Sefton Metropolitan Borough Council

2026 Annual Status Report

July 2026



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Sefton Council

2026 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

Date: July 2026

Foreword by Director of Public Health and Assistant Director (Highways and Public Protection)

Sefton Council is committed to improving air quality in the borough and is working to ensure that Sefton will be a place where improved health and wellbeing is experienced by all. This work directly supports Sefton's 2030 vision of a cleaner, greener and healthier Borough.

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 Sefton's residents.

The latest monitoring undertaken by the Council over the last 5 years shows that air quality across Sefton has been steadily improving with most of the borough having good air quality. Some areas in South Sefton, however, experience higher levels of air pollution than the rest of the borough and we continue to develop and implement focused air quality improvement actions to help reduce air pollution in these areas.

We endorse this Annual Status Report which sets out the position in Sefton and our on-going work programme to address air quality issues.

Dr Rory McGill - Director of Public Health
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Local Responsibilities and Commitment

This ASR was prepared by Bureau Veritas on behalf of Sefton Metropolitan Borough Council with the support and agreement of the following officers and departments:

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If you have any comments on this ASR, please send them to Greg Martin at:

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Executive Summary: Air Quality in Our Area

Air Quality in Sefton Metropolitan Borough Council

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 that measure 10 micrometres or less in diameter. Fine particulate matter or $PM_{2.5}$ are particles that measure 2.5 micrometres or less in diameter.

During 2025, Sefton Metropolitan Borough Council continued to undertake an extensive monitoring programme including both passive and automatic methods, as part of its ongoing Local Air Quality Management responsibilities.

There were no exceedances of the relevant air quality objectives in Sefton for NO_2, PM_{10} or $PM_{2.5}$ and there is a general decreasing trend across all pollutants recorded.

The following locations have been previously identified as areas of concern in Sefton and are currently designated Air Quality Management Areas (AQMAs). The pollutant(s) which each AQMA has been designated are shown in brackets alongside the corresponding criteria:

- (AQMA 2) Lathom Close, Princess Way, Seaforth (annual mean NO_2, 40µg/m^3);
- (AQMA 3) Millers Bridge/Derby Road junction, Bootle (annual mean NO_2, 40µg/m^3 and 24-hour Mean PM_{10}, 50µg/m^3 not to be exceeded more than 35 times a year);
- (AQMA 4) South Road/Crosby Road North junction, Waterloo (annual mean NO_2, 40µg/m^3); and,
- (AQMA 5) Hawthorne Road/Church Road junction, Litherland (annual mean NO_2, 40µg/m^3).

AQMA 2, AQMA 4 and AQMA 5 have been compliant with the NO_2 annual mean objective for the past five years. AQMA 3 has been compliant with the PM_{10} daily objective for the past five years. In line with DEFRA guidance the council will look to revoke these AQMAs in the coming months.

Maps have been produced showing the extent of the AQMAs in Appendix D. These can also be viewed on the DEFRA UK Air website.

In Sefton, road traffic is the main source of NO_2, PM_{10} and $PM_{2.5}$, particularly emissions from Heavy Goods Vehicles (HGVs), Light Goods Vehicles (LGVs) and diesel cars. Emissions from activities associated with the Port of Liverpool also have an impact on air quality in the Bootle and Seaforth area.

Current Air Quality Levels in Sefton

Overall concentrations appear to be stable and consistent with previous levels during the last five years. The extensive air pollution monitoring programme will continue in 2026 and beyond to determine future trends and compliance in Sefton.

Members of the public can view current and historic pollutant levels throughout Sefton on the council's Breathing Space website. Previous Annual Air Quality Status Reports can also be viewed here.

NO_2

During 2025, all automatic monitoring sites within Sefton were compliant with the NO_2 air quality objective with no reported exceedances of the 1-hour mean objective, concentrations of 200µg/m^3 more than 18 times per year. Automatic monitoring locations

CM2 – Crosby Road North, CM4 – Princess Way and CM5 – Hawthorne Road recorded reductions in NO_2 concentrations in 2025 when compared to 2024 levels.

For the passive monitoring programme, 49 sites reported a decrease in NO_2 concentrations when compared to 2024 levels and 36 reported an increase. Of the 36 sites that recorded increases, 24 of those increases were less than 1µg/m^3. It should be noted that all 86 locations recorded concentrations below the annual mean NO_2 objective during 2025.

The maximum annual average NO_2 concentration recorded in 2025 was 35.0µg/m^3 at GT which is located within the Millers Bridge AQMA (AQMA 3). The concentration was below the 10% annual average objective threshold (36.0µg/m^3) within AQMA 3.

PM_{10}

Compliance of both the annual mean PM_{10} objective (40µg/m^3) and compliance with the 24-hour PM_{10} objective (50µg/m^3) not to be exceeded more than 35 times per year has been achieved at all relevant automatic monitoring stations during 2025. CM4 and CM7 have both recorded reductions in PM_{10} concentrations in 2025 when compared to 2024 levels. The maximum annual mean concentration recorded during 2025 was 20.6µg/m^3 at CM3, which is a slight increase since 2024 of 0.7µg/m^3. It should be noted that during the monitoring year of 2025, CM5 – Hawthorne Road data capture was below 25% for the year and as a result the data could not be annualised and therefore is not presented.

$PM_{2.5}$

All automatic monitoring sites recorded $PM_{2.5}$ concentrations well below the current annual mean $PM_{2.5}$ target value of 20µg/m^3. The maximum annual mean $PM_{2.5}$ concentration recorded during 2025 was 10.4µg/m^3 at CM3, which is a slight increase of 0.5µg/m^3 since 2024. It should be noted that during the monitoring year of 2025, CM5 – Hawthorne Road data capture was below 25% for the year and as a result the data could not be annualised and therefore is not presented.

Working in Partnership to Improve Air Quality

As in previous years Sefton Council's Officers continue to work closely with a number of internal and external partners with the objective of collaboratively improving air quality in the Borough. Sefton Council plans to identify Lead Cabinet Member(s) so the Cabinet, and the Overview and Scrutiny Committee (OSC) can be regularly briefed.

Officers regularly work with external partners outside the Council including National Highways, the Liverpool City Region Combined Authority, The Environment Agency, Public Health England, Liverpool John Moores University, University of Liverpool, Merseytravel and Peel Ports (who operate the Port of Liverpool).

In addition, Sefton Council's Air Quality Officers attend regular scheduled meetings with air quality officers from other local authorities within the Merseyside & Cheshire region, through the Merseyside and Cheshire Air Quality Management Group, to discuss air quality issues and how to improve air quality within the wider Liverpool City Region and Cheshire. This group includes Liverpool City Region air quality officers from Sefton Council, Liverpool City Council, St Helens Council, Knowsley Council, Wirral Council, Halton Borough Council, and officers from Cheshire East, Cheshire West and Chester Councils.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan[1] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter ($PM_{2.5}$), the pollutant that is most harmful to human health. The Air Quality Strategy[2] provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero[3] details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and the majority of AQMAs are designated due to elevated concentrations heavily influenced by transport emissions.

[1] DEFRA. Environmental Improvement Plan 2023, January 2023

[2] DEFRA. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

[3] DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

Sefton has actioned the following measures in 2025 to address air quality:

APM4 – Maritime Corridor Improvement Scheme:

Multi-phase transport upgrade (2025–2027+) improving junctions, traffic flow, and walking/cycling routes across key corridors (A5036, A5038, etc.). Aims to reduce congestion, improve accessibility, support development, and lower emissions. Phase 1 works have begun.

APM5 – Targeting non-compliant HGVs:

ANPR data identified older, more polluting rigid HGVs as a priority. Surveys and consultancy work (TRL) are underway to identify operators, encourage Euro VI upgrades, and promote ECO Stars membership. Operator identification and engagement are in progress.

APM10 – Millers Bridge AQ Study:

Non-traffic pollution sources contributing to NO_2 and PM exceedances are being investigated via a joint PhD with Liverpool John Moores University, using advanced data analytics to inform targeted interventions (e.g., industry, shipping).

SCOOT Validation Project:

Review and optimisation of traffic signal systems at key junctions to improve flow and reduce emissions. Surveys and strategy updates are underway.

Emissions Enforcement (with DVSA):

Joint roadside monitoring of HGV emissions shows reduced non-compliance compared to previous years. Future enforcement will expand to include LGVs and cars, now the main source of older (Euro 5 or below) vehicles.

Further details are presented in Section 2.2.

Conclusions and Priorities

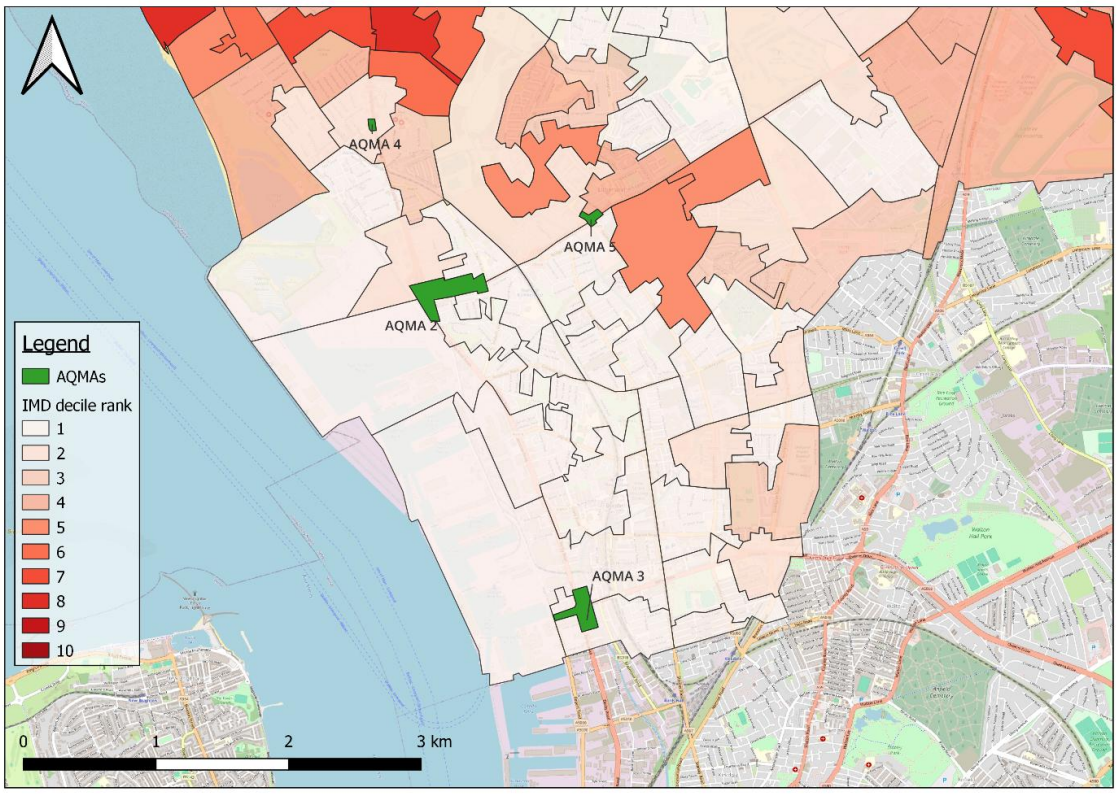
Poor air quality is a public health issue that can cause negative impacts for those who are exposed to it and affect quality of life. Air pollution can be harmful to health at all concentrations, whether above or below the air quality objectives so this remains a key issue for Sefton Metropolitan Borough Council.

Exposure to NO_2, whether short or long term is known to cause respiratory infections, airway inflammation and aggravates the symptoms of those suffering from chronic lung conditions such as asthma and chronic obstructive pulmonary disease.

The Consumer Data Research Centre (CDRC) provide Index of Multiple Deprivation (IMD)[4] datasets for the UK. The levels of deprivation within the UK are measured through consideration of a number of broad themes, these include income, employment, education, health, crime, barriers to housing services, and the living environment. IMD data was gathered for Sefton and reviewed in relation to proximity to AQMAs and diffusion tube monitoring sites. The IMD dataset ranks areas from most deprived (rank 1) to least deprived (rank 10). The areas are also split into 10 bandings known as deciles.

The review of the latest IMD dataset from 2019 has shown that the AQMAs declared by Sefton Metropolitan Borough Council are located in the areas which represent the top three most deprived deciles (i.e. IMD 1-3) in Sefton. Figure 1 presents the latest analysis.

Figure 1: IMD Decile Rankings within Sefton Metropolitan Borough Council AQMAs.



[4] Index of Multiple Deprivation (IMD) ranking – Communities Open Data - https://communitiesopendata-communities.hub.arcgis.com/datasets/d473e9ad137240b6aa47c9e3f4bdd674_0/explore?filters=eyJJTUREZWNpbCI6WzAsMTBdfQ%3D%3D&location=53.468860%2C-2.901315%2C12.10

As can be seen in Figure 1, AQMA 2 and AQMA 3 are in areas which represent some of the most deprived deciles in Sefton. AQMA 4 is located within a decile which is ranked one of the second most deprived areas, and AQMA 5 is located within a decile which is ranked one of the third most deprived areas.

Sefton is therefore focusing its efforts on improving air quality in its AQMAs and surrounding areas where Sefton's most deprived and vulnerable residents reside.

The Port of Liverpool has recently undergone a £300 million expansion. Although the expansion is expected to bring economic benefits to the region, it is also predicted to lead to a significant increase in HGVs using the A5036, the main port access route, and to a lesser extent the A565, and will pass through three areas designated as AQMAs, potentially leading to a worsening of air quality in areas that were previously identified as having poor air quality and congestion, particularly the A5036.

The Council has developed a range of actions which aim to improve air quality in and around our current AQMAs and also manage future air quality issues associated with the anticipated increasing traffic levels due to the expansion of the Port.

The Council will continue to work with partners and stakeholders to explore multi-modal / integrated network solutions to the issues created by traffic traveling through south Sefton to the port and other destinations.

How to get Involved

Sefton continues to engage with the community on air quality and uses a number of different techniques to facilitate this.



Sefton is using our internet based 'Your Sefton Your Say' (YSYS) consultation hub to provide information to the public about specific studies and air quality matters in general. The YSYS hub can be accessed here.

Real time data from Sefton's monitoring network can be viewed by the public using Sefton's Breathing Space website. Historical information and air quality reports are also available here.

Sefton's air quality officers have completed a DEFRA air quality grant funded domestic solid fuel behaviour change project with the aim of reducing particulate emissions from the burning of this fuel. Additionally, a public website was developed which provides information and advice on this topic for residents who may be using solid fuel stoves/fires and businesses selling stoves and/or fuels. The website can be found here.

Sefton has recently completed a DEFRA grant funded schools air quality education project. Part of the project included the development of an immersive room at Sefton's Ecocentre. The immersive room is now fully operational and being used as an educational and engagement tool on air quality for school pupils and the wider community alike. Sefton's Clean Air Crew website which was designed to engage with school children, teachers and parents has also been further developed as part of the grant project. This can be found here.

Sefton Air quality officers continue to work with Highways to help progress and support through air quality monitoring the schools streets and neighbourhoods projects.

What is a School Street?

A School Street is a road outside a school that is closed during school drop-off and pick-up times. This reduces the traffic and inappropriate parking in the road outside the school at key times so creates a much safer and pleasant place for people to access the school.

A School Street scheme encourages walking, wheeling, or cycling to school, enabling:

- A more enjoyable environment around the school
- Improved air quality
- Improved road safety

A School Street therefore has benefits for local residents, as well as the school community.

What is a School Neighbourhood Project?

A School Neighbourhood Project involves a wider area incorporating schools and the local community, with an aim to make journeys to school safer, whilst creating a more inviting local environment for walking, wheeling and cycling over a wider area.

Such projects develop community-led solutions to local issues, thinking about ways to improve road safety and help everyone to make more active journeys. The potential improvements identified can then benefit the whole community.

Solutions and potential improvements may include traffic calming over a wider area, filtering of streets, widening of pavements, improved lighting, improved green spaces and new or improved crossing points. A School Neighbourhood may also include specific School Streets, where a road is closed near the entrance of a school during school drop-off and pick-up times.

By focusing on journeys across a wider neighbourhood area, potential design solutions will have a wider positive impact and benefits will be felt by everyone making local journeys in the area.

Our School Neighbourhood Projects aim to develop a prioritised list of solutions and improvements, which the Council can work to implement in line with appropriate funding availability.

Working with Communities

Sefton Council in partnership with key delivery partners are working with numerous schools and local community groups to gain insights into how to make walking, wheeling, or cycling into school safer for children in Sefton.

Our School Street and Neighbourhood projects consider the specific challenges faced on the journey to school and the surrounding neighbourhood. Pupils and the local school community work with us to find solutions that work for everyone.

Current Projects

Some of our current projects are:

- Southport School Streets and Neighbourhoods
- Bootle North Park School Neighbourhood
- Norwood School Neighbourhood
- Other School Streets Projects

Why are School Streets and Neighbourhoods Projects so important?

More than 1,000 deaths a year in the Liverpool City Region are linked to air pollution. Introducing a School Street reduces the number of cars around school when pupils are travelling into school.

Babies and young people breathe in up to 60% more air pollution on the school run by being closer to the ground. Every minute an idling car produces enough toxic exhaust to fill 150 balloons.

The Sefton School Street and Neighbourhood initiatives reduce congestion around schools, and improve health and wellbeing, as well as tackling climate change.

Our School Street and School Neighbourhood initiatives not only reduce pollution around the school gates but make the journey to school safer and more enjoyable. Travelling actively to school also improves young people's mood and improves focus in the classroom.

Further information on the work Sefton is doing to progress these projects can be found here: Sefton School Streets and Neighbourhoods

Simple Actions Which Can be Taken to Help Reduce Air Pollution

There are a number of things the public can do to help improve air quality in their area. These include:

- Reducing the use of your car and consider cycling, walking, or using public transport. 55% of car journeys are less than five miles. Many of these trips could be walked or made by bike or public transport.
- Consider car sharing. When two or more people share a car and travel together, it allows people to benefit from the convenience of the car, sharing travel costs, whilst helping to reduce congestion and air pollution.
- When using your car consider taking an 'eco-driving' approach. This can not only save you money in reduced fuel costs but also reduce emissions of air pollutants and impact on climate change. This includes:
    - Regular maintenance and servicing of your vehicle according to the manufacturers schedule to maintain the engine's efficiency;
    - Making sure your tyres are inflated to the manufacturer's recommended pressures. Under-inflated tyres create more rolling resistance and so use more fuel;
    - Removing unused roof racks or roof boxes to reduce wind resistance and not overloading your vehicle or carrying unnecessary weight;
    - Reducing your use of air conditioning which increases fuel consumption at low speeds;
    - Avoid warming up your car while stationary this can consume more fuel and increase pollution. If you start driving immediately, the engine will reach its working temperature quicker;
    - Avoiding unnecessary idling of your car engine when in traffic or waiting to pick up people;
    - Driving smoothly and avoiding sharp acceleration and harsh braking;
    - Shifting into a higher gear as soon as possible; Maintaining a steady speed, using the highest gear possible as soon as possible between 2000rpm and 2500rpm to keep your engine working most efficiently; and

    - The faster you go, the greater the fuel consumption and pollution. For example, driving at 70mph uses up to 9% more fuel than at 60mph and up to 15% more than at 50mph.
- Consider purchasing a lower emissions, hybrid or electric vehicle or high efficiency petrol vehicle.
- If possible, avoid driving during the morning and evening peak times as levels of congestion and therefore air pollution will be highest.
- If stationary in a traffic jam, traffic lights or at a pelican crossing for over 30 seconds, switch off your engine to reduce air pollution.
- Don't burn garden or domestic waste. This not only releases pollutants into the atmosphere, but it can also cause a nuisance to your neighbours. All waste should be either disposed of or recycled. Details of waste and recycling facilities in Sefton can be found here.
- Should I burn wood? Air pollution affects the health of everyone in Sefton. Along with emissions from transport and construction, burning wood and other solid fuels can contribute to this air pollution problem. The main pollutant emitted by solid fuel burning is ultra-fine particulate matter, also known as $PM_{2.5}$. This pollutant is not visible to the naked eye, so even "smokeless" fuels and appliances may be causing pollution.
- If you need to burn solid fuels to heat your home, choosing what you burn and how you burn it can make a big difference to the pollution it creates.
- Parts of Sefton are designated as Smoke Control Areas and the type of fuel and/or appliance you are allowed to use is restricted in these locations. You can check if your property is in one of Sefton's Smoke Control Areas here.
- Open fireplaces are the most polluting way to burn solid fuels. Using a well-designed, properly installed stove or appliance can make a big difference.
- As a minimum, you should make sure that your stove meets the legal requirements, but even approved stoves can emit high levels of pollution. The Stove Industry Alliance has recently introduced the "Eco-design Ready" label.
- An Eco-design Ready stove can emit up to 80% less pollution than a normal DEFRA approved appliance. An up-to-date list of these stoves can be found on the HETAS website.
- Any stove or fireplace should also be properly maintained, and your chimney should be swept regularly.

- If you are using an open fireplace, it is recommended that you should only burn smokeless fuels, if in doubt ask your supplier.

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1 Local Air Quality Management

This report provides an overview of air quality in Sefton Metropolitan Borough Council 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 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 Sefton Metropolitan Borough 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.

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 Sefton Metropolitan Borough Council can be found in Table 2.1. The table presents a description of the four AQMAs that are currently designated within Sefton Metropolitan Borough Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO_2 annual mean; and
- PM_{10} 24-hour mean.

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 Princess Way	Declared 2009, Amended 2015, 2016	NO_2 Annual Mean	An area encompassing a number of residential properties from the Ewart Road flyover, Princess Way (A5036) up to and including the Roundabout and flyover at the junction with Crosby Road South (A565)	YES	45.8µg/m^3	31.5µg/m^3	Over 5 years	Draft Air Quality Action Plan for Sefton Council, 2015	Draft Air Quality Action Plan for Sefton Council for Air Quality Management Areas 1 - 5
AQMA 3 Millers Bridge	Declared 2009, Amended 2015, 2016	NO_2 Annual Mean PM_{10} 24-Hour Mean	An area encompassing a number of residential properties around the junction of Millers Bridge (A5058) and Derby Road (A565)	NO	60µg/m^3 46 hours	35.0µg/m^3 6 hours	2 years Over 5 years	Draft Air Quality Action Plan for Sefton Council, 2015	Draft Air Quality Action Plan for Sefton Council for Air Quality Management Areas 1 - 5

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 4 South Road	Declared 2012, Amended 2015, 2016	NO_2 Annual Mean	An area encompassing the Liver Hotel and a number of residential properties around the junction of Crosby Road North (A565) and South Road	NO	48.0µg/m^3	29.4µg/m^3	5 years	Draft Air Quality Action Plan for Sefton Council, 2015	Draft Air Quality Action Plan for Sefton Council for Air Quality Management Areas 1 - 5
AQMA 5 Hawthorne Road	Declared 2012, Amended 2015, 2016	NO_2 Annual Mean	An area encompassing a number of residential properties around the junction of Hawthorne Road (B5058) and Church Road (A5036)	YES	42.6µg/m^3	31.4µg/m^3	Over 5 years	Draft Air Quality Action Plan for Sefton Council, 2015	Draft Air Quality Action Plan for Sefton Council for Air Quality Management Areas 1 - 5

☒ Sefton Metropolitan Borough Council **confirm the information on UK-Air regarding their AQMA(s) is up to date.**

☒ Sefton Metropolitan Borough Council **confirm that all current AQAPs have been submitted to Defra.**

2.2 Progress and Impact of Measures to address Air Quality in Sefton Metropolitan Borough Council

Defra's appraisal of last year's ASR concluded that the "report is well structured, detailed, and provides the information specified in the Guidance". The following comments were provided and designed to help inform future reports:

1. Sefton Metropolitan Borough Council (SMBC) have outlined a plan to revoke AQMAs which are in compliance with the AQO over 5 years. This should be taken forward and update on this should be provided in the next submission.
    - *SMBC plans to revoke the following in 2026:*
        - *AQMA 2 - Annual Mean NO_2 objective*
        - *AQMA 3 - 24-Hour Mean PM_{10} objective*
        - *AQMA 4 - Annual Mean NO_2 objective*
        - *AQMA 5 - Annual Mean NO_2 objective.*
2. Monitoring sites have been identified on maps that are clear to understand.
3. SMBC have provided details on the diffusion tubes used and the corresponding QA/QC procedures. Justification for use of a national bias factor has been provided.
4. SMBC have corrected diffusion tubes concentrations for distance correction and have outlined the procedure for this.
5. SMBC have produced graphs demonstrating the change in pollutant concentrations between 2020-2024, this good work should be continued in future submissions.
6. SMBC have mentioned that the AQAP has been updated from the previous edition in 2015. A working weblink to this should be provided in the next submission after approval from Defra and subsequent publication.
    - *The report now contains links to the latest draft AQAP*
7. SMBC have addressed the comments from the previous submission of 2023. This is welcomed.

Sefton Metropolitan Borough Council has taken forward a number of direct measures during the current reporting year of 2025 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.3. In total there are 15 measures within Table 2.3, with the type of measure and the progress Sefton Metropolitan Borough Council have made during the reporting year of 2025 presented.

Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.3.

As reported in last year's ASR, Sefton's AQAP required updating. A draft AQAP has been submitted to Defra which has recently been approved. External consultation with stakeholders and the public on the draft AQAP is underway. The AQAP will be available via the link contained within Table 2.1.

The following air quality actions have been progressed during the 2025 reporting year.

APM4 Maritime Corridor Improvement Scheme

The Maritime Corridor (A5036) is the area spanning from Switch Island to Netherton Way (A5038). It links to Atlantic Park and the wider area to the Port of Liverpool.

The Maritime Corridor scheme is focused on improving transport links throughout this area by improving junctions and introducing walking and cycling routes along Dunnings Bridge Road (A5036), Netherton Way (A5038), Bridle Road, Park Lane, Heysham Road and Atlantic Park Drive. We want to make it easier for vehicles, cyclists and those walking to move around the area.

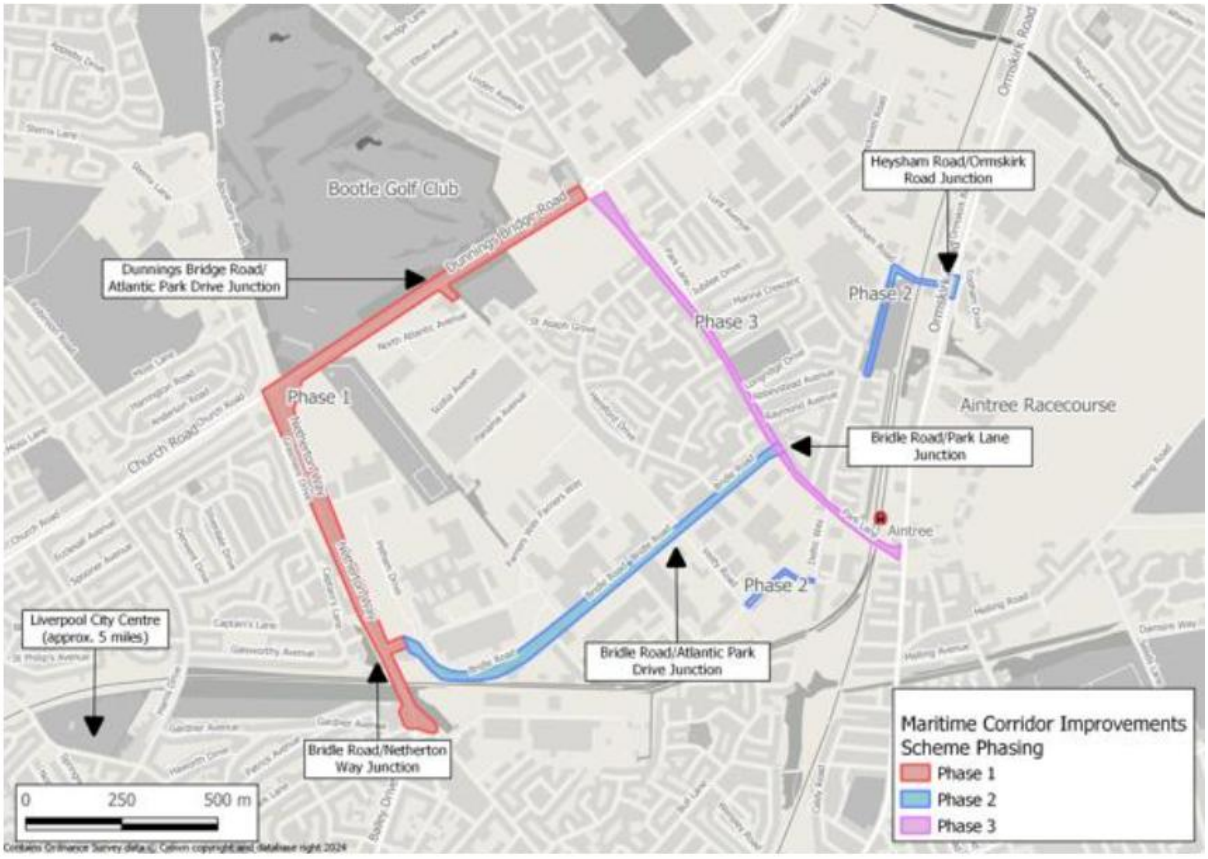
A number of scheme benefits are anticipated including:

- Promoting new development along the A5036 Dunnings Bridge Road that will create new jobs for local people.
- Making it safer for people to walk and cycle in the area, helping to reduce pollution.
- Making it easier for people to get about who don't have access to a car.
- Speed up journey times/reducing congestion for those travelling by car or public transport also helping to improve air quality in the area.

The improvement scheme has been split up into several phases, where we will improve junctions for walking and cycling accessibility and improved traffic flow.

Figure 2 below shows the walking and cycling improvement locations.

Figure 2 - Maritime Corridor Improvements Scheme



Scheme progress

- Phase 1 – Completed February 2026
  - Phase 1 saw improvements to Dunnings Bridge Road and Netherton Way.
  - The scheme has improved junctions and introduced enhanced walking and cycling paths and crossings. This has made it easier for vehicles, cyclists and those walking to move around the area.
  - Monitoring of air quality and traffic levels/flows is underway to help evaluate the measures implemented under phase 1. Results of the monitoring will be included in the 2027 ASR as the work has only recently been completed.
- Phase 2 – Planned to start in 2026
  - Bridle Road
  - Heysham Road
  - Vesty Road
- Phase 3 – To be delivered in/after 2027 (subject to funding)
  - Park Lane
  - Further details on the project can be found here: Maritime Corridor

APM5 - Targeting local non-compliant HGVs (particularly rigids) to encourage vehicle upgrade.

Previous studies undertaken in Sefton have identified that Rigid HGV's operating in the area were generally much older than other vehicle types and as such worth targeting in terms of encouraging vehicle upgrade as a means of improving air quality.

Sefton Council commissioned Environmental Consultants TRL to identify the operators of Rigid HGVs operating on the A5036 and A565 that were not Euro VI (i.e. the latest emissions standard) and engage with those businesses in order to encourage uptake of newer less polluting vehicles and make improvements through membership of the ECO Stars Fleet Recognition Scheme.

In person kerbside surveys of all rigid HGVs observed travelling through the Millers Bridge and Princess Way Air Quality Management Areas were undertaken in April 2025. Full details of the vehicles were recorded to enable identification of the emission class (euro type) and future engagement with the operators.

During the surveys a total of 201 Rigid HGVs were observed, of these 26 (13%) were pre-Euro VI. Further breakdown of the pre-Euro VI vehicles is shown below in Table 2.2 :

Table 2.2 – Rigid HGV Euro Standard break-down

Rigid HGV's observed Euro Standard	Number	%
Pre-Euro VI	26	100%
Euro V	13	50%
Euro IV	5	19%
Euro III	6	23%
Euro II	1	4%
Business not identified with pre- Euro VI	5	19%
Identified businesses with pre-Euro VI vehicles	21	81%

The top 10 businesses operating the oldest vehicles were identified through desk-based research and earmarked for targeted engagement.

It was noted that of the 10 identified businesses only one is a transport operator, the other nine having transport assets to support activity for another business sector this goes someway to explain why the observed vehicles are pre-euro VI.

Another observation is that four of the 10 operators have specialist vehicles that can be more expensive to procure and subsequently not renewed as frequently as standard box

or curtain-side HGVs. Seven of the operators are regional or local and could reasonably not be expected to be operating long distance journeys which can affect their renewal cycles.

Targeted Engagement was undertaken by TRL personnel with the 10 identified businesses being contacted. Disappointingly only 2 operators were receptive to this process and agreed to join the ECOstars fleet recognition scheme.

Further engagement work is planned by the Council to target the 8 non-receptive businesses. The Council is also undertaking a further borough wide ANPR survey in 2026 to determine fleet age across Sefton and inform further air quality work.

APM10 - Detailed AQ study around Millers Bridge to understand significant non-traffic background sources contributing to NO_2 exceedances

Work undertaken as part of our ongoing assessment/Clean Air Plan has identified some non-traffic sources of pollution that are impacting on levels of NO_2 and PM in the Millers Bridge AQMA.

A detailed air quality study around Millers Bridge to understand significant non-traffic background sources contributing to NO_2 exceedances (and also PM levels) is therefore required. This will assist in Identifying the key issues/contributors to the high NO_2 background concentrations (non-traffic) and enables targeted proposals to be developed for tackling emissions from industry operations/shipping and internal fleet.

Officers from Sefton have worked with academics at Liverpool John Moores University to design a PhD study to address the problem of identifying pollution sources in areas around Port cities by harnessing the power of cutting-edge machine learning / data analytics techniques and untapped data sources, allowing local authorities and public health bodies to target regulations and interventions to protect public health.

The PhD bid was successful and the study around Millers Bridge commenced in Summer 2025 and is progressing well. The student is currently gathering significant amounts of relevant background data including air pollution, traffic, energy usage, industrial emissions and weather patterns to inform the study. In parallel various computer and AI models are being developed and subsequently tested.

SCOOT Validation and Strategy Development Project

Officers from Environmental Health working with Highways Officers and Yunex Traffic have no completed a joint project which entailed the revalidation of the SCOOT (Split Cycle and Offset Optimisation Technique) urban traffic light control system at 20 key traffic light-controlled junctions and nine crossings situated on Moor Lane, Crosby Road North, Derby Road, Dunnings Bridge Road, Southport Road and Northway.

Surveys were carried out at each of the key junctions/crossings to determine how effectively the junction is currently functioning in terms of traffic flow and minimising air pollution.

Based on the outcome of the surveys, new strategies have been developed aimed at improving traffic flow and managing the air quality issues in the locality. The new strategies have been incorporated into Sefton's SCOOT system and tested for effectiveness.

Emissions Enforcement - Joint Sefton/DVSA emissions monitoring enforcement project

To target HGV related emissions in key areas, officers from Sefton working in collaboration with Driver and Vehicle Standards Agency (DVSA) Inspectors developed and have now undertaken three joint vehicle emissions monitoring/enforcement activities to identify HGVs travelling along the A5036, A565 and motorway network which were emitting unacceptable levels of air pollution thus potentially indicating emission control system tampering or faults.

During the most recent exercise sophisticated air pollution monitoring equipment was installed in DVSA stop cars and levels of NOx and PM were monitored in live traffic to detect suspect vehicles. The DVSA were also testing a new Particulate Monitor (Total Particle Count) in anticipation of bringing in HGV particulate emission limits as part of the HGV MOT.

Exhaust plume emissions from 230 vehicles were monitored over the two-day project. 11 suspect vehicles were stopped at the switch Island DVSA inspection site and subject to further detailed examination by DVSA inspectors.

Compared to previous years very few HGVs were identified for High NOx emissions and those stopped did not show faults. More HGVs were identified for high PM emissions

when followed but when tested using the DVSA MOT Particulate monitor they were found to be within acceptable parameters for the age of the vehicle.

The recent study confirms that fewer HGVs were operating with cheat devices/emission control faults than previous years which is obviously positive and likely to be one of the contributing factors that has led to the reductions in NO_2/PM observed when analysing the monitoring data in these key areas.

To ensure this trend continues further joint work is being explored with DVSA, which will continue to target HGVs but also include LGVs and private cars as these now represent the largest non-complaint (i.e. Euro 5 or older) element of Sefton's Vehicle fleet.

Progress on Measures to Improve Air Quality

The following Table 2.3 provides the full list of measures and an update on their progress to improve air quality in 2025.

Table 2.3 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	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
APM4	Maritime Corridor (A5036) improvement project	Traffic Management	Strategic Highway Improvement	2025	2027	Sefton Combined Authority, National Highways	External Funding	No	Funded	£1 million - £10 million	Implementation	Improved traffic flow, reduced vehicle emissions	Measured concentration of NO_2 within AQMAs	Phase 1 of the project completed. Phase 2 commencing summer 2026. Maritime Corridor	
APM5	Targeting local non-compliant HGVs (particularly rigids) to encourage vehicle upgrade	Vehicle Fleet Efficiency	Other	2024	2026	Sefton, Fleet operators, Peel, Port Access SG, Freeport, LCRCA, DfT, JAQU	External Funding Required	No	Not Funded	£100k - £500k	Implementation	Reduced vehicle emissions/Number of non-compliant HGVs	Measured concentration of NO_2 within AQMA's	Roadside surveys completed 1st phase of engagement with identified operators completed. 2nd phase of engagement to commence Summer 2026.	Poor response to initial engagement exercise from majority of operators identified.
APM10	Detailed study around Millers bridge to understand significant non-traffic background sources contributing to NO_2 exceedances	Environmental Permits	Other	2024	2026	Sefton, Peel/Port Industries, Environment Agency	External Funding	No	Not Funded	£10k - £50k	Implementation	No direct impact	No direct impact	Joint PhD Study developed with Liverpool John Moores University. Ph.D.5-year Study underway.	
AQMA4 - Junction Improvements	South Road/Crosby Road North Junction improvements	Traffic Management	Strategic highway improvements, Re-prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2018	2020	Sefton	LA	No	Funded	£1 million - £10 million	Completed	No Target pollution reduction set-hard to quantify	Compliance with the NO_2 objective in AQMA	Junction improvement works now completed - Compliance observed for the past 5 years revocation of AQMA commencing summer 2026	
AQMA 3 - Junction Improvements	Millers Bridge Junction improvements	Traffic Management	Strategic highway improvements, Re-prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2020	2022	Sefton	LA/CA	No	Funded	£1 million - £10 million	Completed	No Target pollution reduction set-hard to quantify	Compliance with the NO_2 objective in AQMA	Millers Bridge Junction improvement works completed	Levels of NO_2 are showing a declining trend within the AQMA which is due to a number of factors including the junction improvements. Whilst levels of NO_2 have improved we are not currently considering revocation of this AQMA due to levels being close to NAQS
APM1	Sefton/DVSA emissions monitoring and enforcements project - targeting high emission HGVs/LGVs	Traffic Management	Testing Vehicle Emissions	2024	2026	Sefton, DVSA, Police	Sefton/DVSA	No	Not Funded	£10k - £50k	Planning	Reduced vehicle emissions	Number of vehicles found with high emissions	Currently in planning phase	Currently in discussions with DVSA following completion of a successful project in 2023. Unable to progress without support from DVSA
APM2	Traffic signal strategies optimisation	Traffic Management	UTC, congestion management, traffic reduction	2024	2025	Sefton, Consultants	Internal Funding	No	Fully Funded	£10k - £50k	Implementation	Reduced vehicle emissions	Measured concentration of NO_2 within AQMA's	All survey works, repairs to loop systems and controls completed. Traffic light strategies are now being tested for effectiveness and efficiency	

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	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
APM3	Explore feasibility of using Air Quality Sensors to trigger traffic light strategies	Traffic Management	UTC, congestion management, traffic reduction	2024	2026	Sefton, Consultants	Internal Funding	No	Not Funded Yet	£10k - £50k	Planning	Reduced vehicle emissions	Measured concentration of NO_2 within AQMA's	Currently in planning phase	Currently in discussions with Traffic Engineers and consultants to explore possibility of using existing AQ sensors to trigger specific traffic light strategies during periods of congestion
APM6	Working with Peel Ports to explore further opportunities to reduce HGV related emissions	Freight and Delivery Management	Delivery and Service Plans	2024	2026	Sefton, Peel, Port Access SG, Haulage Companies, Freeport	External Funding Required	No	Not Funded	£100k - £500k	Planning	Reduced vehicle emissions	Measured concentration of NO_2 within AQMA's	Currently in planning/development phase	Currently developing this action
APM7	Working with Peel Ports to explore further opportunities to reduce non-HGV related emissions	Promoting Low Emission Transport	Other	2024	2026	Sefton, Peel Ports, Shipping Companies, Energy Supply Companies, Peel Ports tenant businesses	Some External Funding	No	Not Funded	£10k - £50k	Planning	Reduced vehicle emissions	Hard to quantify	Currently in planning/development phase	Currently developing this action
APM8	Working with LCRCA, Bus Operators and LCRCA Bus Alliance to concentrate compliant fleet in areas with worst AQ	Transport Planning	Other	2024	2026	Sefton, LCRCA, Bus operators	Some External Funding	No	Not Funded	£10k - £50k	Planning	Reduced bus emissions	Measured concentration of NO_2 within AQMA's	Currently in planning/development phase	Currently in development stage. Barriers include willingness of operators to locate fleet on key Sefton routes
APM9	Working with LCRCA, Bus operators and LCRCA Bus Alliance on fleet improvements: - retrofit grants, - Use of hybrid vehicles, - Implementation of Green Bus Corridor, - Hydrogen buses	Promoting Low Emission Transport	Other	2024	2027	Sefton, LCRCA, Bus operators	Some External Funding	No	Not Funded	£10k - £50k	Planning	Reduced bus emissions	Measured concentration of NO_2 within AQMA's	Currently in planning/development phase	Action currently in development phase. Barriers include funding for newer fleet. Assume not all vehicles will be compliant with this technology
APM11	Intensive road and footpath cleaning in AQMA's	Other	Other	2024	2026	Sefton	Sefton	No	Funded	£10k - £50k	Planning	Reduced PM in AQMA's	Reduced PM in AQMA's	Currently in planning/development phase	
APM12	Use the planning system to mitigate the air quality impacts of any new development likely to have an impact on the AQMAs through the use of planning conditions incorporating Low Emissions Strategy measures from developers and the use of Section 106 Agreements	Policy Guidance and Development Control	Air Quality Planning and Guidance	2024	Ongoing	Sefton	Sefton	No	Funded	N/A	Implementation	Hard to quantify	Number of Planning applications consulted on/ Number of Air Quality Assessments (AQA) reviewed	Ongoing	All planning applications received are reviewed and where an AQ concern is identified an AQA will be required. Measures to mitigate impacts will be required as part of planning approval where AQA concludes the development will impact AQ negatively
APM13	Develop and promote active travel initiatives and campaigns	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2024	Ongoing	Sefton	Sefton	No	Funded	N/A	Development/ Implementation	Hard to quantify	Number of campaigns and initiatives undertaken	Ongoing/ In development	A number of successful active travel initiatives campaigns already underway others being developed

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[5], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$). There is clear evidence that $PM_{2.5}$ (particulate matter that measure 2.5 micrometres or less in diameter) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

During 2025 all three automatic monitoring sites recording $PM_{2.5}$ concentrations indicated levels were well below the current national $PM_{2.5}$ target of 20µg/m^3. The results of the $PM_{2.5}$ monitoring are discussed in more detail in Section 3.2.3.

Sefton Metropolitan Borough Council has already implemented a number of measures to address $PM_{2.5}$, as many of the existing actions in the current Air Quality Action Plans to reduce PM_{10} also serve in reducing $PM_{2.5}$, outlined in Table 2.3.

Fine particulate matter (particles of a diameter of 2.5µm and below) has been identified as a significant health risk as its small size means that it is easily able to access the nose, throat, lungs and bloodstream leading to increased mortality and morbidity from cardiovascular and respiratory issues. Evidence has also been found linking higher rates of particulate matter to increased risk of dementia and the International Agency for Research on Cancer has classified particulate matter as carcinogenic to humans.

The Public Health Outcomes Framework data tool published by Department of Health and Social Care quantifies the mortality burden of $PM_{2.5}$ within England on a county and local authority scale. The latest data for fraction of mortality attributable to $PM_{2.5}$ pollution (indicator D01) within Sefton is 4.6%. This is lower than the regional average for the Northwest (4.9%), and lower than the average for England as a whole (5.3%).

Smoke Control Areas

Areas of Sefton are already covered by Smoke Control Areas which formally restrict the type of fuel and/or appliance that can be used in these areas. Residents can easily

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

determine if their property is within a Smoke Control Area by checking on Sefton's mapping system and website. The online maps can be found here.

Compliance in Sefton's smoke control areas is actively enforced and any complaints or allegations of properties breaching the smoke control area regulations are investigated and appropriate action taken. These measures although hard to quantify assist in reducing levels of particulates including $PM_{2.5}$ in Sefton.

Sefton also have a dedicated smoke control website which aims to promote good practice when using solid fuels. Information on how to protect your family and yourself from stove emissions can be found here.

Particulate Control at Construction/Demolition sites

Through the development control process officers in the Pollution and Air Quality teams are consulted on developments which involve external construction/demolition works likely to give rise to particulate emissions. To proactively control PM emissions from construction works officers recommend the inclusion of formal conditions requiring the submission and approval of a detailed Construction Environmental Management Plan (CEMP) which includes dust control measures. This helps reduce and mitigate the release of particulates during the demolition and future construction phase of a development thus helping to reduce $PM_{2.5}$ emissions from these activities.

Commercial Dust/Smoke complaints

Sefton continues to robustly investigate complaints of commercial dust being emitted from premises along with burning on commercial premises which is giving rise to dark smoke/nuisance smoke. Enforcement action under the Clean Air Act 1993 and/or the Environmental Protection Act 1990 is taken as appropriate to ensure dust/smoke emissions are effectively controlled and emission of dark smoke are prevented.

Control of Industrial Processes under the Local Authority Pollution Prevention Control regime

Sefton ensures that all industrial processes which fall under the Local Authority Regime of the Environmental Permitting Regulations 2016 are issued with a Part B/A2 Environmental Permit as appropriate. All premises holding a LAPPC permit are inspected in line with DEFRA's risk-based inspection programme and any contraventions dealt with in line with our enforcement policy. This ensures all regulated emissions including particulate matter are within permitted limits helping reduce $PM_{2.5}$ emissions from these industrial processes.

Engagement with Fleet operators

As detailed in section 2.2 of the ASR, following roadside surveys to identify the operators of Euro IV and older Rigid HGV's operating in Sefton, engagement with these businesses is underway to understand barriers to upgrading and encourage fleet renewal. A number of operators have already joined Sefton's EcoStars Scheme and work continues to encourage more operators to participate. This ongoing work will complement the other actions underway aimed at reducing $PM_{2.5}$ emissions in the Borough.

The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020

The Government has introduced new regulations known as The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 which are now in force restricting the supply of certain solid fuels with the aim of reducing air pollution. In particular they aim to reduce the amount of $PM_{2.5}$ emissions in smoke that can cause long term health problems for humans. Domestic burning of wood and coal has been identified by the Government as a major source of these emissions. Local Authorities are responsible for enforcing these regulations.

A summary of the changes/restrictions is provided below:

- The supply of traditional house coal (bituminous coal) has been phased out;
- The supply of wet wood in units up to two cubic metres has been phased out;
- Smoke emissions limits are introduced for manufactured solid fuels.

Only dry wood (Moisture content less the 20%) can be sold in quantities of two cubic metres or less and has to show the ready to burn logo:



Air quality officers in Sefton have been engaging with businesses likely to sell solid fuels for domestic purposes and an advisory letter and leaflet has been sent to over 200 businesses in the Borough. Officers from Environmental Health and Trading Standards continue to undertake targeted inspections of the main suppliers to ensure compliance with the new regulations. It is envisaged that with these powers restricting the use of wet wood, phasing out of traditional house coal in preference to smokeless fuel, emissions of $PM_{2.5}$ will further reduce in the Borough.

Further information on the new regulations and the ready to burn scheme can be found on Sefton's smoke control website and via the HETAS website.

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

This section sets out the monitoring undertaken within 2025 by Sefton Metropolitan Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2021 and 2025 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Sefton Metropolitan Borough Council undertook automatic (continuous) monitoring at five locations during 2025. Table A.1 in Appendix A shows the details of the automatic monitoring sites with monitoring results also available on the UK-Air website.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Sefton Metropolitan Borough Council undertook non-automatic (i.e. passive) monitoring of NO_2 at 86 sites during 2025, including four triplicate locations.

Table A.2 in Appendix A presents the details of the non-automatic sites. HF Rawson Road is a new site which replaces DP during 2025.

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 40µg/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 2025 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 200µg/m^3, not to be exceeded more than 18 times per year.

Automatic Monitoring (NO_2)

All automatic monitoring sites within Sefton continue to show compliance with the air quality objectives with no reported exceedances of the annual mean or 1-hour mean NO_2 objectives in 2025.

Automatic monitoring locations CM3 and CM4 recorded reductions in NO_2 concentrations in 2025 when compared to 2024 levels. NO_2 Concentrations at the CM2 and CM5 increased in 2025 by 2.2µg/m^3 and 2.4µg/m^3.

Diffusion Tube Monitoring (NO_2)

For the passive monitoring programme, 49 sites in 2025 reported a decrease in NO_2 concentrations when compared to 2024 levels and 36 reported an increase. Of the 36 sites that recorded increases, 24 of those increases were less than 1µg/m^3. It should be noted that all 86 locations recorded concentrations below the annual mean NO_2 objective during 2025.

The maximum annual average NO_2 concentration recorded in 2025 was 35.0µg/m^3 at GT which is located within the Millers Bridge AQMA (AQMA 3). The concentration was not within 10% of the annual average objective (36.0µg/m^3) within AQMA 3.

3.2.2 Particulate Matter (PM_{10})

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the air quality objective of 40µg/m^3.

Table A.6 shows that CM4 recorded a slight increase in PM_{10} concentrations compared with 2024 levels, and CM7 recorded PM_{10} concentrations that were the same in 2025 when compared to 2024 levels. The maximum annual mean concentration recorded during 2025 was 20.6µg/m^3 at CM3, which is a slight increase since 2024 of 0.7µg/m^3. It should be noted that during the monitoring year of 2025, CM5 – Hawthorne Road recorded data below 25% and therefore could not annualised and therefore not be presented.

Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

During 2025, there were no exceedances of the annual or daily mean PM_{10} objectives.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.8 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years.

During 2025 all three automatic monitoring sites recorded $PM_{2.5}$ concentrations well below the current $PM_{2.5}$ interim target of 20µg/m^3 (2030). The measured concentrations were above the future 2040 annual mean target of 10µg/m^3 at CM3 where 10.4µg/m^3 was measured.

The maximum annual mean $PM_{2.5}$ concentration measured in 2025 was 10.4µg/m^3 at CM3 – Millers Bridge. CM3 – Millers Bridge and CM4 – Princess Way recorded concentrations higher than the previous year (0.5µg/m^3 and 2.0µg/m^3). CM7 – Regent Road recorded a slight increase in $PM_{2.5}$ concentrations in 2025 when compared to 2024 levels of 0.2µg/m^3.

During 2025, there were no exceedances of the current interim (2030) annual mean $PM_{2.5}$ targets.

3.2.4 Sulphur Dioxide (SO_2)

No sulphur dioxide monitoring was undertaken by Sefton Metropolitan Borough Council in 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? (1)	Monitoring Technique	Distance to Relevant Exposure (m) (2)	Distance to kerb of nearest road (m) (1)	Inlet Height (m)
CM2	Crosby Road North	Roadside	332174	398483	NO_2	NO	N/A	Chemiluminescent (for NO_2)	4.5	4.1	1.8
CM3	Millers Bridge, Bootle	Roadside	333772	394602	NO_2; PM_{10}; $PM_{2.5}$	YES	AQMA 3	Chemiluminescent; FIDAS (for PM)	6.2	8.7	1.8
CM4	Lathom Close, Princess Way, Seaforth	Roadside	332649	396942	NO_2; PM_{10}; $PM_{2.5}$	YES	AQMA 2	Chemiluminescent; FIDAS	10.6	3.8	1.8
CM5	Hawthorne Road, Litherland	Roadside	333812	397519	NO_2; PM_{10};	YES	AQMA 5	Chemiluminescent; Beta Attenuation (for PM)	13.8	7.0	1.8
CM7	Regent Road	Urban Background	331643	399588	PM_{10}; $PM_{2.5}$	NO	N/A	FIDAS	17.5	3.0	1.8

Notes:

(1) N/A if not applicable

(2) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

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)
BB	Eaton Avenue, Seaforth	Roadside	333510	397186	NO_2	No	3.0	1.9	No	2.7
BO	Douglas Place, Bootle	Roadside	333847	394461	NO_2	Yes AQMA 3	5.2	1.9	No	2.7
BQ	Douglas Place/Millers Bridge, Bootle	Roadside	333835	394572	NO_2	Yes AQMA 3	6.5	1.8	No	2.8
BR	Derby Road, Bootle	Roadside	333753	394552	NO_2	Yes AQMA 3	1.6	1.1	No	2.6
BS	Derby Road, Bootle	Roadside	333757	394622	NO_2	Yes AQMA 3	7.2	2.8	No	2.5
BV	Quarry Road, Thornton	Roadside	333395	400863	NO_2	No	7.5	1.7	No	2.5
BW	Crosby Road South/Riversdale Road, Seaforth	Roadside	332600	397021	NO_2	Yes AQMA 2	2.1	1.3	No	2.6
CI	Hawthorne Road, Bootle	Roadside	333813	397514	NO_2	Yes AQMA 5	17.9	3.2	No	2.5
CJ	South Road, Waterloo	Roadside	332204	398229	NO_2	Yes AQMA 4	0.7	2.5	No	2.6
CR	Parker Avenue, Seaforth	Roadside	332511	397332	NO_2	No	2.5	2.1	No	2.7
CY	Lytton Grove, Seaforth	Roadside	332981	396972	NO_2	Yes AQMA 2	3.7	2.2	No	2.6
DC	Marsh Lane, Bootle	Kerbside	334339	395800	NO_2	No	4.1	0.6	No	2.5

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)
DD	Hawthorne Road, Litherland	Roadside	333778	397534	NO_2	Yes AQMA 5	5.6	2.3	No	2.6
DE	Wilson's Lane, Litherland	Roadside	333917	397575	NO_2	No	9.4	2.2	No	2.6
DF	Church Road flats. Litherland	Roadside	333916	397506	NO_2	No	3.9	12.3	No	2.6
DH	South Road, Waterloo	Roadside	332193	398193	NO_2	Yes AQMA 4	0.0	3.6	No	2.8
DI	Crosby Road North, Waterloo	Roadside	332206	398187	NO_2	Yes AQMA 4	0.0	3.6	No	2.5
DO	Hawthorne Road/ Linacre Lane, Bootle	Kerbside	334640	396399	NO_2	No	4.7	0.6	No	2.6
DQ	Rawson Road, Bootle	Roadside	332791	396922	NO_2	Yes AQMA 4	5.6	1.7	No	2.6
DR	Crosby Road North, Waterloo	Roadside	332226	398231	NO_2	Yes AQMA 2	21.1	2.5	No	2.5
DS	South Road, Waterloo	Roadside	332134	398169	NO_2	No	2.1	1.4	No	2.6
DU	Liverpool Road/ Kingsway, Waterloo	Roadside	332196	398786	NO_2	No	6.9	3.5	No	2.6
DV	Moor Lane, Crosby	Roadside	332341	400168	NO_2	No	4.7	1.4	No	2.6
DW	Church Road/ Kirkstone Road North	Roadside	334572	397918	NO_2	No	7.4	7.3	No	2.6

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)
DX	Merton Road, Bootle	Roadside	334738	395138	NO_2	No	13.6	5.8	No	2.6
DY	Hougoumont Avenue/Crosby Road North	Kerbside	332250	398008	NO_2	No	6.2	0.4	No	2.4
DZ	Bailey Drive, Bootle	Roadside	335394	397282	NO_2	No	8.3	2.3	No	2.6
EA	Copy Lane, Netherton	Urban Background	336639	399496	NO_2	No	10.5	35.1	No	2.5
EB	Copy Lane, Netherton	Roadside	336592	399453	NO_2	No	22.7	1.0	No	2.6
EC	Copy Lane/ Dunnings bridge Road	Roadside	336539	399477	NO_2	No	25.7	2.7	No	2.6
EE	Copy Lane Police Station, Netherton	Roadside	336572	399524	NO_2	No	N/A	3.4	No	2.6
EK	Hawthorne Road, Bootle	Roadside	334782	395189	NO_2	No	13.1	1.1	No	2.3
EL	Breeze Hill, Bootle	Kerbside	335265	394968	NO_2	No	8.2	0.9	No	2.6
EN	Hawthorne Road, Litherland	Roadside	333740	397561	NO_2	No	9.6	3.9	No	2.5
EO	Hatton Hill Road, Litherland	Roadside	333692	397615	NO_2	No	8.4	2.0	No	2.6
EP	Ash Road, Seaforth	Roadside	333343	397210	NO_2	No	11.5	1.3	No	2.6

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)
EQ	Crosby Road South, Seaforth	Roadside	332611	396985	NO_2	Yes AQMA 2	3.8	2.3	No	2.6
ES	Chatham Close, Seaforth	Roadside	332712	397003	NO_2	Yes AQMA 2	7.1	1.3	No	2.6
EV	Princess Way, Seaforth	Kerbside	332650	396915	NO_2	Yes AQMA 2	N/A	0.2	No	2.6
EW	Crosby Road South, Seaforth	Roadside	332666	396822	NO_2	Yes AQMA 2	1.1	1.2	No	2.7
EY	Lathom Avenue, Seaforth	Roadside	332681	396949	NO_2	Yes AQMA 2	6.2	1.2	No	2.7
FB	Hawthorne Road, Litherland	Roadside	334017	397317	NO_2	No	N/A	2.4	No	2.6
FC	St Phillips Avenue, Litherand	Roadside	334217	397663	NO_2	No	9.9	2.3	No	2.6
FD	Church Road, Litherland	Roadside	334242	397713	NO_2	No	7.9	2.6	No	2.6
FE	Church Road, Litherland	Roadside	334642	397923	NO_2	No	6.4	7.0	No	2.6
FF	Boundary Road, Litherland	Roadside	334978	398171	NO_2	No	14.4	1.2	No	2.6
FH	Church Road, Netherton	Kerbside	334962	398134	NO_2	No	12.2	0.6	No	2.6
FI	Hemans Street, Bootle	Roadside	333280	395958	NO_2	No	13.5	8.7	No	2.6

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)
FL	Hawthorne Road opp 20A Litherland	Kerbside	333701	397574	NO_2	No	6.8	0.7	No	2.5
GA	Lord Street	Roadside	333431	417166	NO_2	No	9.6	1.5	No	2.6
GB	Lord Street	Roadside	333704	417415	NO_2	No	9.7	1.8	No	2.6
GC	Haigh Road - Illuminated Sign	Roadside	332296	398268	NO_2	No	15.0	1.0	No	2.6
GD	Crosby Road North - Lighting Column 46D	Roadside	332210	398338	NO_2	No	N/A	2.0	No	2.6
GE	Crosby Road North - Lighting Column 48D	Roadside	332206	398369	NO_2	No	N/A	1.6	No	2.6
GF	Bridle Road - Lighting Column 0010	Roadside	335347	397500	NO_2	No	12.5	1.3	No	2.6
GH	A565 opp car wash - Lighting Column 0044	Roadside	333231	396069	NO_2	No	12.4	3.5	No	2.6
GJ	A565 Liverpool Road - Lighting column 120D	Kerbside	332088	399829	NO_2	No	4.0	0.6	No	2.6
GK	Derby Road, Bootle	Roadside	333669	394912	NO_2	No	8.0	2.1	No	2.6

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)
GL	Green Lane, Seaforth	Roadside	333110	397072	NO_2	No	1.4	2.2	No	2.6
GM	South Road, Waterloo	Roadside	332189	398210	NO_2	Yes AQMA 4	9.5	1.5	No	2.6
GN	Moor Lane, Thornton	Roadside	333326	400772	NO_2	No	10.8	1.4	No	2.6
GO	Marsh Lane, Bootle	Roadside	334204	395749	NO_2	No	3.8	2.4	No	2.6
GP	Barkeley Drive, Seaforth	Roadside	332681	396776	NO_2	Yes AQMA 2	0.8	1.0	No	2.6
GQ	Mariners Road, Blundellsands	Roadside	330706	398904	NO_2	No	11.5	0.6	No	2.6
GR	School Lane	Roadside	339201	402503	NO_2	No	32.9	2.4	No	2.6
GS	Poverty Lane	Kerbside	338710	401571	NO_2	No	13.6	0.7	No	2.6
GT	Miller's Bridge	Roadside	333736	394597	NO_2	Yes AQMA 3	34.3	3.4	No	2.6
GU	Miller's Bridge	Roadside	333784	394596	NO_2	Yes AQMA 3	16.9	5.0	No	2.6
GV	Hall Lane	Roadside	337537	401542	NO_2	No	16.1	1.6	No	2.6
GW	A59 Northway	Roadside	337499	401552	NO_2	No	11.6	2.0	No	2.6
GX	Prescot Road	Kerbside	340334	401214	NO_2	No	5.2	0.7	No	2.6

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)
GY	Raven Meols Lane	Roadside	329188	406600	NO_2	No	1.6	2.0	No	2.6
GZ	Weld Parade	Roadside	332988	415800	NO_2	No	9.0	2.6	No	2.6
HA	Liverpool Road South	Roadside	337295	400874	NO_2	No	11.9	2.5	No	2.5
HB	Breeze Hill	Roadside	335137	394996	NO_2	No	7.6	2.1	No	2.5
HC	Breeze Hill	Roadside	335267	394995	NO_2	No	50.0	2.5	No	2.5
HD	Ormskirk Road	Roadside	336691	398032	NO_2	No	10.5	1.9	No	2.5
HE	Ormskirk Road	Roadside	337091	399333	NO_2	No	7.4	0.9	No	2.5
UK 2	Church Road, Litherland	Roadside	334799	398065	NO_2	No	7.1	1.7	No	2.5
UK 4	Crosby Road North, Waterloo	Kerbside	332171	398547	NO_2	No	3.5	0.9	No	2.6
W	Gladstone Road/Gordon Road, Seaforth	Roadside	332982	397022	NO_2	Yes AQMA 2	1.4	2.4	No	2.6
CO1, CO2, CO3	Waterloo/ Crosby Road North	Roadside	332175	398483	NO_2	No	4.5	4.1	Yes	1.8
CP1, CP2, CP3	Millers Bridge	Roadside	333772	394602	NO_2	Yes AQMA 3	6.2	8.7	Yes	1.8
CQ1, CQ2, CQ3	Princess Way	Roadside	332649	396942	NO_2	Yes AQMA 2	10.6	3.8	Yes	1.8

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)
DB1, DB2, DB3	Hawthorne Road	Roadside	333812	397519	NO_2	Yes AQMA 5	13.8	7.0	Yes	1.8
HF	Rawson Road	Roadside	332756	396965	NO_2	Yes AQMA 2	4.9	8.4	No	3.0

Notes:

(1) 0m 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 2025 (%) (2)	2021	2022	2023	2024	2025
CM2	332175	398483	Roadside	100.0	100.0	30.0	25.1	23.2	21.2	23.4
CM3	333772	394602	Roadside	100.0	100.0	35.0	32.1	32.1	32.5	30.4
CM4	332649	396942	Roadside	100.0	95.3	32.9	33.8	27.8	27.0	25.4
CM5	333812	397519	Roadside	100.0	94.9	27.1	26.4	24.4	19.7	22.1

☒ **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.**

☒ **Where exceedances of the NO_2 annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2025.**

Notes:

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

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown 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 2025 (%) (2)	2021	2022	2023	2024	2025
BB	333510	397186	Roadside	91.7	91.7	24.2	21.4	20.8	22.2	20.0
BO	333847	394461	Roadside	100.0	100.0	27.6	24.6	24.7	24.5	23.3
BQ	333835	394572	Roadside	85.5	85.5	30.3	31.0	25.8	25.6	24.1
BR	333753	394552	Roadside	100.0	100.0	**46.0**	**41.0**	38.8	38.3	33.1
BS	333757	394622	Roadside	90.1	90.1	36.9	33.6	31.9	31.9	32.0
BV	333395	400863	Roadside	100.0	100.0	25.7	24.0	24.4	22.5	20.6
BW	332600	397021	Roadside	100.0	100.0	27.6	25.3	24.2	23.0	22.6
CI	333813	397514	Roadside	90.9	90.9	34.0	32.2	31.9	30.1	28.8
CJ	332204	398229	Roadside	83.9	83.9	35.0	32.5	31.3	30.2	29.4
CR	332511	397332	Roadside	100.0	100.0	27.1	23.9	22.4	22.1	22.4
CY	332981	396972	Roadside	100.0	100.0	25.4	21.8	20.7	20.7	20.8
DC	334339	395800	Kerbside	75.0	75.0	34.0	30.4	29.8	28.6	27.0
DD	333778	397534	Roadside	92.7	92.7	36.4	34.3	31.4	33.2	31.4

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 2025 (%) [2]	2021	2022	2023	2024	2025
DE	333917	397575	Roadside	100.0	100.0	25.3	22.0	21.6	20.8	20.6
DF	333916	397506	Roadside	75.0	75.0	23.4	21.3	20.0	18.8	19.6
DH	332193	398193	Roadside	91.7	92.3	29.3	27.9	26.8	26.5	26.6
DI	332206	398187	Roadside	66.7	63.5	31.5	30.9	29.2	27.3	28.0
DO	334640	396399	Roadside	83.3	82.7	38.9	36.6	35.9	36.0	33.6
DQ	332791	396922	Roadside	91.7	92.3	29.8	27.0	26.5	22.7	23.3
DR	332226	398231	Roadside	100.0	100.0	28.6	25.8	22.9	28.0	26.8
DS	332134	398169	Roadside	100.0	100.0	32.7	30.3	28.0	24.6	25.6
DU	332196	398786	Roadside	83.3	84.6	29.1	27.2	25.9	25.4	25.5
DV	332341	400168	Roadside	91.7	90.4	29.6	28.2	26.4	26.2	26.3
DW	334572	397918	Roadside	91.7	90.4	32.9	30.2	28.3	20.3	21.5
DX	334738	395138	Kerbside	91.7	92.3	27.9	23.4	22.6	27.0	27.6
DY	332250	398008	Roadside	91.7	92.3	31.8	28.3	27.8	20.2	20.9

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 2025 (%) [2]	2021	2022	2023	2024	2025
DZ	335394	397282	Roadside	100.0	100.0	21.7	21.0	20.4	27.2	27.1
EA	336639	399496	Urban Background	91.7	92.3	28.1	27.1	26.8	20.7	18.6
EB	336592	399453	Roadside	100.0	100.0	23.1	20.7	19.5	24.2	22.2
EC	336539	399477	Roadside	91.7	92.3	28.8	25.1	24.4	24.5	25.4
EE	336572	399524	Kerbside	91.7	90.4	27.6	28.5	25.2	24.5	25.5
EK	334782	395189	Roadside	83.3	82.7	29.5	27.2	24.5	26.9	24.9
EL	335265	394968	Roadside	100.0	100.0	31.3	27.9	27.7	30.8	30.5
EN	333740	397561	Roadside	100.0	100.0	35.2	31.4	33.6	27.2	27.1
EO	333692	397615	Roadside	100.0	100.0	28.3	28.3	27.3	29.0	29.4
EP	333343	397210	Roadside	91.7	90.4	30.7	30.3	29.7	21.6	24.1
EQ	332611	396985	Roadside	33.3	34.6	24.8	23.0	22.2	24.3	24.3
ES	332712	397003	Roadside	75.0	75.0	28.5	27.7	25.2	20.5	21.0
EV	332650	396915	Kerbside	100.0	100.0	25.4	24.0	22.4	27.5	26.5

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 2025 (%) (2)	2021	2022	2023	2024	2025
EW	332666	396822	Roadside	100.0	100.0	34.0	29.5	27.6	28.2	27.8
EY	332681	396949	Roadside	83.3	82.7	33.1	29.4	29.2	30.0	30.0
FB	334017	397317	Roadside	100.0	100.0	35.9	34.8	30.1	25.4	25.7
FC	334217	397663	Roadside	83.3	82.7	31.1	27.4	26.4	18.3	18.9
FD	334242	397713	Roadside	100.0	100.0	23.9	21.3	20.2	19.0	19.2
FE	334642	397923	Roadside	83.3	82.7	23.8	22.0	19.9	20.5	20.8
FF	334978	398171	Kerbside	75.0	75.0	27.7	22.3	21.4	24.2	26.0
FH	334962	398134	Roadside	91.7	92.3	28.9	28.3	25.9	29.6	28.6
FI	333280	395958	Roadside	100.0	100.0	34.2	31.6	30.3	28.5	27.3
FL	333701	397574	Roadside	83.3	82.7	36.2	31.6	28.7	28.3	27.1
GA	333431	417166	Roadside	100.0	100.0	29.3	31.1	28.1	26.1	22.8
GB	333704	417415	Roadside	91.7	92.3	26.9	25.2	25.8	28.2	25.4
GC	332296	398268	Kerbside	100.0	100.0	27.4	27.7	26.4	15.0	16.5

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 2025 (%) (2)	2021	2022	2023	2024	2025
GD	332210	398338	Roadside	100.0	100.0	22.0	17.6	16.1	22.2	21.4
GE	332206	398369	Roadside	100.0	100.0	26.6	23.9	21.8	22.7	21.3
GF	335347	397500	Roadside	100.0	100.0	26.7	24.8	22.5	27.5	22.4
GH	333231	396069	Roadside	83.3	82.7	30.0	28.5	27.2	35.5	33.4
GJ	332088	399829	Roadside	91.7	100.0	**40.6**	38.1	34.4	27.7	27.0
GK	333669	394912	Roadside	91.7	92.3	32.1	29.5	27.4	29.2	29.5
GL	333110	397072	Roadside	91.7	90.4	35.0	32.7	29.9	22.8	22.7
GM	332189	398210	Kerbside	100.0	100.0	26.4	24.0	23.1	33.2	29.2
GN	333326	400772	Roadside	100.0	100.0	35.2	33.0	32.9	25.6	25.9
GO	334204	395749	Kerbside	100.0	100.0	29.0	26.8	25.8	25.9	28.3
GP	332681	396776	Roadside	100.0	100.0	32.5	29.2	27.6	26.0	25.1
GQ	330706	398904	Roadside	91.7	90.4	31.2	30.8	28.7	15.6	18.1
GR	339201	402503	Roadside	91.7	92.3	18.5	17.7	17.6	15.0	16.6

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 2025 (%) (2)	2021	2022	2023	2024	2025
GS	338710	401571	Roadside	100.0	100.0	17.7	16.0	16.2	12.4	13.3
GT	333736	394597	Roadside	100.0	100.0	14.4	14.1	14.1	32.5	35.0
GU	333784	394596	Roadside	41.7	40.4	38.2	35.6	35.8	30.9	32.6
GV	337537	401542	Roadside	100.0	100.0	36.2	32.9	33.8	22.5	22.3
GW	337499	401552	Kerbside	100.0	100.0	25.6	22.4	21.9	22.6	20.3
GX	340334	401214	Roadside	100.0	100.0	24.2	23.1	22.0	17.7	17.8
GY	329188	406600	Roadside	100.0	100.0	21.3	18.7	18.7	13.5	12.5
GZ	332988	415800	Roadside	50.0	48.1	18.0	13.1	13.9	14.1	14.1
HA	337295	400874	Roadside	83.3	80.8	15.6	13.8	13.9	17.8	16.9
HB	335137	394996	Roadside	100.0	100.0	19.2	17.8	16.7	36.4	34.2
HC	335267	394995	Roadside	100.0	100.0	**41.5**	36.5	38.6	33.6	32.9
HD	336691	398032	Roadside	91.7	90.4	**40.2**	36.5	32.8	19.7	21.3
HE	337091	399333	Roadside	83.3	84.6		21.8	21.9	22.1	20.7

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 2025 (%) (2)	2021	2022	2023	2024	2025
UK 2	334799	398065	Kerbside	100.0	100.0		24.4	24.2	18.9	18.9
UK 4	332171	398547	Roadside	91.7	90.4	21.4	20.8	20.6	24.2	23.6
W	332982	397022	Roadside	91.7	92.3	29.7	26.7	25.2	22.2	22.0
CO1, CO2, CO3	332175	398483	Roadside	91.7	92.3	27.9	24.5	23.3	24.6	24.1
CP1, CP2, CP3	333772	394602	Roadside	91.7	92.3			24.4	28.0	27.2
CQ1, CQ2, CQ3	332649	396942	Kerbside	100.0	100.0			28.5	30.6	31.5
DB1, DB2, DB3	333812	397519	Roadside	91.7	92.3			31.5	25.0	24.7
HF	332756	396965	Roadside	91.7	90.4					26.1

☒ **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:

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

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

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

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 within AQMA 2

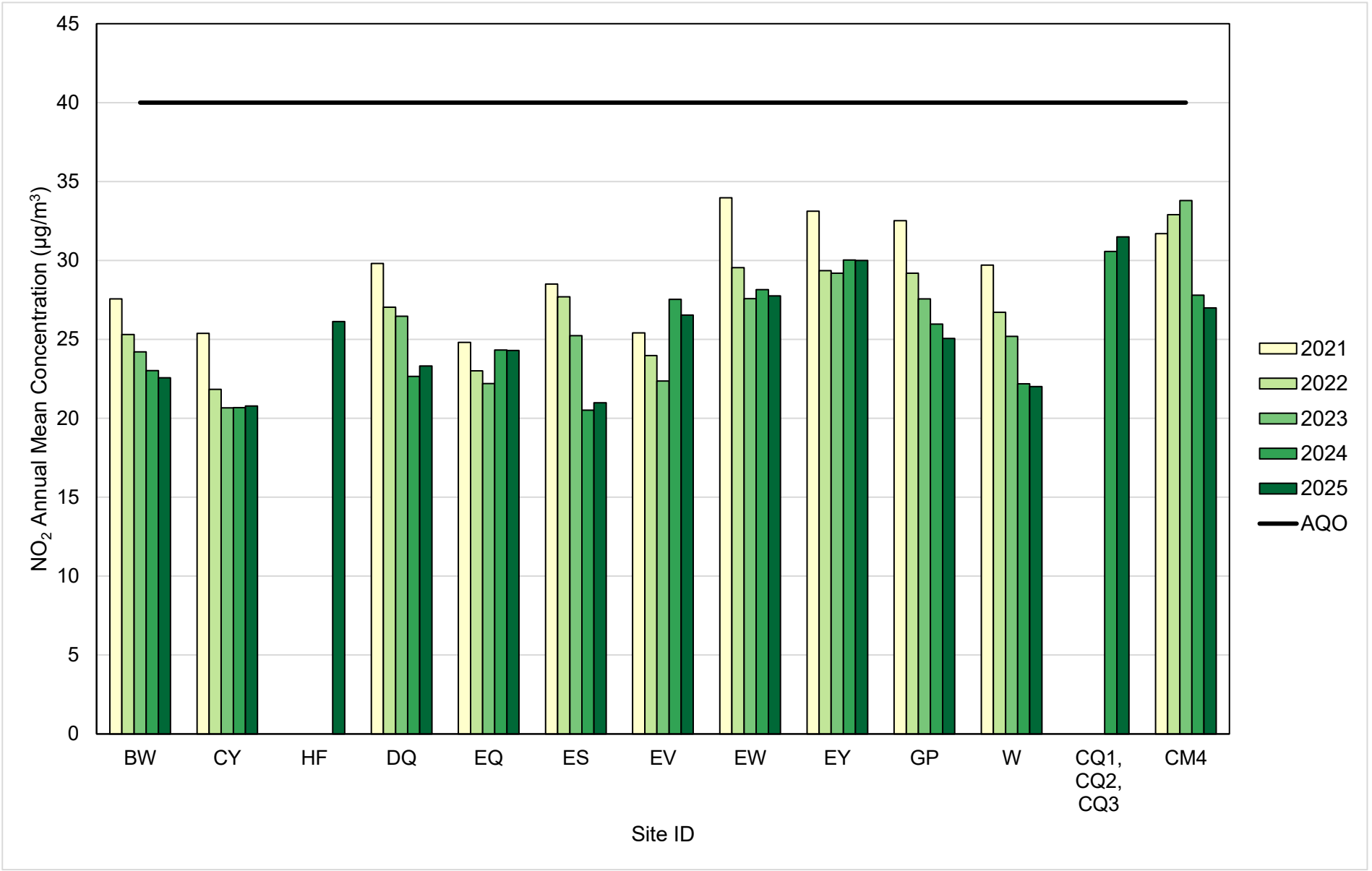


Figure A.2 – Trends in Annual Mean NO_2 Concentrations within AQMA 3

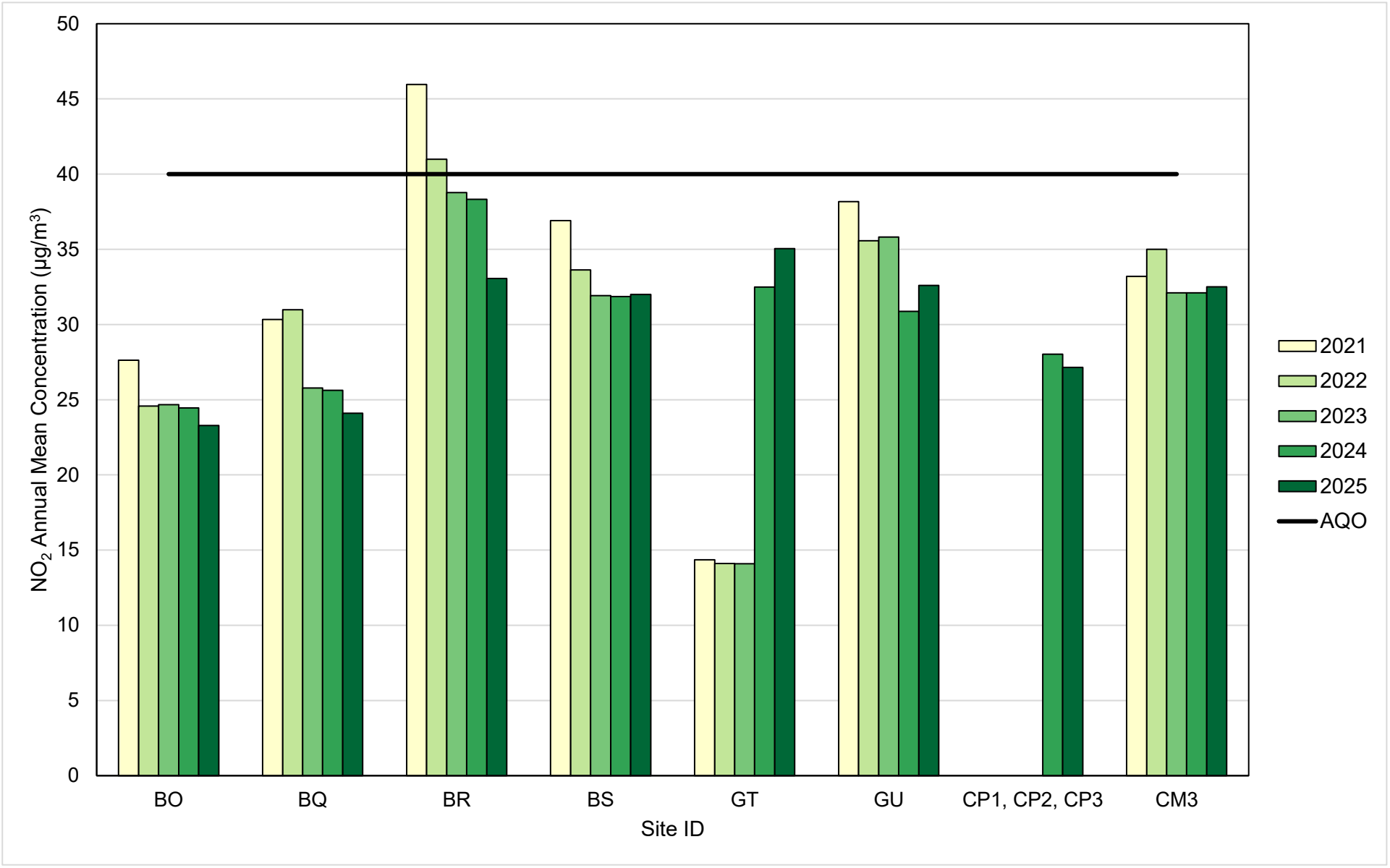


Figure A.3 – Trends in Annual Mean NO_2 Concentrations within AQMA 4

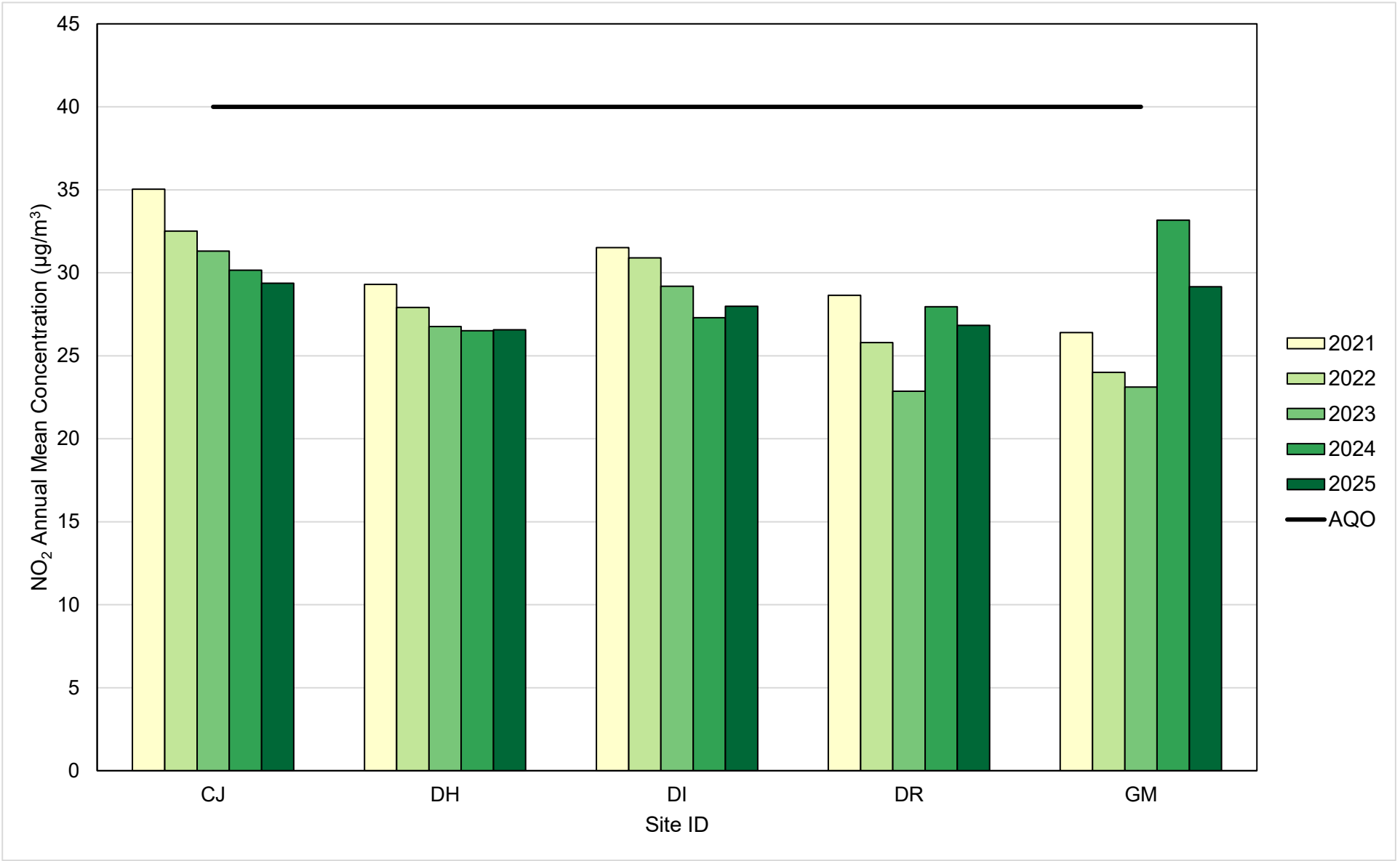


Figure A.4 – Trends in Annual Mean NO_2 Concentrations within AQMA 5

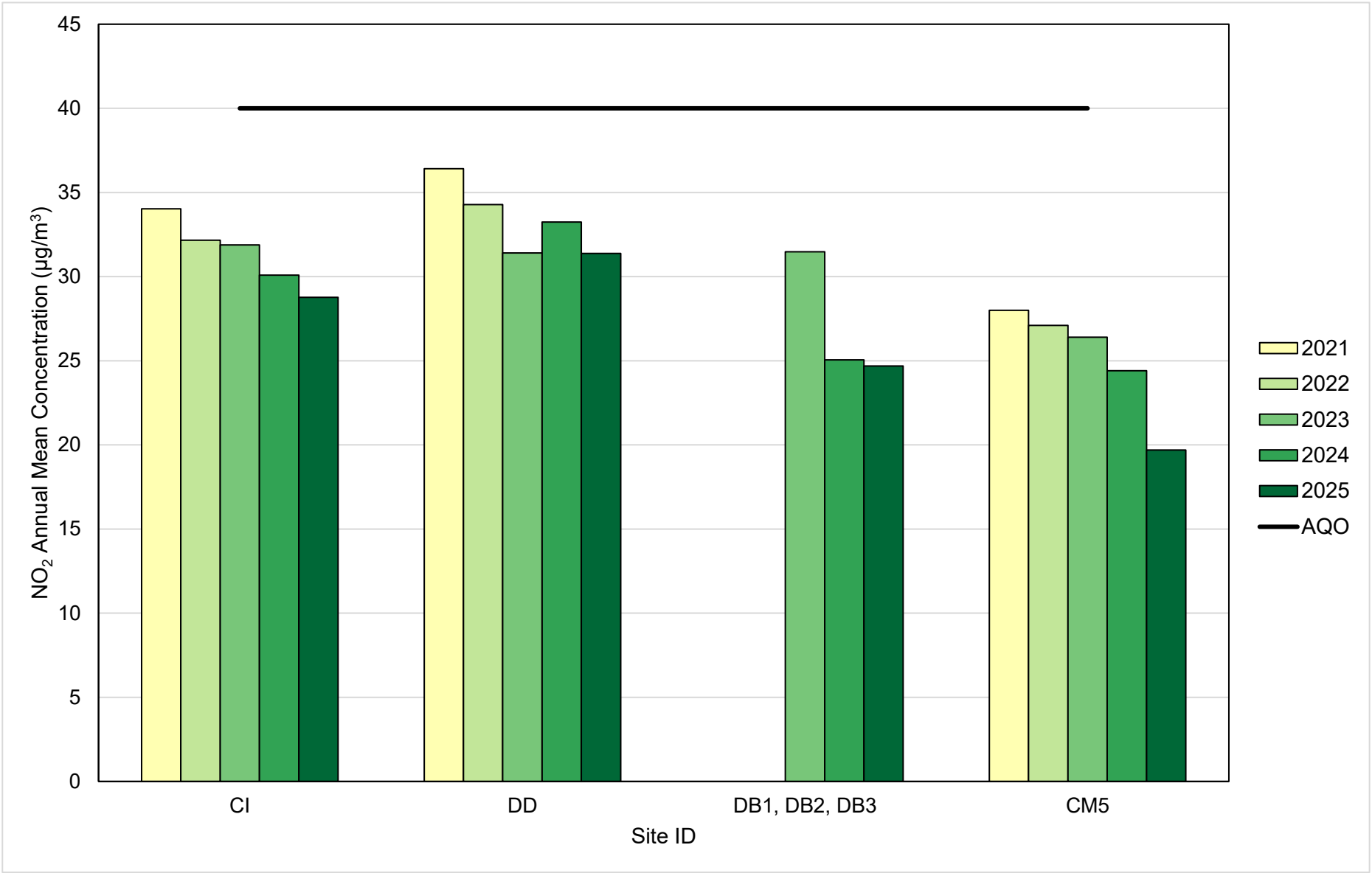


Figure A.5 – Trends in Annual Mean NO_2 Concentrations within Bootle (South Sefton)

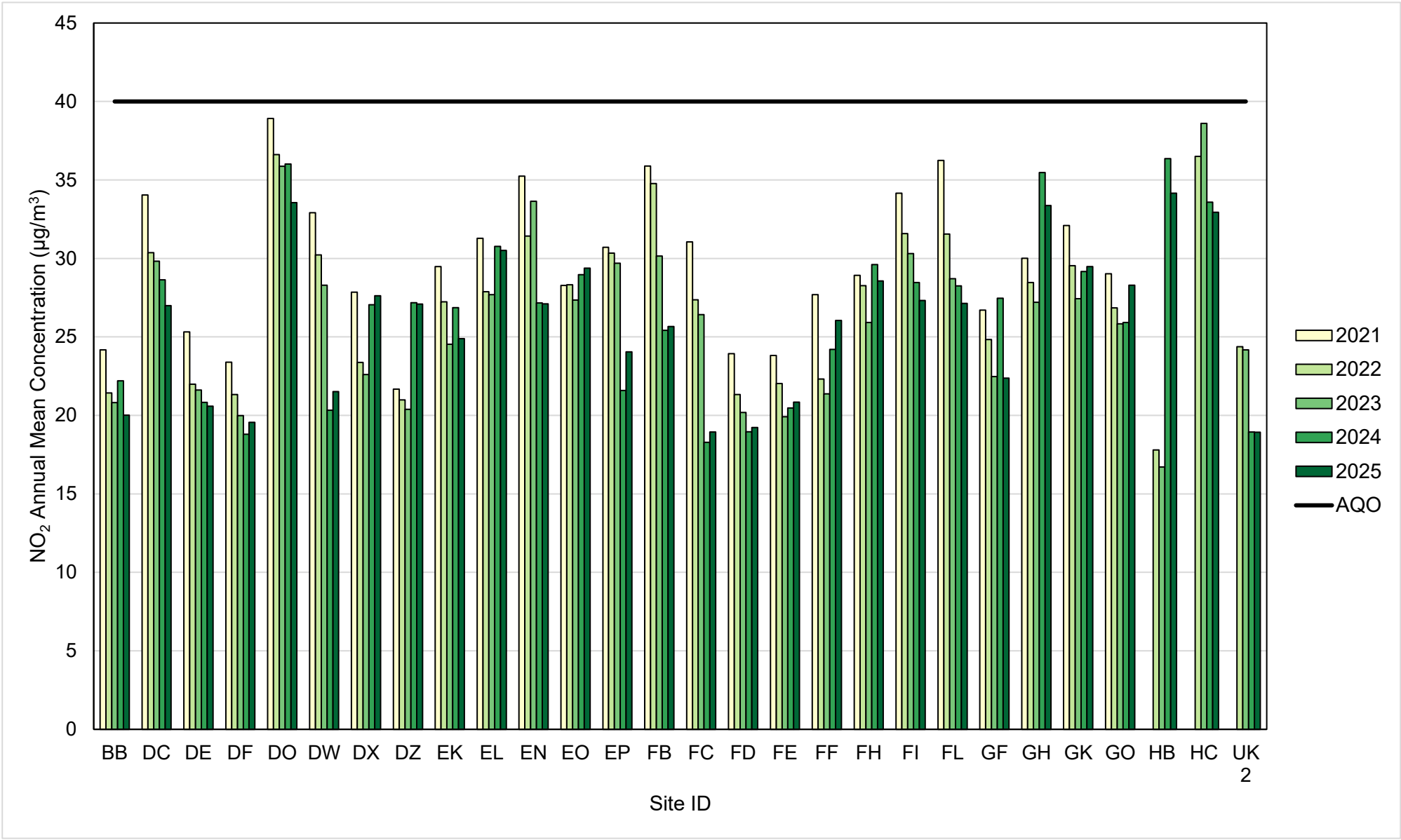


Figure A.6 – Trends in Annual Mean NO_2 Concentrations within Crosby (Central Sefton)

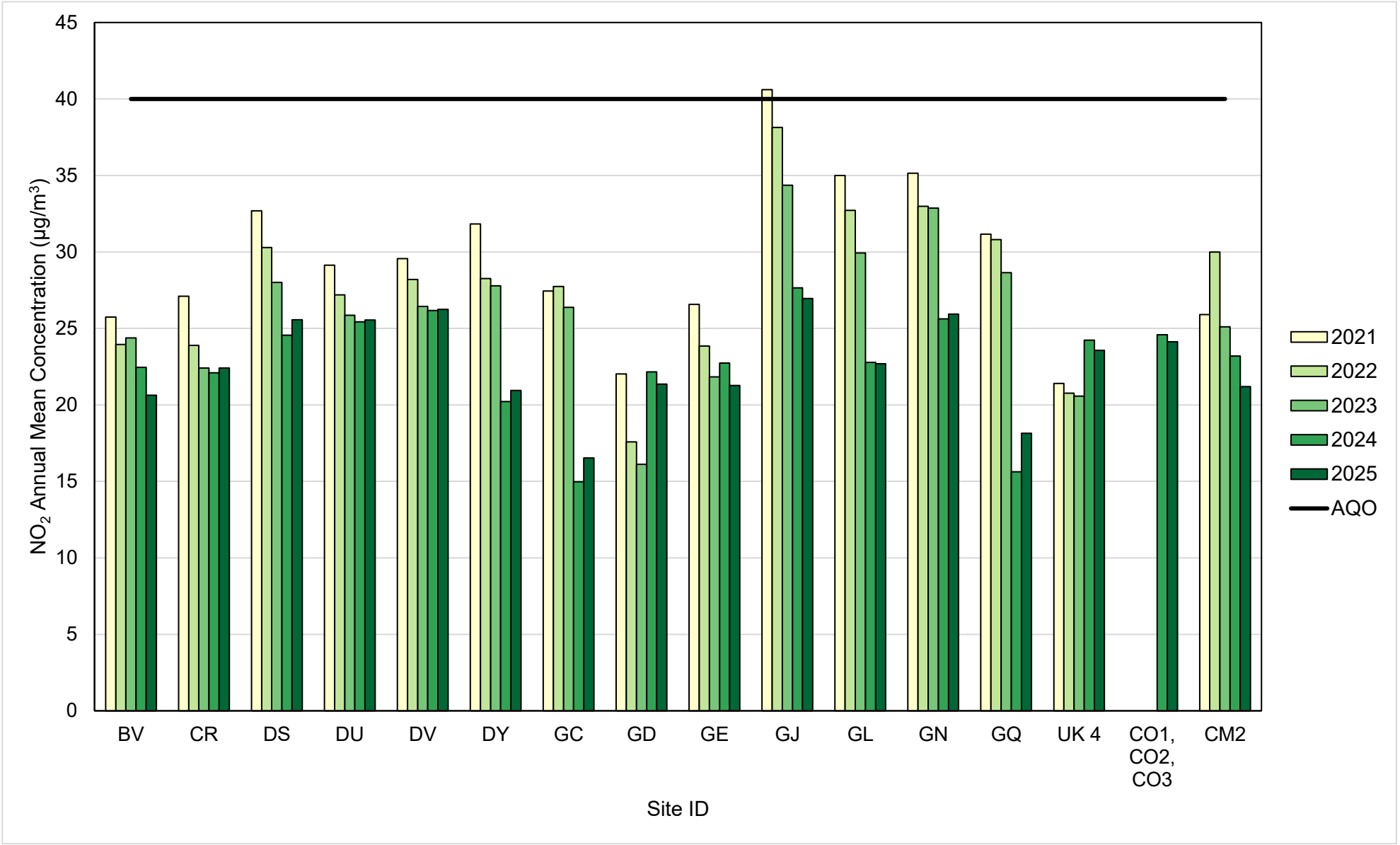


Figure A.7 – Trends in Annual Mean NO_2 Concentrations within Maghull/ Netherton (East Sefton)

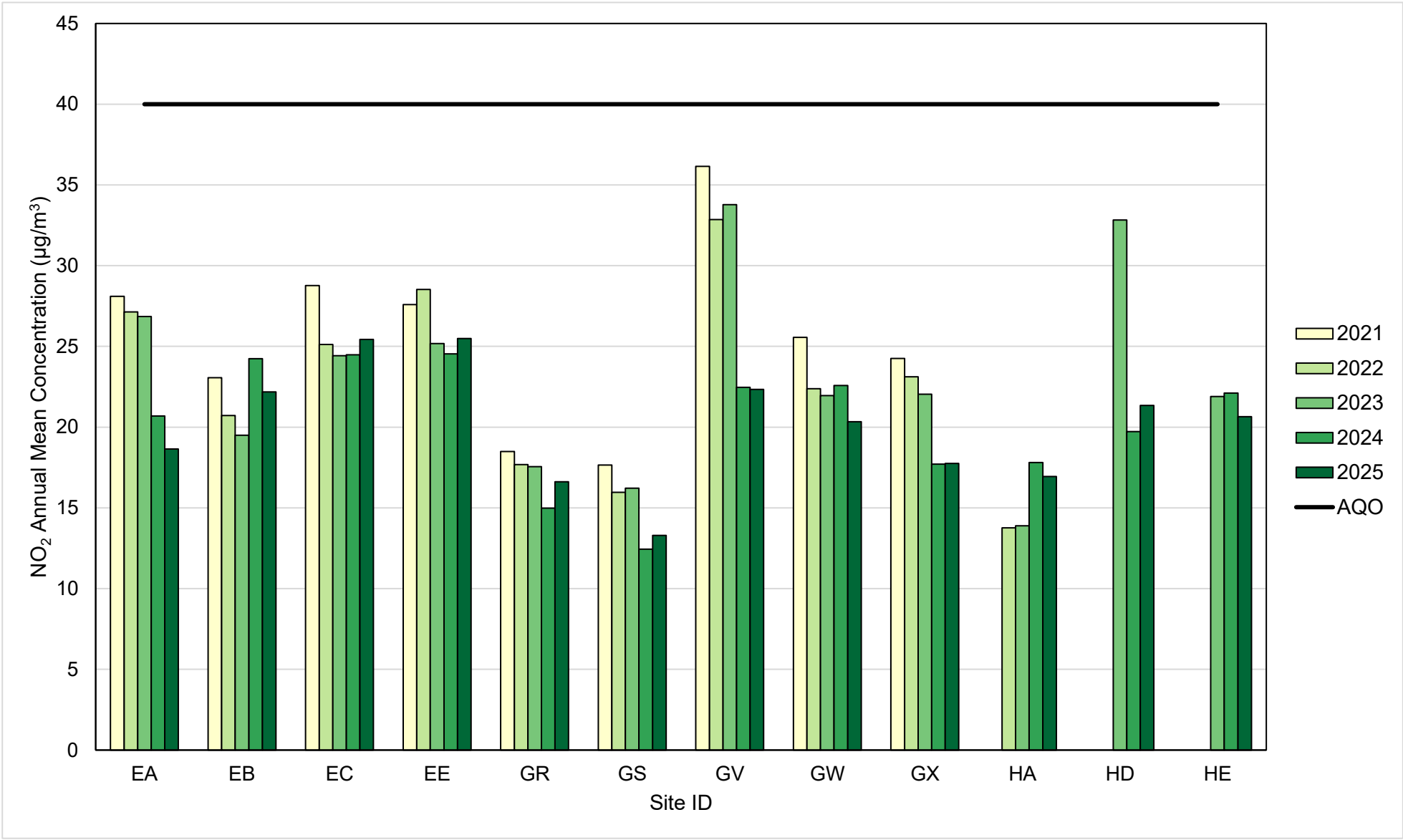


Figure A.8 – Trends in Annual Mean NO_2 Concentrations within Southport/ Formby (North Sefton)

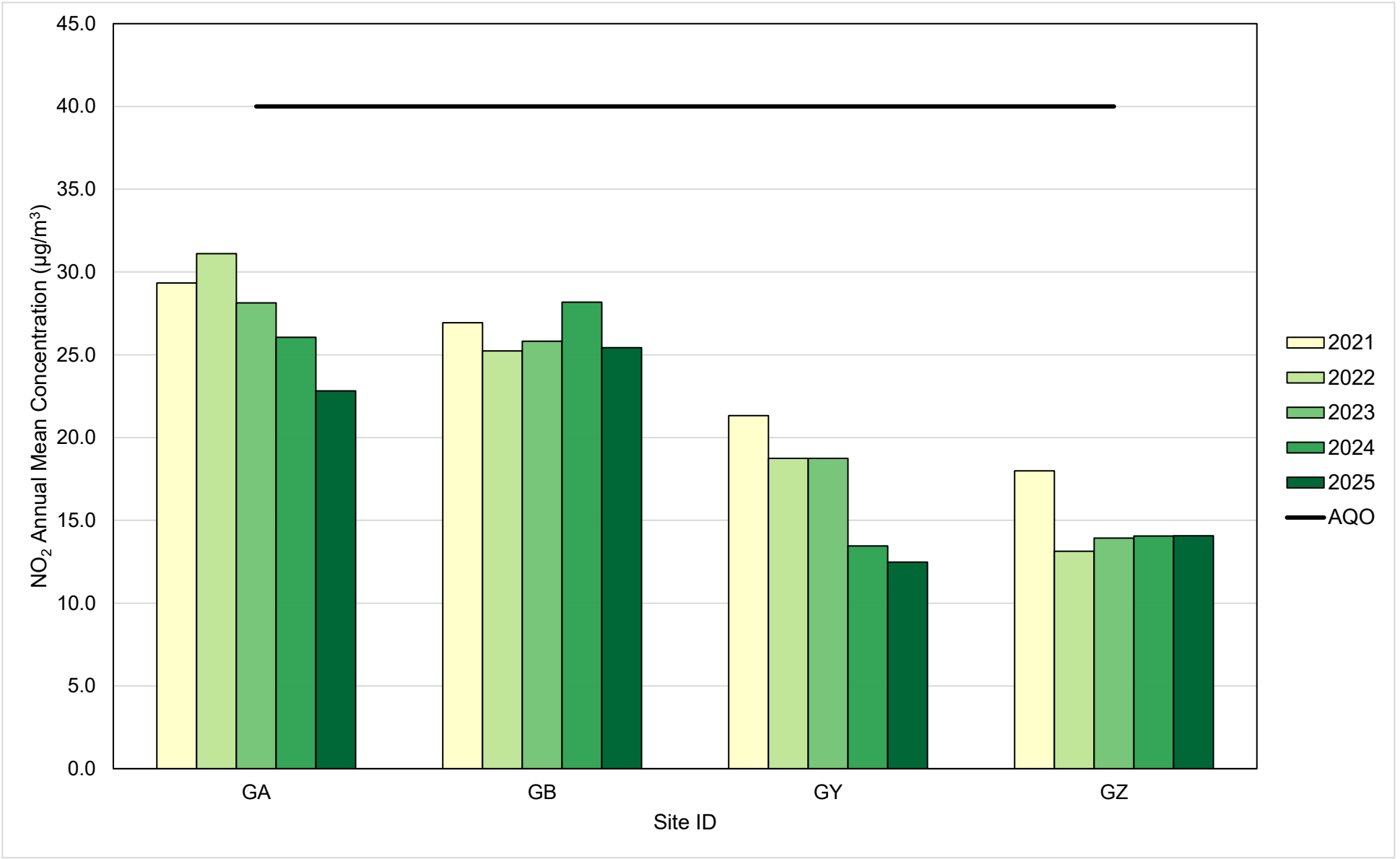


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2025 (%) (2)	2021	2022	2023	2024	2025
CM2	322175	398483	Roadside	100.0	100.0	0	0	0	0	0
CM3	333772	394602	Roadside	100.0	100.0	0	0	0	0	0
CM4	332649	396942	Roadside	100.0	95.3	0	0	0	0	0
CM5	333812	397519	Roadside	100.0	94.9	0	0	0	1	0

Notes:

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

Exceedances of the NO_2 1-hour mean objective (200µg/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_{10} 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 2025 (%) (2)	2021	2022	2023	2024	2025
CM3	333772	394602	Roadside	100.0	100.0	19.5	19.9	19.2	19.9	20.6
CM4	332649	396942	Roadside	100.0	93.0	17.5	17.2	17.1	14.9	18.9
CM5	333812	397519	Roadside	100.0	13.1	18.7	21.5	20.5	22.1	-
CM7	331643	399588	Urban Background	100.0	84.5	9.5	12.9	12.9	11.9	11.9

☒ **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.

Exceedances of the PM_{10} annual mean objective of 40µg/m^3 are shown 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.

(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.9 – Trends in Annual Mean PM_{10} Concentrations

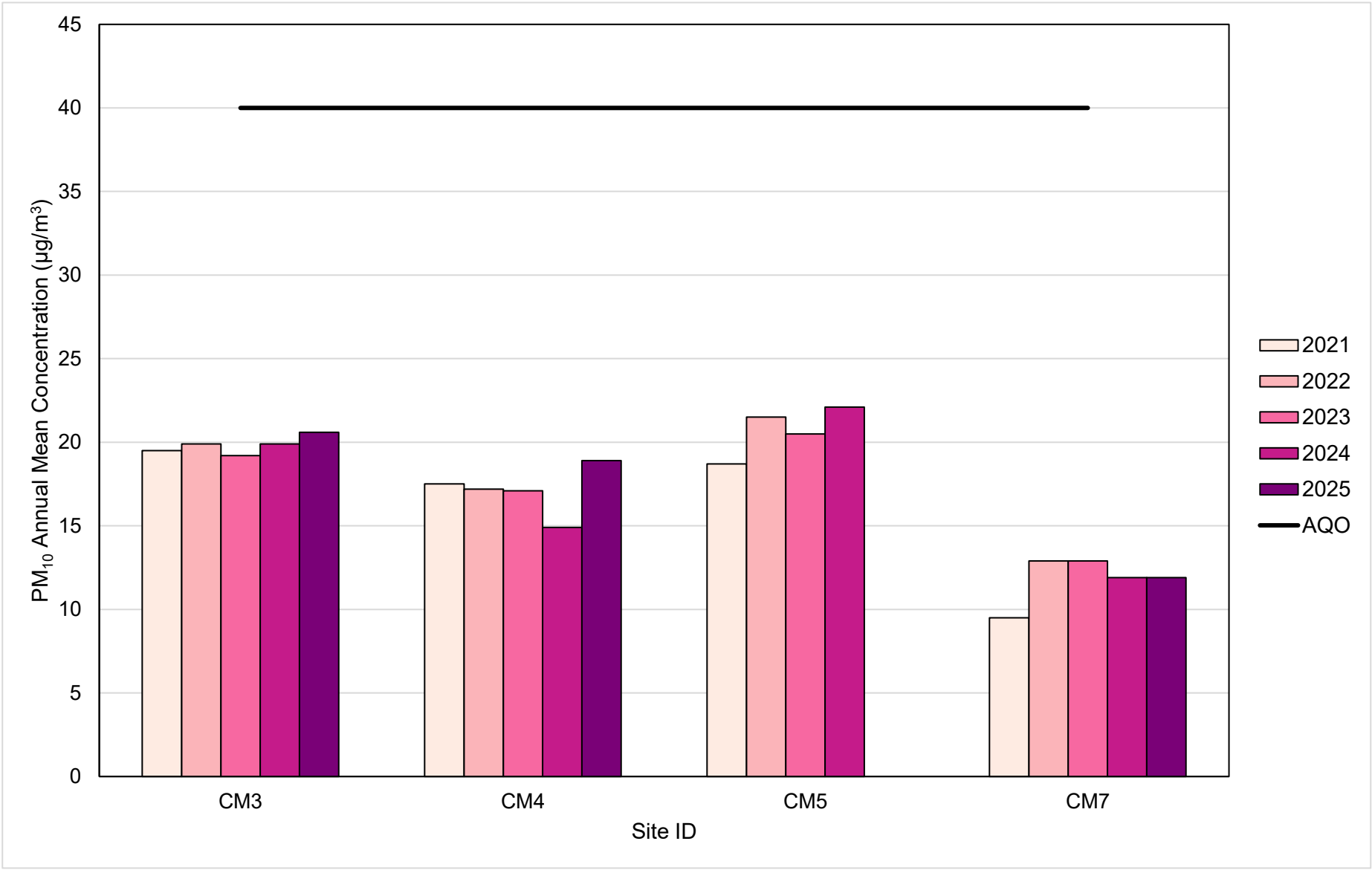


Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2025 (%) (2)	2021	2022	2023	2024	2025
CM3	333772	394602	Roadside	100.0	100.0	3.0	6.0	4.0	2	6
CM4	332649	396942	Roadside	100.0	93.0	2.0	7(29)	1.0	1	2
CM5	333812	397519	Roadside	100.0	13.1	2.0	7.0	1.0	2	0 (0)
CM7	331643	399588	Urban Background	100.0	84.5	0.0	3.0	0.0	0 (22)	0 (23)

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m^3 have been recorded.

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-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%).

Figure A.10 – Trends in Number of 24-Hour Mean PM_{10} Results > 50µg/m^3

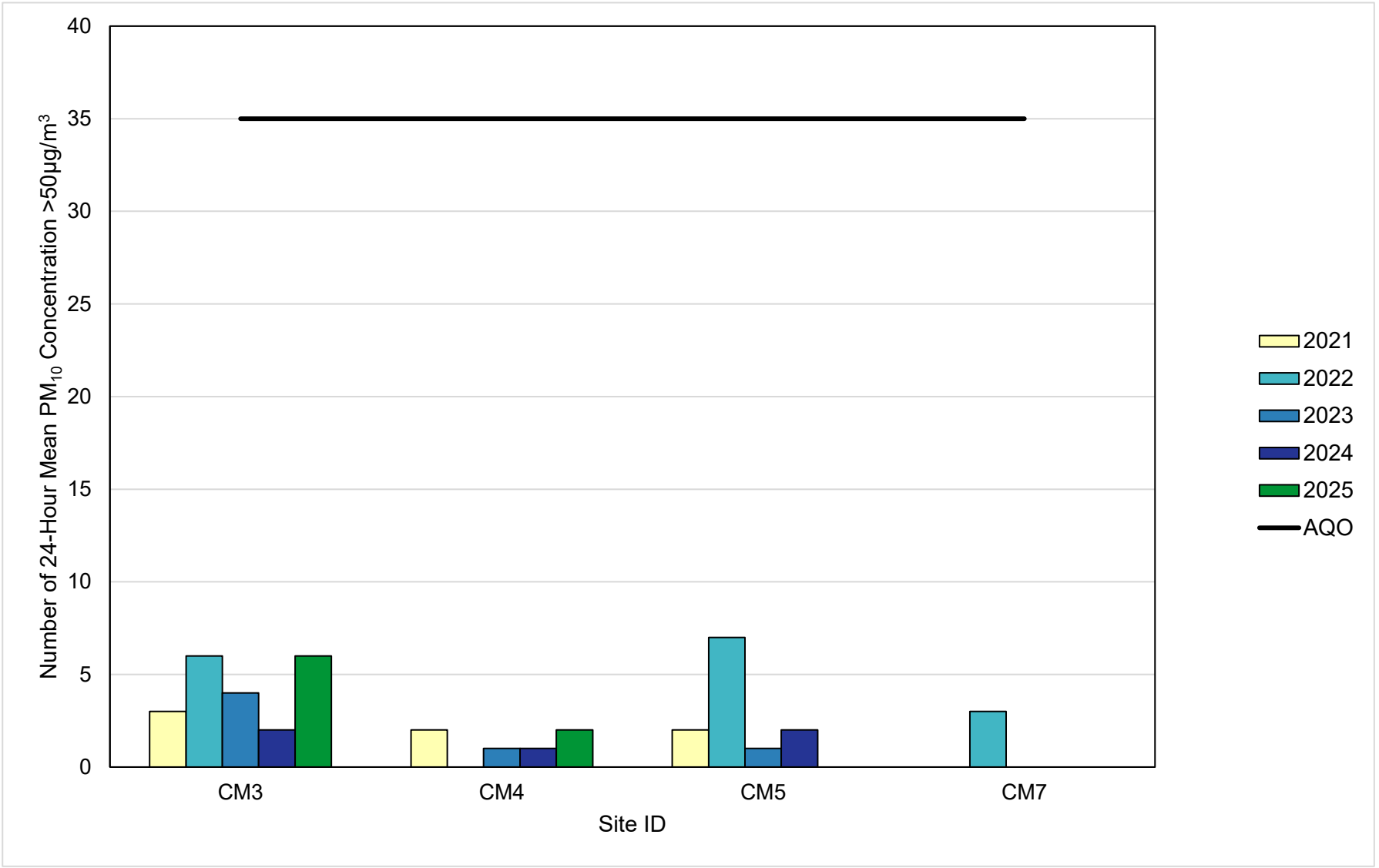


Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2025 (%) (2)	2021	2022	2023	2024	2025
CM3	333772	394602	Roadside	100.0	100.0	9.6	9.7	9.4	9.9	10.4
CM4	332649	396942	Roadside	100.0	91.9	-	9.5	8.6	8.0	10.0
CM7	331643	399588	Urban Background	100.0	84.5	5.9	8.1	7.6	7.0	7.2

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

Notes:

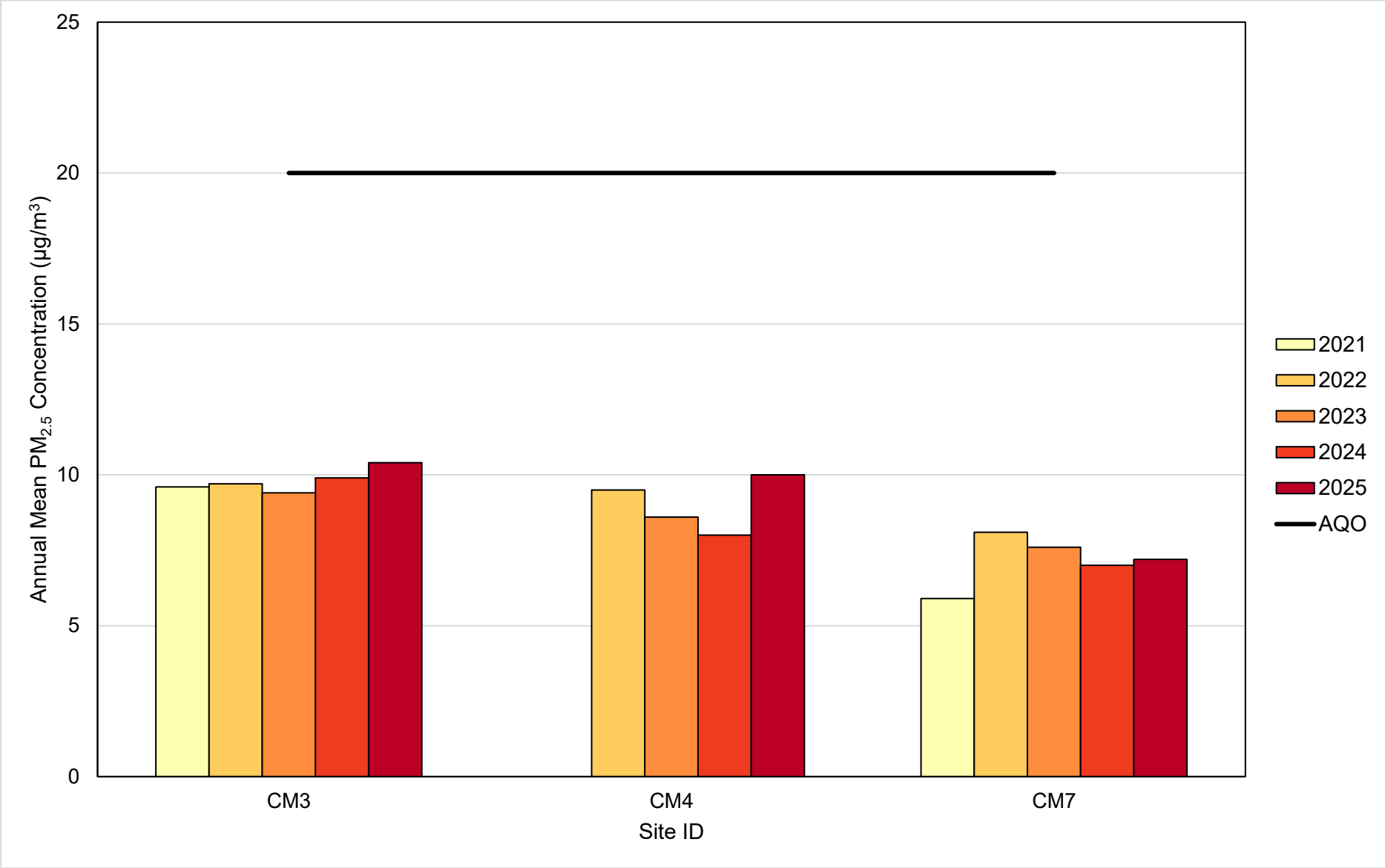
The annual mean concentrations are presented as µg/m^3.

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%).

Figure A.11 – Trends in Annual Mean $PM_{2.5}$ Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2025

Table B.1 – NO_2 2025 Diffusion Tube Results ($\mu g/m^3$)

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 (0.89)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
BB	333510	397186	32.3	29.2	24.6	24.2	17.6	19.0	14.1	18.7	18.9	21.6	25.2	24.4	22.5	20.0	-	
BO	333847	394461	36.2	30.3		24.2	23.2	25.5	23.8	23.9	21.7	26.7			26.2	23.3	-	March, November, December Tube Missing
BQ	333835	394572		30.8	30.3	26.4	26.9	27.0	24.4	24.4	25.8	29.5	25.7	26.5	27.1	24.1	-	January Tube Missing
BR	333753	394552	44.1	40.6	37.7	39.7	32.2	40.3		39.1	40.6				39.3	33.1	-	July, October, November, December Tube Missing
BS	333757	394622	45.5	39.7	38.6	39.7	32.5	29.3			34.3	38.1	32.4	29.5	36.0	32.0	-	July, August Tube Missing
BV	333395	400863		29.2	27.2	24.3	19.5	17.6	16.5	20.2	20.5	22.3	27.0	30.7	23.2	20.6	-	January Tube Missing
BW	332600	397021	39.3	32.1	24.0	28.2	17.3	20.4	17.0	21.4	25.9	23.9	27.6	27.2	25.4	22.6	-	
CI	333813	397514	48.0	37.5	30.0	37.1	26.1	30.4	24.0	29.1	31.1	31.1	34.7	28.9	32.3	28.8	-	
CJ	332204	398229	38.4	41.3	34.6		29.4		26.0	30.4	31.4	34.1	36.6	28.0	33.0	29.4	-	April, June Tube Missing
CR	332511	397332	31.3	35.1	22.3	25.7	17.9	20.2		19.9	25.2	24.2	28.9	26.4	25.2	22.4	-	July Tube Missing
CY	332981	396972	36.2	27.7	24.3	22.7	18.6	17.3	14.8	19.7	23.1	23.7	28.8		23.3	20.8	-	December Tube Missing
DC	334339	395800	40.2	37.6		30.9	28.3	29.3	22.4	30.7	29.1	28.7	27.4	29.0	30.3	27.0	-	March Tube Missing
DD	333778	397534	48.0	42.4	31.1	38.8	28.9	28.5	27.6		35.1	35.2	36.5	35.7	35.3	31.4	-	August Tube Missing
DE	333917	397575	31.6	32.3	24.5	26.3	16.5	18.0	11.9	20.0	23.3	20.3	28.5	24.4	23.1	20.6	-	
DF	333916	397506	34.9	28.3	21.1	22.1	16.2	18.4	13.7		20.1	20.9	25.5	20.5	22.0	19.6	-	July Tube Missing
DH	332193	398193	43.3	39.1	31.4	33.6	24.2	25.1	18.9	29.2	26.8	25.6	33.3	27.8	29.9	26.6	-	
DI	332206	398187	45.3	35.5	32.3	25.3	29.0		26.8	31.6	30.7	29.2	31.4	29.0	31.4	28.0	-	June Tube Missing
DO	334640	396399	41.1	44.9	38.2	38.9	35.6	33.4		36.2	37.2	40.3	34.0	34.9	37.7	33.6	-	July Tube Missing

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 (0.89)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DQ	332791	396922	36.4	31.4	27.4	28.0	21.3		18.9	23.0	24.6		30.1	20.7	26.2	23.3	-	June, October Tube Missing
DR	332226	398231	46.0	38.3	24.8	30.6	22.9	28.9	20.9	28.9	30.1	30.1	32.3	28.1	30.2	26.8	-	
DS	332134	398169	36.8	39.1	28.2	30.6	27.6	23.4	20.4	26.9	26.5	27.0	31.4	26.9	28.7	25.6	-	
DU	332196	398786	42.7	38.0	27.2	26.6	23.1	23.2	21.2	25.1	26.3	28.8	33.3	28.9	28.7	25.5	-	
DV	332341	400168	38.2	35.9	32.9	34.6		24.9	23.1	25.3	29.4	26.8	31.4	22.0	29.5	26.3	-	May Tube Missing
DW	334572	397918	36.3	34.4			19.7		14.0						26.1	21.5	-	March, April, June, August, September, October, November, December Tube Missing
DX	334738	395138	38.2	39.1	31.7	31.8				25.2	29.5	27.5	31.0	25.4	31.0	27.6	-	May, June Tube Missing
DY	332250	398008	37.2	29.7	25.1	25.8	18.0	15.3	13.7	21.1	21.4	23.3	29.2	22.5	23.5	20.9	-	
DZ	335394	397282	41.0	40.0	34.7	32.4	25.5	23.9	19.1	25.0	31.1	27.3	34.4	30.9	30.4	27.1	-	
EA	336639	399496	31.7	25.5	23.0	18.6			14.7	13.2	19.0	20.0	22.7	21.2	20.9	18.6	-	May, June Tube Missing
EB	336592	399453	36.0	27.7	30.1	21.9	22.7	19.6	20.5	21.4	21.1	23.1	28.4	26.5	24.9	22.2	-	
EC	336539	399477	37.8	37.0	33.1		20.7	19.3		24.6	27.3	24.1	31.7	30.1	28.6	25.4	-	July Tube Missing
EE	336572	399524	36.2	42.2	31.6	35.7	24.5	19.8	15.1	23.8	26.9	23.1	31.4	33.3	28.6	25.5	-	
EK	334782	395189		35.4	35.3	29.9	24.3	24.9	19.5	21.9	29.3		31.3	27.9	28.0	24.9	-	January, October Tube Missing
EL	335265	394968	51.6	37.7	38.0	35.2		28.1	28.9			29.5	32.9	26.6	34.3	30.5	-	May, August, September Tube Missing
EN	333740	397561	39.5	40.1	32.7	32.7	24.8	27.6	20.6	25.9		27.4	32.9	30.9	30.5	27.1	-	September Tube Missing
EO	333692	397615	44.3	41.7	32.4	35.2	26.5	36.1	22.0	28.1	33.3	27.1	37.1	32.4	33.0	29.4	-	
EP	333343	397210	39.2	36.1	26.2	27.6	18.0	22.8		22.5	26.4	23.8		27.8	27.0	24.1	-	July, November Tube Missing
EQ	332611	396985	42.7	33.7	29.3	31.1	19.3	22.4	15.8	23.1	26.2	25.5	31.2	27.4	27.3	24.3	-	
ES	332712	397003	40.3	16.9	23.9	28.9	16.1	18.9	14.0	21.9	25.9	23.8		28.8	23.6	21.0	-	November Tube Missing

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 (0.89)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
EV	332650	396915	41.5	35.7	30.7	28.6	25.8	25.1	23.2	26.8	26.6	29.3	33.2	31.2	29.8	26.5	-	
EW	332666	396822	46.6	30.4	27.8	33.1	26.5	28.1	22.2	29.5	33.6	33.0	33.4	30.3	31.2	27.8	-	
EY	332681	396949	47.3	42.9	30.7	33.3	28.2	31.5	22.1	32.4	36.7	30.2	34.8	34.4	33.7	30.0	-	
FB	334017	397317	41.4	35.6	28.4	32.5	22.7	25.7	18.9	25.9	26.1	27.8	32.3	28.6	28.8	25.7	-	
FC	334217	397663	35.7	28.4	21.7	22.4	16.8	15.5	13.5	17.4	19.4			22.2	21.3	18.9	-	October, November Tube Missing
FD	334242	397713	34.1	29.9	23.6	22.9	14.5	16.3	11.1	16.8	21.4	20.1	26.7	21.9	21.6	19.2	-	
FE	334642	397923	38.9	29.2	25.1	22.3	19.1		17.1	17.5	19.6	21.4	25.1	22.3	23.4	20.8	-	June Tube Missing
FF	334978	398171	39.8	38.1	33.2	35.1	21.4	22.2	15.2	26.5	27.6		33.0	29.6	29.3	26.0	-	October Tube Missing
FH	334962	398134	42.3	37.9	37.1	31.1	29.4	27.0	22.7	29.1	32.2	30.7	34.9	30.8	32.1	28.6	-	
FI	333280	395958	43.0	38.8	25.8	28.8	26.1	28.9	26.1	28.2	29.7	31.7	32.6	28.8	30.7	27.3	-	
FL	333701	397574	42.0	41.5	35.2	35.8	26.4	21.4	16.0	25.3	30.9	26.4	32.8	32.3	30.5	27.1	-	
GA	333431	417166	37.4	28.8	30.4	26.1	22.7	17.8	18.9	22.7	22.6	23.1	28.8	28.6	25.6	22.8	-	
GB	333704	417415	44.2	35.0	30.5	25.4	23.6	21.4		24.3	27.1	24.5	32.1	26.3	28.6	25.4	-	July Tube Missing
GC	332296	398268	36.6	25.0	13.4	17.4	11.4		11.2	12.9	16.6	18.0	23.7	18.2	18.6	16.5	-	June Tube Missing
GD	332210	398338	35.3	32.9	24.4	23.9	17.4	18.1	14.9	21.3	22.3	23.7	29.4	24.5	24.0	21.4	-	
GE	332206	398369	36.7	34.1	20.2	21.8	17.7	17.7	15.1	20.6	23.1	22.5	31.0	26.3	23.9	21.3	-	
GF	335347	397500	42.0	34.5	28.3	28.1	25.6								31.7	22.4	-	June - December Tube Missing. Lamppost has been removed
GH	333231	396069	48.8	47.3	33.7	34.0	33.8	33.8	34.5	29.6	33.2	38.9	46.6	36.0	37.5	33.4	-	
GJ	332088	399829	40.2	35.5	32.2	29.9	30.0	26.9	23.2	26.4	27.2	29.5	33.9	28.6	30.3	27.0	-	
GK	333669	394912	37.7	40.4	36.0	35.4	28.7	31.3	28.5	28.0	30.4	31.9	34.7	34.5	33.1	29.5	-	

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 (0.89)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
GL	333110	397072	36.9	32.5	25.1	25.7	22.1	24.2	16.4	23.4	21.6	25.8	26.0	26.1	25.5	22.7	-	
GM	332189	398210	60.2	48.5	36.2			28.5					36.3	31.3	40.2	29.2	-	April, May, July, August, September, October Tube Missing
GN	333326	400772	40.8	35.5	28.9	29.6	26.2	20.1		25.1	26.2		30.6	28.3	29.1	25.9	-	October Tube Missing
GO	334204	395749	44.5	39.9	36.1	33.3	26.8	26.0	22.0	32.1	28.9	27.9	33.4	30.6	31.8	28.3	-	
GP	332681	396776	33.4	33.3	27.0	30.6	24.1	22.7	21.1	26.1	26.3	30.5	34.4	28.3	28.2	25.1	-	
GQ	330706	398904	42.1	26.9	22.2	20.6		10.6	8.2	15.1	17.3	18.0	24.0	19.4	20.4	18.1	-	May Tube Missing
GR	339201	402503	28.0	25.7	18.9	18.4	12.8		11.1	14.6		17.7	20.9	18.5	18.7	16.6	-	June, September Tube Missing
GS	338710	401571	29.7	18.3	14.8	13.8	9.6	8.6	7.1	12.2	15.0	14.9	19.2	16.0	14.9	13.3	-	
GT	333736	394597	42.1	38.6	46.3	42.2	32.7	30.7		33.4	38.9	50.4	41.1	36.8	39.4	35.0	-	July Tube Missing
GU	333784	394596		45.1	39.6	41.4	33.2	34.8	30.3	35.9	34.5	34.8	36.8	36.6	36.6	32.6	-	January Tube Missing
GV	337537	401542	43.0	26.8	21.3		21.1	23.3	18.0	19.4	26.5	22.4	29.9	24.5	25.1	22.3	-	April Tube Missing
GW	337499	401552	38.0	26.2	22.2	17.8	17.0		14.0	20.5	22.7	21.4	29.0	22.8	22.9	20.3	-	June Tube Missing
GX	340334	401214	30.3	23.9	22.2	18.6	18.1	15.4	13.3	16.8	17.2	17.7	25.2	20.7	19.9	17.8	-	
GY	329188	406600		19.2	16.1	16.6	12.0	10.7	9.2	12.4	12.3	13.0	17.2	15.6	14.0	12.5	-	January Tube Missing
GZ	332988	415800	24.1	20.9	16.8	16.2	11.7	8.9		12.7	13.1	13.6	19.4	16.7	15.8	14.1	-	July Tube Missing
HA	337295	400874	34.1	27.8	21.4		14.4					16.6		20.7	22.5	16.9	-	April, June, July, August, September, November Tube Missing
HB	335137	394996	46.1	46.6	45.6	39.5	36.3	32.0	32.5	34.3		39.3	33.7	36.2	38.4	34.2	-	September Tube Missing
HC	335267	394995	43.7	52.7	46.6	36.3	32.2	34.4	29.6	31.5	34.1	40.0	33.5	29.6	37.0	32.9	-	
HD	336691	398032	35.4	30.6	29.1	26.3	19.0	15.1	13.7	18.9	20.7	21.9	31.0	26.3	24.0	21.3	-	
HE	337091	399333	34.3	29.6	25.4	22.4	18.3	17.3	14.2	20.0	23.2	21.8	27.3	24.7	23.2	20.7	-	

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 (0.89)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
UK 2	334799	398065	31.8		24.8	24.1	17.2	15.4		17.6	20.7	18.7	23.4	18.9	21.3	18.9	-	July Tube Missing
UK 4	332171	398547		31.4				10.9	21.9	23.4	24.1		28.6	26.0	23.8	23.6	-	January, March, April, May, October Tube Missing
W	332982	397022	38.7	37.6		24.2	19.3	19.0	12.4	20.5	25.1	23.7	25.8	25.8	24.7	22.0	-	March Tube Missing
CO1	332175	398483	41.2	35.7	26.9	28.3	22.9	22.1	21.3	23.3	26.5	26.1	31.9	26.1	-	-	-	Triplicate Site with CO1, CO2 and CO3 - Annual data provided for CO3 only
CO2	332175	398483	39.1	32.3	25.5	26.7	23.2	19.3	18.5	22.3	23.9	26.2	30.4	24.7	-	-	-	Triplicate Site with CO1, CO2 and CO3 - Annual data provided for CO3 only
CO3	332175	398483	38.7	33.8	26.8	28.7	23.0	21.9	20.9	24.9	26.0	25.7	31.6	29.6	27.1	24.1	-	Triplicate Site with CO1, CO2 and CO3 - Annual data provided for CO3 only
CP1	333772	394602	36.4	32.2	33.8	29.5	29.6	26.7	28.7	31.5	32.0	28.2	30.1		-	-	-	Triplicate Site with CP1, CP2 and CP3 - Annual data provided for CP3 only
CP2	333772	394602	33.0	30.5	35.6	28.0	28.7	25.0	30.9	30.2	32.4	27.3	29.1		-	-	-	Triplicate Site with CP1, CP2 and CP3 - Annual data provided for CP3 only
CP3	333772	394602	35.4	32.2	35.5	30.4	28.2	27.1	28.4	28.2	34.3	30.5	27.5		30.5	27.2	-	Triplicate Site with CP1, CP2 and CP3 - Annual data provided for CP3 only. December Tube missing
CQ1	332649	396942	46.8	39.5	31.9	36.6	33.7	31.7	23.3	35.8	41.5	37.4	36.2	34.7	-	-	-	Triplicate Site with CQ1, CQ2 and CQ3 - Annual data provided for CQ3 only
CQ2	332649	396942	40.5	44.1	33.3	36.9	28.9	37.2	23.4	35.3	36.8	35.1	34.9	32.4	-	-	-	Triplicate Site with CQ1, CQ2 and CQ3 - Annual data provided for CQ3 only
CQ3	332649	396942	42.3	40.3	36.8	38.0	31.0	35.5	26.0	35.6	35.3	33.0	37.6	34.7	35.4	31.5	-	Triplicate Site with CQ1, CQ2 and CQ3 - Annual data provided for CQ3 only
DB1	333812	397519	43.4	34.3	21.5	31.7	22.1	25.1	17.7	24.4	27.1	26.4	29.3	27.0	-	-	-	Triplicate Site with DB1, DB2 and DB3 - Annual data provided for DB3 only
DB2	333812	397519	41.7	34.2	28.5	27.4	22.2	26.0	18.7	24.7	26.9	25.1	30.8	27.9	-	-	-	Triplicate Site with DB1, DB2 and DB3 - Annual data provided for DB3 only

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 (0.89)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DB3	333812	397519	33.3	38.0	27.0	29.3	23.3	26.8	19.8	24.6	26.4	28.6	30.6	27.3	27.7	24.7	-	Triplicate Site with DB1, DB2 and DB3 - Annual data provided for DB3 only
HF	332756	396965	36.6	39.6	28.2	32.1	21.0	24.3	15.8	25.8	32.1	32.3	31.6	33.0	29.4	26.1	-	

☒ **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.**

☒ **National bias adjustment factor used.**

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

☒ **Sefton Metropolitan Borough 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 40µg/m^3 are shown in **bold**.

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

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 Sefton Metropolitan Borough Council During 2025

In 2025 Air Quality Officers were specifically consulted on 46 developments/proposals which had the potential to impact on air quality. These proposals were reviewed in detail and where appropriate, air quality assessments and/or specific conditions to mitigate AQ impacts were required.

The following applications in 2025 required or were supported by an Air Quality Assessment (AQA)/ Construction Environmental Management Plan (CEMP)/Dust Management Plan (DMP)

Air Quality Assessment

DC/2024/01893

Application seeking full planning permission for employment floorspace (Use Classes E(g)(iii), B2, and B8) with ancillary (integral) office floorspace (Use Class E(g)i), associated parking, landscaping, and reprofiling of site.

Land At Bridle Road, Bootle.

DC/2025/00741

Variation of conditions 2 (Approved Plans) and 9 (Landscape Planting Management Plan) and discharge of condition 16 attached to planning permission DC/2024/01492 approved 14.02.2025.

1B Pendle Drive, Litherland, L21 0HY.

DC/2024/02055

Use of land for sorting and storing of inert waste materials (Part-Retrospective).

Land Rear of Sefton Lane Industrial Estate, Sefton Lane, Maghull.

DC/2025/01069

Erection of part four storey, part three storey building containing 63 no. apartments, with associated ancillary, communal and circulation space. Removal of the existing site access

points, a new combined vehicular and pedestrian access point and pedestrian only access points, relocation and upgrading of existing zebra crossing to puffin crossing, with car parking, bin store, substation, and hard and soft landscaping.

Site Of 50 Sandy Road, Seaforth, L21 3TW.

DC/2025/01223

Outline planning application for landscape led development for up to 450 new homes and local centre on Land off Lambshear Lane.

Land At Lambshear Lane, Lydiate.

DC/2025/01324

Demolition of all existing buildings and construction of a new building, comprising two two-storey data centre halls (Use Class B8 / Sui Generis), connected by a central three-storey block housing ancillary office floorspace and associated amenity and storage floorspace, alongside the construction of a new substation, relocation of the existing 11kV substation, and the formation of new internal access roads, parking, landscaping, boundary treatments and other ancillary works.

51 Bridle Road, Netherton, L30 4XE.

DC/2025/01457

Residential development of 135 affordable homes, comprising 82no. dwellinghouses and 2no. three storey buildings providing 53 apartments, with associated access, parking, amenity spaces and landscaping.

Litherland House, Litherland Road, Bootle, L20 3JE.

DC/2025/01715

Demolition of the existing school building and the erection of a new two-storey school building comprising classrooms, teaching facilities, hall, offices, and ancillary spaces; together with associated landscaping, outdoor play areas, sports facilities, parking provision, and other related infrastructure.

Lydiate Primary School, Lambshear Lane, Lydiate, L31 2JZ.

DC/2025/01855

Works to include the construction of Motor Control Centre (MCC) and Blower Building and associated Transformer Kiosk, Sludge Thickener Building, Washwater Pump Kiosk,

Ultraviolet (UV)Building, UV MCC and Transformer Kiosks associated with the upgrade work at Southport WWTW.

Sewage Disposal Works, Marine Drive, Southport, PR9 9YL.

Construction Environmental Management Plans /Dust Management Plans

DC/2023/00785

Approval of details reserved by conditions 8,9,10,12 & 37 attached to DC/2018/00093 approved on 23/12/21.

Land North of Brackenway, Formby.

DC/2024/01263

Outline planning application for the demolition of the former public house, and construction of a four-storey apartment block comprising of 28 No. flats with associated car park and amenity space on former land of scrap yard, with all matters (layout, scale, appearance, access and landscaping) reserved for future consideration 99-107 And 111 Merton Road, Bootle, L20 4AB.

DC/2024/02025

Erection of a 5-storey side extension to existing hotel to create an additional 40 no. rooms and a 7 court padel tennis facility with associated reception area, changing facilities and cafe area to ground floor. Re-cladding of existing front and rear elevations of the hotel to match the proposed side extension, installation of retractable canopies to the front and installation of 6 electric car charging parking spaces.

Park Hotel, 5 Dunnings Bridge Road, Netherton, L30 6YN.

DC/2025/00902

Demolition of existing derelict care home buildings and erection of new care home and associated car parking and landscaping.

Dovehaven Nursing Home, 9 - 15 Alexandra Road, Southport, PR9 0NB.

DC/2025/01113

Extension of an existing nursery to the left and rear side of the property to increase the capacity.

31 Northway, Maghull, L31 7BG.

DC/2025/01161

Erection of 7no. dwellings with associated access, car parking and landscaping following demolition of the existing storage buildings.

The Piggeries, Southport Old Road, Formby.

DC/2025/01349

Re-render, supply of new windows and internal changes to Vine House. Vine House, Kepler Street, Seaforth.

DC/2025/01351

Removal of conditions 2 (distributor road), 4 (local shopping provision) and 5 (business park access) and variation of conditions 6 (spine road progress report) and 9 (scheme of highway works) attached to planning application DC/2023/00065 approved 26/7/2024 to allow additional residential completions within the southern portion of the wider East of Maghull Local Plan allocation.

Land Northeast Of Poverty Lane and East of M58 South of School Lane Poverty Lane Maghull

DC/2025/01414

Demolition of the existing cottage and associated outbuildings, and the construction of a replacement dwelling with associated external works, landscaping and improved access.

19 Sandy Lane, Melling, L31 1EJ.

DC/2025/01456

Variation of condition 2 pursuant to planning permission DC/2024/01890 approved 16/01/2025 to substitute the building floor plans, elevations and landscape general arrangement plans

Strand Shopping Centre, Stanley Road, Bootle.

DC/2025/01636

Demolition of existing petrol filling station and associated kiosk building/retail unit to provide new 24hr petrol filling station comprising erection of replacement sales building including store, office, WC and convenience store with ancillary food counter, associated parking and landscaping and new vehicular access.

BP Polygon Service Station, 7 Dunnings Bridge Road, Netherton, L30 6TQ.

DC/2025/01657

Approval of details reserved by conditions 3 (Construction Environmental Management Plan), 4 (Highway Construction Management Plan), 5 (Landscape Planting and Maintenance Plan) and BNG Informative (the statutory Biodiversity Gain Plan condition) attached to planning permission DC/2025/00694 approved 19/09/2025.

Maghull High School, Ormonde Drive, Maghull, L31 7AW.

Further detail on the above developments and our response can be found here https://www.sefton.gov.uk/planning-building-control/search-and-view-planning-applications-and-appeals/

Additional Air Quality Works Undertaken by Sefton Metropolitan Borough Council During 2025

Sefton Metropolitan Borough Council has not completed any additional works within the reporting year of 2025.

QA/QC for Diffusion Tube Monitoring

Sefton Metropolitan Borough Council's monitoring network is operated and run by officers who have been trained in all aspects of air quality monitoring, including routine site maintenance, calibration of analysers and data ratification.

The Quality Assurance and Quality Control (QA/QC) procedures used are detailed below.

The diffusion tubes are supplied and analysed by Gradko International, utilising the 20% triethanolamine (TEA) in acetone preparation method.

Gradko International is a UKAS accredited laboratory and participates in the AIR-PT Scheme for NO_2 tube analysis and the Annual Field Intercomparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre.

In the 2025 AIR NO_2 PT rounds, AIR-PT AR068 - AR072 (January - December 2025) Gradko International scored 50%, 75%, 100% and 100% respectively. The percentage score reflects the results deemed to be satisfactory based upon the z-score of < ±2. This precision reflects the laboratory's performance and consistency in preparing and analysing the tubes, as well as the subsequent handling of the tubes in the field. Further information on the precision summary results can be found on the LAQM website.

Diffusion Tube Annualisation

LAQM.TG(22) states that annualisation is required for any site which has a data capture of less than 75%, but greater than 25%. Passive monitoring sites BR, DW, GF, GM, HA, UK 4 and DW recorded a data capture below 75% in 2025 and therefore required annualisation. Annualisation was completed using version 6.1 of the 'Diffusion Tube Data Processing Tool'. Four continuous background monitoring locations were used:

- Wirral Tranmere;
- Birkenhead Borough Road;
- Liverpool Speke; and
- Widnes Milton Road;

Each location had >85% data capture and therefore could be used for annualisation. The results, taken from the 'Diffusion Tube Data Processing Tool', are presented below.

Table C.1 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Wirral Tranmere	Annualisation Factor Birkenhead Borough Road	Annualisation Factor Liverpool Speke	Annualisation Factor Widnes Milton Road	Average Annualisation Factor	Raw Data Simple Annual Mean (µg/m^3)	Annualised Data Simple Annual Mean (µg/m^3)
BR	0.9355	0.9491	0.9379	0.9591	0.9454	39.3	37.1
DW	0.9200	0.8761	0.9062	0.9992	0.9254	26.1	24.2
GF	0.7667	0.7761	0.7815	0.8506	0.7937	31.7	25.1
GM	0.8101	0.7593	0.8245	0.8674	0.8153	40.2	32.8
HA	0.8363	0.8182	0.8389	0.8921	0.8464	22.5	19.0
UK 4	1.1328	1.1364	1.0981	1.0890	1.1141	23.8	26.5

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within this 2026 ASR have 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 with regard to 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.

Sefton Metropolitan Borough Council have applied a national bias adjustment factor of 0.89 to the 2025 monitoring data as opposed to the 0.81 local adjustment factor derived. The national factor has been applied to account for a worst case scenario.

A summary of bias adjustment factors used by Sefton Metropolitan Borough Council over the past five years is presented in Table C.2.

The national bias adjustment spreadsheet (version 03/26) was used to derive the national bias adjustment factor for diffusion tubes analysed by Gradko during 2025. The national bias adjustment factor for Gradko was 0.89 and was based on 28 studies. As shown in Figure C.1.

Figure C.1 –National Bias Adjustment Factor for Gradko

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/26

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2026
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[2] (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[4]	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in Water	2025	R	Monmouthshire County Council	12	26	22	13.8%	G	**0.88**
Gradko	20% TEA in water	2025	R	Gateshead Council	12	20	19	4.5%	G	**0.96**
Gradko	20% TEA in water	2025	R	Gateshead Council	12	20	18	9.3%	G	**0.92**
Gradko	20% TEA in water	2025	R	Gateshead Council	12	22	19	13.1%	G	**0.88**
Gradko	20% TEA in water	2025	R	Gateshead Council	11	22	19	16.8%	G	**0.84**
Gradko	20% TEA in water	2025	R	Gateshead Council	11	27	24	9.8%	G	**0.91**
Gradko	20% TEA in water	2025	R	Gedling Borough Council	12	27	24	11.3%	G	**0.90**
Gradko	20% TEA in water	2025	R	City Of Lincoln Council	12	29	20	42.3%	G	**0.70**
Gradko	20% TEA in water	2025	KS	Marylebone Road Intercomparison	12	37	31	17.4%	G	**0.85**
Gradko	20% TEA in water	2025	UB	Dudley Mbc	12	18	15	24.1%	G	**0.81**
Gradko	20% TEA in water	2025	R	Dudley Mbc	12	35	34	4.5%	G	**0.96**
Gradko	20% TEA in water	2025	R	Belfast City Council	10	22	22	0.6%	G	**0.99**
Gradko	20% TEA in water	2025	R	The Highland Council	11	15	12	22.9%	G	**0.81**
Gradko	20% TEA in water	2025	R	Eastleigh Borough Council	12	29	25	17.1%	G	**0.85**
Gradko	20% TEA in water	2025	UB	Eastleigh Borough Council	12	19	18	1.1%	G	**0.99**
Gradko	20% TEA in water	2025	R	Eastleigh Borough Council	12	20	19	8.5%	G	**0.92**
Gradko	20% TEA in water	2025	R	Cheshire West And Chester	12	28	28	-0.5%	G	**1.00**
Gradko	20% TEA in water	2025	R	Cheshire West And Chester	12	27	25	8.4%	G	**0.92**
Gradko	20% TEA in water	2025	R	Liverpool City Council	11	32	26	24.0%	G	**0.81**
Gradko	20% TEA in water	2025	KS	Liverpool City Council	10	46	40	15.9%	G	**0.86**
Gradko	20% TEA in water	2025	R	Nottingham City Council	10	25	24	3.3%	G	**0.97**
Gradko	20% TEA in water	2025	R	Belfast City Council	12	40	34	17.2%	G	**0.85**
Gradko	20% TEA in water	2025	R	Belfast City Council	12	33	31	6.5%	G	**0.94**
Gradko	20% TEA in water	2025	R	Wychavon District Council	12	27	26	5.5%	G	**0.95**
Gradko	20% TEA in water	2025	R	Worcestershire	12	12	13	-6.6%	G	**1.07**
Gradko	20% TEA in water	2025	KS	Brighton & Hove City Council	10	37	29	28.0%	G	**0.78**
Gradko	20% TEA in water	2025		**Overall Factor[3] (28 studies)**				**Use**		**0.89**

For completeness, a combined local bias adjustment factor was also calculated utilising Sefton Metropolitan Borough Council's triplicate co-location studies. As shown in Table C.3, the local bias adjustment factor of 0.81 was lower than the national factor of 0.89 As such, the national bias adjustment factor was applied to the 2025 monitoring data to ensure the reported concentrations are robust. It should be noted that the national bias adjustment factor for 2025 is in line with factors applied in previous years.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2025	National	03/26	0.89
2024	National	06/25	0.84
2023	National	03/24	0.81
2022	Local	-	0.81
2021	Local	-	0.87

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1 – CM5 – Hawthorne Road	Local Bias Adjustment Input 2 – CM3 – Miller's Bridge	Local Bias Adjustment Input 3 – CM4 – Princess Way	Local Bias Adjustment Input 4 – CM2 – Crosby North
Periods used to calculate bias	12	11	12	12
Bias Factor A	0.76 (0.52 - 1.41)	0.95 (0.9 - 1)	0.69 (0.51 - 1.08)	0.87 (0.79 - 0.97)
Bias Factor B	31% (-29% - 91%)	5% (0% - 11%)	44% (-7% - 95%)	15% (4% - 26%)
Diffusion Tube Mean (µg/m^3)	27.7	30.5	35.4	27.1
Mean CV (Precision)	5.5%	4.1%	5.7%	4.6%
Automatic Mean (µg/m^3)	21.2	29.0	24.6	23.6
Data Capture	98%	98%	98%	98%
Adjusted Tube Mean (µg/m^3)	98%	98%	98%	98%
Combined Local Bias Adjustment Factor	0.81			

NO_2 Fall-off with Distance from the Road

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.

No sites required distance correction in 2025.

QA/QC of Automatic Monitoring

Sefton Metropolitan Borough Council's monitoring network is operated and run by officers who have been trained in all aspects of air quality monitoring, including routine site

maintenance, calibration of analysers and data ratification. The QA/QC procedures used are detailed below.

Horiba 360 and 370 series analysers are used for gaseous pollutants and BAM analysers used for particulates PM_{10}. The FIDAS dual Particulate monitor is used for PM_{10}/$PM_{2.5}$ measurements.

Sefton Council have in place a rigorous QA/QC programme which incorporates the daily screening, by visual examination of all monitoring and calibration data to ascertain if any immediate action is necessary, fortnightly site visits to carry out routine maintenance and calibration checks, equipment maintenance support including breakdown repair and 6 monthly servicing following the manufacturers recommendations carried out by trained service engineers, six monthly QA/QC audits carried out by an external UKAS accredited field auditor (Ricardo) and data validation and ratification of all datasets.

The QA/QC audit independent organisation used must hold UKAS accreditation to ISO 17025 for the on-site calibration of the NO_x gas analysers and for flow rate checks on particulate (PM_{10}) analysers.ISO17025 accreditation provides confidence that the analyser calibration factors produced are traceable to national metrology standards, that the calibration methodology is suitable, and that the uncertainties are appropriate for data reporting purposes and ISO17025 accreditation for laboratory certification of NO, NO_2, CO and SO_2 gas cylinders is also held.

Horiba gas analysers carry out automatic checks every three days for zero and span calibration and Horiba software scales the data of the three-day calibration checks. Monitoring and calibration data from automatic monitors for the previous day(s) are examined on the morning of each working day by an air quality officer to check for spurious or unusual readings, allowing for the identification of anomalies or instrument faults, so they can be investigated and dealt with promptly.

An air quality officer carries out routine site visits every 30 days in accordance with a documented procedure, during which routine maintenance is carried out including the changing of all sample inlet filters. Zero and span calibration checks, and gas cylinder pressures checks are also made. Any faults identified are either rectified at the time of the visit or are reported immediately to the instrument supplier service department to arrange an engineer call out.

Sefton Council has a maintenance contract currently with Horiba UK, which includes six monthly servicing intervals and breakdown cover to ensure optimum performance of the

analysers throughout the year. External QA/QC audits are carried out at 6 monthly intervals. This work is presently carried out by Ricardo Energy & Environment, who provide a report with recommendations and comments relating to data management as a result of the audit and any necessary action to correct data for long term drift or any other matters which need to be addressed.

Primary data validation (application of calibration factors, screening of data for spurious and unusual measurements) is followed up with a more detailed process known as data ratification, a more rigorous data management procedure involving a critical review of all information relating to a particular dataset, the purpose being to verify, amend or reject as necessary. These methods are given in more detail in DEFRA technical guidance LAQM.TG(22).

DEFRA and the Devolved Administrations have approved a number of different monitoring technologies to be equivalent to the reference method. In some cases, the data must be corrected before they can be used.

At Princess Way (CM4) there was abnormally high $PM_{2.5}$ data between 09/10/2025 - 10/10/2025. This data could not be validated and was omitted as anomalous.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

The type of PM_{10} and $PM_{2.5}$ monitors utilised within Sefton Metropolitan Borough Council did not require the application of a correction factor.

Automatic Monitoring Annualisation

No automatic monitoring sites recorded below the acceptable data capture in 2025 and therefore did not require annualisation.

NO_2 Fall-off with Distance from the Road

No automatic NO_2 monitoring locations within Sefton Metropolitan Borough Council required distance correction during 2025.

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1 – Map of Non-Automatic Monitoring Site – CM2 Crosby Road North

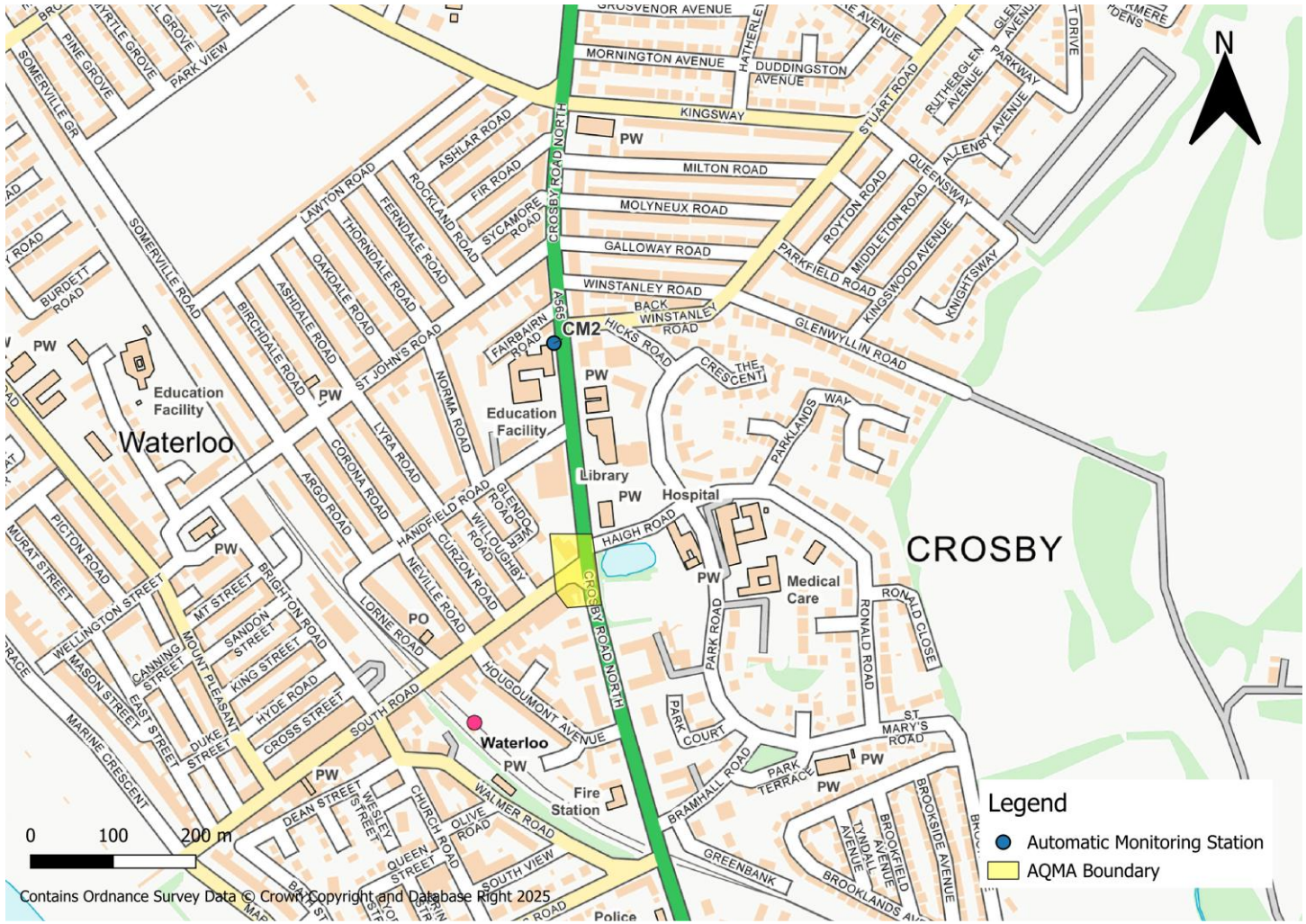


Figure D.2 – Map of Non-Automatic Monitoring Site – CM3 – Millers Bridge, Bootle

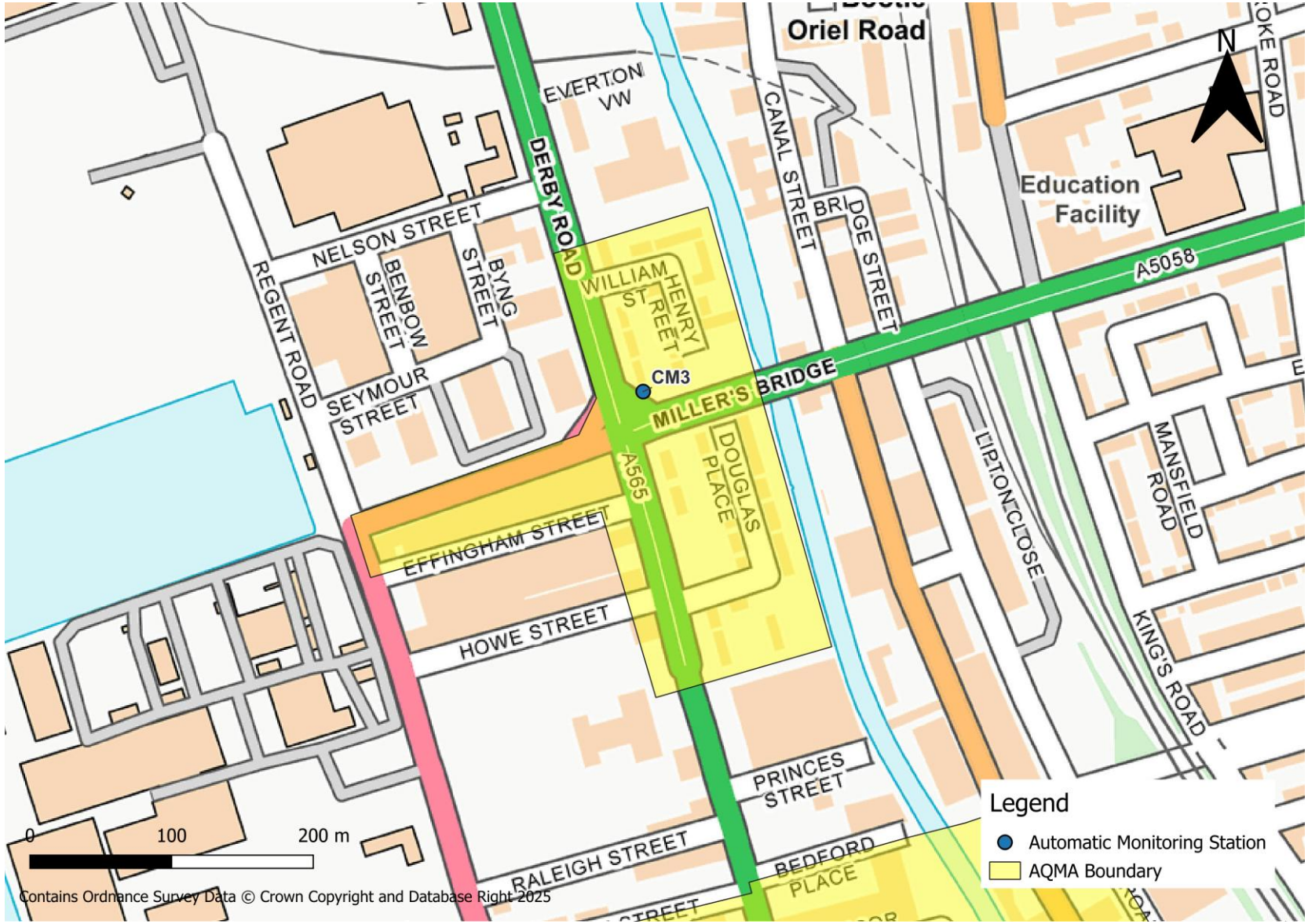


Figure D.3 – Map of Non-Automatic Monitoring Site - CM4 – Lathom Close, Princess Way, Seaforth

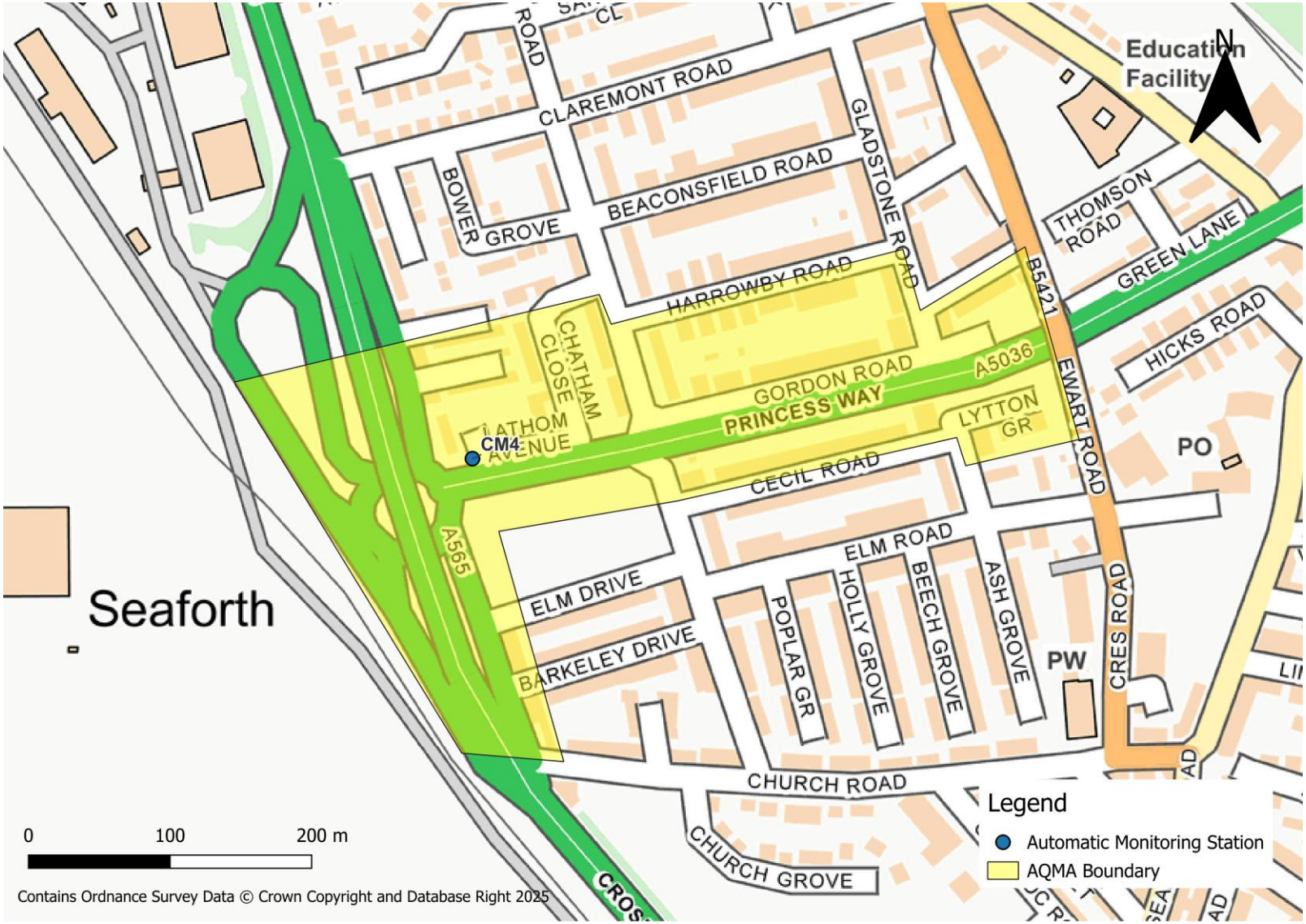


Figure D.4 – Map of Non-Automatic Monitoring Site - CM5 – Hawthorne Road, Litherland

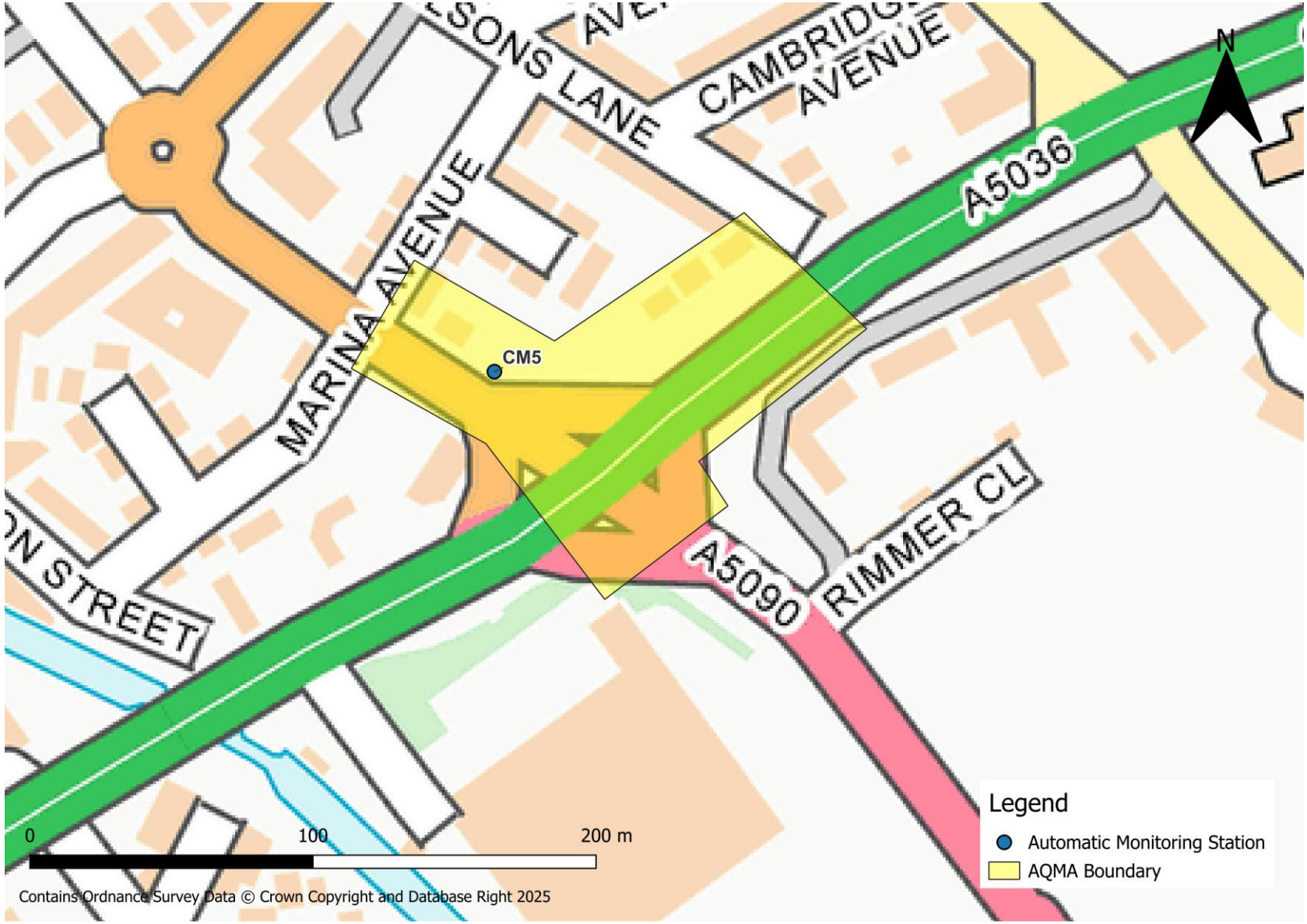


Figure D.5 – Map of Non-Automatic Monitoring Site - CM7 – Regent Road

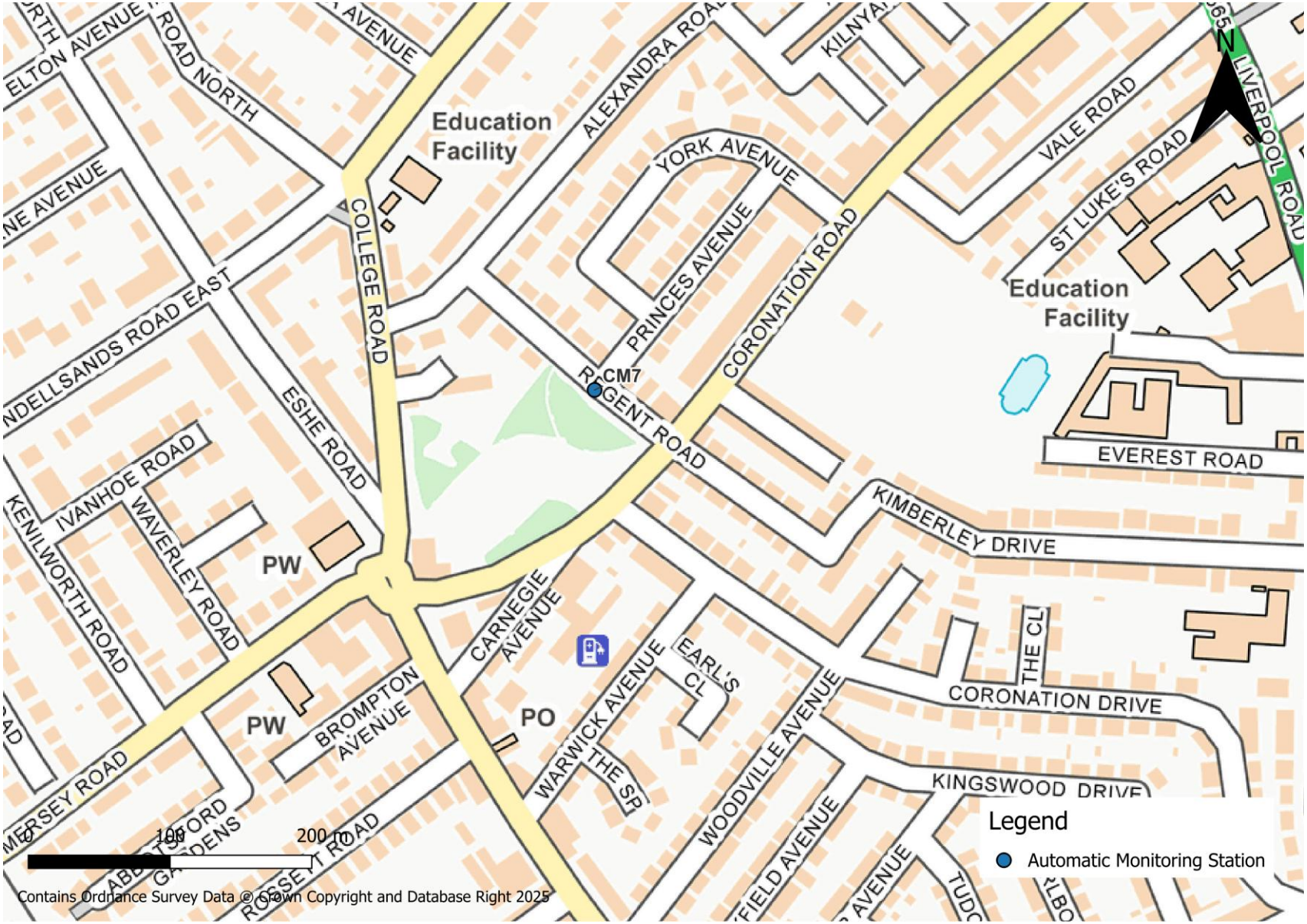


Figure D.6 – Map of Non-Automatic Monitoring Sites within and around AQMA 2



Figure D.7 – Map of Non-Automatic Monitoring Sites within and around AQMA 3

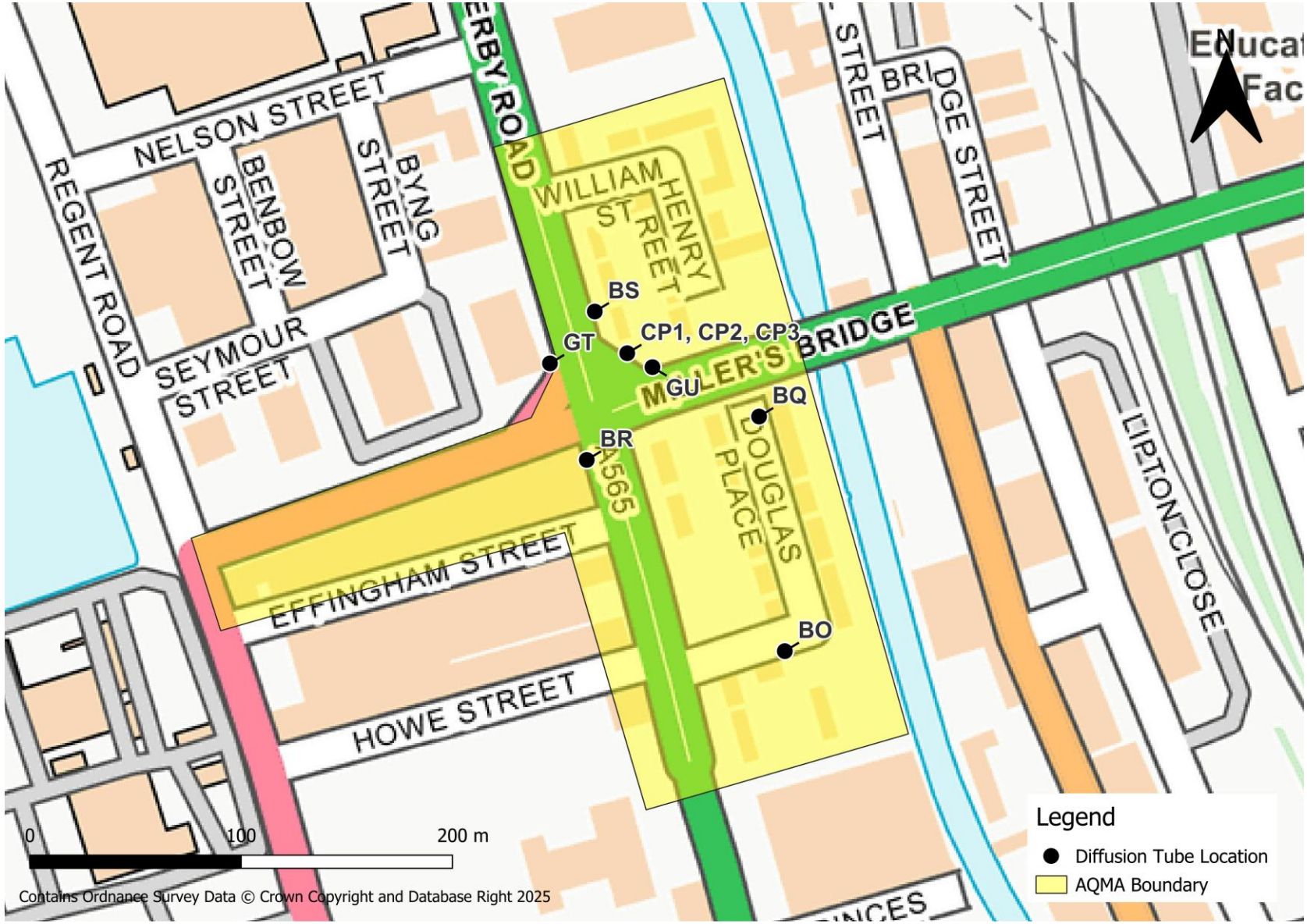


Figure D.8 – Map of Non-Automatic Monitoring Sites within and around AQMA 4

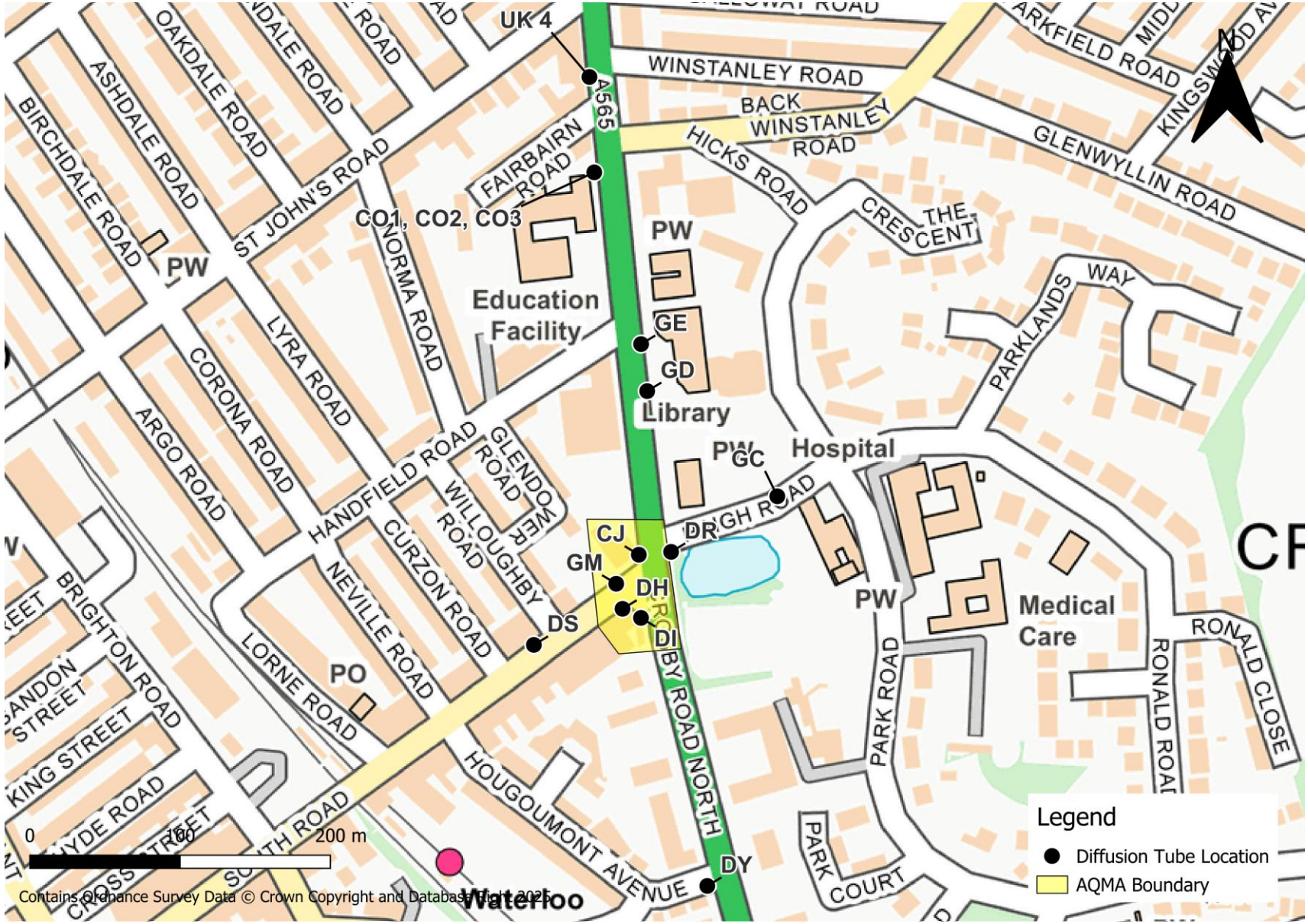


Figure D.9 – Map of Non-Automatic Monitoring Sites within and around AQMA 5

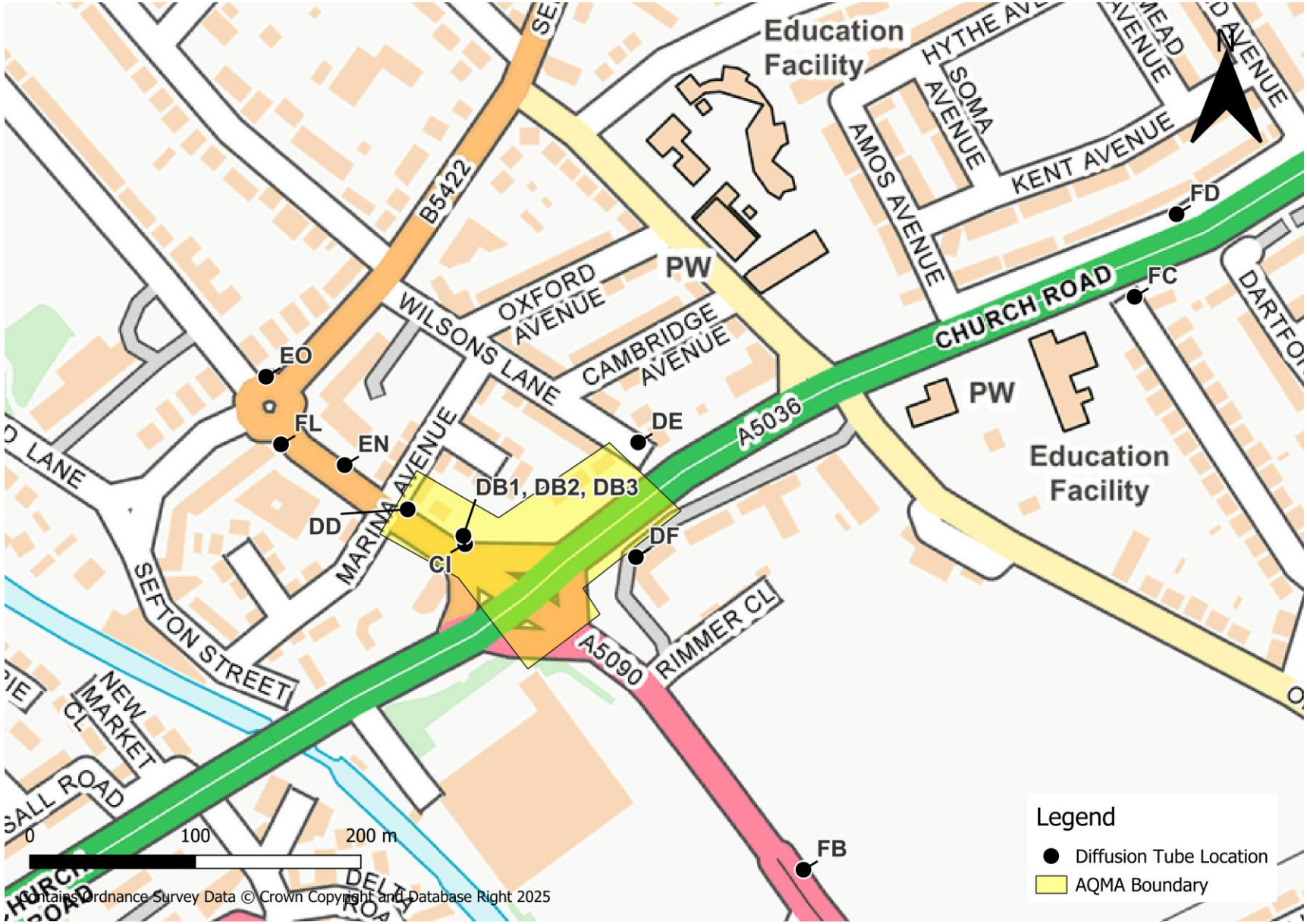


Figure D.10 – Map(s) of Non-Automatic Monitoring Sites within Bootle

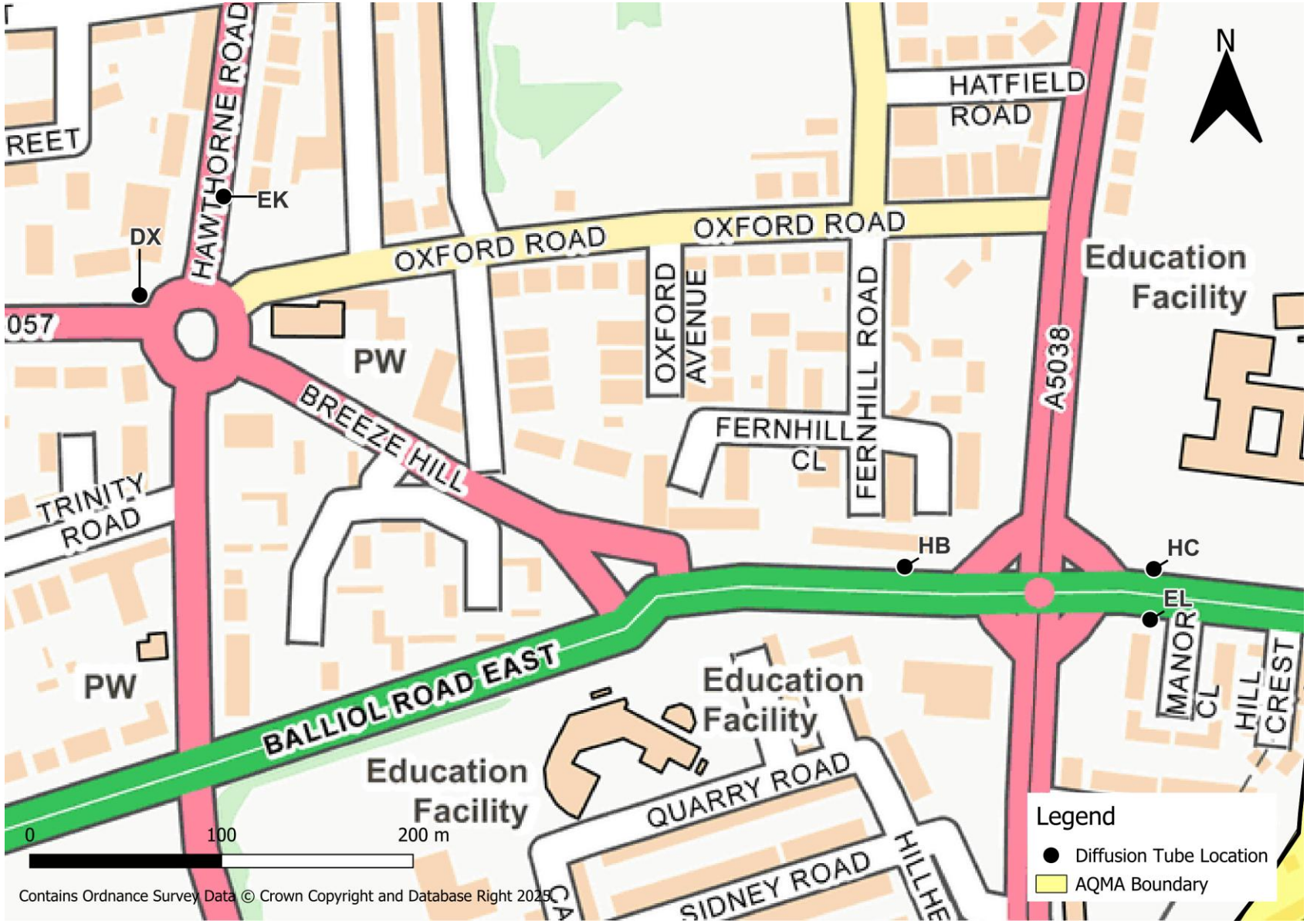


Figure D.11 – Non-Automatic Monitoring Sites within Bootle – DC, DO and GO

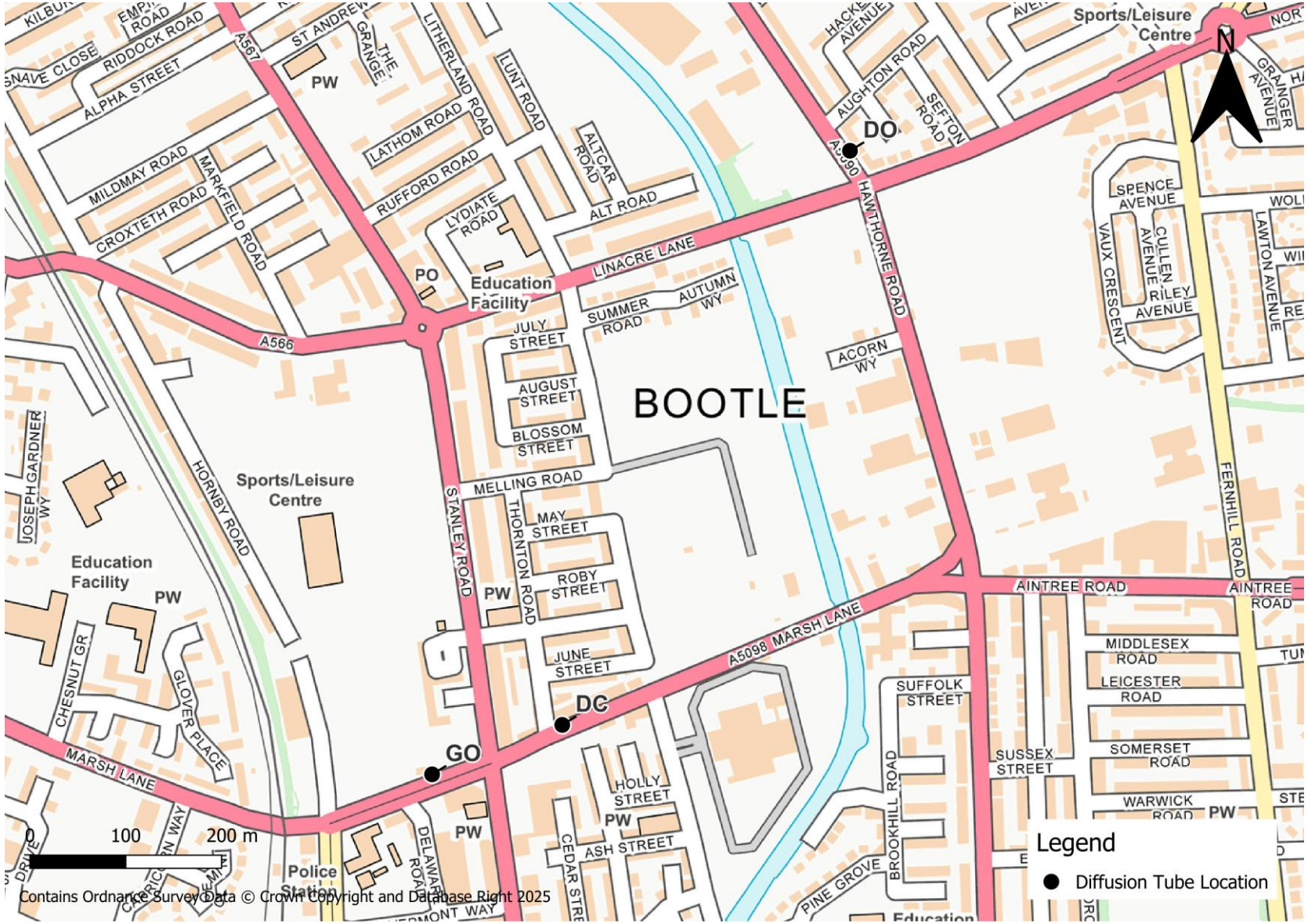


Figure D.12 - Non-Automatic Monitoring Sites within Bootle – GG, GH and FI

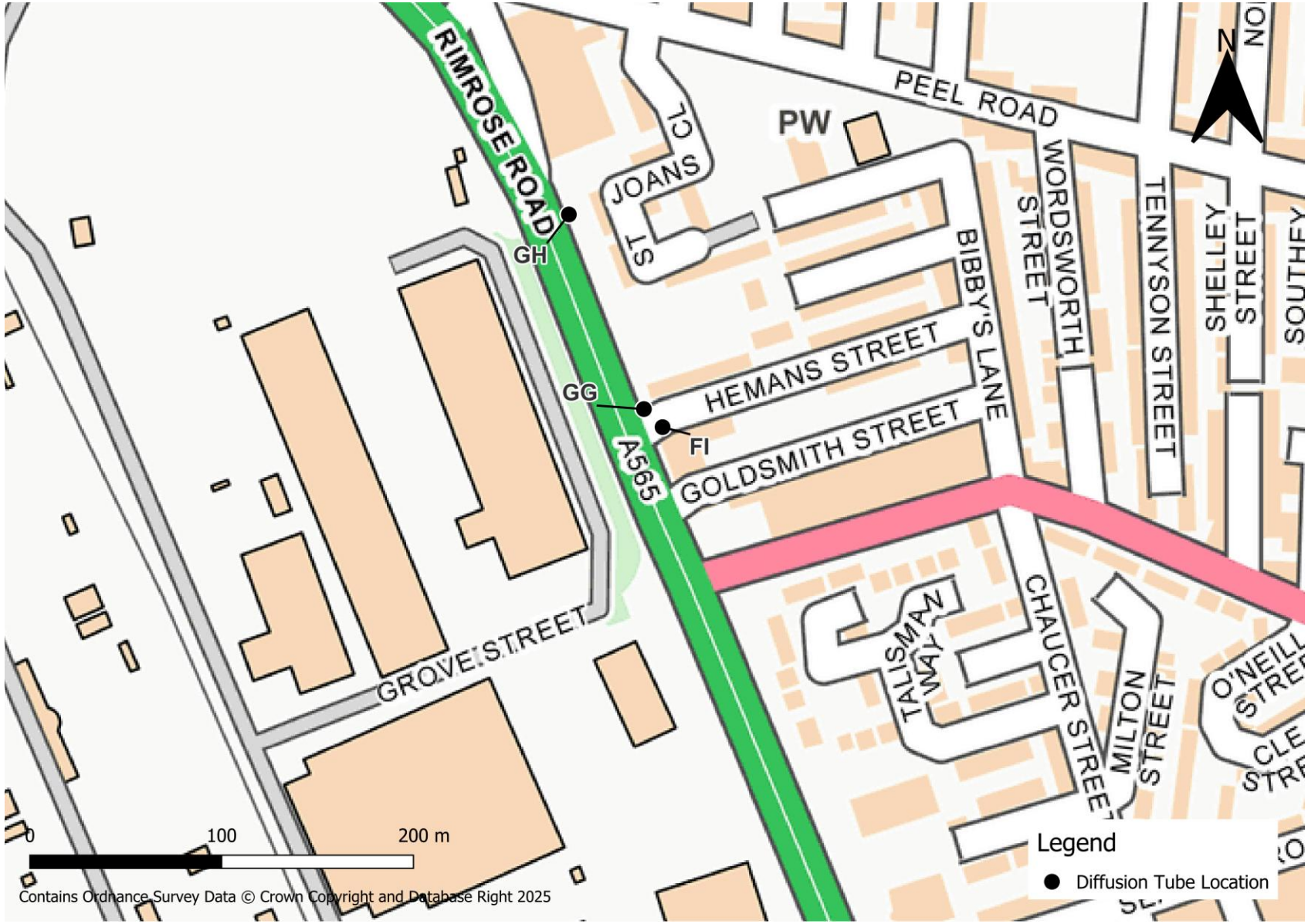


Figure D.13 – Map of Non-Automatic Monitoring Sites within Maghull

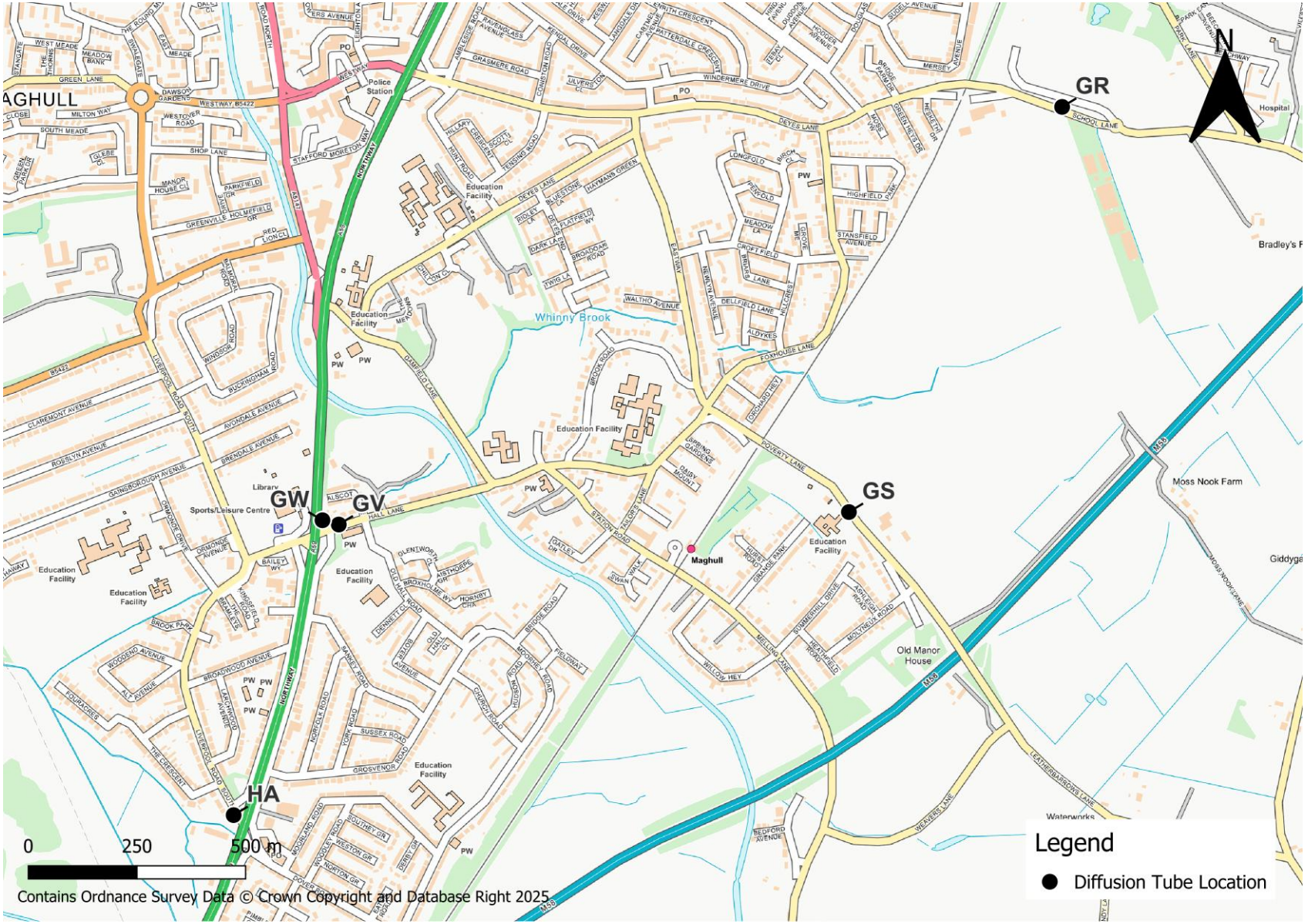


Figure D.14 – Map of Non-Automatic Monitoring Sites within Netherton

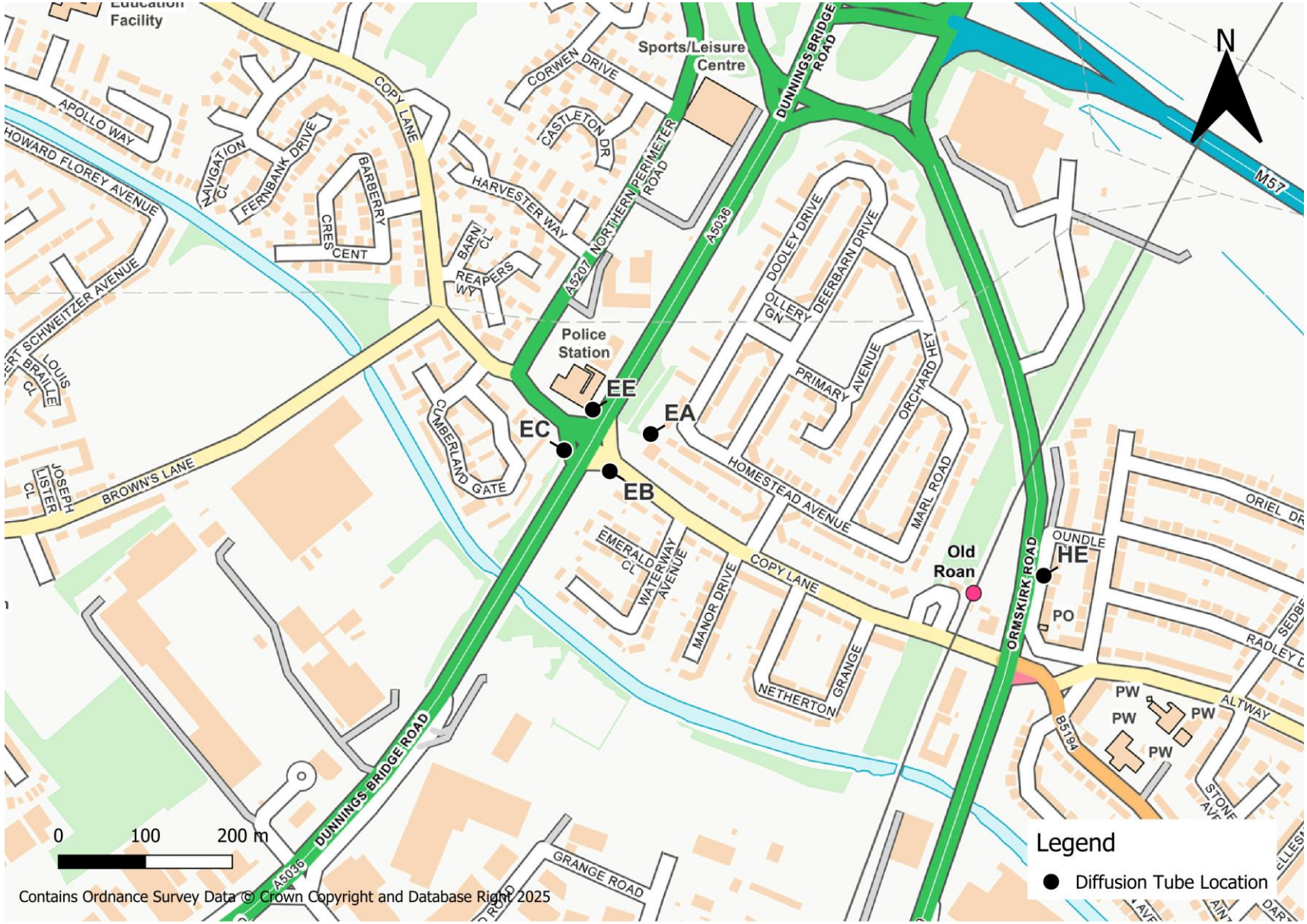


Figure D.15 – Map of Non-Automatic Monitoring Sites within Formby

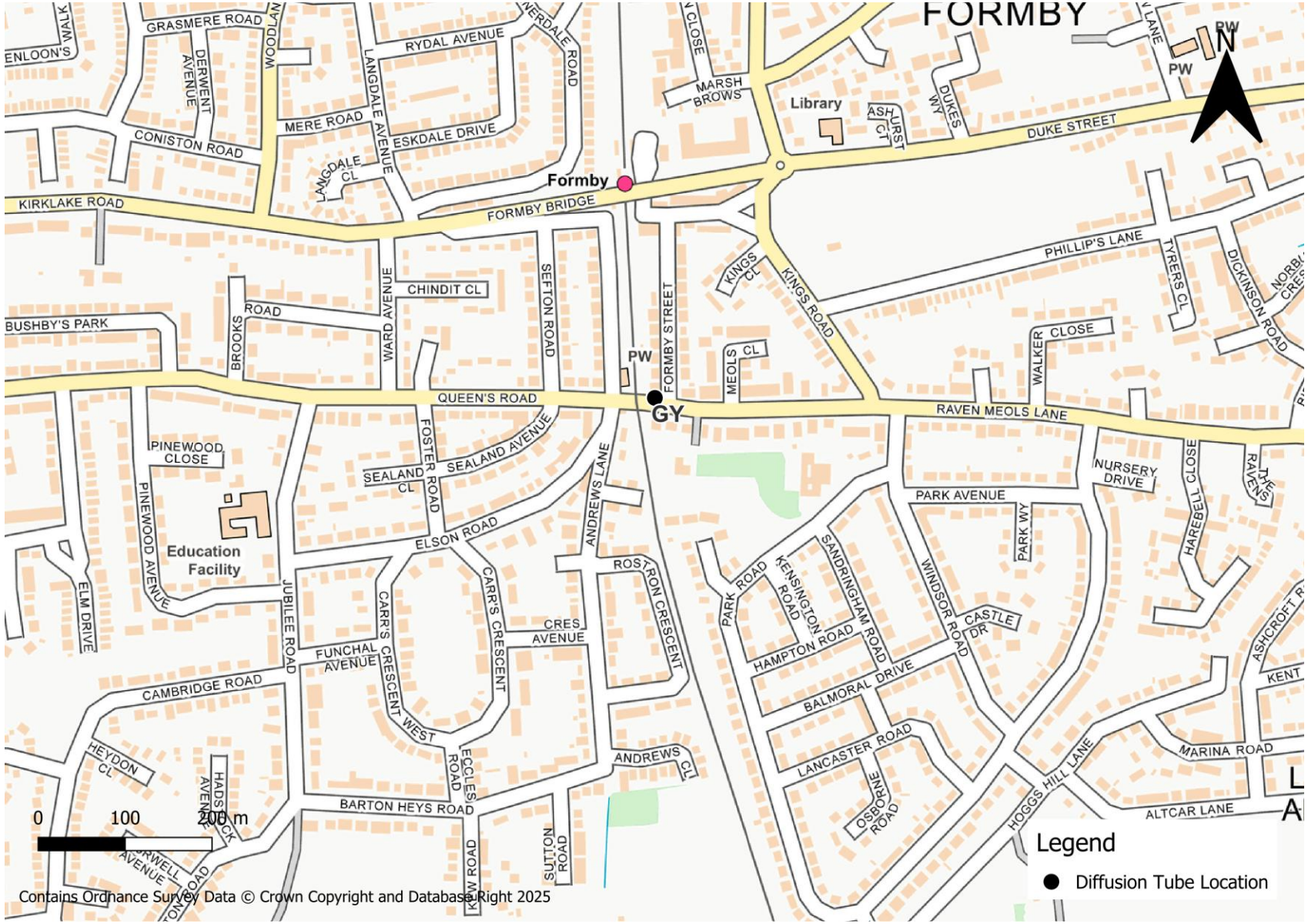


Figure D.16 – Map of Non-Automatic Monitoring Sites within Orrell

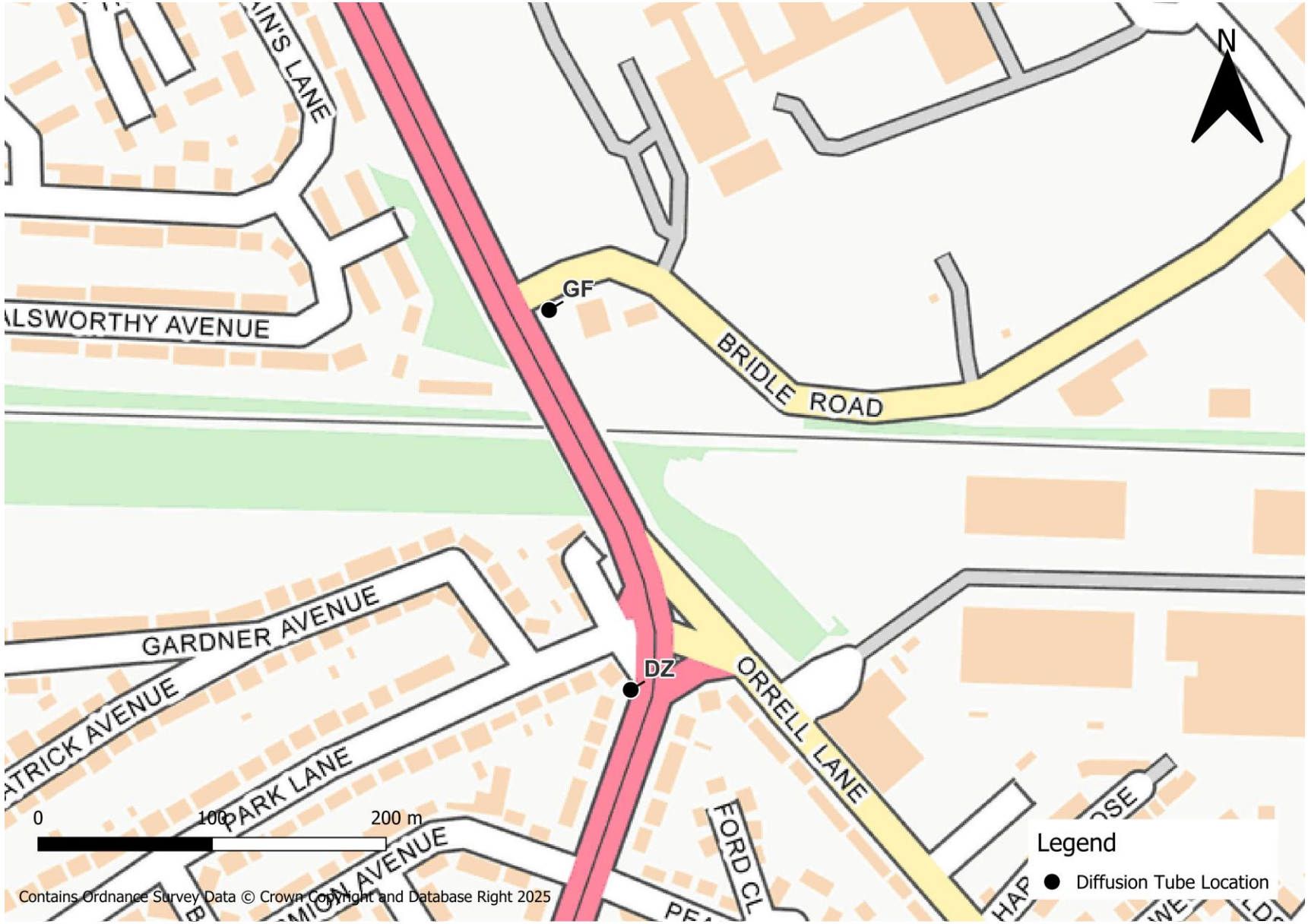


Figure D.17 – Map of Non-Automatic Monitoring Sites within Litherland



Figure D.18 – Map of Non-Automatic Monitoring Sites within Southport

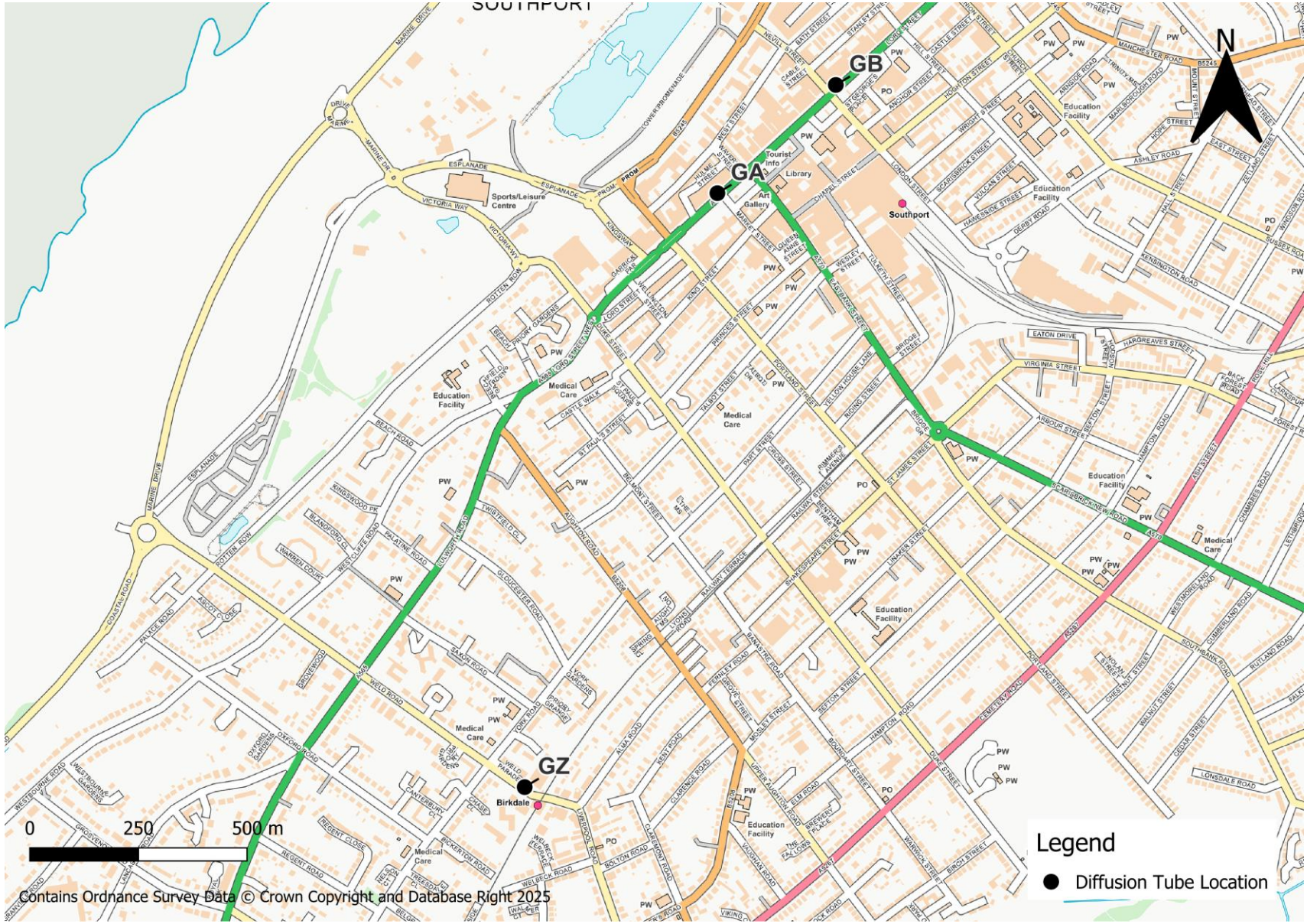


Figure D.19 – Map of Non-Automatic Monitoring Sites within Blundellsands

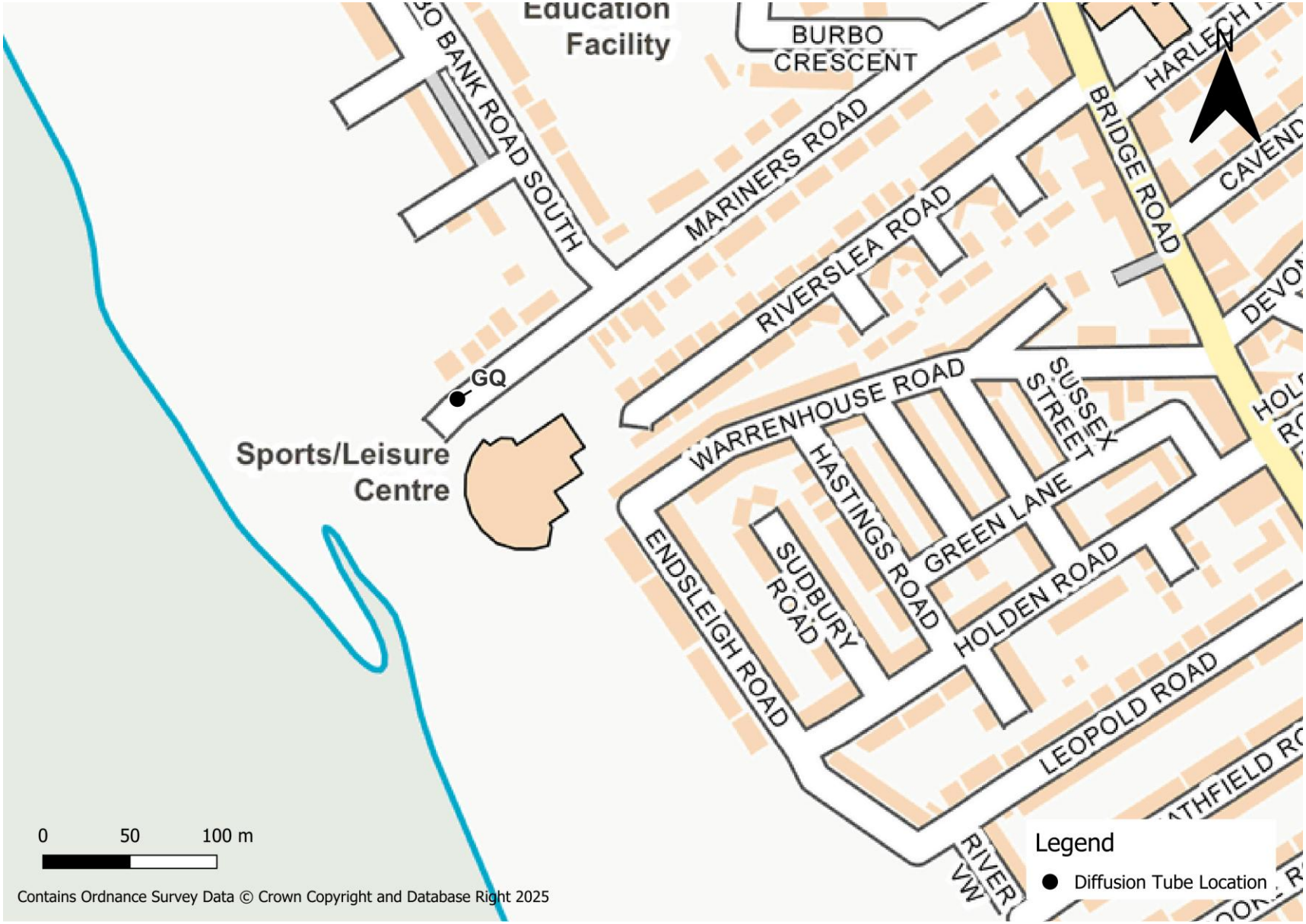


Figure D.20 – Map of Non-Automatic Monitoring Sites within Aintree

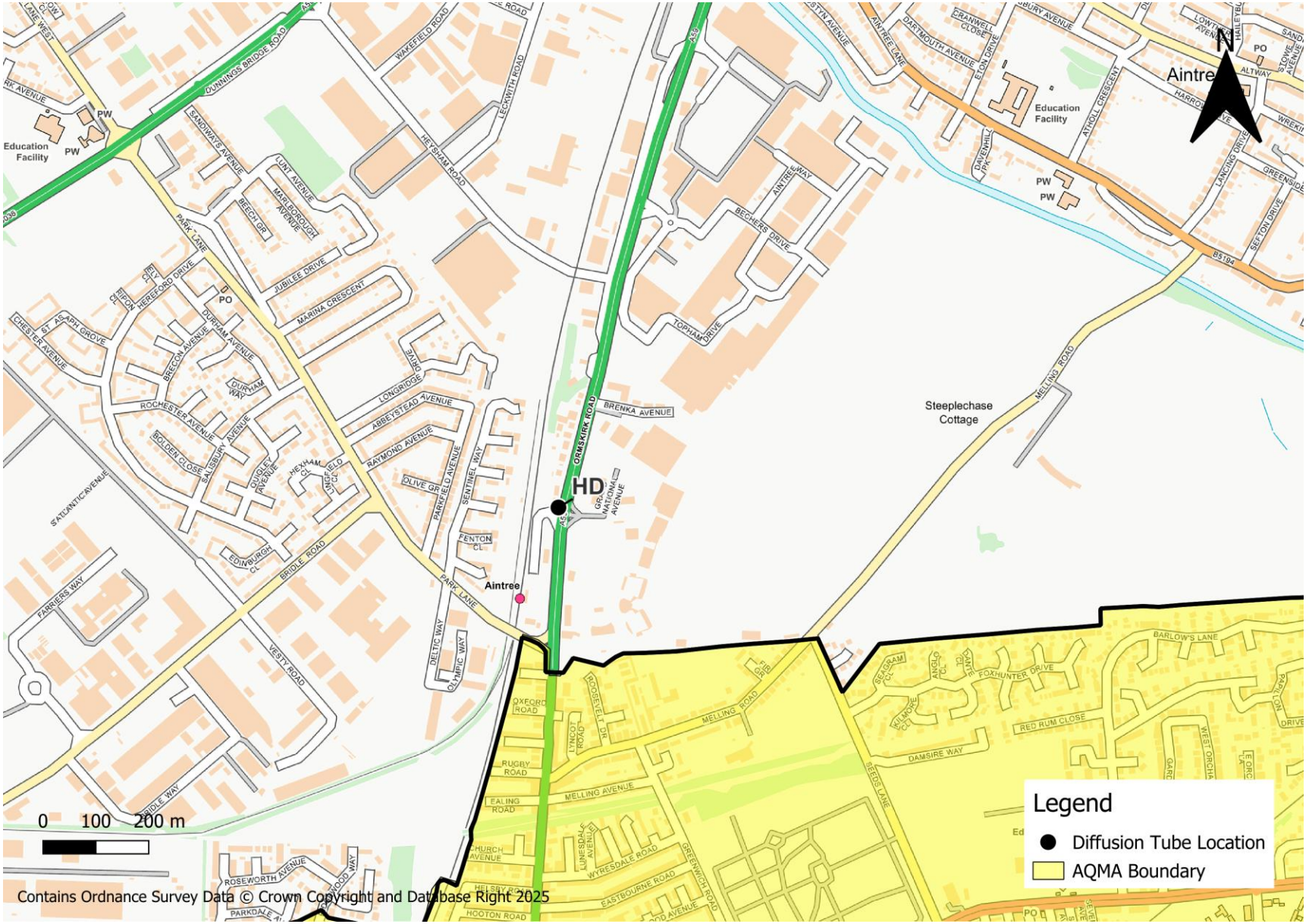


Figure D.21 – Map of Non-Automatic Monitoring Sites within Thornton



Figure D.22 – Map of Non-Automatic Monitoring Sites within Crosby



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[6]

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

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

Glossary of Terms

Abbreviation	Description
ANPR	Automatic Number Plate Recognition
AQA	Air Quality Assessment
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
CDRC	Consumer Data Research Centre
CEMP	Construction Environmental Management Plan
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
LAQM	Local Air Quality Management
LGV	Light Goods Vehicle
HGV	Heavy Goods Vehicle
IMD	Index of Multiple Deprivation
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
OSC	Overview and Scrutiny Committee
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
PM	Particulate Matter
POLAS	Port of Liverpool Access Scheme
QA/QC	Quality Assurance and Quality Control
SCOOT	Split Cycle and Offset Optimisation Technique
SO_2	Sulphur Dioxide
YSYS	Your Sefton Your Say

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- Your Sefton Your Say Consultation and Engagement Hub available at: https://yourseftonyoursay.sefton.gov.uk/.

- Sefton's Smoke Control Areas available at: https://www.sefton.gov.uk/environment/pests-pollution-and-food-hygiene/pollution/smoke-control-areas/ and https://smokecontrolsefton.co.uk/about/smoke-control-areas/ .
- Sefton's Smoke Control Mapping Tool available at: https://uk-air.defra.gov.uk/data/sca/.
- Sefton planning and appeals - https://www.sefton.gov.uk/planning-building-control/search-and-view-planning-applications-and-appeals/
- Smoke Control Sefton available at: https://smokecontrolsefton.co.uk/.