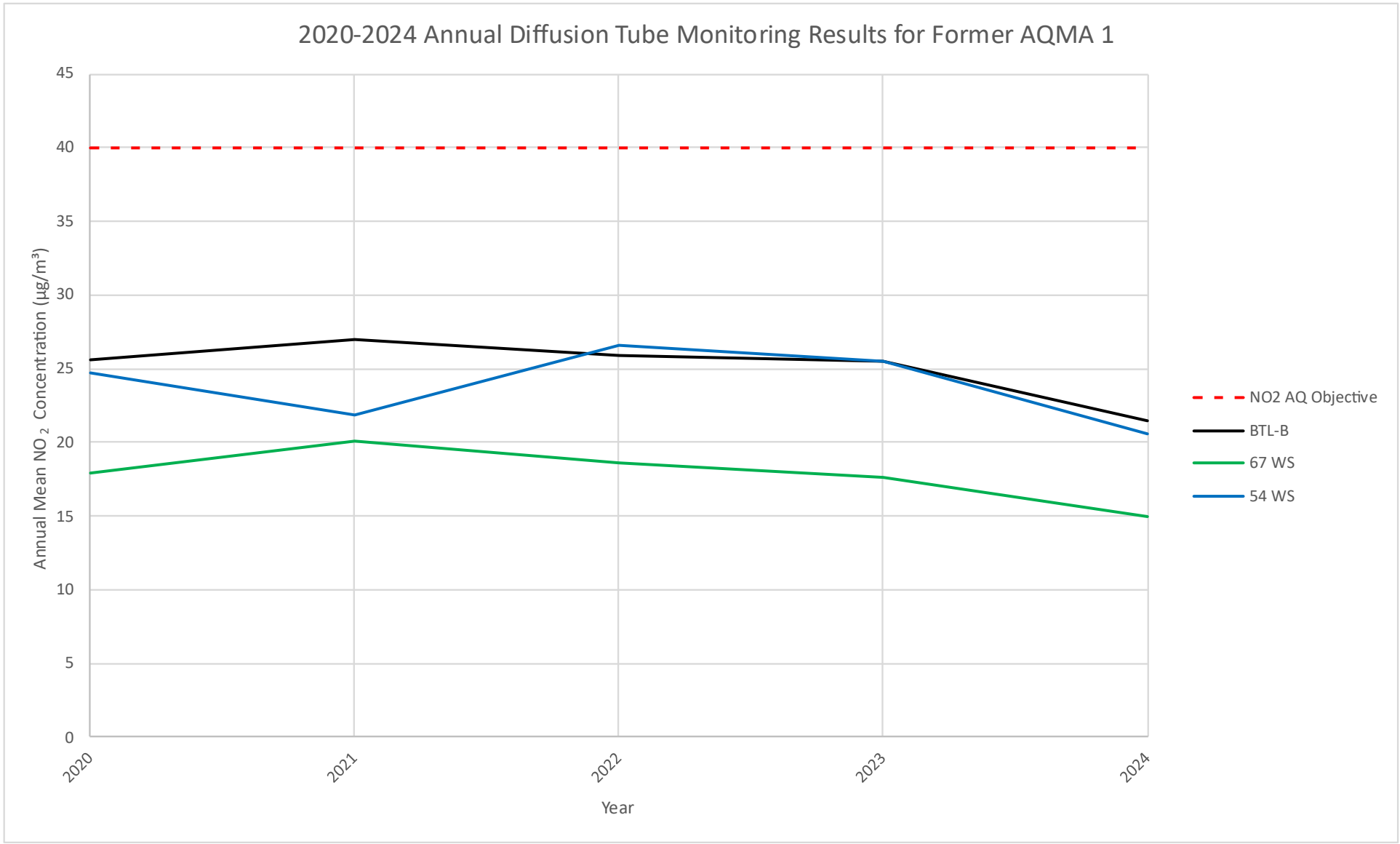


Figure A.2 – Trends in Annual Mean NO_2 Concentrations for AQMA 2

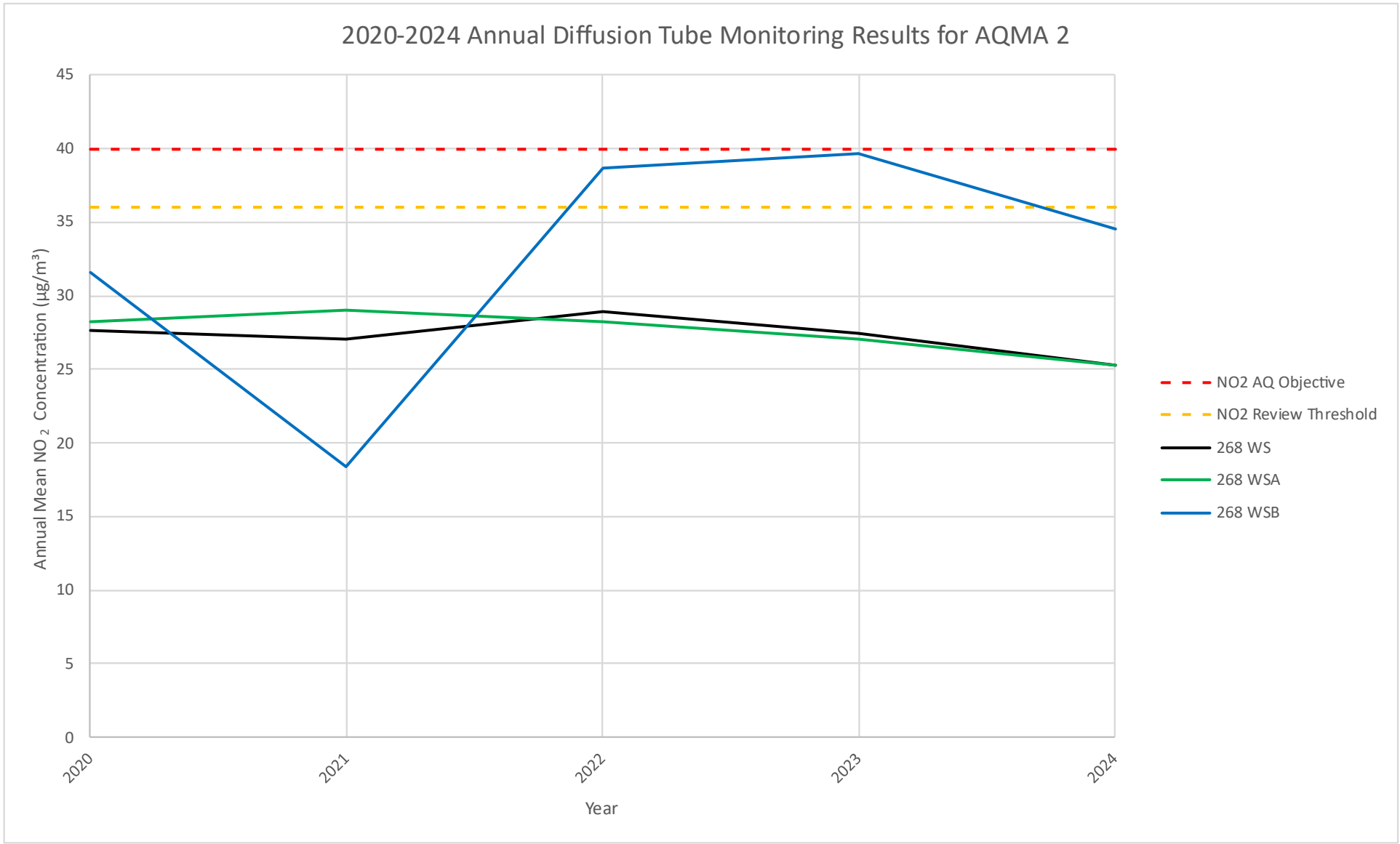


Figure A.3 – Trends in Annual Mean NO2 Concentrations for Former AQMA 3

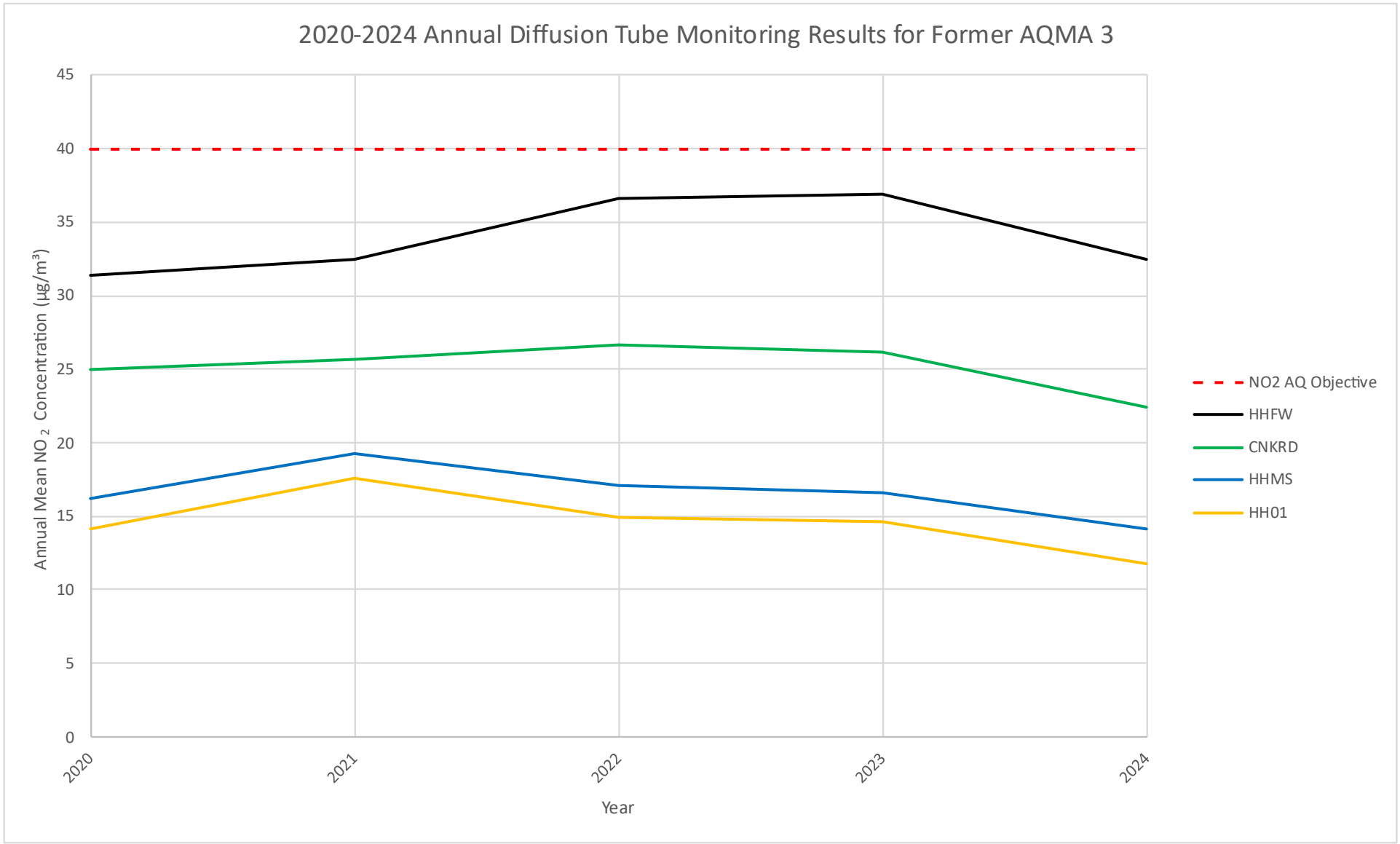


Figure A.4 – Trends in Annual Mean NO_2 Concentrations in Non-AQMA Locations

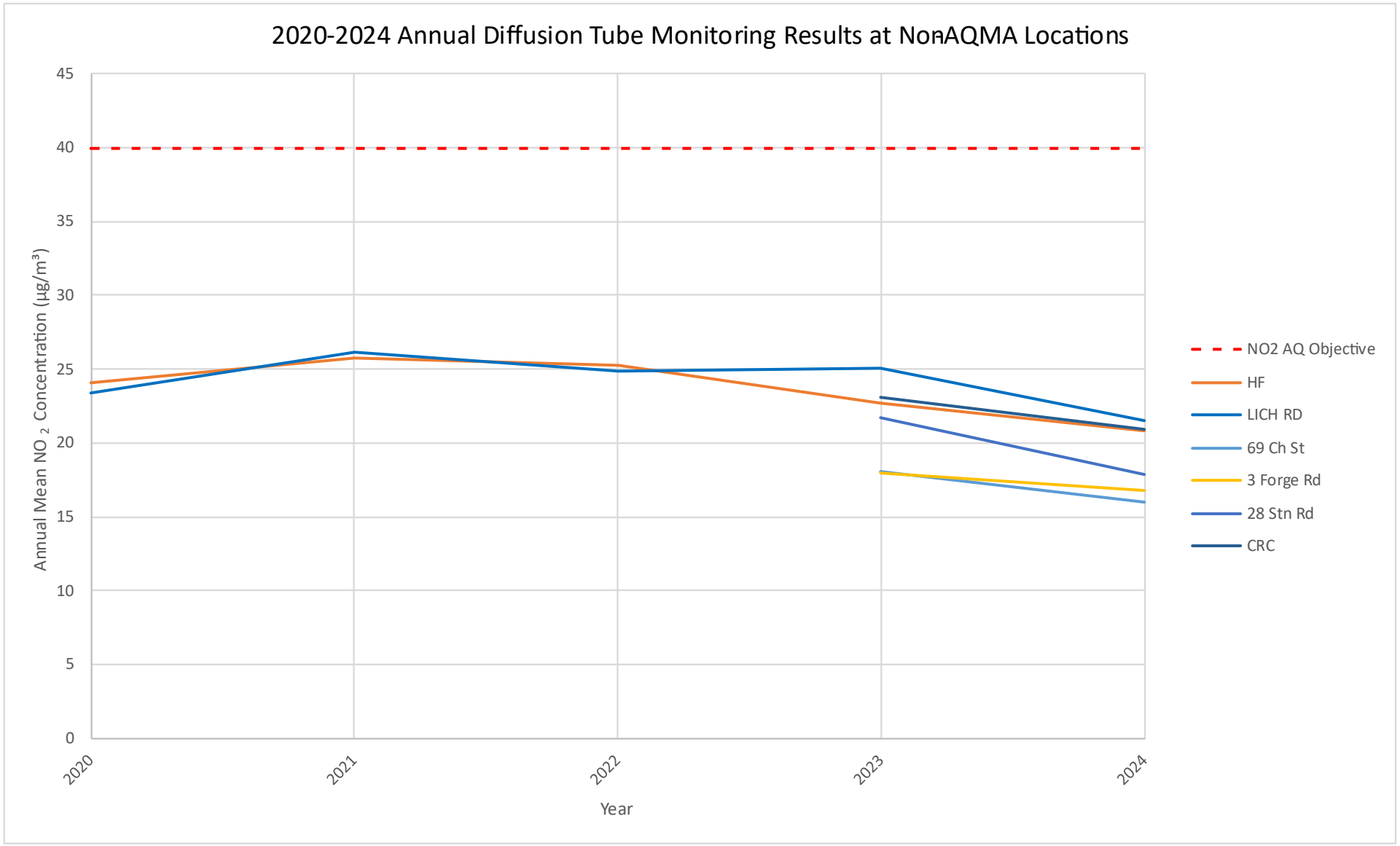


Figure A.5 – Trends in Annual Mean NO_2 Concentrations at School Locations

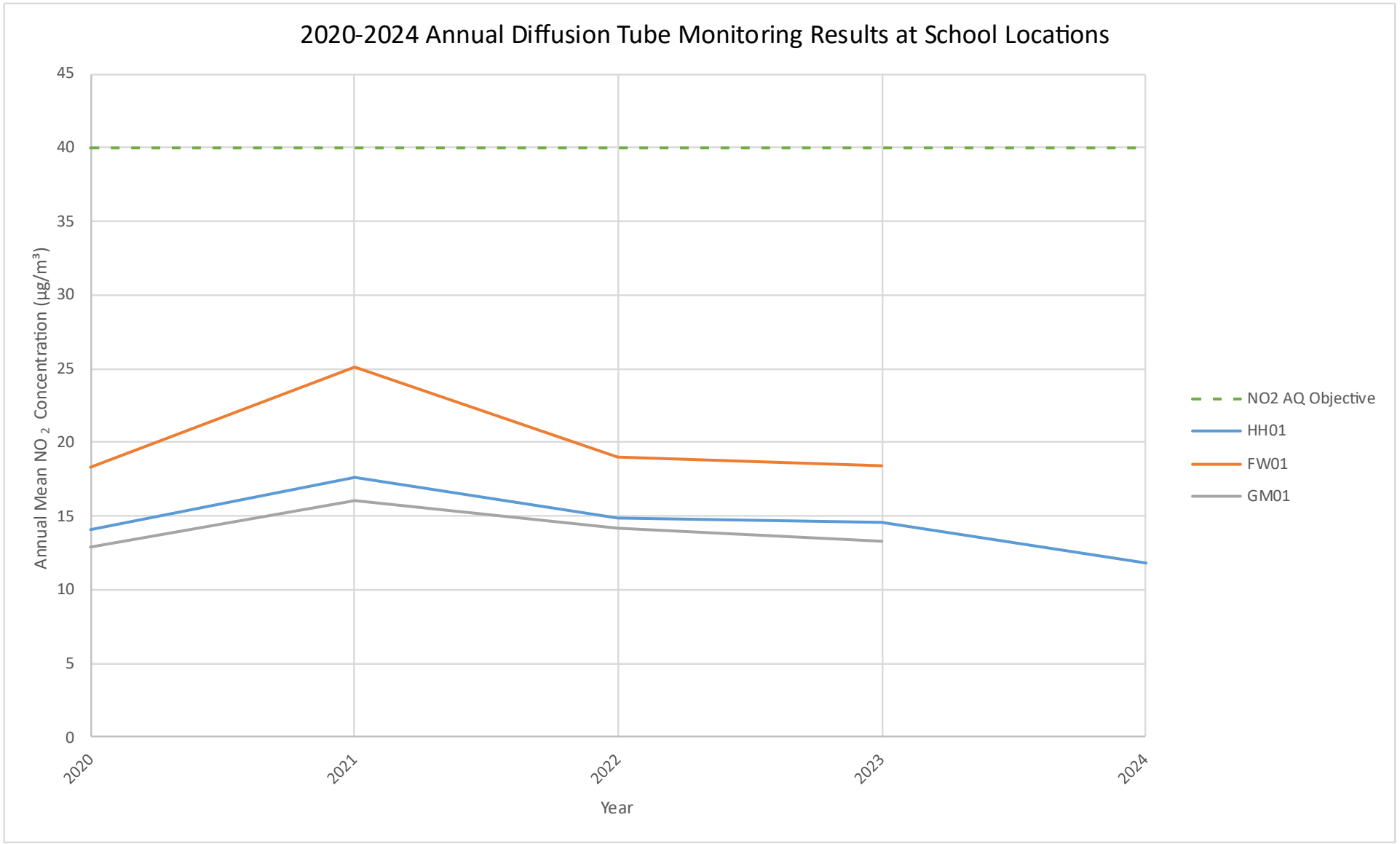


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200 µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
HHMS	401392	309954	Roadside	99	99	0	0	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200 µg/m^3 have been recorded.

Exceedances of the NO_2 1-hour mean objective (200 µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(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%).

Table A.6 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
HHMS	401392	309954	Roadside	100	15.7					5.5

☐ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22**

Notes:

The annual mean concentrations are presented as µg/m^3.

All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(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%).

Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – 2024 NO_2 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.79)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
MORT-2	397588	309730	17.5	16.4		7.3	11.3	7.2	11.9	8.2	11.6	19.1	18.5	14.5	13.0	10.3		
BTL-B	397952	308567	30.6	26.3	26.1	19.3	27.2	23.7	25.9	22.9	29.6	30.7	37.7	27.8	27.3	21.5		
67 WS	398051	308512	24.5	20.6	19.1	14.8	18.1	13.8	16.5	14.3	19.3	22.9	24.4	20.5	19.1	15.0	15.0	
54 WS	398250	308428	31.4	26.9	26.7	22.5	28.1	20.2	23.3	20.6	32.4	31.3		24.6	26.2	20.6		
268 WS	400726	307423	34.5	30.5	26.2	23.5	37.8	30.8	31.5	23.9	39.9	34.9	**43.1**	28.7	32.1	25.3		
268 WSA	400635	307478	31.4	31.5	29.6	25.7	32.9	33.2	32.8	28.1	27.2	32.5	35.2	28.6	30.7	24.2		
268 WSB	400864	307385	**41.7**	37.9	37.4	38.1	**49.6**	**49.5**	**46.4**	**43.6**	**48.8**	**47.6**	**50.4**	35.3	**43.9**	34.5		
HHFW	401565	309939	**45.1**	**40.2**	35.6	33.5	**47.9**	39.2	37.0	32.9	**48.4**	**43.3**	**52.7**	38.9	**41.2**	32.5		
CNKRD	401465	309956	30.2	28.3	26.2	23.5	30.2	22.1	24.8	21.8	27.5	36.0	**40.8**	29.4	28.4	22.4		
HHMS1	401392	309954	22.4	20.6	17.1	13.4	16.0	12.3	13.3	12.5	17.1	22.1	25.6	21.8	-	-		Triplicate Site with HHMS1, HHMS2 and HHMS3 - Annual data provided for HHMS3 only
HHMS2	401392	309954	22.3	20.9	16.1	13.7	14.5	12.3	13.2	12.2	18.0	22.8	27.0	20.9	-	-		Triplicate Site with HHMS1, HHMS2 and HHMS3 - Annual data provided for HHMS3 only
HHMS3	401392	309954	22.8	19.5	16.4	12.9	16.3	13.1	12.9	12.4	18.4	22.9	27.9	20.9	17.9	14.1		Triplicate Site with HHMS1, HHMS2 and HHMS3 - Annual data provided for HHMS3 only
HF	404475	317730	28.2	29.0	26.3	22.0	23.5	24.9	24.8	24.5	23.8	28.0	33.6	28.0	26.4	20.8		
LICH RD	398976	309865	29.3	29.5	31.0	22.4	29.1	20.2	26.5	20.8	25.1	32.8	31.7	29.3	27.3	21.5		
HH01	401630	310593	20.9	18.8	15.3	11.1	12.7	8.9	11.8	10.9	12.3	18.4	21.7	17.5	15.0	11.8		
FW01	400900	310607	28.1	25.0	20.4	15.1		14.7							20.7	16.7		
GM01	400723	310186	18.4	17.8	15.1	9.9	10.1	7.6							13.2	10.8		
A460	403009	315930	20.6	19.1	15.6	13.3		15.3	15.0	14.2	17.8	17.4	22.8	18.7	17.3	13.6		
69 Ch St	404081	318200	24.1	23.0	21.4	11.8			16.4	14.8	19.1	24.6	26.9	20.9	20.3	16.0		
3 Forge Rd	404607	318006	25.1	24.0	19.2	15.0	17.2		18.2	16.3	20.3	27.1	28.6	23.5	21.3	16.8		
104 Main Rd	405385	316306	19.2	18.6	15.2	11.2	16.2	11.4	13.6	11.4	17.2	20.9	23.3	16.4	16.2	12.8		
28 Stn Rd	400015	312651	27.7	27.3	24.8	18.3	19.9	17.4	19.3	17.6	19.8	25.8	30.3	25.2	22.8	17.9		
CRC	399017	311653	32.0	27.2		23.7	23.9	24.7	24.2	21.2	24.9	27.1	34.1	28.5	26.5	20.9		

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Local bias adjustment factor used.**

☐ **National bias adjustment factor used.**

☒ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

☒ **Cannock Chase Council confirms that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

Table B.2 – 2024 NO_2 Diffusion Tube Monitoring Data Notes

Month	Data Removed	Comments
January		
February		
March		
April		
May		
June	FW01 - 1.6 µg/m^3	Result abnormally low.
July		
August		
September		
October		
November	54 WS - 2.7 µg/m^3	Result abnormally low.
December		

Notes:

This table records the diffusion tube monitoring data that was removed before data processing, and the reason why it was removed.

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

New or Changed Sources Identified Within Cannock Chase Council During 2024

Table C.1 provides information on planning applications that were submitted in 2023 with the potential to impact air quality.

Table C.1 – Significant Planning Applications in 2024

Planning Reference	Registration Date	Location	Proposal	Comments
CH/24/245	11 September 2024	Rugeley, WS15 1UZ	Construction of a building	An Air Quality Assessment was submitted with the application.

Note:

Planning applications can be viewed on the Council's website https://planning.agileapplications.co.uk/cannock/search-applications/

Additional Air Quality Works Undertaken by Cannock Chase Council During 2024

Cannock Chase Council has not completed any additional works within the reporting year of 2024.

QA/QC of Diffusion Tube Monitoring

The following report was provided by Staffordshire Highways Laboratory; a minor update has been made to reflect the latest bias factor.

Staffordshire Highways Laboratory prepare their diffusion tubes with 20% TEA/Water solution.

It should also be noted that, as the Staffordshire Highways Laboratory is local to Cannock, the diffusion tubes are hand delivered to them immediately after collection (usually within 30 minutes of collection of the last tube).

Staffordshire County Council
Staffordshire Highways Laboratory

NO_2 diffusion tube analysis QC results – April 2025 Summary

AIR PT Scheme (LGC)

Results for each round are classified on z-scores for each tube as SATISFACTORY (≤2), QUESTIONABLE (between 2 and <3) and UNSATISFACTORY (>3).

For each round, two sets of tubes are received from LGC, and each analysed by a different member of staff, to aid with QC and training.

PT Rounds during 2024

- Round 62 – Feb 2024. 100% satisfactory results.
- Round 63 – June 2024. 100% satisfactory results.
- Round 65 – Sept 2024. 100% satisfactory results.
- Round 66 – Dec 2024. 100% satisfactory results.

The table below shows a summary of our z-score results.

PT Round	Technician	z-scores	Performance
62 – Feb 2024	1	0.84, 0.86, 0.20, -0.10	100% SATISFACTORY
	2	-0.69, 0.22, -0.20, 0.30	
63 – June 2024	1	0.26, 0.13, -0.14, -0.34	100% SATISFACTORY
	2	0.00, 0.13, 0.27, 0.00	
65 – Sept 2024	1	0.33, 0.16, 0.00, -0.04	100% SATISFACTORY
	2	0.33, -0.32, 0.08, 0.37	
66 – Dec 2024	1	0.78, 0.26, -0.06, 0.19	100% SATISFACTORY
	2	0.13, -1.03, -1.04, -0.39	

For more information on the AIR PT Scheme and older results see the Defra website:

https://laqm.Defra.gov.uk/air-quality/air-quality-assessment/qa-qc-framework/

Field Intercomparison (NPL)

Our performance for all Field Intercomparison results of 2024 was classified as ‘GOOD’ (CoV <20).

Bias factor

The bias adjustment factor spreadsheet on the Defra website was updated in [June 2025]. The overall bias factor for Staffordshire Highways Laboratory (see Staffordshire County Council) for 2024 (including the Field Intercomparison result and all the co-location results from participating local authorities, total of [19] studies) was [**0.80]**.

The tube precision for all co-location studies was ‘Good’.

For the most up to date information on bias factors see the Defra website:

https://laqm.Defra.gov.uk/air-quality/air-quality-assessment/national-bias/

Diffusion Tube Annualisation

Table C.2 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor - A5160	Annualisation Factor - Walsall Woodlands	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
FW01	1.0399	1.0102	1.0250	20.7	21.2
GM01	1.0456	1.0315	1.0386	13.2	13.7

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2025 ASR has been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance on the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Cannock Chase Council have applied the local bias adjustment factor of 0.79 to the 2024 monitoring data. A summary of bias adjustment factors used by Cannock Chase Council over the past five years is presented in for inclusion in the National Bias Factor spreadsheet.

Table C.3.

The local bias factor has been adopted for the reporting year of 2024. This decision is based on the relative distance of the continuous monitor from the roadside (6.6 m), which results in a minimal impact on monitoring results from road traffic emissions. It is estimated that local road traffic adds approximately 2 µg/m^3 to monitored NO_2 concentrations at HHMS, assuming that monitoring data at HH01 (approximately 682 m to the north east) is more representative of background NO_2 concentrations (The correlation between the two datasets can be seen in Figure A.3).

The local bias factor is calculated using high quality data. Whilst it results in a slightly greater adjustment (0.79) than the national factor (0.80), it is likely to be more accurate as it is based on directly comparable monitoring data.

The use of the local bias factor does not significantly influence our assessment of the monitoring data.

The local bias data has been submitted to Defra for inclusion in the National Bias Factor spreadsheet.

Table C.3 – Bias Adjustment Factor

Monitoring Year	Local or National	Version of National Spreadsheet	Adjustment Factor
2024	Local	06/25	0.79
2023	National	03/24	0.86
2022	National	03/23	0.87
2021	National	03/22	0.86
2020	National	03/21	0.85

Table C.4 – Local Bias Adjustment Calculation

	Local Bias Adjustment
Periods used to calculate bias	12
Bias Factor A	0.79 (0.75 - 0.83)
Bias Factor B	27% (20% - 33%)
Diffusion Tube Mean (µg/m^3)	17.9
Mean CV (Precision)	3.0%
Automatic Mean (µg/m^3)	14.1
Data Capture	99%
Adjusted Tube Mean (µg/m^3)	14 (13 - 15)

Figure C.1 – 2024 National Diffusion Tube Bias Adjustment Factor for Staffordshire Analytical Services

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 06/25

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 September 2025

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[2]

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@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)
Staffordshire County Council	20% TEA in water	2024	UB	Salford City Council	11	20	18	10.6%	G	**0.90**
Staffordshire County Council	20% TEA in water	2024	B	Salford City Council	12	12	11	6.7%	G	**0.94**
Staffordshire County Council	20% TEA in water	2024	R	Salford City Council	12	37	31	17.9%	G	**0.85**
Staffordshire County Council	20% TEA in water	2024	R	Salford City Council	12	46	32	43.5%	G	**0.70**
Staffordshire County Council	20% TEA in water	2024	KS	Marylebone Road Intercomparison	11	45	36	25.6%	G	**0.80**
Staffordshire County Council	20% TEA in water	2024	R	Oldham Council	11	27	21	29.3%	G	**0.77**
Staffordshire County Council	20% TEA in water	2024	UC	Manchester City Council	10	32	29	10.7%	G	**0.90**
Staffordshire County Council	20% TEA in water	2024	SI	Manchester City Council	12	17	15	16.6%	G	**0.86**
Staffordshire County Council	20% TEA in water	2024	R	Stockport Mbc	12	30	25	18.1%	G	**0.85**
Staffordshire County Council	20% TEA in water	2024	R	Stockport Mbc	12	20	17	20.5%	G	**0.83**
Staffordshire County Council	20% TEA in water	2024	R	Stoke-on-trent City Council	12	48	34	39.5%	G	**0.72**
Staffordshire County Council	20% TEA in water	2024	R	Stoke-on-trent City Council	12	51	38	35.0%	G	**0.74**
Staffordshire County Council	20% TEA in water	2024	UB	Stoke-on-trent City Council	12	21	18	14.4%	G	**0.87**
Staffordshire County Council	20% TEA in water	2024	R	Trafford Bc	11	26	20	28.8%	G	**0.78**
Staffordshire County Council	20% TEA in water	2024	UB	Trafford	11	11	10	11.3%	G	**0.90**
Staffordshire County Council	20% TEA in water	2024	R	Bolton Council	11	26	20	30.7%	G	**0.77**
Staffordshire County Council	20% TEA in water	2024	UB	Warwick District Council	12	14	13	8.5%	G	**0.92**
Staffordshire County Council	20% TEA in water	2024	R	Warwick District Council	11	29	18	60.0%	G	**0.62**
Staffordshire County Council	20% TEA in water	2024	R	Cannock Chase District Council	12	18	14	26.6%	G	**0.79**
Staffordshire County Council	20% TEA in water	2024		**Overall Factor[3] (20 studies)**				**Use**		**0.80**

NO_2 Fall-off with Distance from the Road

Diffusion Tube Locations

Monitoring location data (Ordnance Survey grid references and distances to the kerb/receptor) were verified (by measurement in the field) in May 2023.

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

Table C.5 – NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
67 WS	7.5	7.3	15.0	12.2	15.1	

QA/QC of Automatic Monitoring

All management of the Cannock A5190 Roadside monitoring site is undertaken by Bureau Veritas; information on this site is available at https://uk-air.Defra.gov.uk/networks/site-info?site_id=CANK&view=View.

Please note the discrepancy between the website provided location (401394, 309957) and Cannock Chase Council's derived location (401392, 309954), which is possibly due to website location being derived from Google Maps (which uses the Mercator projection); Cannock Chase Council derived the location from its geographical information system (which uses the OSGB36).

Appendix D: Maps of Monitoring Locations and AQMAs

Figure D.1 – Map of District and Air Quality Monitoring Locations

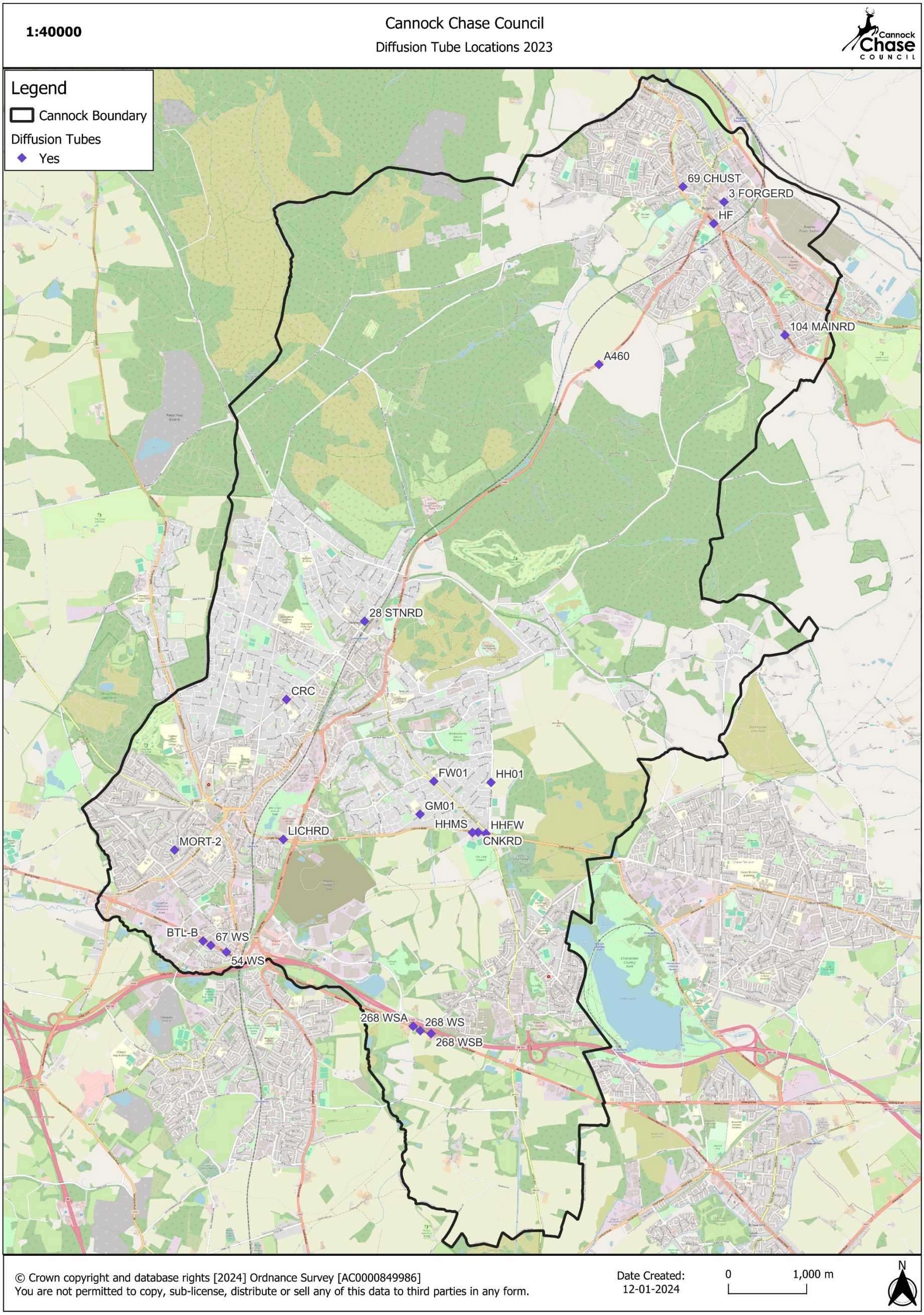


Figure D.2 – Map of District, Air Quality Monitoring Locations and AQMAs

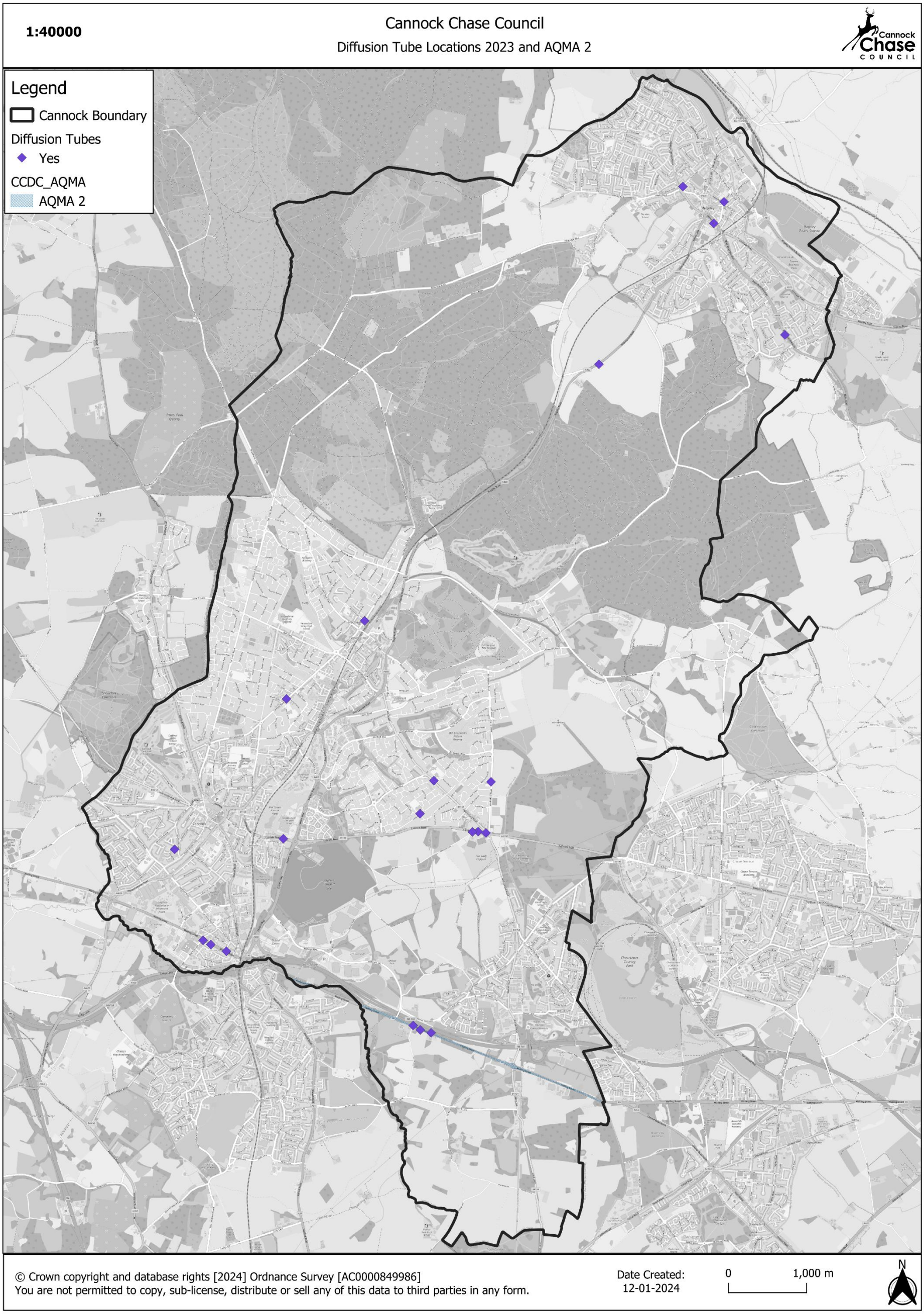


Figure D.3 – Former AQMA 1 Overview

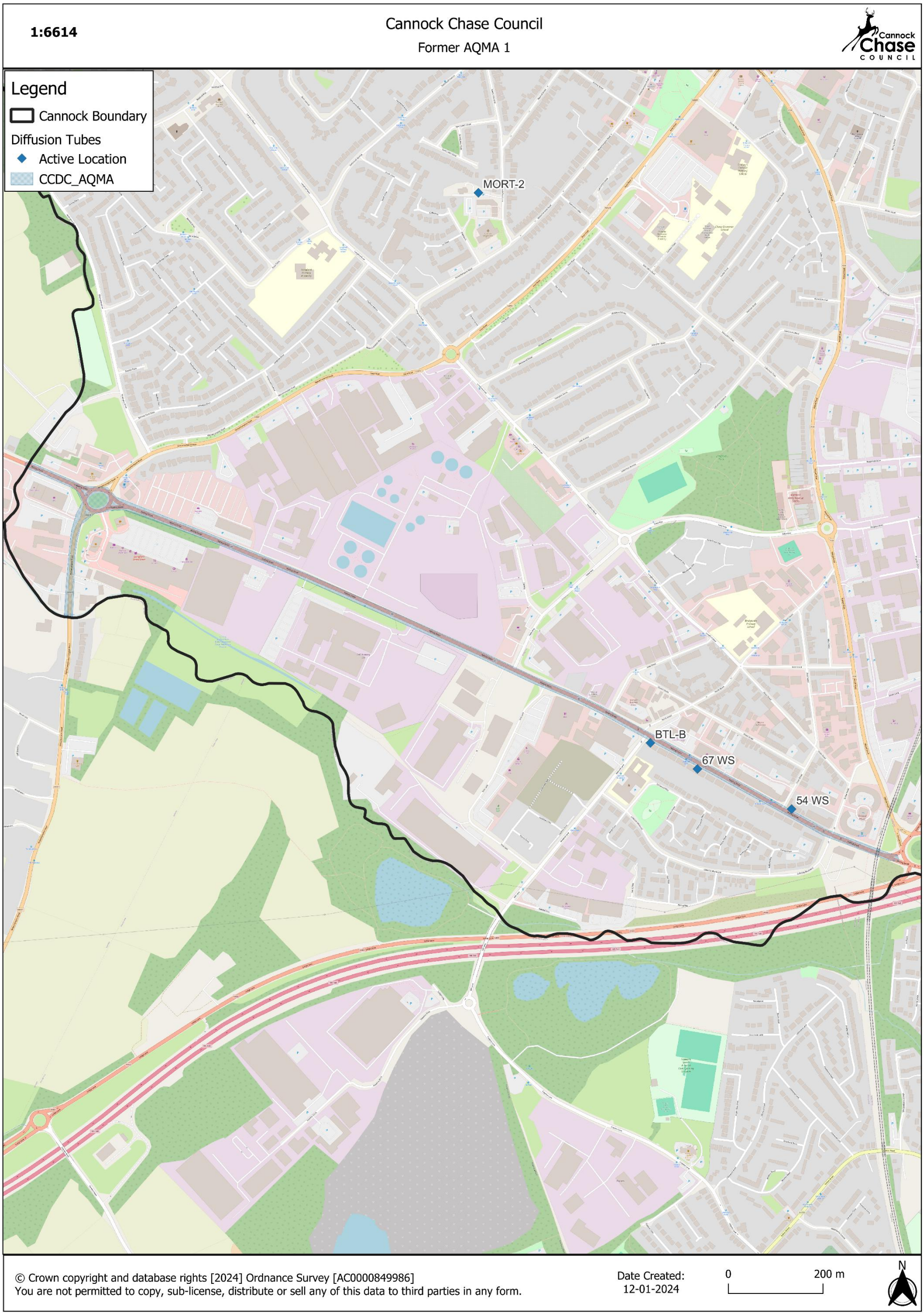


Figure D.4 – AQMA 2 Overview

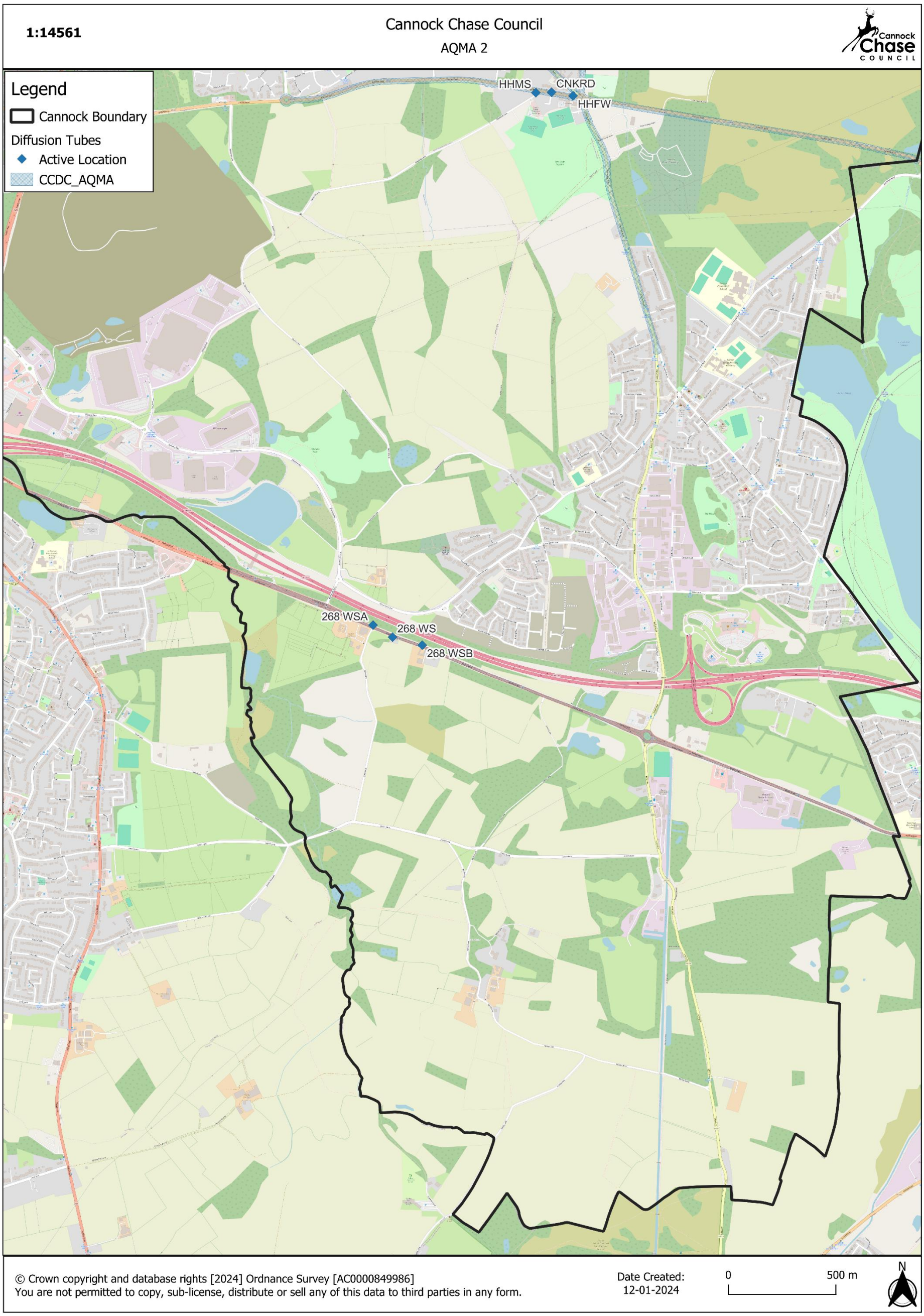
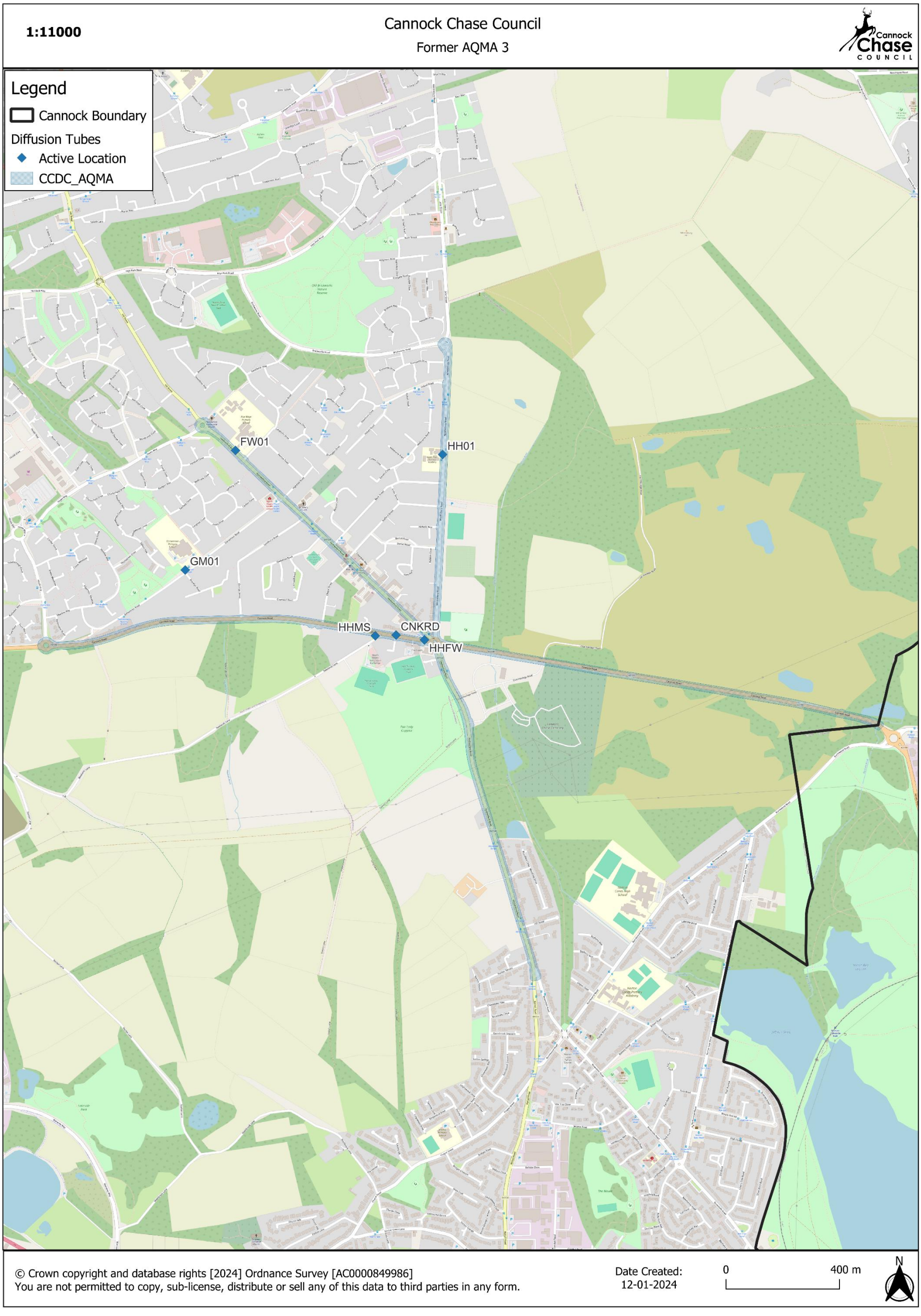


Figure D.5 – AQMA 2 Monitoring Locations

Figure D.6 – Former AQMA 3 Overview



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[2]

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

[2] The units are in microgrammes 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
AURN	Automatic and Urban Rural Network - The AURN is the UK's largest automatic monitoring network and is the main network used for compliance reporting against the Ambient Air Quality Directives. It includes automatic air quality monitoring stations measuring oxides of nitrogen (NO_x), sulphur dioxide (SO_2), ozone (O_3), carbon monoxide (CO) and particles (PM_{10}, $PM_{2.5}$). These sites provide high resolution hourly information which is communicated rapidly to the public using a wide range of electronic, media and web platforms.
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10 µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5 µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG22. May 2025. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. May 2025. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.