Midlothian Council

Annual Progress Report (APR)

2026 Air Quality Annual Progress Report (APR) for Midlothian Council

In fulfilment of Part IV of the Environment Act 1995, as amended by the Environment Act 2021

Local Air Quality Management

June 2026

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Executive Summary: Air Quality in Our Area

Air Quality in Midlothian

Midlothian covers 354 square miles and has a rapidly growing population. Population in 2023 was recorded as 98,260 (National Records of Scotland, 2023). This represents an increase of 1.3% since 2022 data whilst population in Scotland rose by 0.8% during the same period. It is forecast to continue as the fastest growing local authority in Scotland where population is forecast to increase by approximately 31% between 2018 and 2043.

It lies in the east-central lowlands, bordering the City of Edinburgh, East Lothian and the Scottish Borders local authority areas. Edinburgh is 20 minutes by car from Midlothian's centre and Edinburgh airport is 30 minutes away.

Its area encompasses seven urban centres and is surrounded by a hinterland of rural communities. Much of its population is within its seven urban centres of Bonnyrigg, Penicuik, Dalkeith, Mayfield, Gorebridge, Loanhead and Danderhall. The county is largely a countryside setting stretching from the Pentland Hills to the Moorfoots and Lammermuirs incorporating arable farming and livestock community. Some of this landscape is protected by Green Belt designation.

A schematic map of Midlothian is shown in Appendix D, Figure 1. The new town of Shawfair in the North East of Midlothian remains under development and will include approximately 4,000 new homes, schools, commercial and retail use.

There are currently no large industrial processes in very close proximity to housing in Midlothian and the main issues with regards to air quality are due to road traffic emissions, particularly in the town and village centres. Another issue is domestic solid fuel combustion due to the rural setting of Midlothian and limited mains gas supply to some villages. This issue was addressed in the village of Pathhead with the installation of a new gas main in 2011.

The report sets out the results of air quality monitoring carried out by Midlothian Council since the Annual Progress Report in 2025 and considers the potential impacts from a

range of sources such as road traffic and other transport emissions, industrial processes, commercial and domestic fuel use and fugitive emission sources.

A network of Nitrogen Dioxide diffusion tubes is maintained throughout the district. The locations are shown in Appendix D, figures 2 to 11. During previous years, concentrations measured at all locations were comfortably below the annual mean air quality objective. A review of monitoring locations was therefore undertaken, as detailed in the 2025 report, which resulted in a change to 10 of the 18 locations. These changes were implemented from January 2025. A geographical spread of the current tubes across Midlothian is demonstrated in figure 12.

Actions to Improve Air Quality

- Midlothian Council has previously achieved significant improvements in air quality in Dalkeith and in the village of Pathhead, two areas of historical concern.

- The improvement in Pathhead in terms of PM_{10}, allowed Midlothian Council to revoke the Pathhead AQMA (declared in 2008) in 2014. There are no outstanding Air Quality Managements Areas in Midlothian.

- During 2025 Midlothian Council formed part of East Central Scotland Vehicle Emissions Partnership, together with West Lothian Council, East Lothian Council, Falkirk Council, Stirling Council and Scottish Government. The remit of the Vehicle Emissions Partnership was to promote a ‘Switch Off’ campaign help reduce vehicle emissions by encouraging drivers to switch off their engine whenever possible, educating the general public and by handling idling complaints.

- Midlothian Council supports and encourages the development of a ‘green network’ to promote active travel by walking and cycling and which will form part of the Central Scotland Green Network. Further information is available in the Midlothian Council Travel Plan, which is available on Midlothian Council website: www.midlothian.gov.uk. Midlothian Council is currently updating their travel plan.

- Initiatives to move towards a cleaner Council fleet have been in place for several years. Council staff have access to electric cars to use on local business trips, providing an eco-friendly way of travelling. This fleet has recently been increased.

- Midlothian Council encourages staff to actively travel to work, promoting a pool bike scheme to staff and promoting interest free loans to purchase a bicycle through the tax free Government 'Bike Purchase Scheme'.

Local Priorities and Challenges

In our previous Annual Progress Report, Midlothian Council committed to a revision of NO2 monitoring locations. We consulted with SEPA and internally with Midlothian Council Climate Change Officer, Development Control and Roads Service. We also paid consideration to:

- The 2025-2027 delivery programme for adoption of the Midlothian Local Development Plan (2017) - The current development plan for Midlothian Development plans and policies | Midlothian Council)
- The 2024 Housing Land Audit for the location, scale and programming of new housing development https://www.midlothian.gov.uk/info/205/planning_policy/458/housing_land_audit

As a result, 10 of the 18 tubes were relocated in January 2025. Whilst monitoring during 2025 demonstrated NO_2 levels at some of these new sites was significantly below the annual mean, the relocation has enabled us to set a baseline level in areas with significant planned development. We will now continue to monitor levels as development progresses.

During 2025 we continued participation in the East Central Scotland Vehicle Emission Partnership and fulfilled our obligations under the statutory monitoring and reporting requirements.

How to Get Involved

Whilst funding for the Vehicle Emission Partnership was not renewed from 1 April 2026, members of the public can still find out further information on engine idling and the 'Switch Off' Campaign on the partnership website: http://switchoffandbreathe.org

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1 Local Air Quality Management

This report provides an overview of air quality in Midlothian during 2025. 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 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 Progress Report (APR) summarises the work being undertaken by Midlothian Council to improve air quality and any progress that has been made.

Table 1.1 – Summary of Air Quality Objectives in Scotland

Pollutant	Air Quality Objective Concentration	Air Quality Objective Measured as	Date to be Achieved by
Nitrogen dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
Nitrogen dioxide (NO_2)	40 µg/m^3	Annual mean	31.12.2005
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
Particulate Matter (PM_{10})	18 µg/m^3	Annual mean	31.12.2010
Particulate Matter ($PM_{2.5}$)	10 µg/m^3	Annual mean	31.12.2021
Sulphur dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
Sulphur dioxide (SO_2)	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
Sulphur dioxide (SO_2)	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	3.25 µg/m^3	Running annual mean	31.12.2010
1,3 Butadiene	2.25 µg/m^3	Running annual mean	31.12.2003
Carbon Monoxide	10.0 mg/m^3	Running 8-Hour mean	31.12.2003

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 publish and implement an Air Quality Action Plan (AQAP) within the shortest possible time and no later than 12 months from the date of AQMA Designation Order. The AQAP must set out measures the local authority intends to put in place in pursuit of the objectives within the shortest possible time. Measures should be provided with milestones and a final date for completion. The action plan itself should have a timescale for completion and for revocation of the AQMA. Where measures to reduce air pollution may require a longer timescale an action plan shall be reviewed and republished within five years of initial publication and then five-yearly thereafter.

Midlothian Council currently does not have any AQMAs.

2.2 Implementation of Air Quality Action Plan(s) and/or measures to address air quality

In order to ensure that local authorities implement the measures within an action plan by the timescales stated within that plan, the Scottish Government expects authorities to submit updates on progress through the APR process. Midlothian Council has taken forward a number of measures within the action plan during the current reporting year of 2025 in pursuit of improving local air quality and meeting the air quality objectives within the shortest possible time. Details of all measures completed, in progress or planned are set out in Table 2.1.

Key completed measures for this reporting year are:

- Implementation of revised NO2 monitoring locations
- Policy DES2: Design, Layout and Landscape standards
    - Connected: integration with digital, energy and district heating infrastructure
    - Adaptable: New buildings/homes have access to digital infrastructure
- Policy INF3: Sustainable Transport: Developments must be designed to ensure new active travel routes are integrated

Midlothian expects a range of measures to be developed or completed over the course of the next reporting year as detailed in table 2.1

Table 2.1 – Progress on Measures to Improve Air Quality during 2025

Measure No.	Measure	Category	Expected/Actual Completion year	Organisations Involved	Measure Status	Funding Status	Key Milestones	Progress	Barriers to implementation
1	East Central Scotland Vehicle Emissions Partnership (VEP)	Promoting low emission transport	2017 onwards	Midlothian, West Lothian, East Lothian, Falkirk & Stirling Councils and Scottish Government	Ongoing	Fully funded via VEP. Annual funding from S Gov Air Quality Resource (Action Planning) and Local Air Quality Management grants	All service requests are assessed by East Central Vehicle Emissions Partnership and used to identify any emerging trends	Ongoing Funding has been directly allocated to VEP scheme operators	Annual funding reviews
2	CONNECTIVITY Locating development where it can easily access the Borders Rail and other public transport	Policy guidance and development control	2017 onwards	Midlothian Council	Ongoing	Not funded	New local plan (MLDP2) being developed	Ongoing	None identified, will be considered in MLDP2
3	ADAPTABILITY *Midlothian On the Move': Active travel strategy for everyone 2024-2034*	Alternatives to private vehicle use Promoting travel alternatives	2024-2034	Midlothian Council	Ongoing	Part funded. Transport Scotland ATIF Tier 2 Fund Sustrans Network Funding Transport Scotland 'People and Place' funding	Full implementation by 2034 with annual delivery reviews	43 Council owned publicly accessible EV charging points within Midlothian (March 2024)	Annual funding reviews and applications

Measure No.	Measure	Category	Expected/Actual Completion year	Organisations Involved	Measure Status	Funding Status	Key Milestones	Progress	Barriers to implementation
4	The development and extension of the National Cycle Network (NCN)	Promoting travel alternatives	2017 onwards	Midlothian Council	Ongoing	2024/25 Sustrans Network Development Fund	Active travel strategy	Ongoing	None identified
5	*Midlothian Hybrid working Policy:* Promoting a reduction in work related travel, travel out with peak times.	Promoting travel alternatives	2017 onwards	Midlothian Council	Ongoing	Not funded	Digital service training rolled out to all staff	Ongoing	Variable level of IT competency across the workforce
6	Incorporating high speed broadband connections and other digital technologies in new housing developments to facilitate home working and reduction in travel (Midlothian Local Development Plan 2017)	Promoting travel alternatives	2017 onwards	Midlothian Council	Ongoing	Not funded. The 2017 MLD plan requires developers to deliver technology infrastructure as part of the development	New local plan (MLDP2) being developed.	Ongoing	None identified, but will be considered in MLDP2
7	A requirement for cycle parking and EV charging to be incorporated into the layout of new housing development.	Promoting travel alternatives	2017 onwards	Midlothian Council	Ongoing	Not funded. The 2017 plan required developers to deliver cycle parking as part of their development.	New local plan (MLDP2) being developed.	Ongoing	None identified, but will be considered in MLDP2 EV charging is included in Building Regulations and controlled via building warrant applications

Measure No.	Measure	Category	Expected/Actual Completion year	Organisations Involved	Measure Status	Funding Status	Key Milestones	Progress	Barriers to implementation
8	Dedicated routes to encourage walking and cycling to work and for recreation and leisure.	Promoting travel alternatives	2017 onwards	Midlothian Council	Ongoing	Developer contributions 2022/23 onwards Sustrans “Places for Everyone” programme fund 2024/25 Sustrans Network Development Fund Transport Scotland ATIF Tier 1, ATIF Tier 2 and People and Place funds.	Active Travel Strategy	Ongoing	None identified, but will be considered in the Active Travel Strategy

2.3 Air Quality Complaints Relating to Activities and / or Smoke Emissions

Midlothian Council has investigated a total of 54 air quality complaints related to burning activities and/or emissions of smoke during the reporting year. These complaints related primarily to smoke emissions from the burning of inappropriate materials. Of the complaints received, 54 (100%) have been fully resolved following investigation, none remain open or under further review.

Investigations were undertaken in accordance with the Environmental Protection Act 1990. Where necessary, officers provided advice, carried out site visits, gathered evidence, and engaged directly with householders to support compliance.

Enforcement actions undertaken during the reporting year include:

- No formal enforcement action was required

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Regional Automatic Monitoring Stations are located at Bush Estate (Site Data | Scottish Air Quality) and Authencorth Moss (Site Data | Scottish Air Quality) within Midlothian Area.

The annual statistics report for these sites has been published on the Air Quality in Scotland website: Scottish Air Quality Database Annual Statistics Report – 2025 | Scottish Air Quality

3.1.2 Non-Automatic Monitoring Sites

Midlothian Council undertook non- automatic (passive) monitoring of NO_2 at 18 sites during 2025. Table A.11 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) and bias adjustment for the diffusion tubes are included in Appendix C.

3.1.3 Other Monitoring Activities

No other monitoring activities were undertaken in 2025.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

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

automatic monitoring sites. Charts A.1 to A.10 present these trends in $N0_2$ data per area since 2021 (where 5 year data is available).

For diffusion tubes, the full 2025 dataset of monthly mean values is provided in Appendix B.

There are no exceedances of the air quality objective for NO_2 in 2025 or any of the 5 years proceeding this. For this reason, Midlothian Council is not declaring an AQMA.

3.2.2 Particulate Matter (PM_{10})

Midlothian Council does not monitor for PM_{10}.

3.2.3 Particulate Matter ($PM_{2.5}$)

Midlothian Council does not monitor for $PM_{2.5}$.

3.2.4 Sulphur Dioxide (SO_2)

Midlothian Council does not monitor for SO_2

3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene

Midlothian Council does not monitor for Carbon Monoxide, Lead or 1,3-Butadiene

4 New Local Developments

4.1 Road Traffic Sources

In Midlothian there have been no new changes to road traffic sources in 2025 which

may impact on air quality such as:

- Narrow congested streets with residential properties close to the kerb.
- Busy streets where people may spend one hour or more close to traffic.
- Roads with a high flow of buses and/or HGVs.
- Junctions.
- New roads constructed or proposed
- Roads with significantly changed traffic flows.
- Roads with new/changed layout
- Bus or coach stations.

4.2 Other Transport Sources

In Midlothian there have been no other changes to major transport source in 2025 such as:

- Airports.
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.
- Locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.
- Ports for shipping.

4.3 Industrial Sources

There have been no major developments in Midlothian in 2025 which required AQIA or met the criteria of:

- **Industrial installations**: new or proposed installations for which an air quality impact assessment has been carried out.

- **Industrial installations**: existing installations where emissions have increased substantially or new relevant exposure has been introduced.
- **Industrial installations**: new or significantly changed installations with no previous air quality impact assessment.
- Major fuel storage depots storing petrol.
- Petrol stations.

4.4 Commercial and Domestic Sources

In 2025 work concluded on the Alpine Coaster phase of the 'Destination Hillend' development. Future phases are planned and will be detailed in subsequent APR reports. This development required an Environmental Impact Assessment of which an Air Quality Impact assessment (AQIA) formed part. This AQIA concluded that the development of Destination Hillend will have negligible impact on air quality in the surrounding area.

There have been no developments in 2025 within Midlothian which met the criteria of:

- Biomass combustion plant – individual installations.
- Areas where the combined impact of several biomass combustion sources may be relevant.
- Areas where domestic solid fuel burning may be relevant.
- Combined Heat and Power (CHP) plant.

4.5 New Developments with Fugitive or Uncontrolled Sources

During 2025 in Midlothian there were no newly constructed/operational:

- Landfill sites
- Quarries
- Unmade haulage roads on industrial sites.
- Waste transfer stations, etc
- Other potential sources of fugitive particulate matter emissions.

5 Planning Applications

As the fastest growing Local Authority, Midlothian Council received a number of planning applications in 2025 some of which could have an impact on local air quality.

The majority of larger sized applications were for residential housing with a particular focus on the following areas:

- Millerhill/Shawfair
- Bonnyrigg
- Newtongrange

As detailed in the 2025 Annual Progress Report, review of NO_2 diffusion tube locations took effect from January 2025. This took cognisance of Midlothian Local Development plans and advice from our Infrastructure and Planning teams. These areas of housing development, in particular likely affected traffic junctions, are covered in our revised monitoring network.

Some key non-residential planning applications during 2025 include:

25/00215/DPP & 25/0235/DPP Formation of a total of 6 industrial units including coach depot at Land East of Edgefield Link Roundabout, Edgefield Link, Loanhead.

25/00492/DPP Installation of a district heating network, private electricity infrastructure, erection of substations and associated works at Easter Bush Research Centre, Roslin EH25 9RG

25/00521/DPP Formation of a two lane carriageway between A702 and A701, interfacing the A703. The scheme includes two new roundabouts and an upgraded junction at the A701 Straiton junction. It aims to ease congestion at Straiton Junction A720 and surrounding locations.

23/00595/DPP Formation of recycling facility and waste transfer station

Planning consent for the operation of a new waste transfer station at the site of an existing quarry. The proposed restoration guarantee was approved by Midlothian Council Planning on 1st April 2026. The operator is currently procuring the guarantee and it is anticipated that works will commence shortly after this is confirmed

6 Conclusions and Proposed Actions

6.1 Conclusions from New Monitoring Data

In 2025 all passive Diffusion Tubes measured NO_2 below the statutory annual mean objective. The highest reading Diffusion Tube was one of our newly implemented locations (NG1, Newtongrange) with an annual mean of 19.2 µg/m^3 of NO_2. This is significantly below the statutory objective of 40 µg/m^3.

Of the 8 site locations that remain unchanged following the review, 7 showed a slight decrease from 2024 levels and 1 returned the same result. The 5 year data supports a stable trend of NO2 levels below the statutory objective. The 2025 data establishes a baseline level in areas with considerable planned development which Midlothian Council will continue to monitor as implementation progresses.

6.2 Conclusions relating to New Local Developments

As in the last few years, a large number of sites in Midlothian are currently under development for housing, following allocation in the Midlothian Local Development plan. In particular, sites within the wider new town area of Shawfair (which includes Millerhill, Danderhall and Newton), close to the boundary with the City of Edinburgh Council , continue to be developed.

6.3 Proposed Actions

Having implemented new NO_2 monitoring locations from January 2025 to reflect planned development areas, we will continue to monitor levels as development progresses. Midlothian Council will further review the monitoring locations prior to January 2027 particularly with regards to the proposed A701 relief road and A702 link road .

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? 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)
DC1	Dalkeith Campus	Roadside	334669	668025	NO_2	No	0.2	1.5	No	2.0
MF1	Blackcot Dr, Mayfield	Roadside	334437	664395	NO_2	No	0.5	0.5	No	2.0
NG1	Newtongrange	Roadside	333350	663956	NO_2	No	0	0.5	No	2.0
GB1	Swan Cresc, Gorebridge	Urban Background	334641	661776	NO_2	No	0.1	0.5	No	2.0
P2	Edinburgh Rd, Penicuik	Roadside	323674	661005	NO_2	No	2.5	2.5	No	2.2
BN1	Bilston	Roadside	326306	664565	NO_2	No	0.5	0.5	No	2.0
SN2	Straiton Rd, Loanhead	Roadside	327254	666595	NO_2	No	0	3.6	No	2.2

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	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)
SN1	Straiton Retail Park, Loanhead	Roadside	327481	666489	NO_2	No	0	0.5	No	2.0
LW1	High St, Lasswade	Roadside	330353	666133	NO_2	No	0	1.5	No	2.2
LW2	High St, Lasswade	Roadside	330471	666117	NO_2	No	0	0.5	No	2.2
LW3	Lasswade High School	Roadside	330398	664990	NO_2	No	0.2	1.0	No	2.0
BR1	High St, Bonnyrigg	Roadside	330896	665227	NO_2	No	0	1.5	No	2.0
SF1	Harelaw, Shawfair	Roadside	332271	669796	NO_2	No	0	0.5	No	2.0
MH1	Old Craighall Rd, Millerhill	Roadside	332118	669426	NO_2	No	0	0.5	No	2.0
ED1	Edinburgh Rd, Dalkeith	Roadside	333207	667371	NO_2	No	0	1.5	No	2.2

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	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)
ND1	Newmills Rd, Dalkeith	Roadside	333405	667061	NO_2	No	2	1.5	No	2.3
BD1	Buccleuch St, Dalkeith	Roadside	333055	667191	NO_2	No	0.1	1.5	No	2.3
EB1	Eskbank Rd, Dalkeith	Roadside	332973	667100	NO_2	No	0.1	0.1	No	2.0

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.

Table A.2 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

For	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2025 (%) (2)	2021	2022	2023	2024	2025
DC1	334669	668025	Roadside	100.0	100.0	-	-	-	-	5.7
MF1	334437	664395	Roadside	90.4	90.4	-	-	-	-	9.8
NG1	333350	663956	Roadside	90.4	90.4	-	-	-	-	19.2
GB1	334641	661776	Urban Background	90.4	90.4	-	-	-	-	4.3
P2	323674	661005	Roadside	100.0	100.0	14.4	13.2	13.5	13.3	11.2
BN1	326306	664565	Roadside	100.0	100.0	-	-	-	-	9.7
SN2	327254	666595	Roadside	100.0	100.0	21.7	19.6	17.8	18.9	15.7
SN1	327481	666489	Roadside	100.0	100.0	-	-	-	-	10.0
LW1	330353	666133	Roadside	100.0	100.0	16.5	13.6	13.8	13.3	10.3
LW2	330471	666117	Roadside	100.0	100.0	23.2	19.5	20.0	19.1	16.3

For	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2025 (%) (2)	2021	2022	2023	2024	2025
LW3	330398	664990	Roadside	100.0	100.0	-	-	-	-	5.8
BR1	330896	665227	Roadside	100.0	100.0	17.4	14.0	16.0	11.8	11.8
SF1	332271	669796	Roadside	100.0	100.0	-	-	-	-	8.6
MH1	332118	669426	Roadside	90.4	90.4	-	-	-	-	8.9
ED1	333207	667371	Roadside	100.0	100.0	23.1	18.5	19.6	19.6	17.7
ND1	333405	667061	Roadside	100.0	100.0	21.6	19.5	20.7	18.3	16.9
BD1	333055	667191	Roadside	90.4	90.4	19.5	15.3	15.4	16.8	13.8
EB1	332973	667100	Roadside	92.3	92.3	-	-	-	-	9.1

☒ **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:

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.TG(22) 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%).

Chart A.1 – Dalkeith Annual Mean NO2 Monitoring

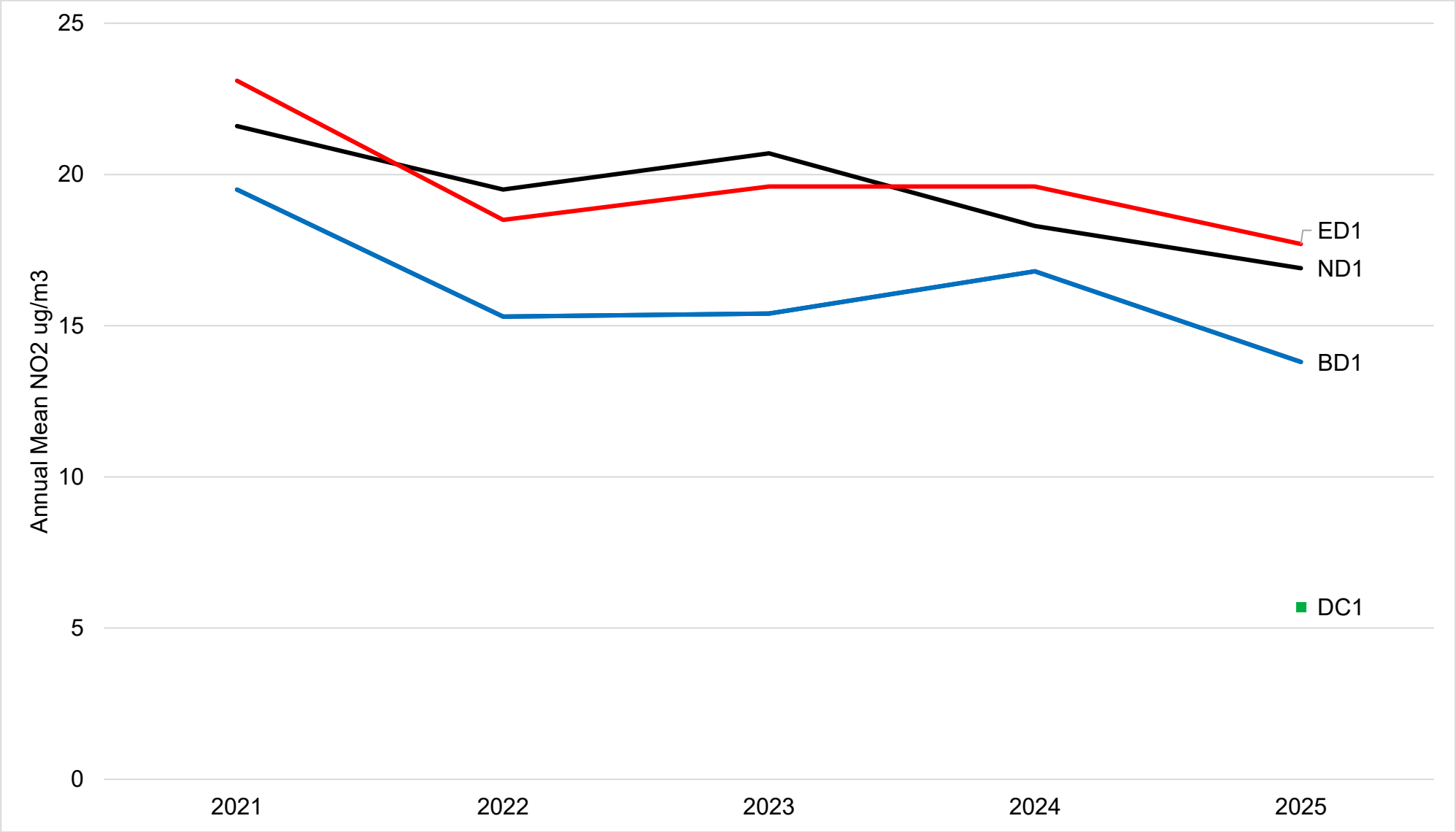


Chart A.2 – Lasswade Annual Mean NO2 Monitoring

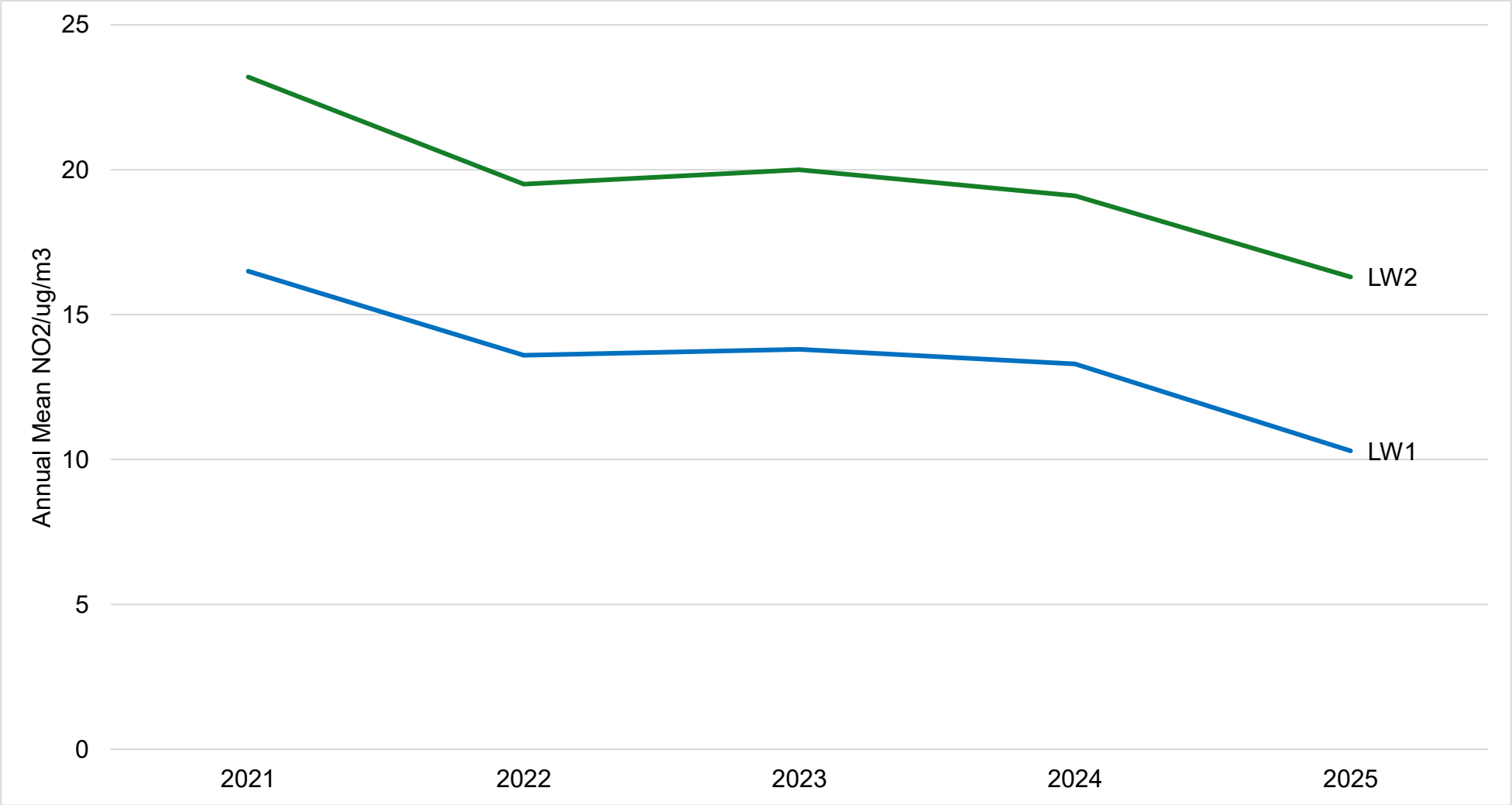


Chart A.3 – Loanhead Annual Mean NO2 Monitoring

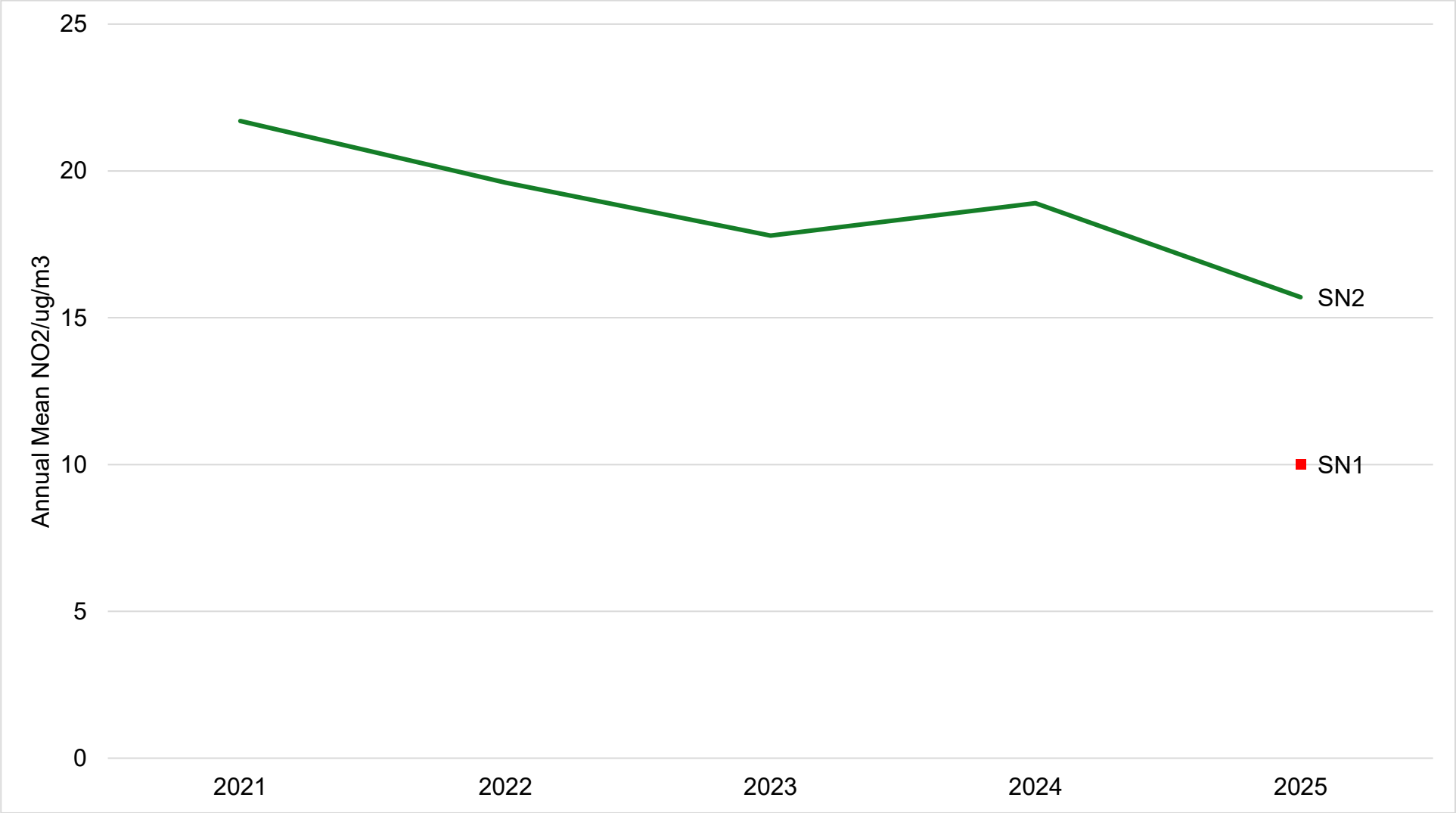


Chart A.4 – Penicuik Annual Mean NO2 Monitoring

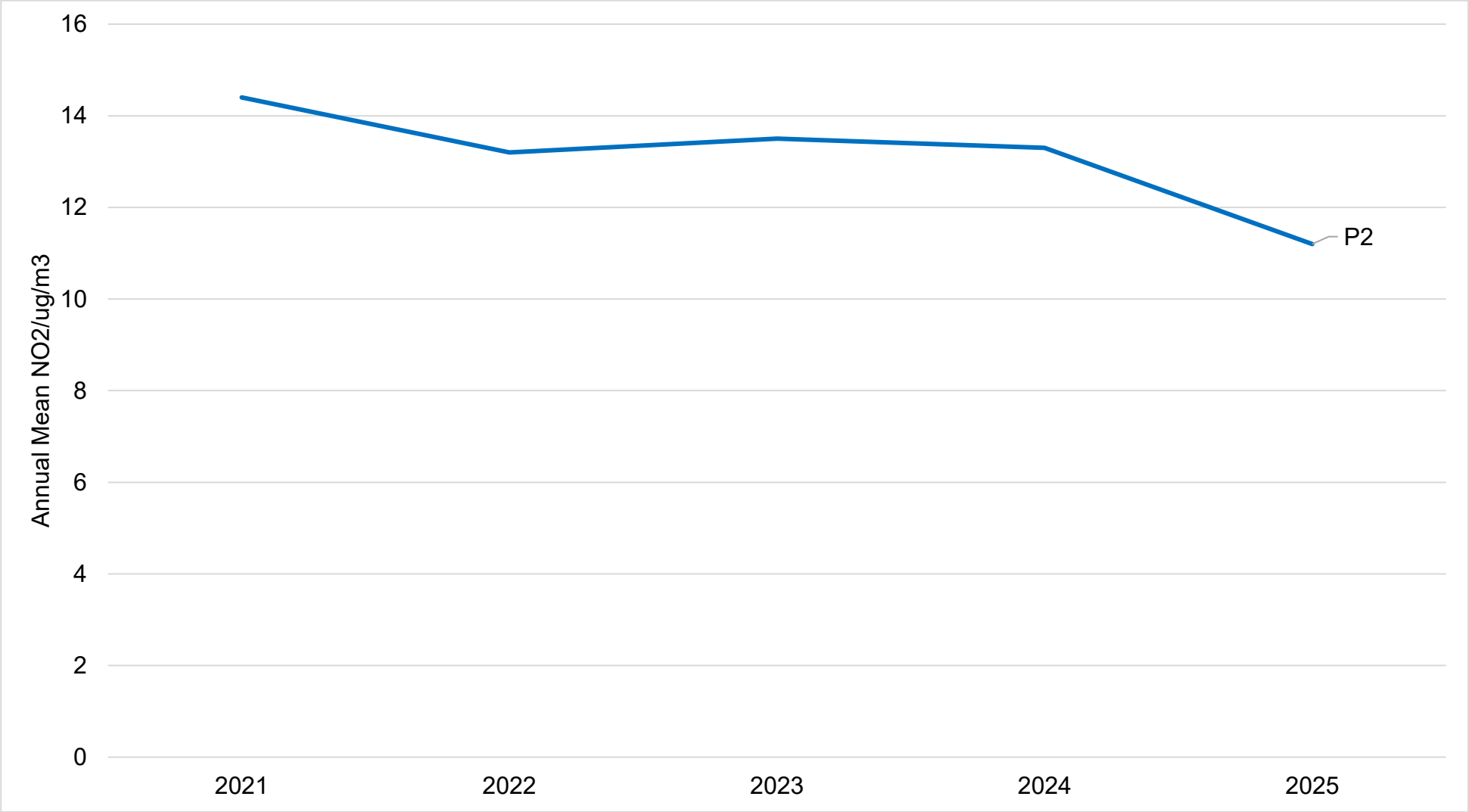


Chart A.5 – Millerhill & Shawfair Annual Mean NO2 Monitoring

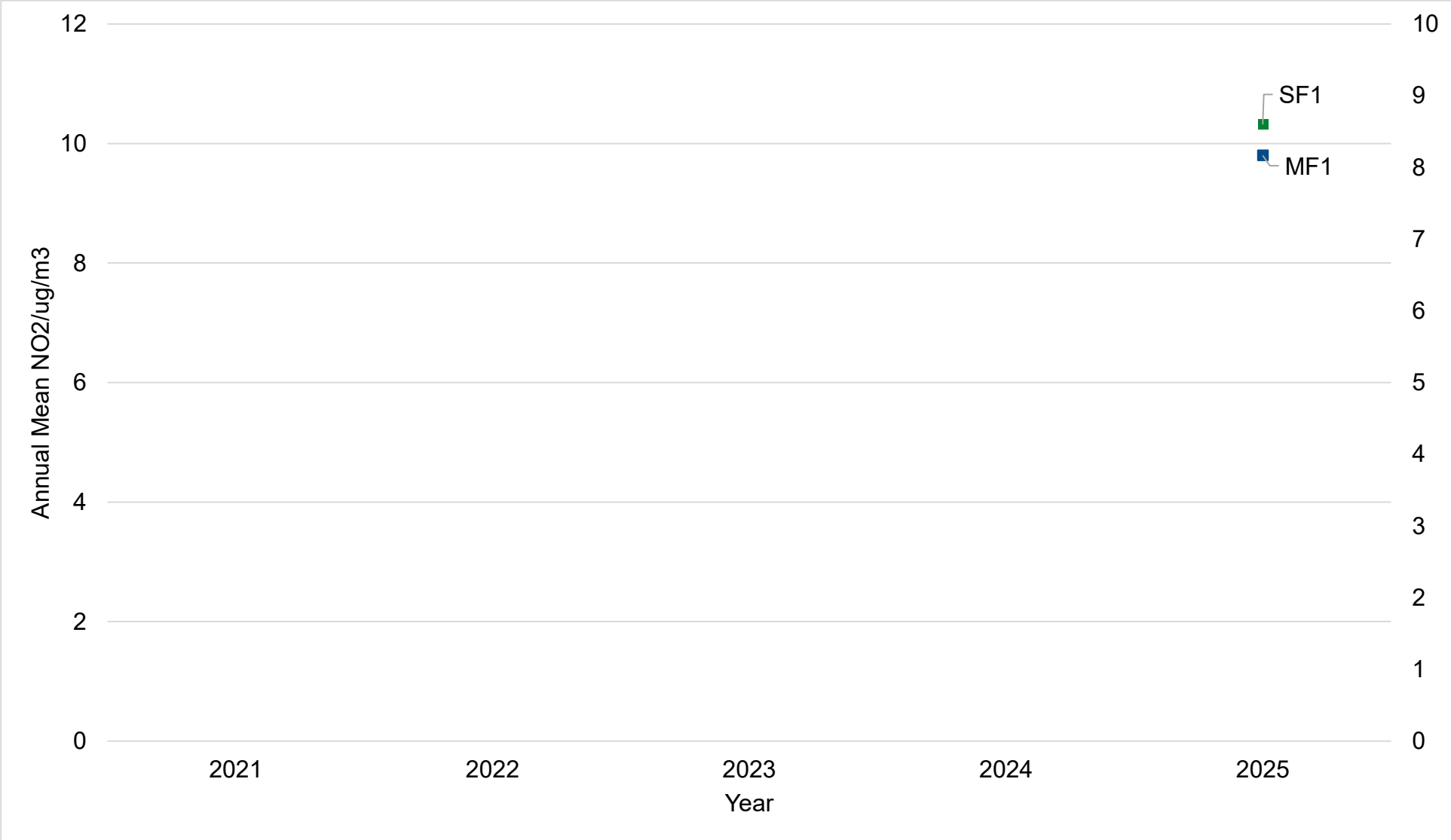


Chart A.6 – Bonnyrigg Annual Mean NO2 Monitoring

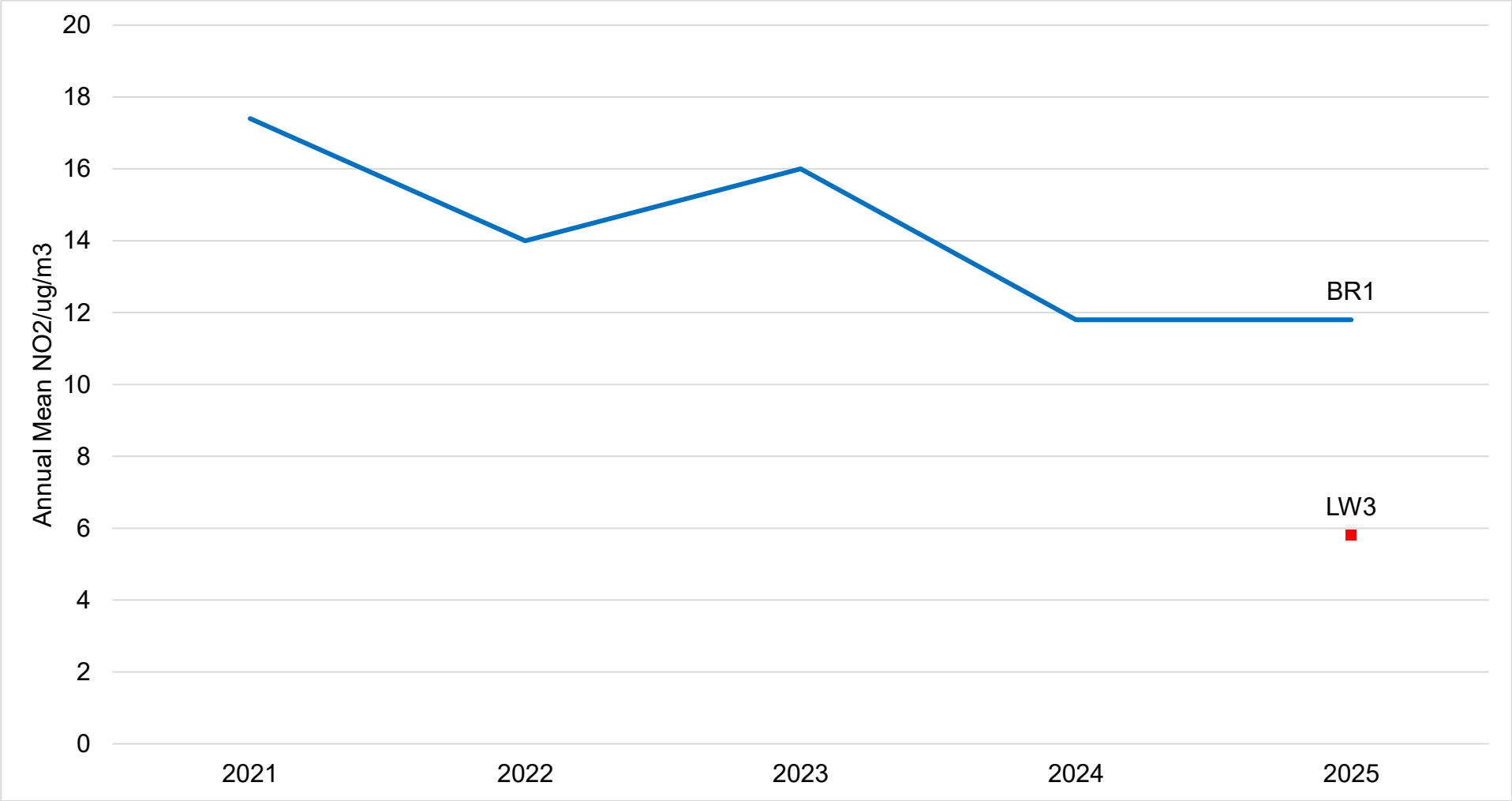


Chart A.7 – Gorebridge Annual Mean NO2 Monitoring

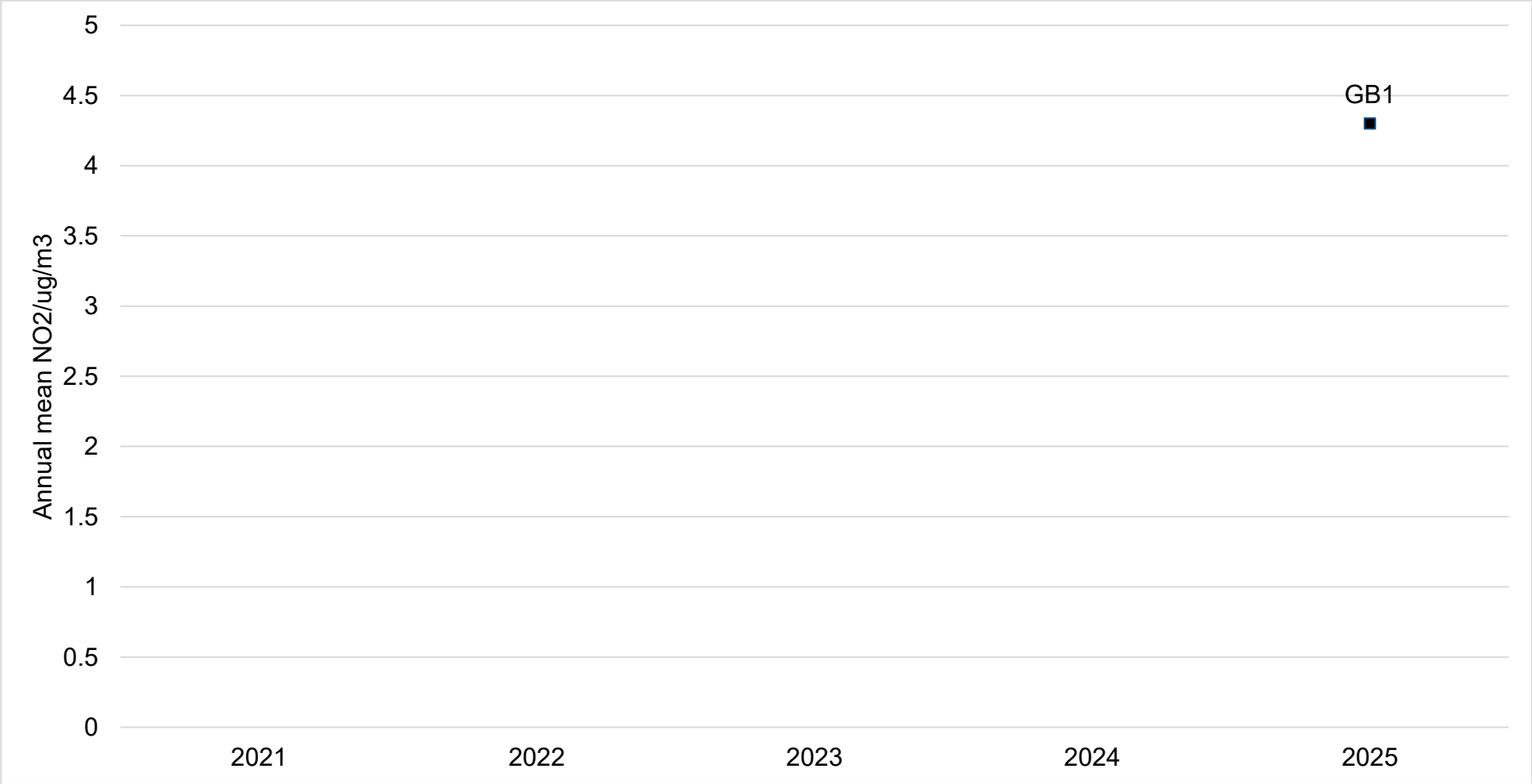


Chart A.8 – Newtongrange Annual Mean NO2 Monitoring

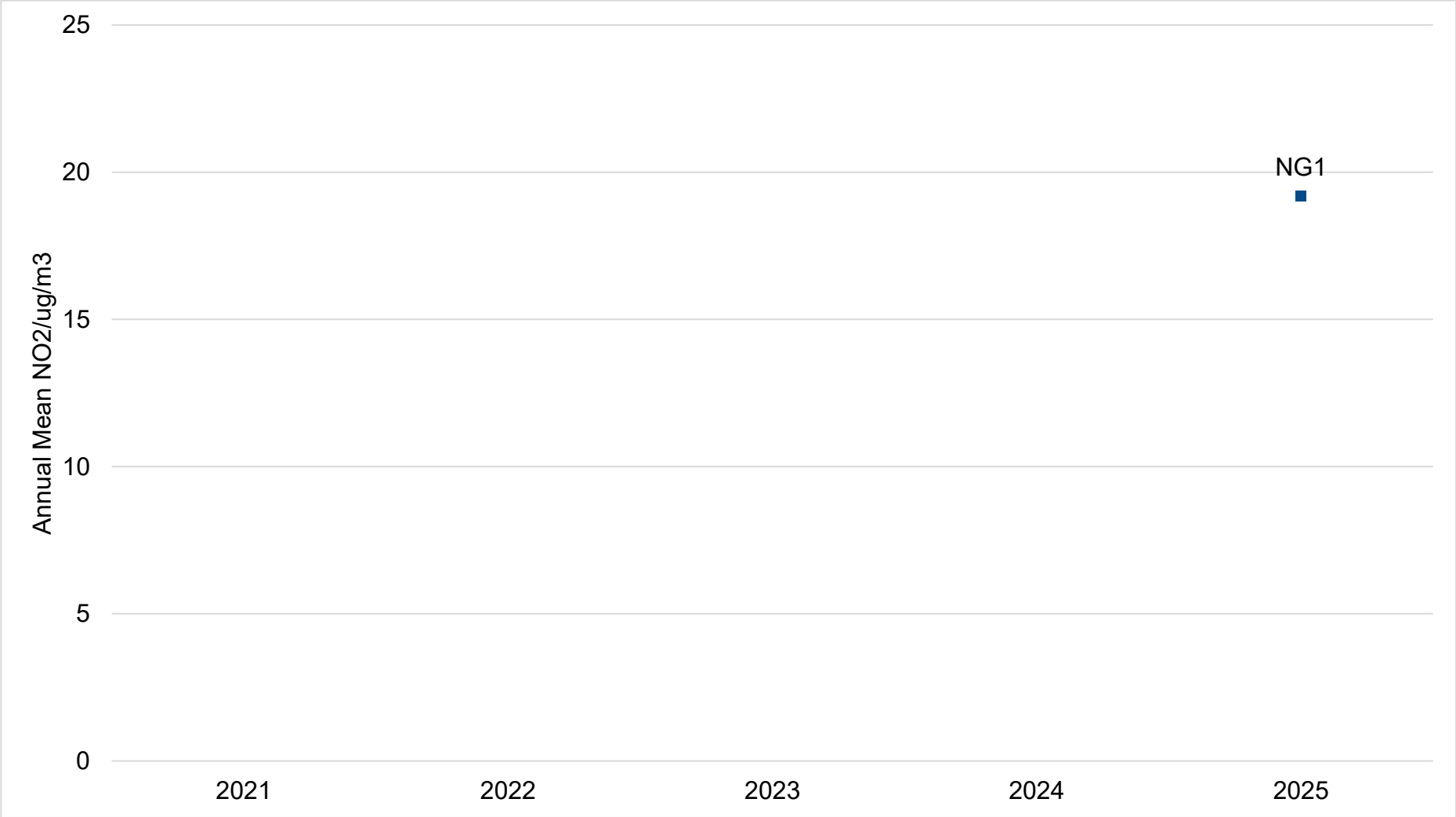


Chart A.9 – Mayfield Annual Mean NO2 Monitoring

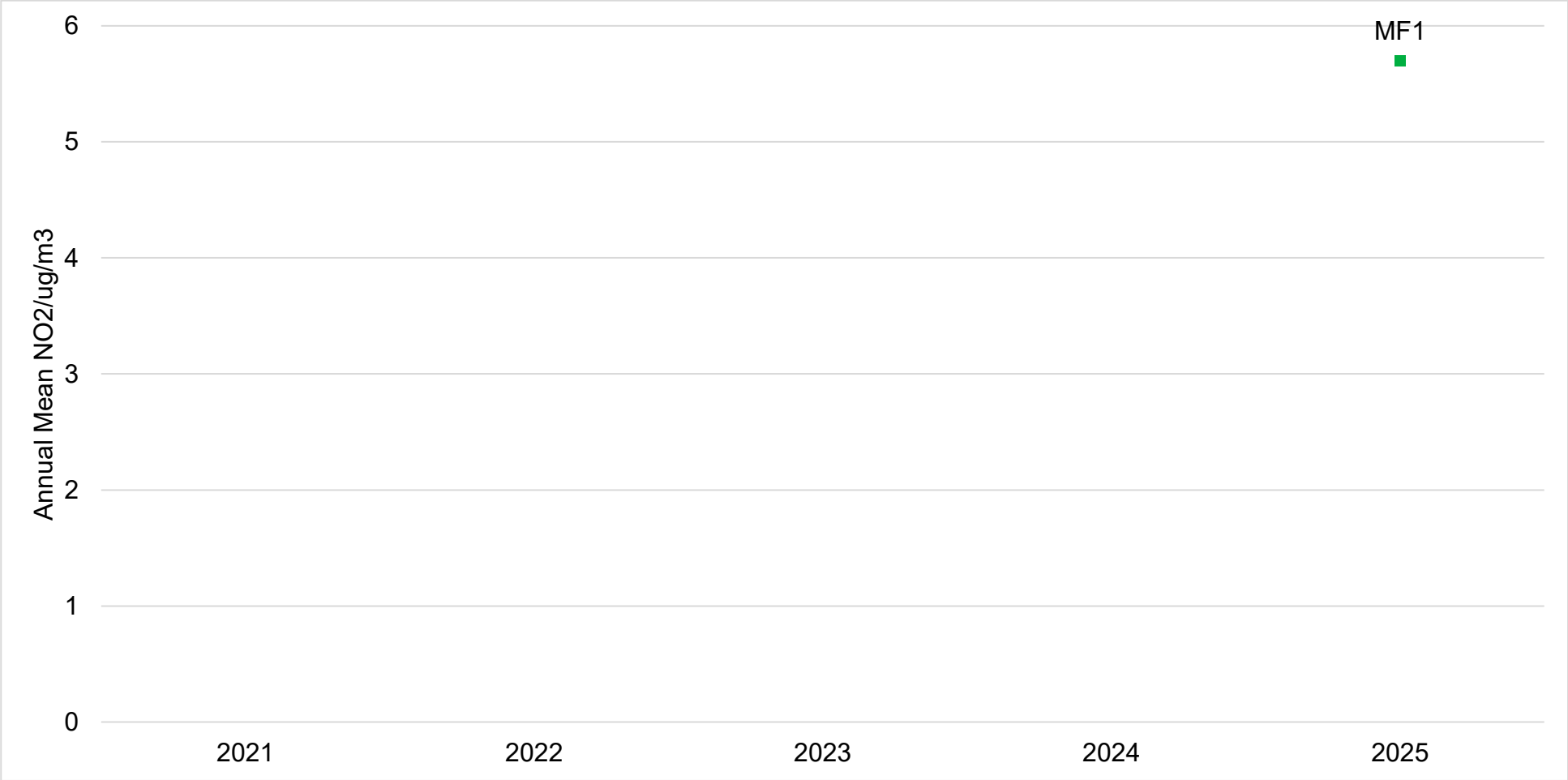
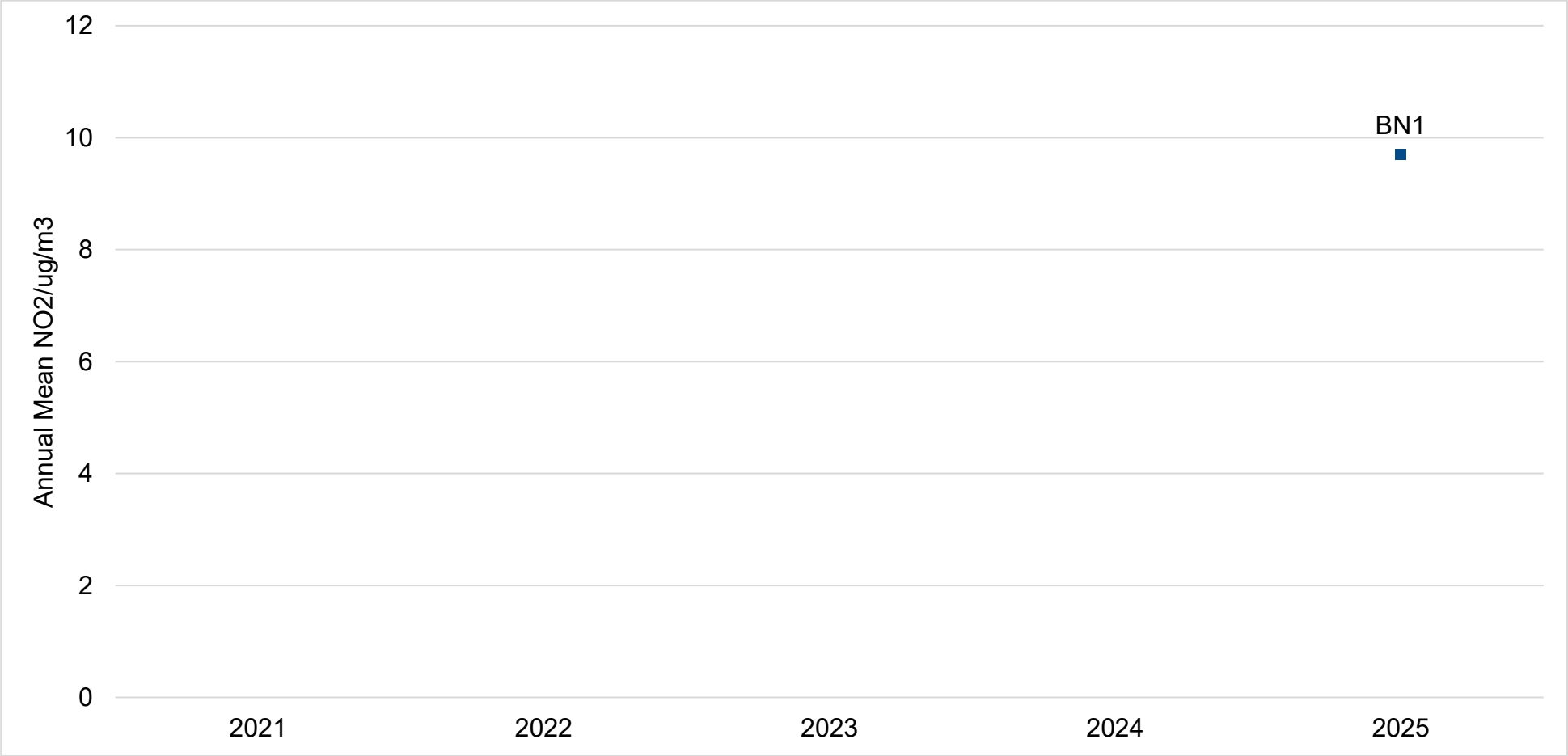


Chart A.10 – Bilston Annual Mean NO2 Monitoring



Appendix B: Full Monthly Diffusion Tube Results for 2025

Table B.1 – NO_2 2025 Monthly Diffusion Tube Results (µg/m³)

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 <(0.78)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DC1	334669	668025	12.2	10.7	7.6	5.9	4.3	5.5	4.3	5.5	4.5	6.3	8.1	12.1	7.3	5.7		
MF1	334437	664395	16.3	12.0	12.4	11.1	11.5	14.3	10.5	12.5	9.6		15.7	12.6	12.6	9.8		
NG1	333350	663956	29.4	22.9	22.5	25.4	20.4	26.2	18.7	25.0	20.1		28.0	31.9	24.6	19.2		
GB1	334641	661776	7.3	7.0	6.7	5.6	3.7	5.3	3.9	4.5	4.7		7.0	5.2	5.5	4.3		
P2	323674	661005	16.6	16.5	14.4	16.9	11.6	13.2	10.0	14.9	13.2	11.7	17.1	16.5	14.4	11.2		
BN1	326306	664565	16.8	12.9	14.5	9.0	10.3	10.6	9.1	14.0	8.8	9.8	15.4	17.8	12.4	9.7		
SN2	327254	666595	34.5	7.2	24.7	22.1	13.7	15.1	13.8	16.2	17.2	21.1	23.8	31.8	20.1	15.7		
SN1	327481	666489	19.0	14.3	15.7	14.9	8.9	12.8	9.9	12.9	2.5	11.3	17.4	13.9	12.8	10.0		
LW1	330353	666133	16.4	4.1	14.2	14.6	11.4	13.1	10.5	13.3	12.2	14.5	17.7	16.6	13.2	10.3		
LW2	330471	666117	21.8	27.9	21.5	27.4	18.6	16.4	16.2	19.6	17.4	14.2	26.4	23.1	20.9	16.3		

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 <(0.78)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
LW3	330398	664990	9.7	8.4	9.6	7.7	3.7	6.8	4.8	5.8	8.3	7.1	9.7	7.7	7.4	5.8		
BR1	330896	665227	15.4	17.6	16.3	15.5	13.8	15.7	14.1	12.4	11.1	14.5	18.6	16.7	15.1	11.8		
SF1	332271	669796	11.7	9.8	10.9	8.9	6.5	11.1	9.7	12.4	7.0	7.9	15.1	20.8	11.0	8.6		
MH1	332118	669426	17.5	11.7	11.6	10.8	5.7	10.4	7.9	9.3	8.0		12.7	19.3	11.4	8.9		
ED1	333207	667371	27.9	25.5	21.6	24.6	22.2	16.5	17.9	22.7	19.0	19.8	28.0	27.0	22.7	17.7		
ND1	333405	667061	27.4	22.3	21.3	23.8	20.1	18.4	19.2	4.0	23.7	22.6	25.8	31.3	21.7	16.9		Road closure in August 2025
BD1	333055	667191	21.2	18.8	18.3	17.4	17.3	12.5	14.9	19.0	14.7		21.5	18.4	17.6	13.8		
EB1	332973	667100	14.6	12.5	12.3	12.1	10.1	10.3	8.3	11.5	10.9	10.0		16.0	11.7	9.1		

☒ **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.**

☒ **Midlothian Council confirm that all 2025 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.

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

New or Changed Sources Identified Within Midlothian Council During 2025

Midlothian Council has not identified any new sources relating to air quality within the reporting year of 2025.

Additional Air Quality Works Undertaken by Midlothian Council During 2025

Midlothian Council has not completed any additional works within the reporting year of 2025.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes are analysed by Edinburgh Scientific Services (ESS) using the 50% triethanolamine (TEA) in acetone method.

ESS has confirmed that the procedures set out in the Harmonisation Practical Guidance are followed during the analysis. The laboratory is UKAS accredited for the analysis and also participates in the Workplace Analysis Scheme for Proficiency (WASP) scheme. ESS has reported that the results from the WASP scheme confirm that the laboratory is performing satisfactorily. The laboratory uses the 50% v/v triethanolamine (TEA) in acetone method where the adsorbent pads are dipped into this solution, dried and then inserted into the acrylic diffusion tubes.

All exposure periods were aligned to the national diffusion tube monitoring calendar. Midlothian Council sends an unexposed (control) tube with each batch to verify that there has been no contamination during handling or analysis.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within Midlothian Council recorded data capture of 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

Midlothian Council have applied a national bias adjustment factor of 0.78 to the 2025 monitoring data. A summary of bias adjustment factors used by Midlothian Council over the past five years is presented in Table C.1.

Bias adjustment factors are determined by DEFRA using comparable studies according to site type and analysis methodology used. DEFRA derived the bias adjustment figure for 2025 data by using comparison with a kerbside site study at Marylebone Road, London. Details can be found in the National Spreadsheet of Bias Adjustment released in March 2026 (Ref. 03/26).

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2025	National	03/26	0.78
2024	National	06/25	0.86
2023	National	03/24	0.81
2022	National	03/23	0.81
2021	National	09/22	0.85

NO_2 Fall-off with Distance from the Road

No diffusion tube NO_2 monitoring locations within Midlothian Council required distance correction during 2025.

Appendix D: Diffusion tube location maps

Figure 1: Midlothian boundary with key towns/villages, significant roads and the Shawfair development area.

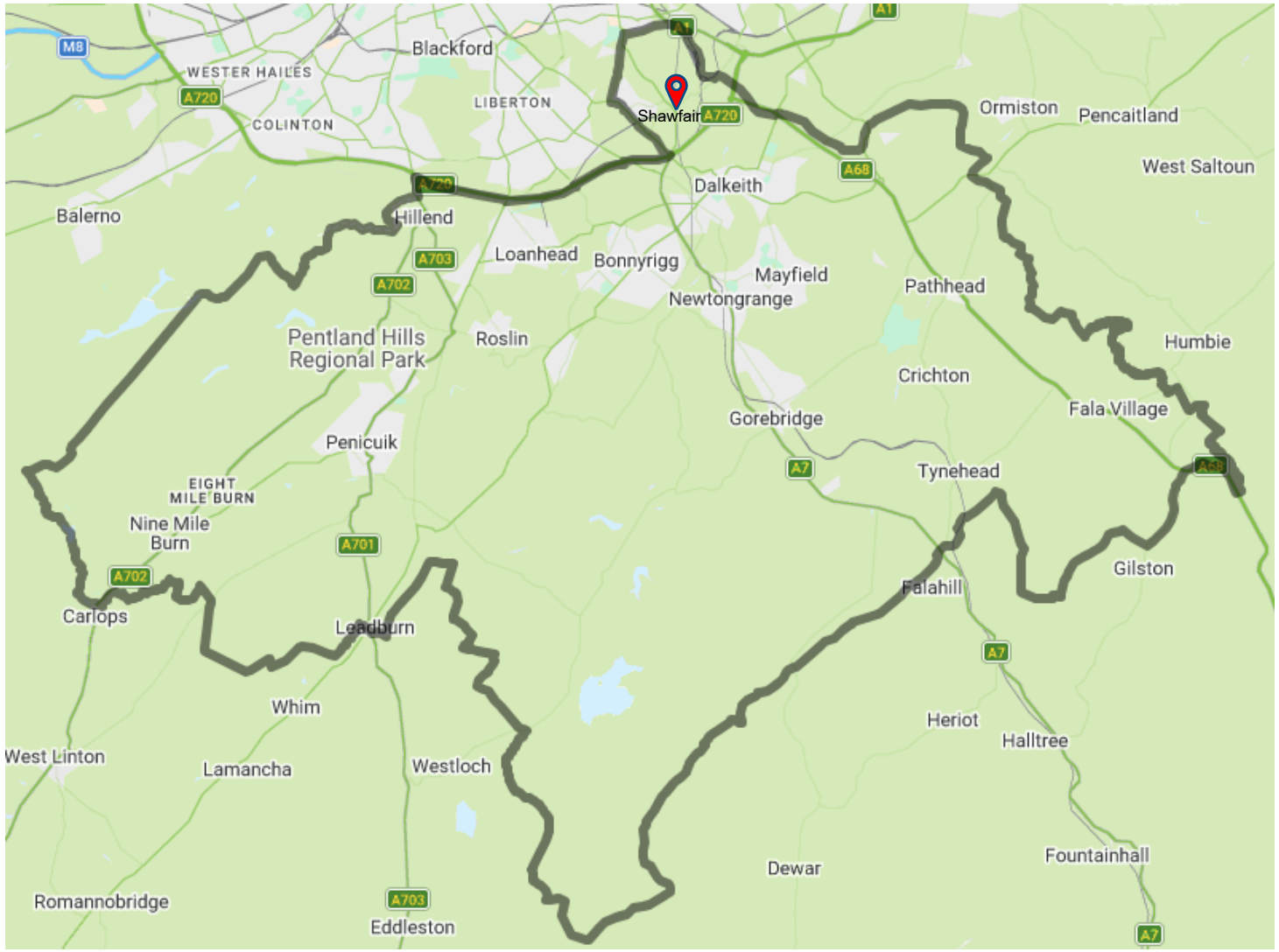


Figure 2: Diffusion tube location, Dalkeith

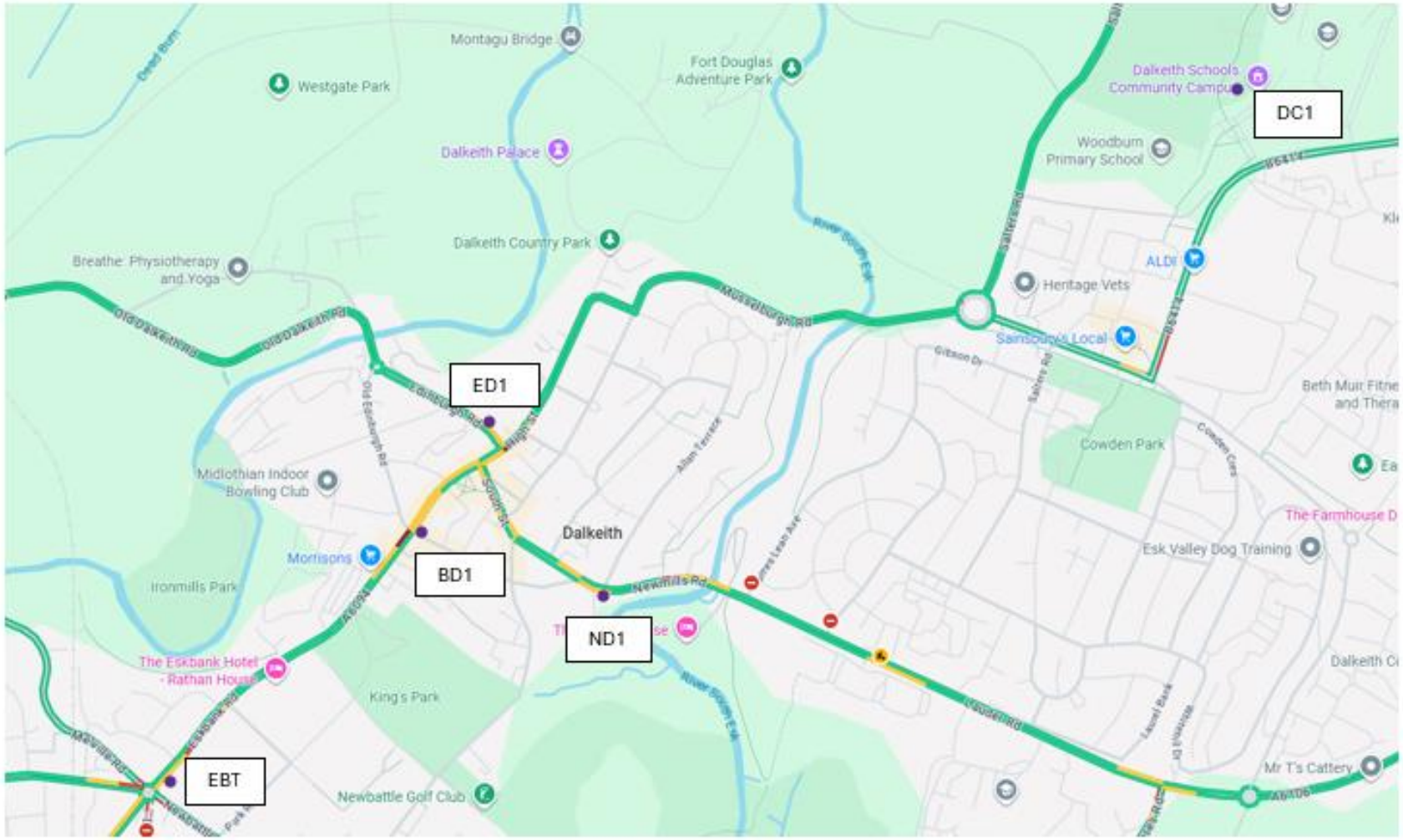


Figure 3: Diffusion tube location, Mayfield

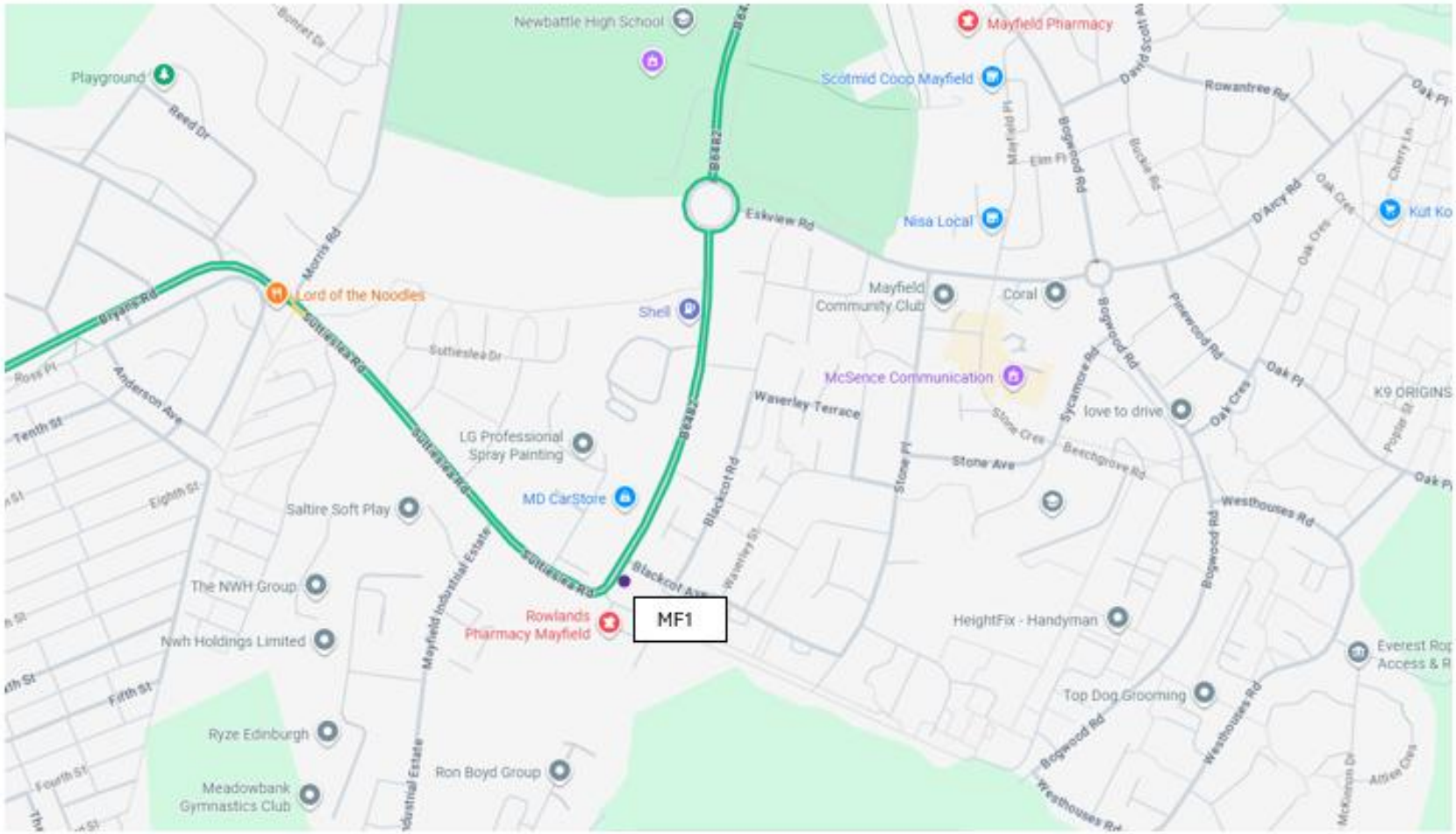


Figure 4: Diffusion tube location, Newtongrange

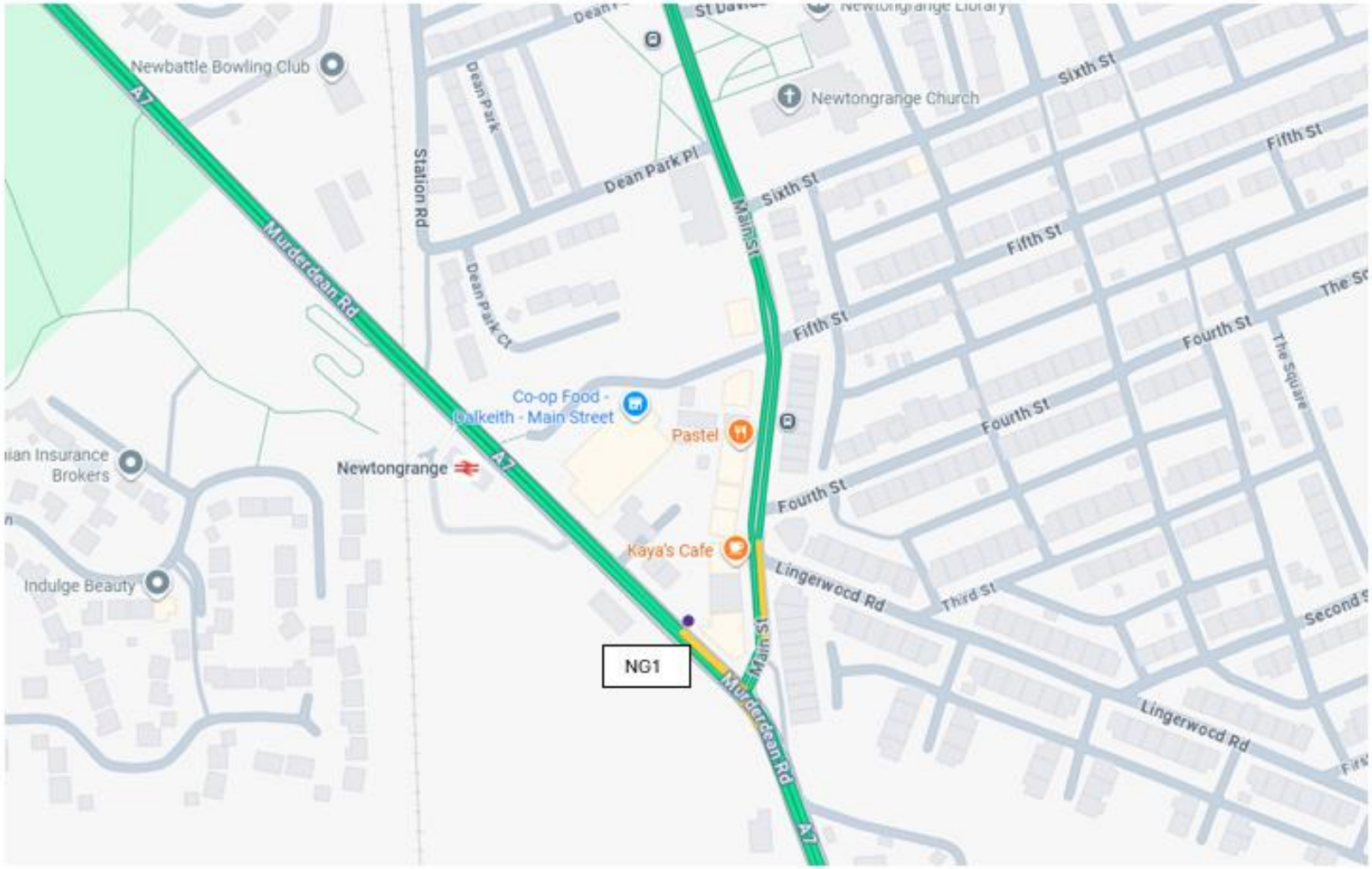


Figure 5: Diffusion tube location, Gorebridge

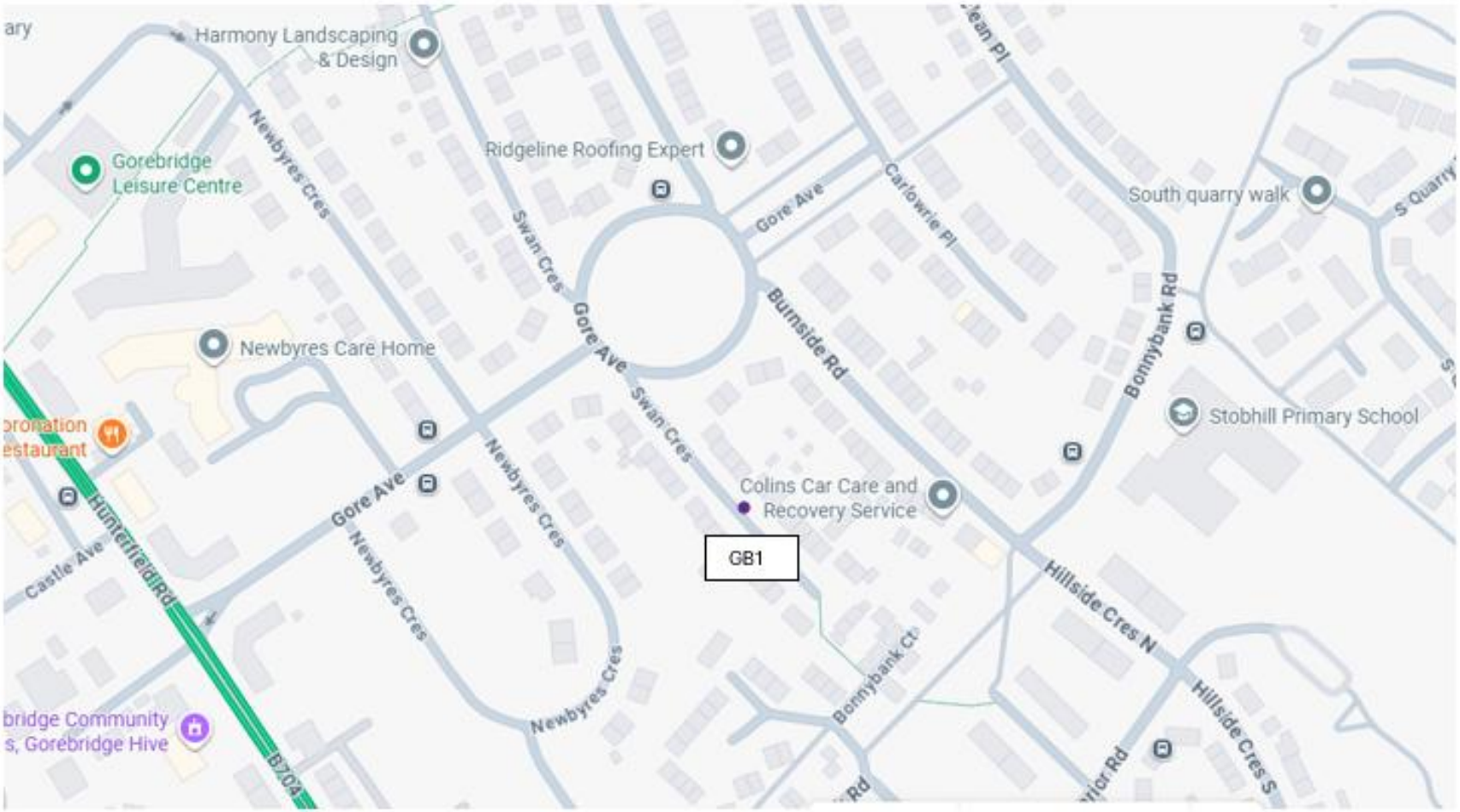


Figure 6: Diffusion tube location, Penicuik

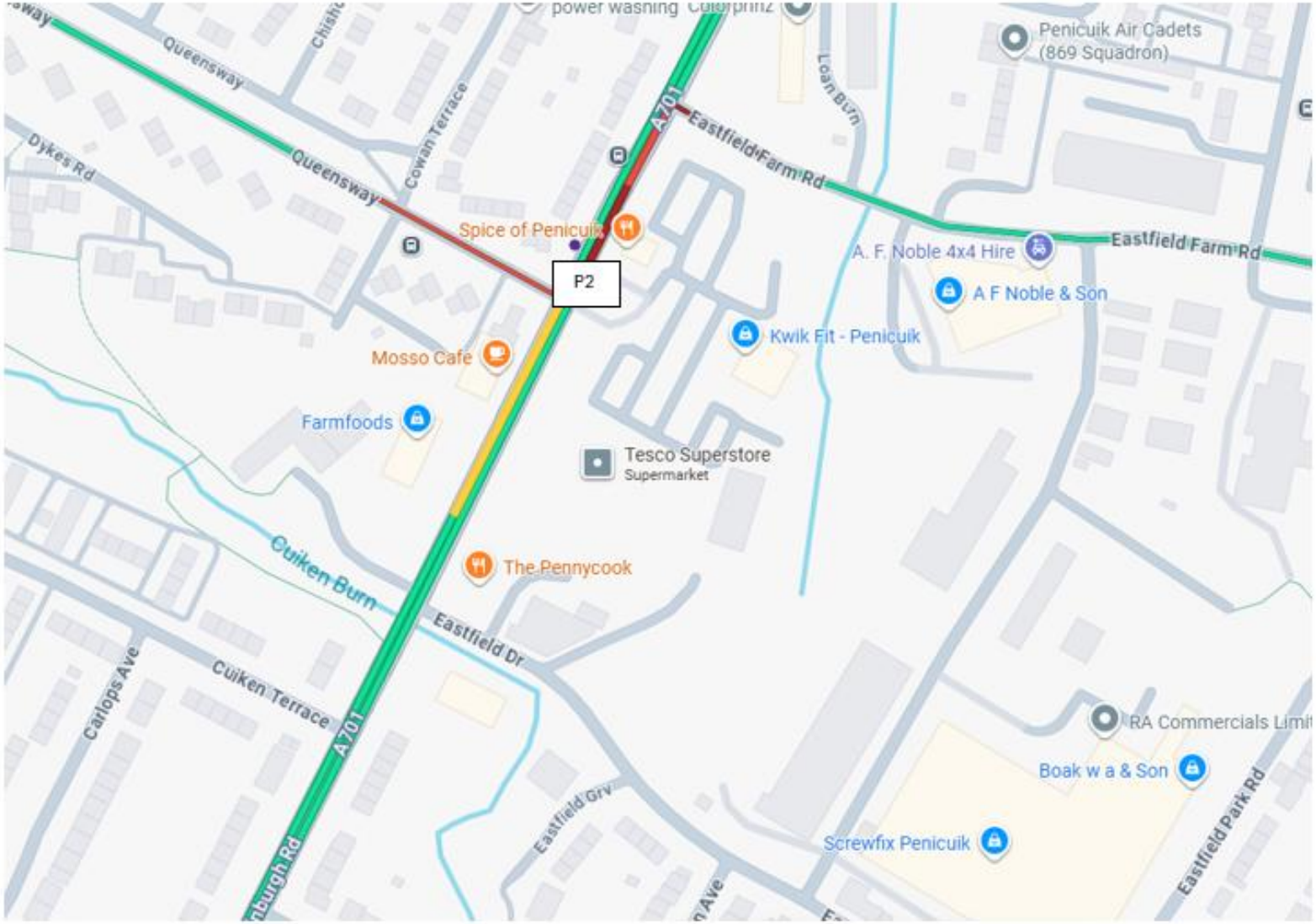


Figure 7: Diffusion tube location, Bilston

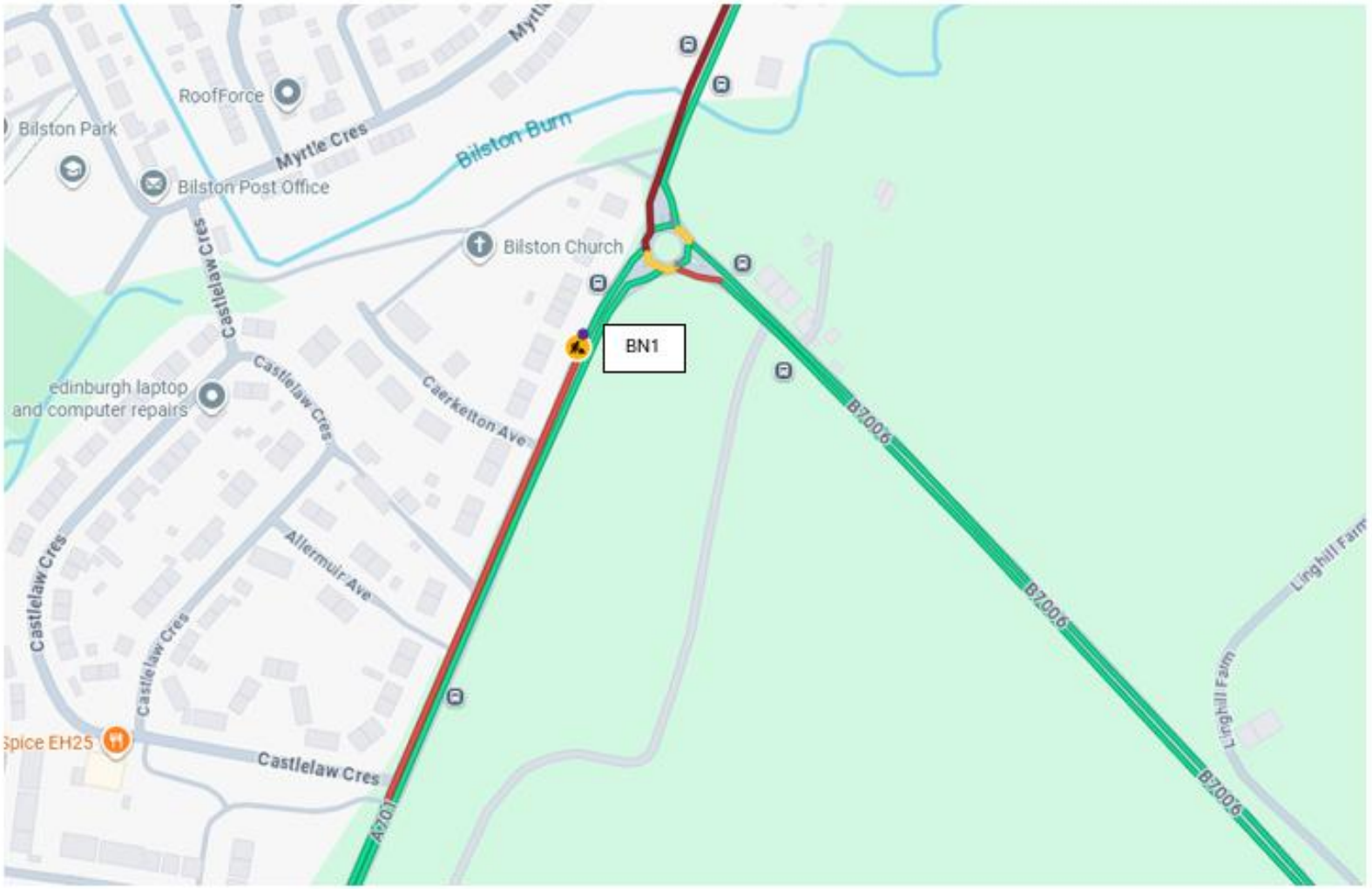


Figure 8: Diffusion tube location, Loanhead

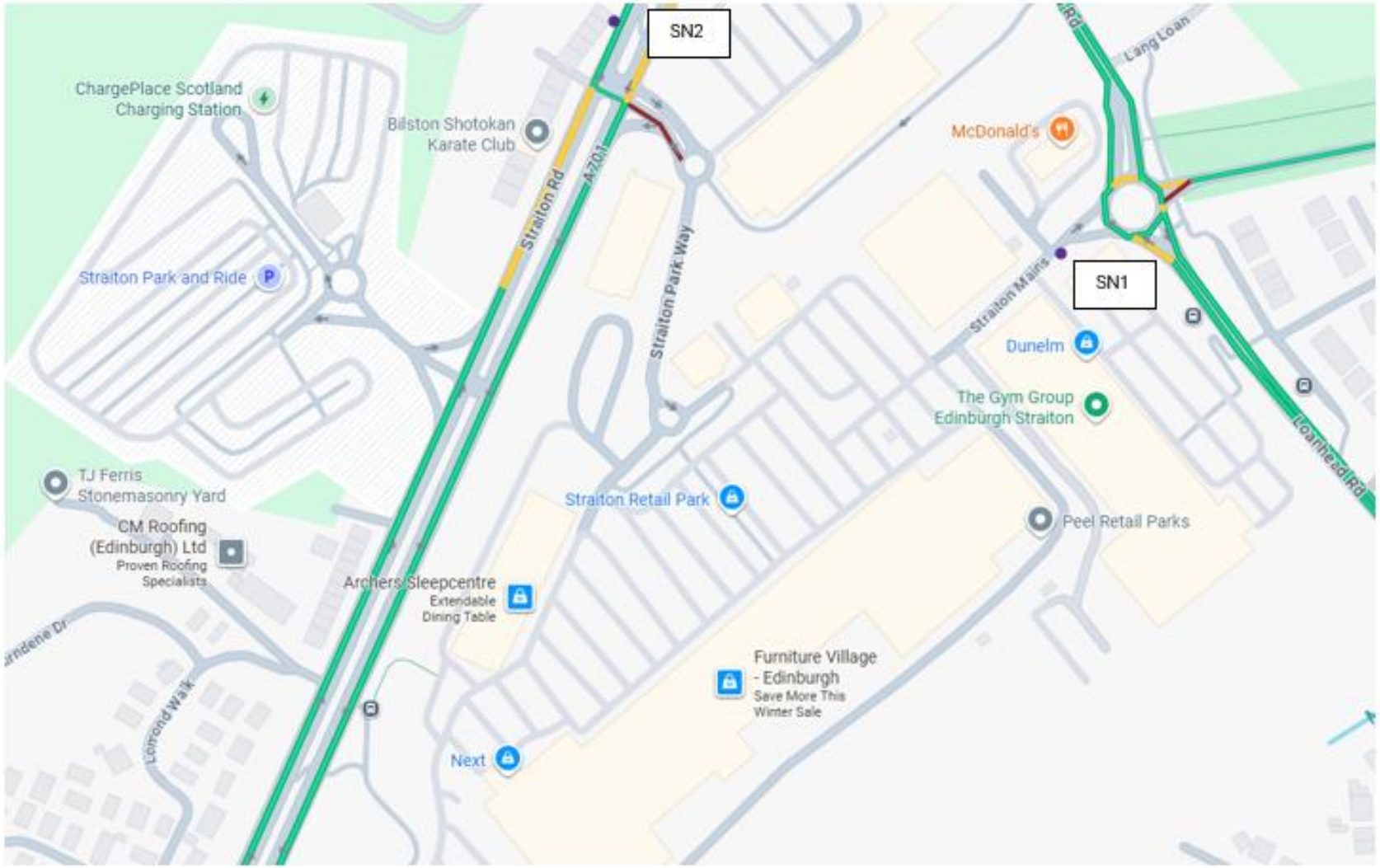


Figure 9: Diffusion tube location, Lasswade

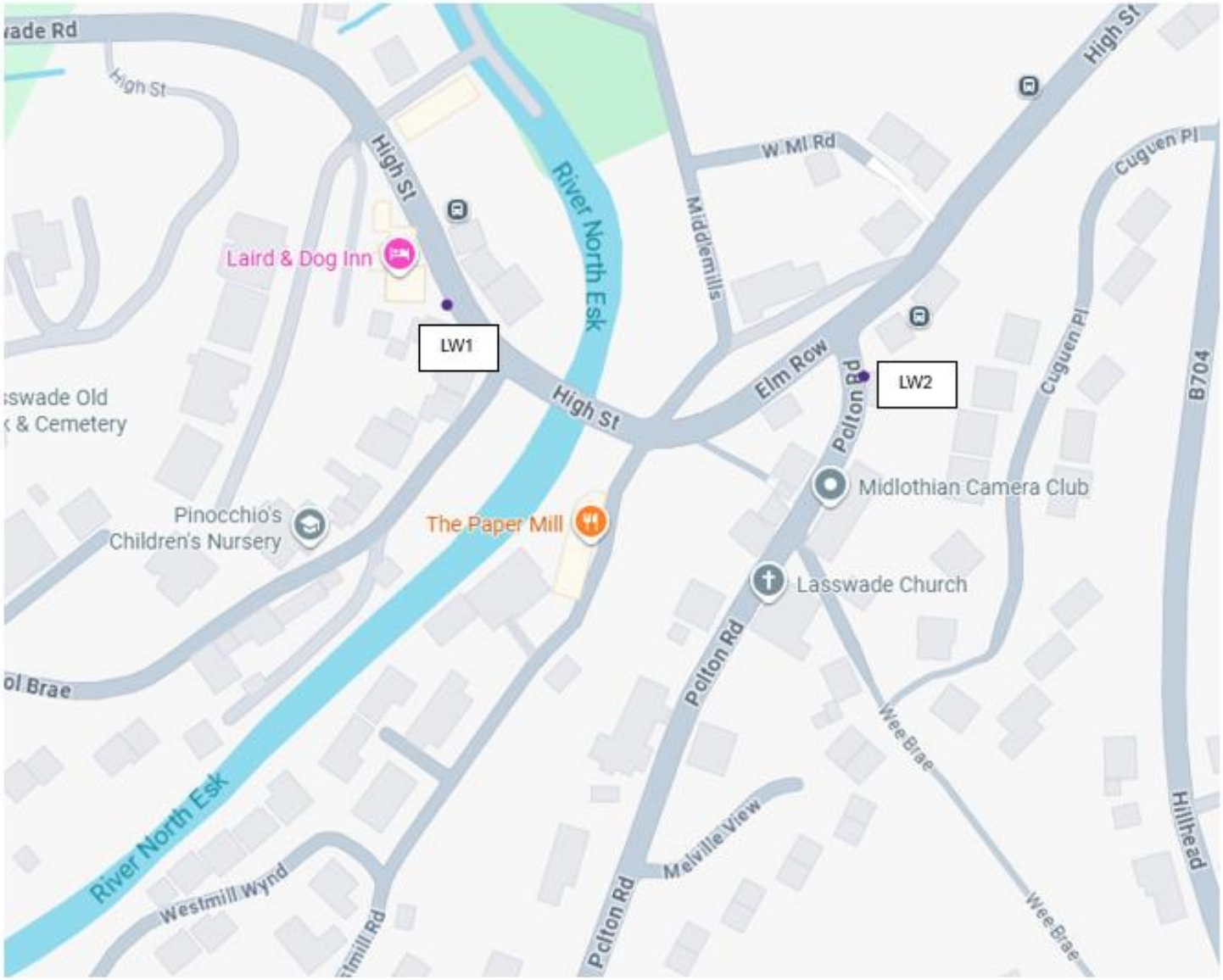


Figure 10: Diffusion tube location, Bonnyrigg

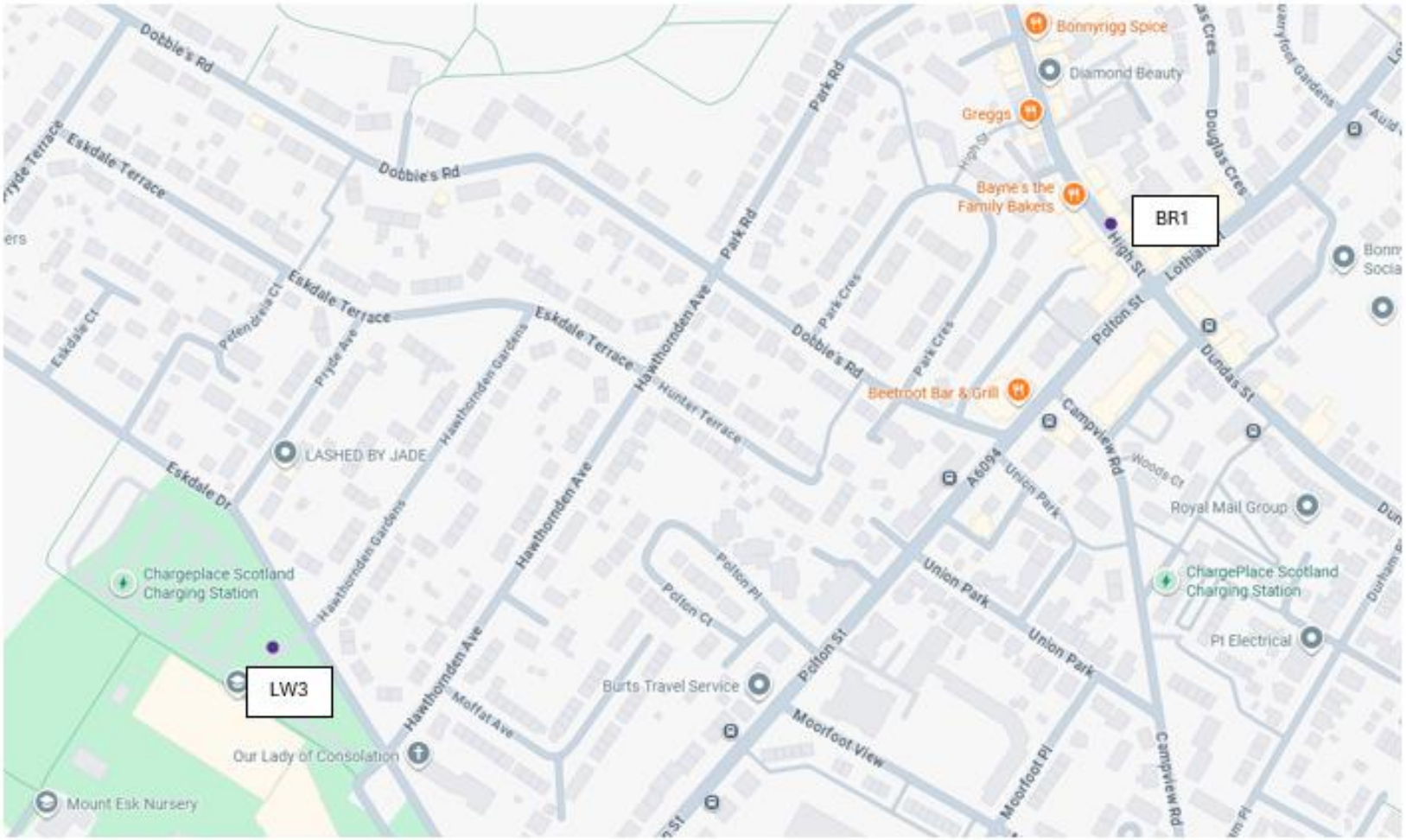
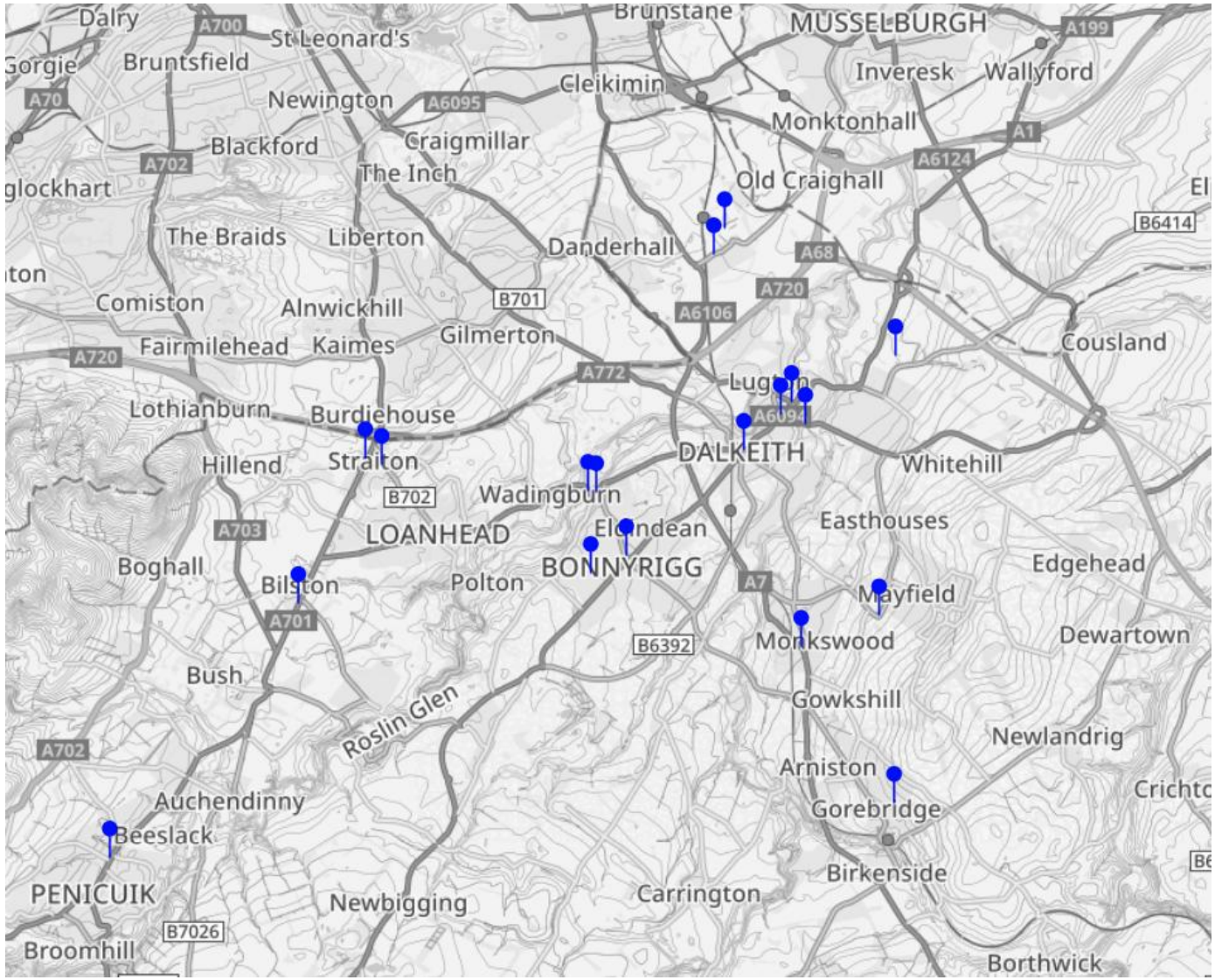


Figure 11: Diffusion tube location in Shawfair and Millerhill

Figure 12: Geographical spread of revised NO2 monitoring locations from January 2025



Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA 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
APR	Annual Progress Report
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
DT	Diffusion Tube
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less

Abbreviation	Description
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

1. Defra and the Devolved Administrations, Local Air Quality Management, Technical Guidance (TG22), August 2022.
2. Defra and the Devolved Administrations, National Bias Adjustment Factor Spreadsheet (Ref 03/26), accessed at https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/
3. Switch Off and Breathe: Vehicle Emissions Partnership https://switchoffandbreathe.org/
4. Midlothian On the Move: Active travel strategy for everyone 2024-2034 https://midlothiancouncil.citizenspace.com/communications/active-travel-and-transport-surveys/
5. Midlothian Local Development Plan 2017 The current development plan for Midlothian | Development plans and policies | Midlothian Council
6. Midlothian Council Local Development Plan 2 Midlothian Local Development Plan 2 | Development plans and policies | Midlothian Council
7. The 2025-2027 delivery programme for adoption of the Midlothian Local Development Plan (2017) - The current development plan for Midlothian Development plans and policies | Midlothian Council)
8. Midlothian Local Development Plan interactive map: https://www.midlothian.gov.uk/info/205/planning_policy/458/housing_land_audit
9. The 2024 Housing Land Audit for the location, scale and programming of new housing development https://www.midlothian.gov.uk/info/205/planning_policy/458/housing_land_audit