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East Devon District Council

Annual Status Report 2021-2022

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2021 - 2022 Air Quality Annual Status Report (ASR)

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

Date: June 2022

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Executive Summary: Air Quality in Our Area

Air Quality in East Devon District Council

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

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

This ASR presents the monitoring results for both 2020 and 2021 within East Devon District Council.

East Devon is a mainly rural area with small market towns and only pockets of commercial development, mainly involving supply and distribution. Although there are some modern energy plants these are small scale and compliant with the air quality requirements of their environmental permits. This includes the recent Small Waste Incinerator Plant (SWIP) permit update and a second incinerator at a different facility both in 2021. The M5 motorway runs through the west of the district, and the area is bisected east to west by the A35 and A30 major trunk roads. Smaller main roads serving the main towns and commercial areas feed into the strategic network. East Devon is an identified area of expansion for the City of Exeter and it is likely that vehicle flows will increase as a result of this. This includes developments such as the Cranbrook Eastern Expansion.

¹ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

² Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Air quality appraisal: damage cost guidance, July 2021

⁴ Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

NO₂ is the main pollutant of concern within East Devon District Council (EDDC) which predominantly is sourced from road traffic, particularly in areas with higher levels of congestion. As such EDDC have continued in the last 2 years to focus on monitoring NO₂ and managing the effects. EDDC have 54 passive monitoring sites including 1 triplicate location in both 2020 and 2021. There is one Automatic Urban and Rural Network (AURN) continuous monitoring station within EDDC.

Air Quality across EDDC has continued to improve of the last 2 years with no monitoring location exceeding the Air Quality Objective (AQO) for NO₂ of 40µg/m³. However, it should be noted that the effect of COVID-19 and associated lockdowns has had an effect on the monitoring data, particularly in 2020. This is due to vehicle traffic levels reducing across the UK. Department for Transport (DfT) data⁵ suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

The highest NO₂ annual mean concentration in 2020 and 2021 was recorded at N46 (Honiton (High Street) - Windmill Court, A35) with a concentration of 33.3µg/m³ and 35.2µg/m³ in 2020 and 2021 respectively which is still well below the annual mean AQS objective of 40µg/m³.

There are no sites where the NO₂ annual mean is greater than 60µg/m³, therefore in accordance with Defra LAQM.TG(16) there are no sites likely to be at risk of exceeding the 1-hour mean AQS objective.

East Devon District Council revoked their only Air Quality Management Area (AQMA) in April 2018 as a result of monitored improvements in air quality in the designated area, in addition to the 2017 detailed air quality report⁶, which concluded that no exceedances were likely to be observed at locations of relevant exposure within the district.

East Devon District Council have continued to work with other local authorities such as Devon District Council, Exeter City Council and Teignbridge District Council on larger schemes across the wider Devon area. These schemes the Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme⁷.

⁵ Prime Minister's Office, COVID-19 briefing on the 31st of May 2020

⁶ <https://eastdevon.gov.uk/media/2266676/honiton-detailed-assessment-as-part-of-asr-defra-approved.pdf>

⁷ <https://eastdevon.gov.uk/news/2019/10/electric-car-charge-points-to-be-installed-in-east-devon-car-parks/>

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 Clean Air Strategy⁸ sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero⁹ sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

There are no designated AQMAs within the district; therefore, the Council has no active Air Quality Action Plans (AQAPs). The Council however continue to progress a number of measures in order to ensure that the district regularly improves on its local air quality.

The Council continue to recommend that all major new developments across the district incorporate measures to discourage car use with the provision of cycle and walking routes, subsidise new bus services, and install electric vehicle charging points across the area.

The Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme is ongoing, this programme aims to help reduce emissions with the installation of electric vehicle charging points for public use across Devon. 14 charging points have been installed with a continuation of the scheme.

Conclusions and Priorities

Monitoring in EDDC during both 2020 and 2021 showed no exceedances of the annual mean air quality objective for NO₂ (40µg/m³). However, it should be noted that the effect of COVID-19 and associated lockdowns has impacted the monitoring data, particularly in 2020. This is due to vehicle traffic levels reducing across the UK. Department for

⁸ Defra. Clean Air Strategy, 2019

⁹ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

Transport (DfT) data¹⁰ suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

Due to the historical exceedances and close to exceedance concentration levels for NO₂ at N71, two additional monitoring locations, N85 and N86, were deployed within Wilmington at the start of the 2020 Defra calendar year. All three monitoring locations were well below the annual mean Air Quality Objective for NO₂ in both 2020 and 2021

The Honiton AURN automatic urban background monitoring site continued to monitor no exceedances for both the annual mean and hourly mean objective limits in 2020 and 2021, with the NO₂ annual mean concentration continuing to report significantly below the AQO (2020 – 6.6µg/m³ and 2021 – 6.9µg/m³).

East Devon District Council's priorities for the coming year include;

- Continue to review the current NO₂ diffusion tube monitoring network, where necessary, in order to identify and mitigate any potential exceedances of the annual mean air quality objective at locations of relevant exposure;
- Progress the Devon Low-Carbon Energy & Transport Technology Innovator Programme;
- Ensure new developments meet the requirements of planning policies and guidance in relation to air quality; and
- Proceed to the 2023 Annual Status Report.

Local Engagement and How to get Involved

Local residents of East Devon can help to improve air quality in the district by using alternative methods of sustainable transport such as walking, running, cycling, public transport or replacing petrol/diesel cars with an electric vehicle. Car sharing is also a simple way to reduce private car use. Further information regarding East Devon District Council's Local Air Quality Management strategy, including access to the Council's LAQM reports, can be found on the Council's website.¹¹

¹⁰ Prime Minister's Office, COVID-19 briefing on the 31st of May 2020

¹¹ <http://eastdevon.gov.uk/environment/air-quality/>

Local Responsibilities and Commitment

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Table of Contents

Executive Summary: Air Quality in Our Area	i
Air Quality in East Devon District Council	i
Actions to Improve Air Quality	iii
Conclusions and Priorities	iii
Local Engagement and How to get Involved.....	iv
Local Responsibilities and Commitment	v
1 Local Air Quality Management	1
2 Actions to Improve Air Quality	2
Air Quality Management Areas.....	2
Progress and Impact of Measures to address Air Quality in East Devon District Council.....	3
PM _{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations	5
3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance	7
Summary of Monitoring Undertaken	7
3.1.1 Automatic Monitoring Sites	7
3.1.2 Non-Automatic Monitoring Sites	7
Individual Pollutants	8
3.1.3 Nitrogen Dioxide (NO ₂)	8
3.1.4 Particulate Matter (PM _{2.5}).....	10
Appendix A: Monitoring Results	11
Appendix B: Full Monthly Diffusion Tube Results for 2020 and 2021	33
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC	38
New or Changed Sources Identified Within East Devon District Council During 2020 and 2021	38
Additional Air Quality Works Undertaken by East Devon District Council During 2020 and 2021	38
QA/QC of Diffusion Tube Monitoring	38
Diffusion Tube Annualisation.....	39
Diffusion Tube Bias Adjustment Factors	39
NO ₂ Fall-off with Distance from the Road.....	41
Appendix D: Maps of Monitoring Locations and AQMAs	42
Appendix E: Summary of Air Quality Objectives in England	52
Appendix F: Zephyr® PM_{2.5} Monitoring	53
Glossary of Terms	54
References	55

Figures

Figure A.1 – Trends in Annual Mean NO ₂ Concentrations - Exmouth, Exton, Lypstone	21
Figure A.2 – Trends in Annual Mean NO ₂ Concentrations - Newton Pop, Sidmouth, Sidford	22
Figure A.3 – Trends in Annual Mean NO ₂ Concentrations - Clyst St George	23
Figure A.4 – Trends in Annual Mean NO ₂ Concentrations - East of Exeter - Beare, Broadclyst	24
Figure A.5 – Trends in Annual Mean NO ₂ Concentrations - Clyst St Mary, Farringdon	25
Figure A.6 – Trends in Annual Mean NO ₂ Concentrations - Axminster	26
Figure A.7 – Trends in Annual Mean NO ₂ Concentrations - Ottery, Seaton	27
Figure A.8 – Trends in Annual Mean NO ₂ Concentrations - Honiton - West (Near Turks Head Junction)	28
Figure A.9 – Trends in Annual Mean NO ₂ Concentrations - Honiton - CENTRAL & EAST HONITON (High Street	29
Figure A.10 – Trends in Annual Mean NO ₂ Concentrations - DEFRA AURN SITE – HONITON, DOVE CLOSE	30
Figure A.11 – Trends in Annual Mean NO ₂ Concentrations - Wilmington	31
Figure D.1 – 2020/2021 NO ₂ Monitoring Locations - Exmouth, Exton and Lypstone	42
Figure D.2 – 2020/2021 NO ₂ Monitoring Locations - Newton Pop, Sidford. Sidmouth	43
Figure D.3 – 2020/2021 NO ₂ Monitoring Locations - Clyst St George	44
Figure D.4 – 2020/2021 NO ₂ Monitoring Locations - East of Exeter, Beare, Broadclyst	45
Figure D.5 – 2020/2021 NO ₂ Monitoring Locations - Clyst St Mary, Farringdon	46
Figure D.6 – 2020/2021 NO ₂ Monitoring Locations – Axminster	47
Figure D.7 – 2020/2021 NO ₂ Monitoring Locations – Seaton	48
Figure D.8 – 2020/2021 NO ₂ Monitoring Locations – Ottery	49
Figure D.9 – 2020/2021 NO ₂ Monitoring Locations – Honiton	50
Figure D.10 – 2020/2021 NO ₂ Monitoring Locations – Wilmington	51

Tables

Table A.1 – Details of Automatic Monitoring Sites	11
Table A.2 – Details of Non-Automatic Monitoring Sites	12
Table A.3 – Annual Mean NO ₂ Monitoring Results	18
Table A.4 – 1-Hour Mean NO ₂ Monitoring Results, Number of 1-Hour Means > 200µg/m ³	32
Table B.1 – NO ₂ 2020 Diffusion Tube Results (µg/m ³)	33

Table B.2 – NO ₂ 2021 Diffusion Tube Results (µg/m ³)	35
Table C.1 – Annualisation Summary (concentrations presented in µg/m ³)	39
Table C.2 – Bias Adjustment Factor	40
Table C.3 – Local Bias Adjustment Calculation	41
Table E.1 – Air Quality Objectives in England	52

1 Local Air Quality Management

This report provides an overview of air quality in East Devon District Council (EDDC) during both 2020 and 2021. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents. EDDC did not submit their 2021 ASR last year due to staff shortages.

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

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 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

East Devon District Council had one declared AQMA in the Honiton area as a result of exceedances of the NO₂ annual mean objective, however the AQMA was revoked in April 2018. This was following robust monitoring data trends identifying consistent improvements of the monitored annual mean NO₂ concentrations in the area.

East Devon District Council currently does not have any declared AQMAs.

Progress and Impact of Measures to address Air Quality in East Devon District Council

Defra's appraisal of the last submitted ASR (2020) concluded

- “1. It is encouraging to see that the Council have reviewed their monitoring programme and have introduced new monitoring locations. The Council should continue to review the monitoring programme on a regular basis, to ensure that monitoring takes place at any sites of potential exceedance with relevant exposure.
2. The Council have continued to present trend graphs in relation to area. This is very useful as it clearly identifies which diffusion tubes are within each area. The Council are encouraged to continue this method of data presentation in future reports.
3. It would be beneficial if the Council included a more in-depth discussion of the measures they are implementing within the district to tackle PM2.5.
4. It is encouraging to see that the Council are undertaking PM2.5 monitoring within the district and this shows the Council's active engagement with trying to understand air quality issues with their district. This can be considered a sign of good practice.”

East Devon District Council has taken forward a number of direct measures during both the 2020 and 2021 reporting years in pursuit of improving local air quality.

EDDC are continuing to work on the Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme, which aims to help reduce emissions with the installation of electric vehicle charging points for public use across Devon¹²; Progress has shown that 14 EV charging points have currently been installed with more to follow.

EDDC are also continually reviewing the passive monitoring network and identifying any additional areas where monitoring may be required.

EDDC are committed to becoming carbon neutral by 2040, as such measures such as replacement of the fleet vehicles with electric vehicles is proposed. Additionally, EDDC continue to recommend that all major new developments across the district incorporate

¹² <https://eastdevon.gov.uk/news/2019/10/electric-car-charge-points-to-be-installed-in-east-devon-car-parks/>

measures to discourage car use with the provision of cycle and walking routes, subsidies for bus services and continue to install EV charging points across the district.

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

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

Within 2020 and 2021 EDDC did not undertake LAQM PM_{2.5} monitoring within the district. However, EDDC have carried out PM_{2.5} monitoring through the use of 4 Zephyr® air quality sensors¹³ in 2020 and 2021.

Zephyr® air quality sensors are not MCERTS certified¹⁴, therefore they are not approved for use under LAQM. Monitoring data from these instruments can however provide an indication of existing PM_{2.5} concentrations in the area, with annual concentrations from these monitors reporting no exceedances of the 25µg/m³ target value in 2020 and 2021. The highest annual concentration (where data capture was sufficient) was found at Site 395 along the A3052 in Clyst St Mary. This is a new monitoring location for 2020 and 2021 and monitored 8.97 µg/m³ and 8.70µg/m³ respectively for 2020 and 2021. All Zephyr® data is provided within Appendix F: Zephyr® PM_{2.5} Monitoring

In addition, as primary emissions of both NO₂ and particulates predominately originate from the same source, the largely downward trend observed in the Council's NO₂ monitoring data simultaneously indicates reduced trends of both PM₁₀ and PM_{2.5}. The Zephyr monitoring data does show a slight increase at some monitoring locations when compared to 2019, however as mentioned, as these monitoring sensors are not MCERTS certified the results should be treated with caution.

The current [Defra background maps](#) for EDDC (2018 reference year) show that all 2020 and 2021 background concentrations of PM_{2.5} are far below the recommended annual mean AQS objective for PM_{2.5} of 25µg/m³. The highest concentration in 2020 and 2021 is predicted to be within the 1km x 1km grid square with the centroid grid reference of

¹³ <https://www.earthsense.co.uk/zephyr>

¹⁴ <https://uk-air.defra.gov.uk/networks/monitoring-methods?view=mcerts-scheme>

296500, 90500 ($7.2\mu\text{g}/\text{m}^3$ and $7.1\mu\text{g}/\text{m}^3$, respectively). This grid square encapsulates a section of the M5, South of West Clyst.

The [Public Health Outcomes Framework](#) data tool compiled by Public Health England quantifies the mortality burden of $\text{PM}_{2.5}$ within England on a county and local authority scale. The 2020 fraction of mortality attributable to $\text{PM}_{2.5}$ pollution within EDDC is 4.7%. This remains lower than average for England as a whole and the region, which are 5.6% and 5.2% respectively.

East Devon District Council commitment to becoming carbon neutral and recommendation that all major new developments across the district incorporate measures to discourage car use with the provision of cycle and walking routes, subsidies for bus services and continue to install EV charging points across the district, these are some of the key measures to address $\text{PM}_{2.5}$:

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

This section sets out the monitoring undertaken within 2020 and 2021 by East Devon District Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2017 and 2021 to allow monitoring trends to be identified and discussed.

Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

East Devon District Council do not undertake automatic (continuous) monitoring, however, there is one automatic monitoring site in East Devon (Honiton AURN). Appendix A: Monitoring Results shows the details of the site. The site monitors hourly NO₂ concentrations and is part of the Automatic, Urban and Rural Network (AURN) in the UK.

National monitoring results are available at <https://uk-air.defra.gov.uk/data/> .

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

EDDC undertook non- automatic (i.e. passive) monitoring of NO₂ at 54 sites during 2020 and 2021 including one triplicate site. Table A.2 in Appendix A presents the details of the non-automatic sites.

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

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.

Annualisation was required at one site in 2020 (N20) due to data capture being below 75%. No sites in 2021 required annualisation.

3.1.3 Nitrogen Dioxide (NO₂)

Table A.3 in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. 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 2020 and 2021 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.4 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

The Honiton AURN monitoring station did not exceed the annual mean or hourly mean for NO₂ during both 2020 and 2021 and was used to calculate local bias adjustment factors. In 2020 a local bias adjustment factor was used and in 2021 the national factor was applied. This was based on selecting the most conservative value when comparing the national and local factors, further detail on the adjustment factors are shown in Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

During both 2020 and 2021 there were no exceedances of the annual mean air quality objective for NO₂ at any of the passive monitoring location within EDDC. Additionally, no monitoring results were within 10% of the Air Quality Objective (36µg/m³) and as such no fall of with distance calculations were required.

Historically monitoring results within Wilmington have reported within 10% of the exceedance level for annual mean NO₂. N71 is the existing tube within Wilmington and previously reported the highest 2019 concentration in EDDC at 36.6µg/m³. Within 2020

and 2021 N71 reported $27.9\mu\text{g}/\text{m}^3$ and $29.8\mu\text{g}/\text{m}^3$ respectively. In 2020 two additional monitoring locations were installed, N85 and N86. The new monitoring locations also reported annual mean NO_2 concentrations well below the AQO ranging between 20 – 23 $\mu\text{g}/\text{m}^3$ over the last two years. It is likely that the national lockdowns and associated reductions in road traffic numbers during 2020 and 2021 due to the COVID-19 pandemic have resulted in this reduced annual mean NO_2 concentration within Wilmington. As such further monitoring will be reviewed to determine whether the decline in annual mean NO_2 concentrations remains consistent.

During 2020 the Department for Transport (DfT) data¹⁵ suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels. This reduction in travel in turn gave rise to a change of air pollutant emissions associated with road traffic, i.e. nitrous oxides (NO_x), and exhaust and non-exhaust particulates (PM). The Air Quality Expert Group (AQEG)¹⁶ has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK, reductions in NO_2 annual mean concentrations were between 20 and 30% relative to pre-pandemic levels, which represents an absolute reduction of between 10 to $20\mu\text{g}/\text{m}^3$ if expressed relative to annual mean averages.

Monitoring data in 2020 did decrease at most monitoring locations within EDDC when compared to 2019 data. However, there were slight increases in annual mean NO_2 concentrations in 2021 when compared to 2020, this is mainly due to vehicle traffic numbers increasing back to more representative values. On average there was a $4.5\mu\text{g}/\text{m}^3$ decrease in annual mean NO_2 when comparing 2019 to 2020 data. A $3.6\mu\text{g}/\text{m}^3$ decrease between 2019 and 2021 and a small $0.9\mu\text{g}/\text{m}^3$ increase when comparing 2020 to 2021 data.

In accordance with Defra LAQM.TG(16) the 2020 and 2021 diffusion tube results indicate that an exceedance of the 1-hour mean objective is unlikely to have occurred at any of the locations as no concentrations reported $60\mu\text{g}/\text{m}^3$ or above. Equally, no exceedances of the 1-hour mean objective were reported in 2020 or 2021 at the AURN automatic monitoring site in Honiton.

¹⁵ Prime Minister's Office, COVID-19 briefing on the 31st of May 2020

¹⁶ Air Quality Expert Group, Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK, June 2020

3.1.4 Particulate Matter (PM_{2.5})

During 2020 and the reductions in vehicle traffic due to COVID-19, changes in PM_{2.5} concentrations were less marked than those of NO₂. PM_{2.5} concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. Through analysis of AURN monitoring data for 2018-2020, AQEG have detailed that PM_{2.5} concentrations during the initial lockdown period are of the order 2 to 5µg/m³ lower relative to those that would be expected under business-as-usual conditions.

East Devon District Council undertakes monitoring of PM_{2.5} through the use of Zephyr® air quality sensors¹⁷. Currently there are 4 monitors in operation within 2020 and 2021, and are detailed as follows:

- Site 43, located at Dove Close in Honiton;
- Site 50, located just off of the roundabout connecting the A376 and A3052 in Clyst St Mary;
- Site 55, located along the A378 in Ebford;
- Site 395, located along the A3052 in Clyst St Mary

Zephyr® air quality sensors are not MCERTS certified¹⁸, therefore not suitable for LAQM reporting purposes, however monitoring data from these instruments can provide an indication of existing PM_{2.5} concentrations in the area. Annual concentrations from these monitors are presented in Appendix F and were found to not exceed the 25µg/m³ target value in 2020 and 2021.

¹⁷ <https://www.earthsense.co.uk/zephyr>

¹⁸ <https://uk-air.defra.gov.uk/networks/monitoring-methods?view=mcerts-scheme>

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
Honiton AURN (Dove Close)	Honiton	Urban Background	315749	99874	NO ₂	NO	FDMS	20	N/A	2

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.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)
Exmouth, Exton, Lypstone										
N01	N01 Exmouth - Library	Kerbside	300267	81193	NO ₂	N	N/A	2.4	No	2.5
N02	N02 Exmouth - Salterton Rd opp Tesco	Roadside	302163	81724	NO ₂	N	31.1	1.6	No	2.5
N07	N07 Exmouth - The Strand	Kerbside	300087	80955	NO ₂	N	N/A	0.7	No	2.7
N73	N73 Exmouth - 369 Exeter Road	Kerbside	300294	83265	NO ₂	N	0	1.7	No	2.4
N74	N74 Lypstone - Opposite 6 Jubilee Grove	Kerbside	299931	84157	NO ₂	N	0	1.7	No	2.4
N75	N75 Exton - Iddesleigh Terrace	Kerbside	298425	86472	NO ₂	N	0	1.7	No	2.4
Newton Pop, Sidmouth, Sidford										
N16	N16 Sidmouth - opp Travelwise	Roadside	312665	87432	NO ₂	N	N/A	4.9	No	2.5
N19	N19 Sidford - School St (opp PO)	Roadside	313403	90074	NO ₂	N	N/A	1.5	No	2.5
N72	N72 Newton Pop -	Kerbside	308004	89533	NO ₂	N	0	1.3	No	2.32

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)
	Westhayes High Street									
N84	Newton-Poppleford - School Lane junction, A3052	Roadside	308632	89742	NO ₂	N	9	1.14	No	2.38
Clyst St George										
N06	N06 Clyst St George - George & Dragon	Kerbside	298062	88425	NO ₂	N	1.4	6.2	No	2.5
N68	N68 Clyst St George - o/s Marsh Barton	Roadside	298079	88521	NO ₂	N	N/A	6.5	No	2.5
N59	N59 Clyst St George - o/s Clyst Dene	Roadside	298083	88337	NO ₂	N	26	1.2	No	2.5
N63_EB	N63_EB Clyst St George - speed sign – Ebford Lane	Roadside	298088	88161	NO ₂	N	0.2	2.6	No	2.5
N80	N80 Nr 21 to 23 Exmouth Rd	Roadside	297941	89437	NO ₂	N	13	2.75	No	1.85
East of Exeter - Beare, Broadclyst										
N26	N26 Little Orchard - Airport junction	Roadside	299102	93198	NO ₂	N	N/A	2.5	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)
N60	N60 Sowton - Sowton Lodge (Nearest)	Roadside	297029	93140	NO ₂	N	0.1	11	No	2
N20	N20 Clyst Honiton - o/s Whimble Farm	Roadside	300345	94860	NO ₂	N	9.6	7.1	No	2.5
N22	N22 Rockbeare - Jack in the Green	Industrial	301876	95558	NO ₂	N	53.4	80	No	2.5
N76	N76 Cranbrook - St Martins School	Roadside	300283	95200	NO ₂	N	0	8.5	No	2.44
N77	N77 Cranbrook - Opposite Jn Court Royal	Roadside	301228	95665	NO ₂	N	N/A	4.9	No	2.35
N78	N78 Beare - Beare House	Industrial	299763	102177	NO ₂	N	N/A	N/A	No	2.5
Clyst St Mary, Farringdon										
N13	N13 Clyst St Mary - Opp P. O.	Roadside	297314	91056	NO ₂	N	6.7	1.9	No	2.5
N63_LODGE	N63_LO Clyst St Mary - Lodge A3052	Roadside	297633	90927	NO ₂	N	2	2.9	No	2.5
N64_GP	N64_GP Clyst St Mary - A3052 Crealy	Roadside	300259	90712	NO ₂	N	N/A	11	No	1.9

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)
N65	N65 Clyst St Mary - A3052 Farrington	Roadside	300735	90555	NO ₂	N	N/A	2.8	No	2.5
N66	N66 Clyst St Mary - A3052 Vineyard	Roadside	302491	90461	NO ₂	N	N/A	5.1	No	2.5
N67	N67 Clyst St Mary - B3184 Opp Perkins	Kerbside	302420	90750	NO ₂	N	N/A	0.8	No	2.5
N81	N81 rear of Lammorric	Roadside	297327	90998	NO ₂	N	9	0.34	No	2.1
N82	N82 Nr 1 Poplars Walk	Roadside	298923	90859	NO ₂	N	20	2.15	No	1.9
N83	N83 Nr 44 Sidmouth Roa	Roadside	299997	90722	NO ₂	N	66	3.8	No	1.84
Axminster										
N11	N11 Axminster - o/s Swans	Roadside	329584	98464	NO ₂	N	0.1	1.5	No	2.5
N56	N56 Axminster - Trinity Square	Kerbside	329680	98550	NO ₂	N	N/A	0.7	No	2.5
N57	N57 Axminster - George Hotel	Roadside	329765	98554	NO ₂	N	N/A	1.5	No	2.5
N58	N58 Axminster - Homelea Grand Rd	Roadside	329789	98613	NO ₂	N	N/A	1.4	No	2.5
N64_AX	N64_AX Axminster -	Kerbside	329743	98589	NO ₂	N	N/A	1	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)
	Morgan York Victoria Pl									
Ottery, Seaton										
N14	N14 Seaton - 6 Marine Crescent	Roadside	324479	89930	NO ₂	N	0.1	4.4	No	2.5
N10	N10 Ottery St Mary - Bank/Gold St	Roadside	309882	95449	NO ₂	N	1.5	1.5	No	2.5
Honiton - West (Near Turks Head Junction)										
N24	N24 opp 4 Ex Rd	Roadside	315097	100182	NO ₂	N	12.7	0.1	No	2.5
N25	N25 4 Ex Road (garden)	Roadside	315087	100165	NO ₂	N	26	0.77	No	2.3
N27	N27 Byways Ex Rd	Roadside	314875	100097	NO ₂	N	0	9	No	2.5
N29	N29 West Mede Ex Rd	Roadside	315114	100201	NO ₂	N	0	14	No	2.5
Honiton - CENTRAL & EAST HONITON (High Street)										
N09	N09 High St / Dowell St jn	Roadside	316062	100596	NO ₂	N	0.1	2.2	No	2.5
N36	N36 10 Dowell St	Kerbside	316012	100653	NO ₂	N	0.1	1.2	No	2.5
N37	N37 153 High St	Kerbside	316102	100607	NO ₂	N	3.1	0.3	No	2.5
N44	N44 9 High St	Kerbside	316629	100837	NO ₂	N	2.2	0.6	No	2.5
N45	N45 Holyshute Cottage	Kerbside	316816	100934	NO ₂	N	17.2	0.1	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)
N46	N46 Windmill Ct A35	Kerbside	316796	100856	NO ₂	N	19.8	1	No	2.5
DEFRA AURN SITE – HONITON, DOVE CLOSE										
N62a,b,c	N62 Dove Close (Triplicate)	Urban Background	315745	99875	NO ₂	N	N/A	N/A	Yes	1.75
Wilmington										
N71	N71 Wilmington Outside Higher Gatehouse EX14 9JR	Kerbside	321135	99875	NO ₂	N	0.7	2.7	No	3
N85	Wilmington (east) - Home Farm junction	Roadside	321401	99949	NO ₂	N	24.3	2.1	No	2.10
N86	Wilmington (west) - White Hart Inn	Roadside	320914	99950	NO ₂	N	41.4	1.5	No	2.35

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 NO₂ Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	2020 Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2020 (%) ⁽²⁾	2021 Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
Honiton AURN (Dove Close)	315749	99874	Urban Background	96.44	96.44	98.33	98.33	7.8	7.4	8.1	6.5	6.9
Exmouth, Exton, Lympstone												
N01	300267	81193	Kerbside	100.0	100.0	100.0	100.0	17.9	19.7	19.2	15.4	17.3
N02	302163	81724	Roadside	100.0	100.0	100.0	100.0	18.4	17.4	16.9	14.7	14.4
N07	300087	80955	Kerbside	100.0	100.0	100.0	100.0	24.1	22.8	21.3	16.0	18.1
N73	300294	83265	Kerbside	100.0	100.0	92.3	92.3	30.4	29.7	29.8	25.9	26.0
N74	299931	84157	Kerbside	100.0	100.0	92.3	92.3	29.1	27.8	25.9	19.8	20.8
N75	298425	86472	Kerbside	100.0	100.0	92.3	92.3	36.6	37.5	34.5	28.2	29.8
Newton Pop, Sidford, Sidmouth												
N16	312665	87432	Roadside	100.0	100.0	100.0	100.0	14.4	13.3	12.2	9.7	9.8
N19	313403	90074	Roadside	100.0	100.0	84.6	84.6	19.0	17.5	19.0	16.0	17.4
N72	308004	89533	Kerbside	100.0	100.0	100	100.0	18.8	18	18.5	14.7	15.0
N84	308632	89742	Roadside	100.0	100.0	92.3	92.3	-	-	19.3	16.4	16.3
Clyst St George												
N06	298062	88425	Kerbside	100.0	100.0	100.0	100.0	30.7	30.4	28.3	24.0	25.1
N68	298079	88521	Roadside	100.0	100.0	100.0	100.0	27.3	31.8	38.5	22.6	23.0
N59	298083	88337	Roadside	100.0	100.0	100.0	100.0	38.6	39.8	28.3	31.9	33.1
N63_EB	298088	88161	Roadside	100.0	100.0	100.0	100.0	29.8	32.4	31.6	26.8	26.6
N80	297941	89437	Roadside	100.0	100.0	100.0	100.0	-	20.3	19.5	15.2	15.7
East of Exeter - Beare, Broadclyst												
N26	299102	93198	Roadside	100.0	100.0	100.0	100.0	20	19.5	18.8	12.3	12.2
N60	297029	93140	Roadside	100.0	100.0	100.0	100.0	26.7	27.7	31.7	25.3	25.8
N20	300345	94860	Roadside	100.0	100.0	100.0	40.4	13.2	12.9	13.3	10.7	9.8
N22	301876	95558	Industrial	100.0	100.0	100.0	100.0	9.2	9.7	10.3	7.7	7.7
N76	300283	95200	Roadside	100.0	100.0	92.3	92.3	11.4	11.4	11.2	10.5	13.4
N77	301228	95665	Roadside	92.3	92.3	92.3	92.3	13.1	12.4	11.7	9.5	9.6

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	2020 Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2020 (%) ⁽²⁾	2021 Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
N78	299763	102177	Industrial	100.0	100.0	100.0	100.0	19.2	22.7	21.3	17.8	12.9
Clyst St Mary, Farringdon												
N13	297314	91056	Roadside	100.0	100.0	100.0	100.0	23.2	22.3	21.2	17.6	17.8
N63_LODGE	297633	90927	Roadside	100.0	100.0	100.0	100.0	34.3	33.8	30.9	24.9	26.5
N64_GP	300259	90712	Roadside	100.0	100.0	100.0	100.0	21.0	21	19.6	16.3	18.3
N65	300735	90555	Kerbside	100.0	100.0	100.0	100.0	32.5	31	28.0	22.9	24.1
N66	302491	90461	Roadside	100.0	100.0	100.0	100.0	13.6	14.1	12.1	10.5	10.5
N67	302420	90750	Kerbside	90.4	90.4	100.0	100.0	9	9.5	8.9	6.7	6.6
N81	297327	90998	Roadside	100.0	100.0	100.0	100.0	-	24.9	24.1	15.2	20.0
N82	298923	90859	Roadside	92.3	92.3	100.0	100.0	-	27.7	25.8	18.5	21.2
N83	299997	90722	Roadside	100.0	100.0	100.0	100.0	-	25.1	22.9	19.3	19.7
Axminster												
N11	329584	98464	Roadside	100.0	100.0	100.0	100.0	32.9	30.4	33.0	27.2	28.1
N56	329680	98550	Roadside	100.0	100.0	100.0	100.0	31.3	32.1	30.3	24.3	26.4
N57	329765	98554	Kerbside	100.0	100.0	100.0	100.0	23.2	23.5	22.2	17.7	19.2
N58	329789	98613	Roadside	100.0	100.0	100.0	100.0	33.2	31.1	31.1	26.0	28.2
N64_AX	329743	98589	Roadside	92.3	92.3	100.0	100.0	24.2	23.7	22.4	18.5	21.6
Ottery, Seaton												
N14	324479	89930	Roadside	80.8	80.8	100.0	100.0	15.1	14.3	12.4	10.8	12.5
N10	309882	95449	Roadside	100.0	100.0	100.0	100.0	23.3	22.9	23.4	19.4	19.6
Honiton - West (Near Turks Head Junction)												
N24	315097	100182	Roadside	100.0	100.0	100.0	100.0	30.3	30.6	30.1	25.1	25.3
N25	315087	100165	Roadside	100.0	100.0	100.0	100.0	-	31.7	29.4	24.5	26.1
N27	314875	100097	Roadside	100.0	100.0	100.0	100.0	17.9	18.6	17.3	13.3	14.6
N29	315114	100201	Roadside	100.0	100.0	100.0	100.0	19.0	21.3	18.0	14.7	15.7
Honiton - CENTRAL & EAST HONITON (High Street)												
N09	316062	100596	Kerbside	100.0	100.0	100.0	100.0	31.7	25.4	29.2	23.7	23.4
N36	316012	100653	Kerbside	100.0	100.0	100.0	100.0	37.0	30.3	31.4	24.3	25.4
N37	316102	100607	Kerbside	92.3	92.3	92.3	92.3	39.7	35.3	34.7	29.4	32.2

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	2020 Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2020 (%) ⁽²⁾	2021 Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
N44	316629	100837	Kerbside	92.3	92.3	92.3	92.3	28.6	25.9	26.4	22.1	21.7
N45	316816	100934	Kerbside	100.0	100.0	100.0	100.0	36.5	34.7	33.1	26.4	26.5
N46	316796	100856	Kerbside	100.0	100.0	100.0	100.0	45.8	42.7	41.5	33.3	35.2
DEFRA AURN SITE - HONITON, DOVE CLOSE												
N62a,b,c	315745	99875	Urban Background	100.0	100.0	100.0	100.0	8.8	9.4	8.1	6.6	7.0
Wilmington												
N71	321135	99875	Kerbside	100.0	100.0	100.0	100.0	41.5	40.9	38.6	27.9	29.8
N85	321401	99949	Roadside	100.0	100.0	100.0	100.0	-	-	-	22.1	23.0
N86	320914	99950	Roadside	100.0	100.0	100.0	100.0	-	-	-	20.5	22.0

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16

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

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

Exceedances of the NO₂ annual mean objective of 40 $\mu\text{g}/\text{m}^3$ are shown in **bold**.

All means have been “annualised” as per LAQM.TG16 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 NO₂ Concentrations - Exmouth, Exton, Lypstone

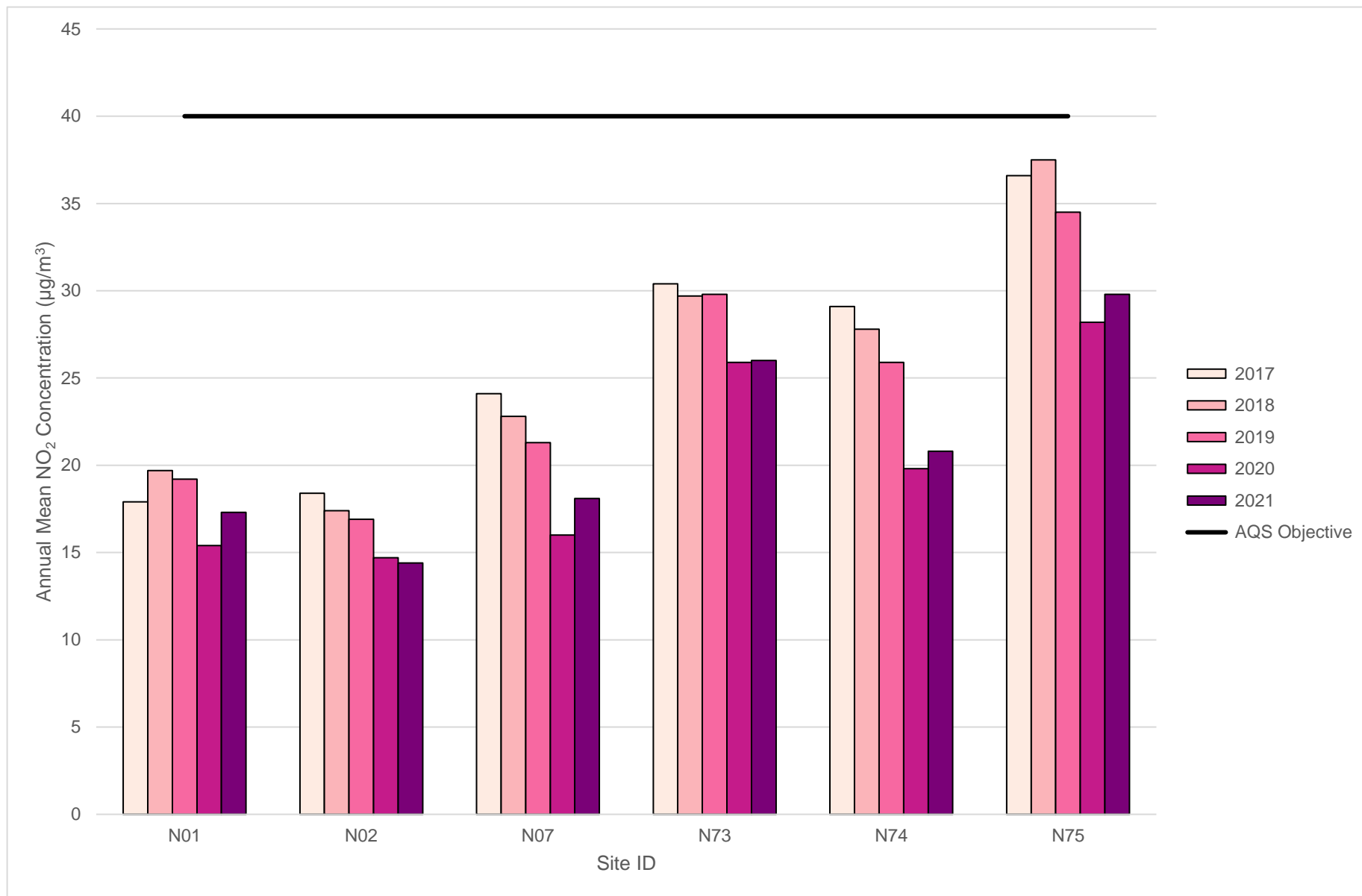


Figure A.2 – Trends in Annual Mean NO₂ Concentrations - Newton Pop, Sidmouth, Sidford

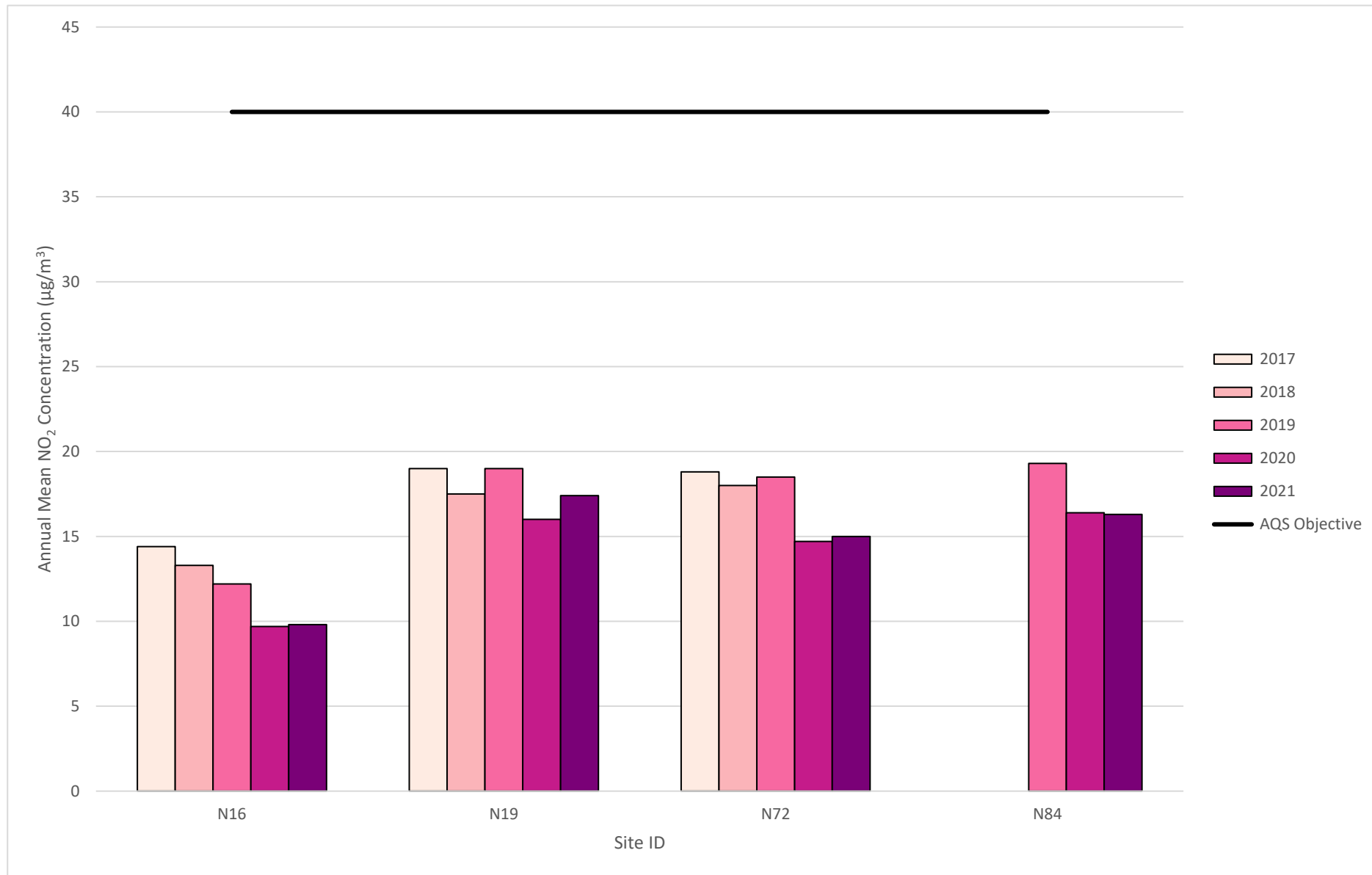


Figure A.3 – Trends in Annual Mean NO₂ Concentrations - Clyst St George

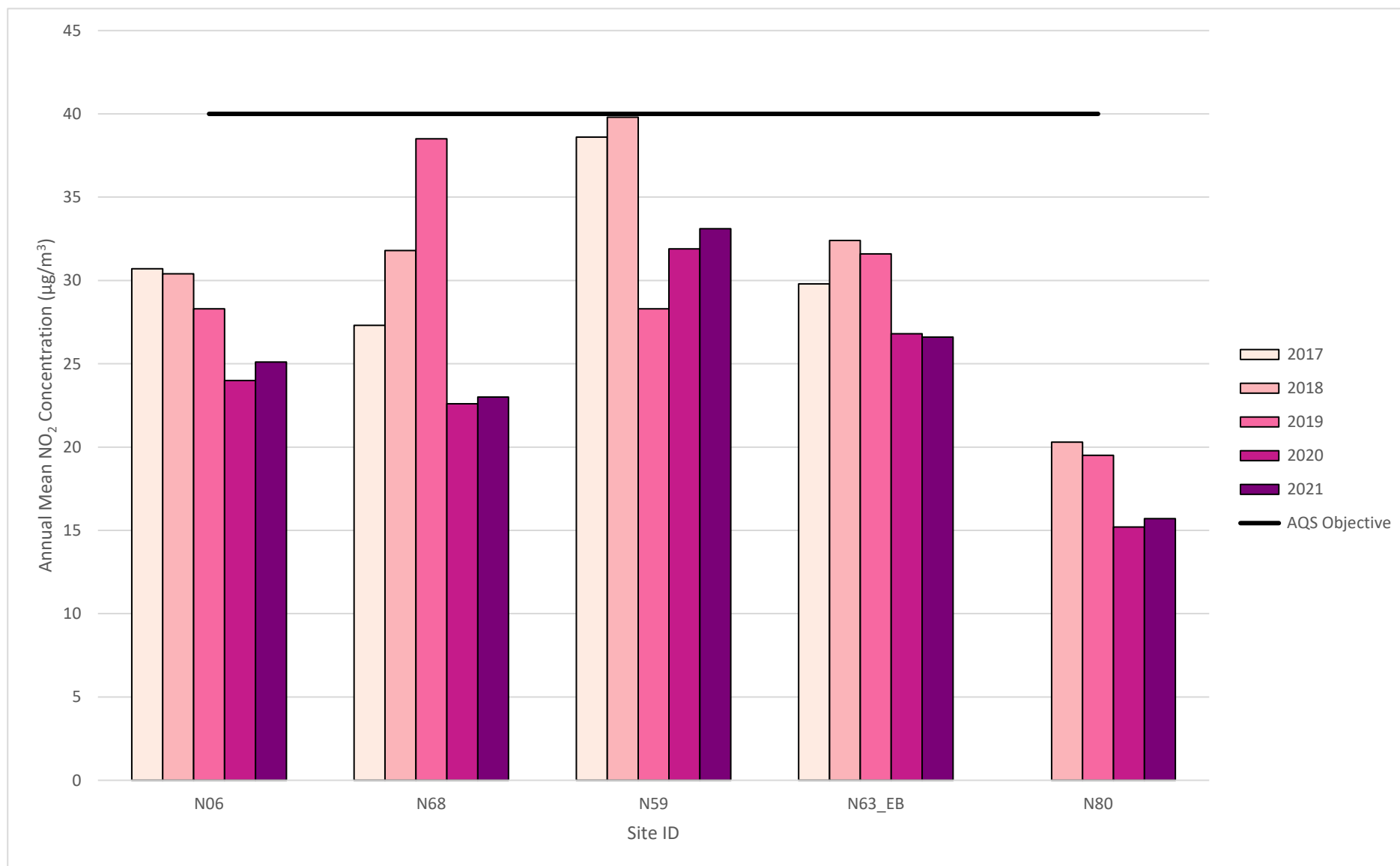


Figure A.4 – Trends in Annual Mean NO₂ Concentrations - East of Exeter - Beare, Broadclyst

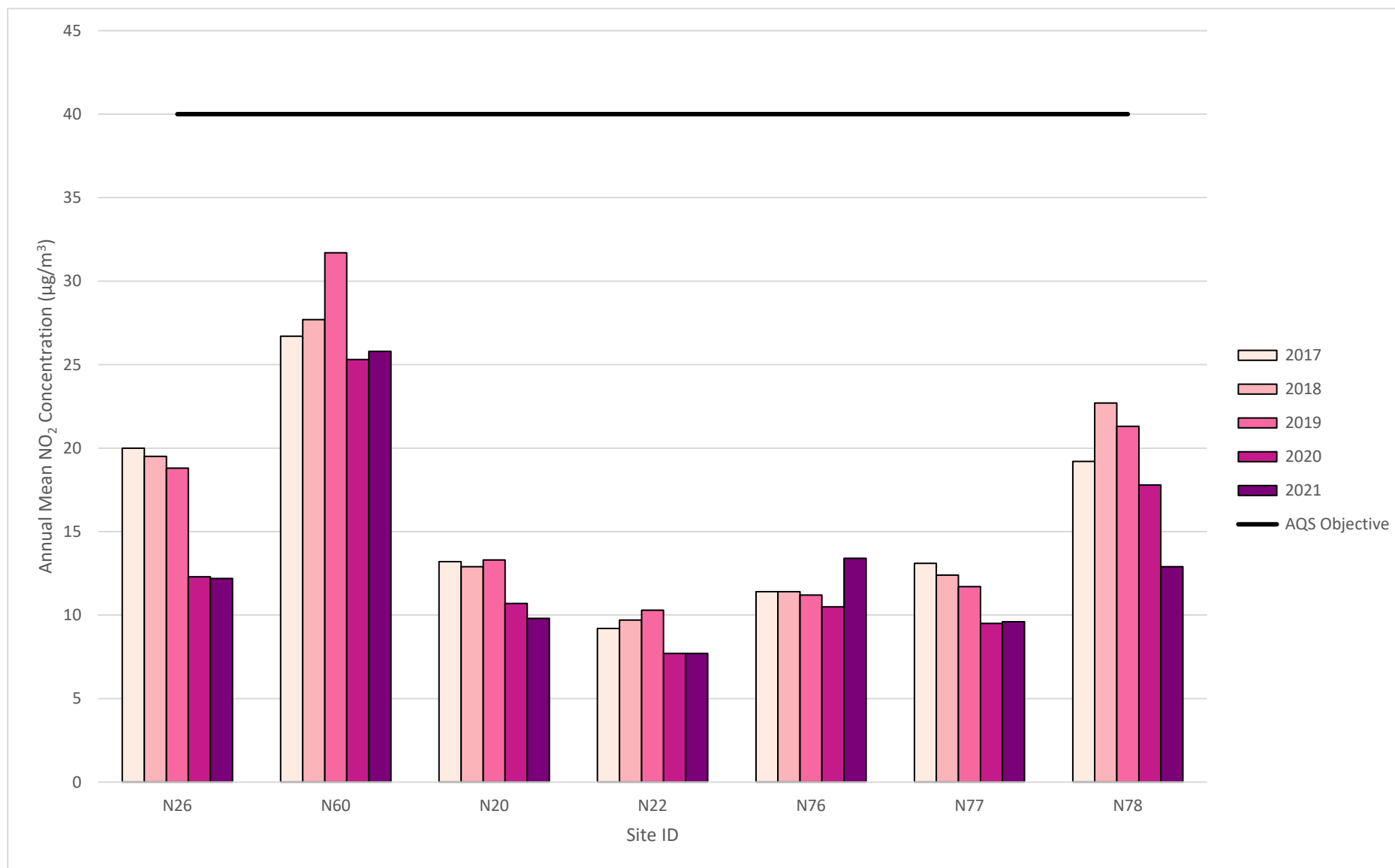


Figure A.5 – Trends in Annual Mean NO₂ Concentrations - Clyst St Mary, Farringdon

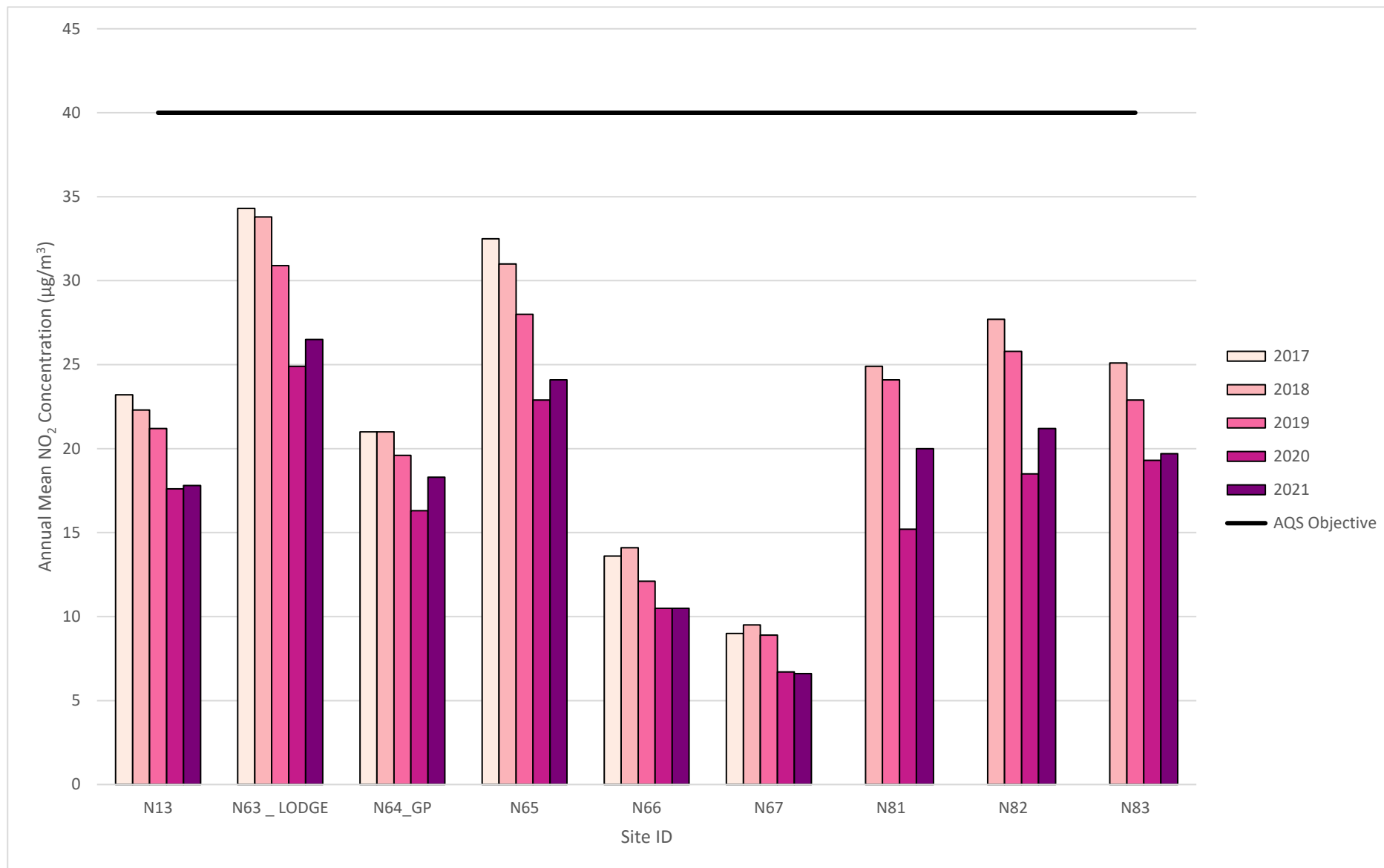


Figure A.6 – Trends in Annual Mean NO₂ Concentrations - Axminster

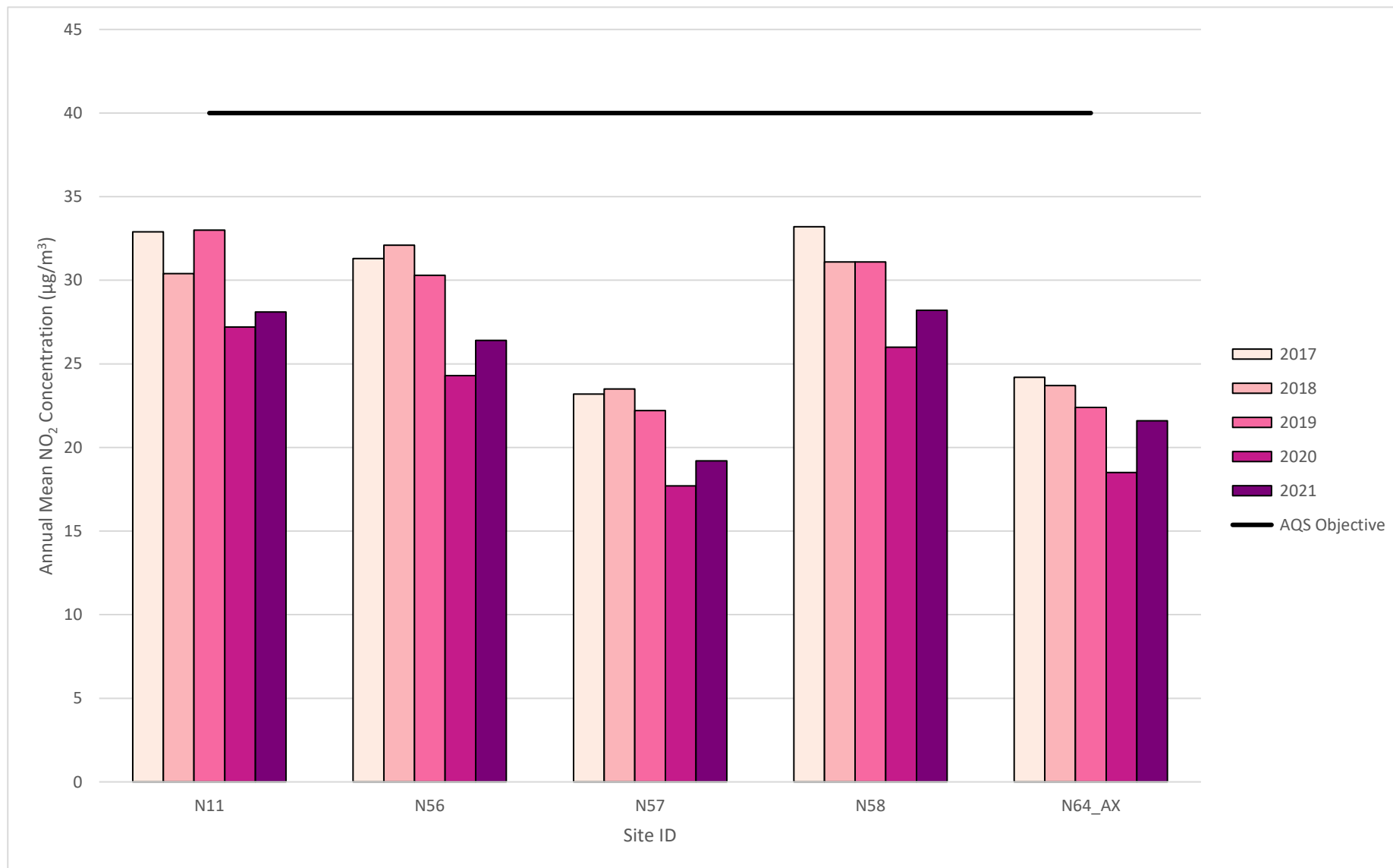


Figure A.7 – Trends in Annual Mean NO₂ Concentrations - Ottery, Seaton

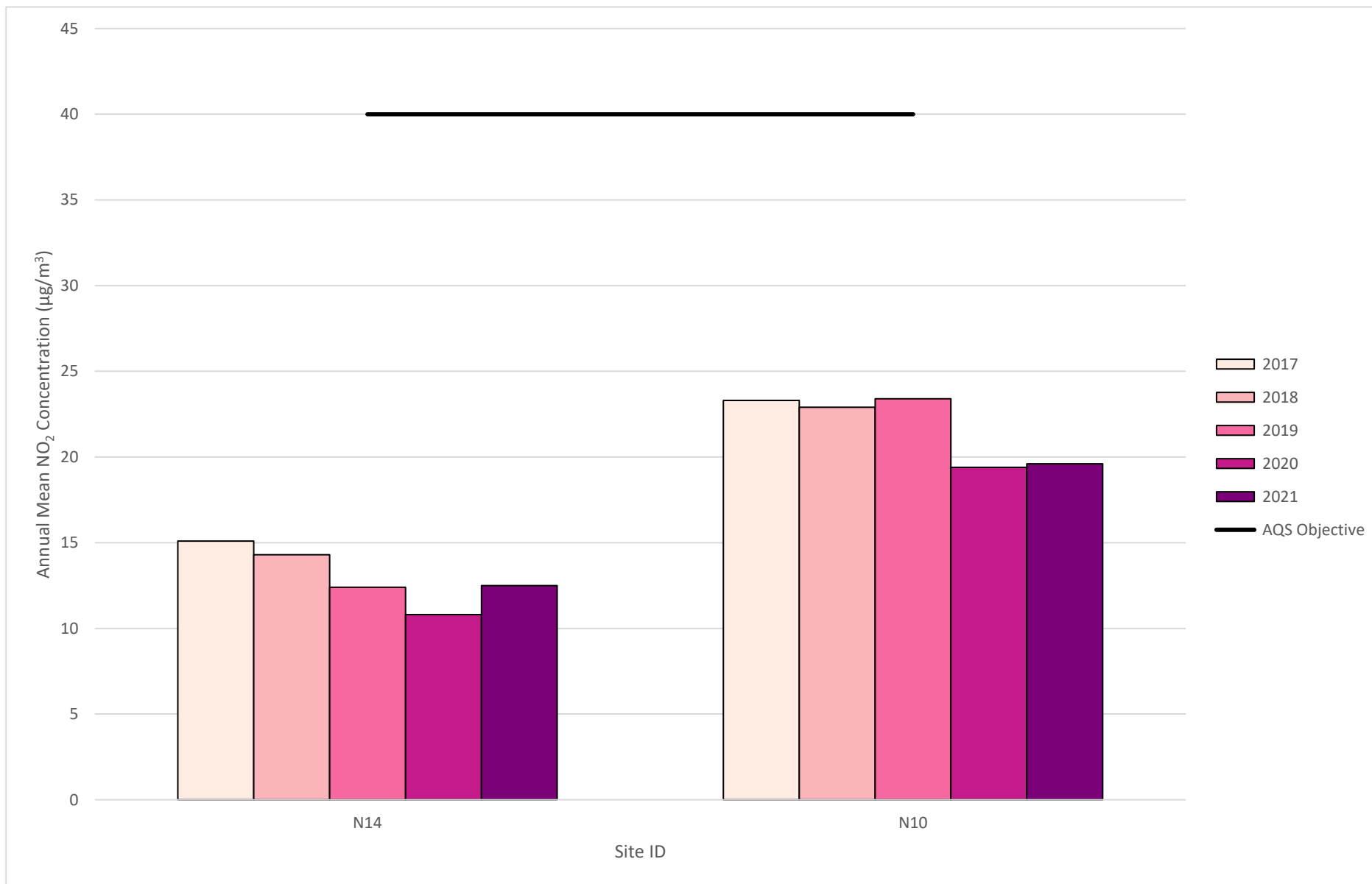


Figure A.8 – Trends in Annual Mean NO₂ Concentrations - Honiton - West (Near Turks Head Junction)

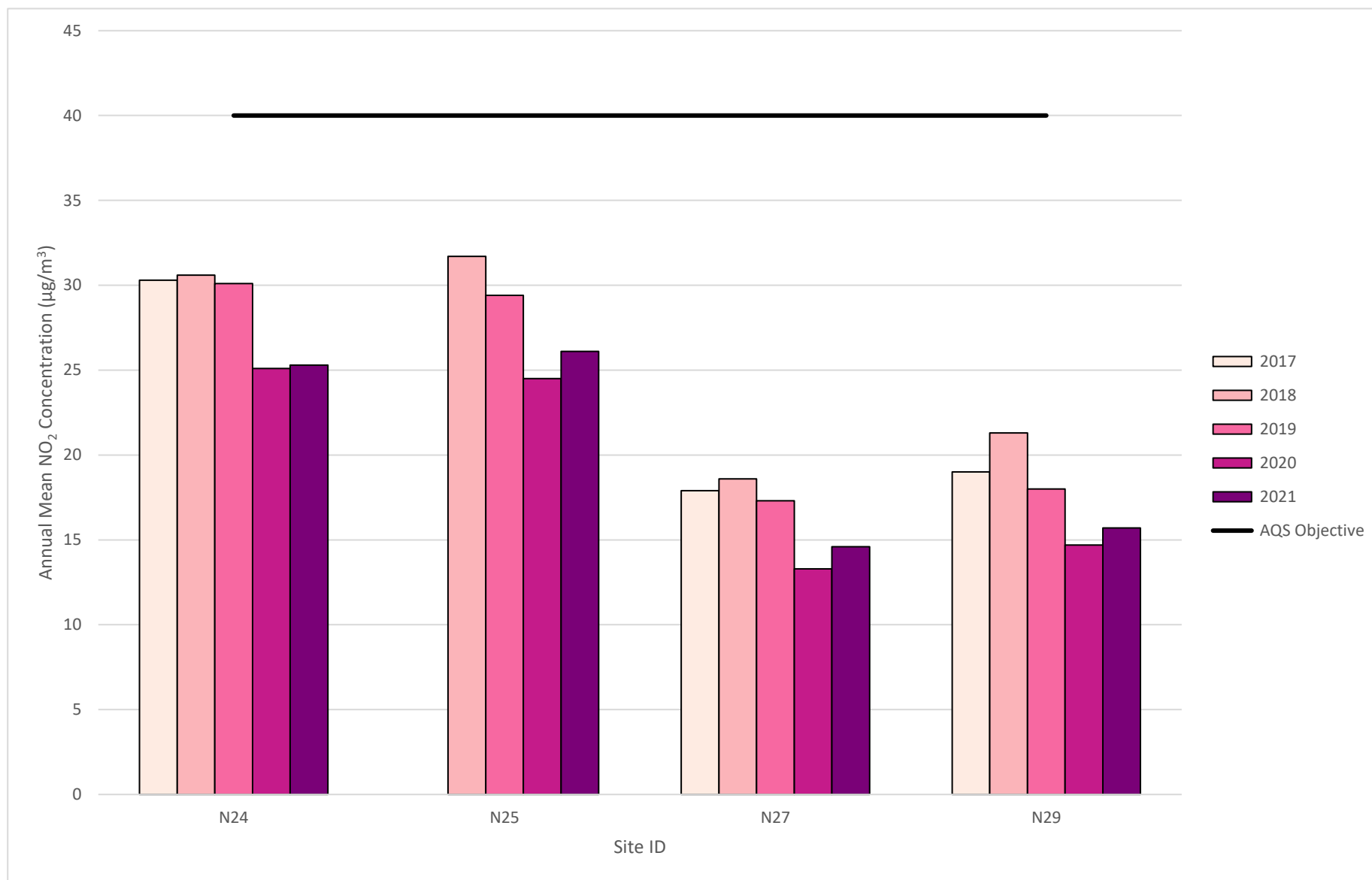


Figure A.9 – Trends in Annual Mean NO₂ Concentrations - Honiton - CENTRAL & EAST HONITON (High Street

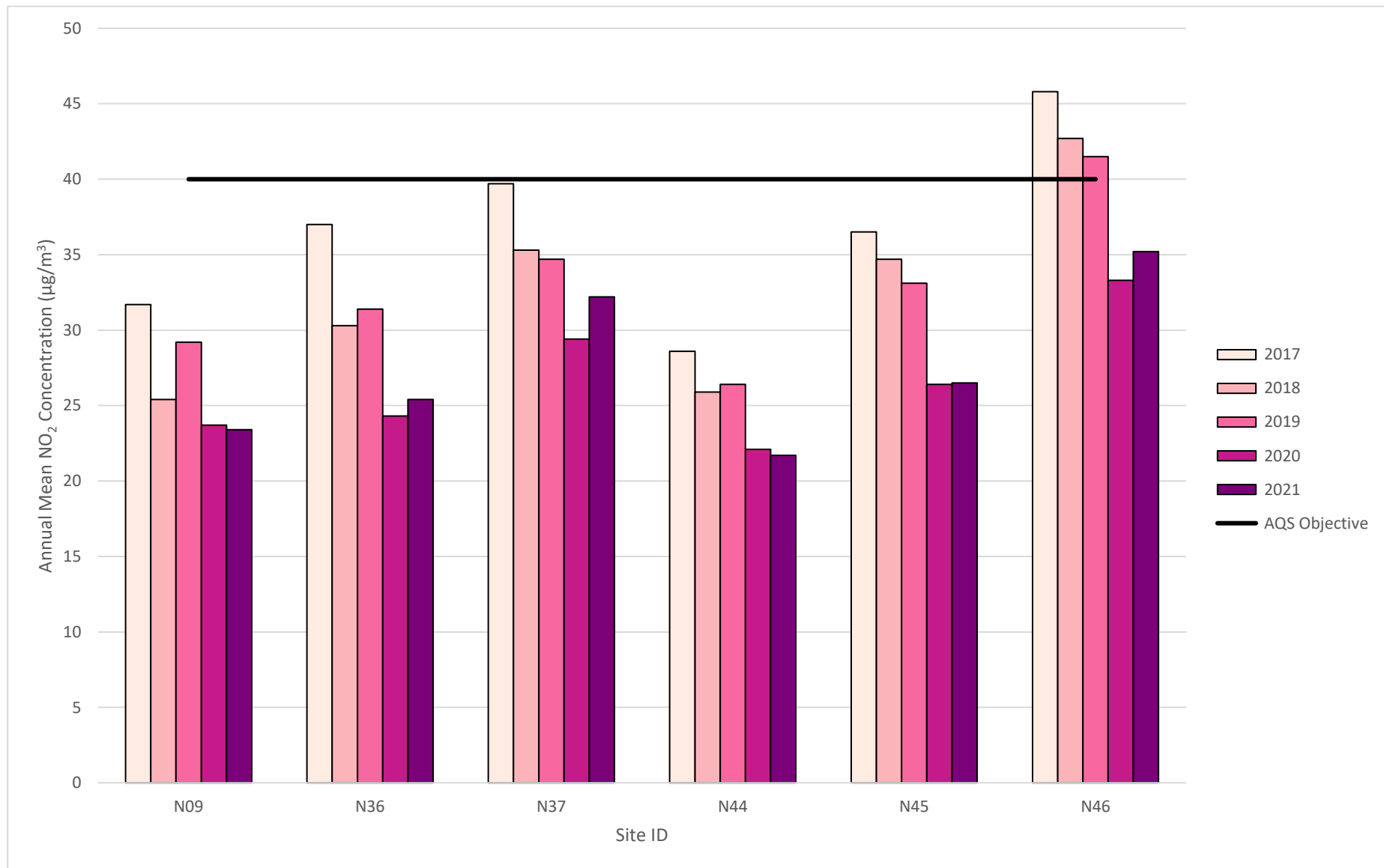


Figure A.10 – Trends in Annual Mean NO₂ Concentrations - DEFRA AURN SITE – HONITON, DOVE CLOSE

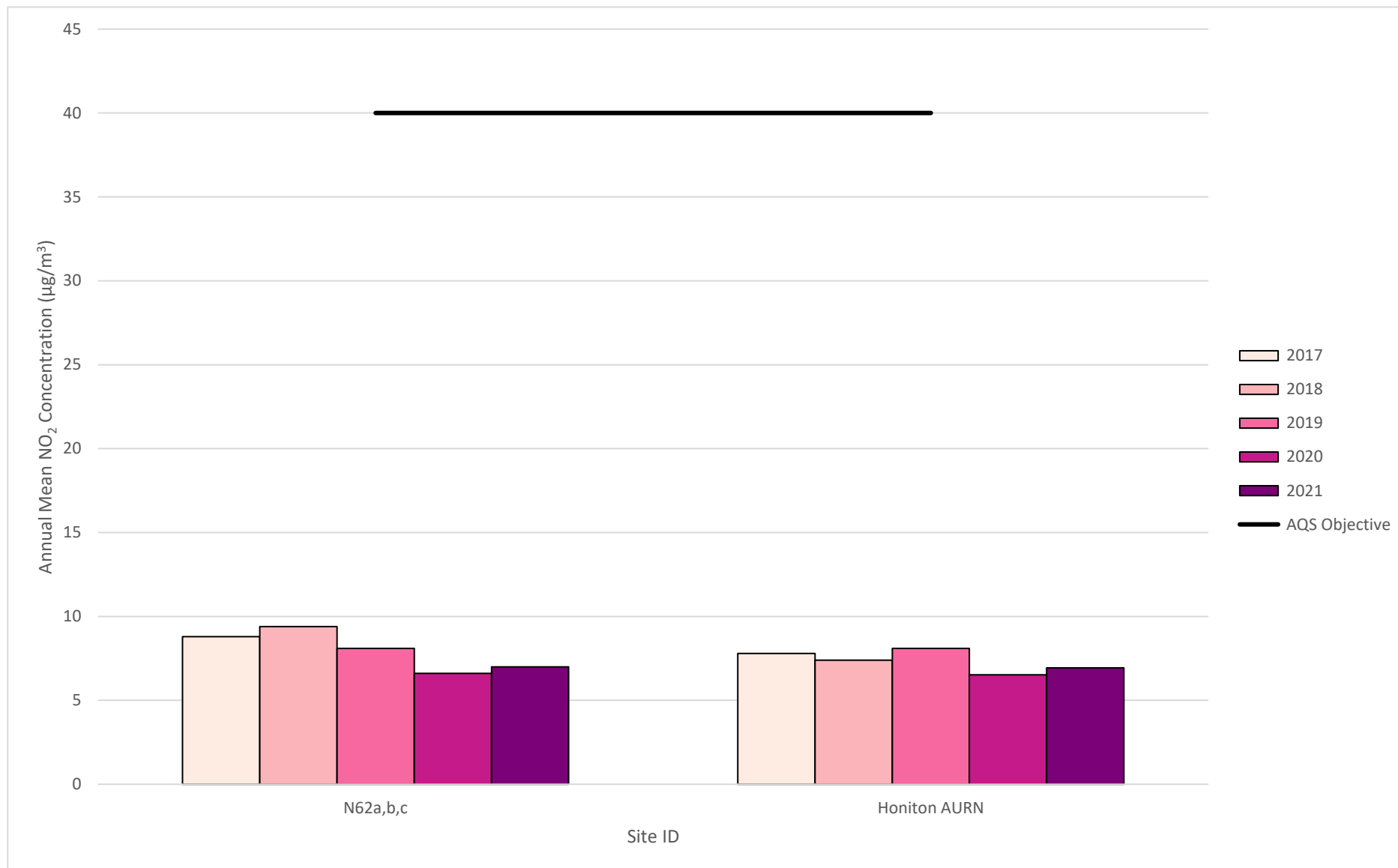


Figure A.11 – Trends in Annual Mean NO₂ Concentrations - Wilmington

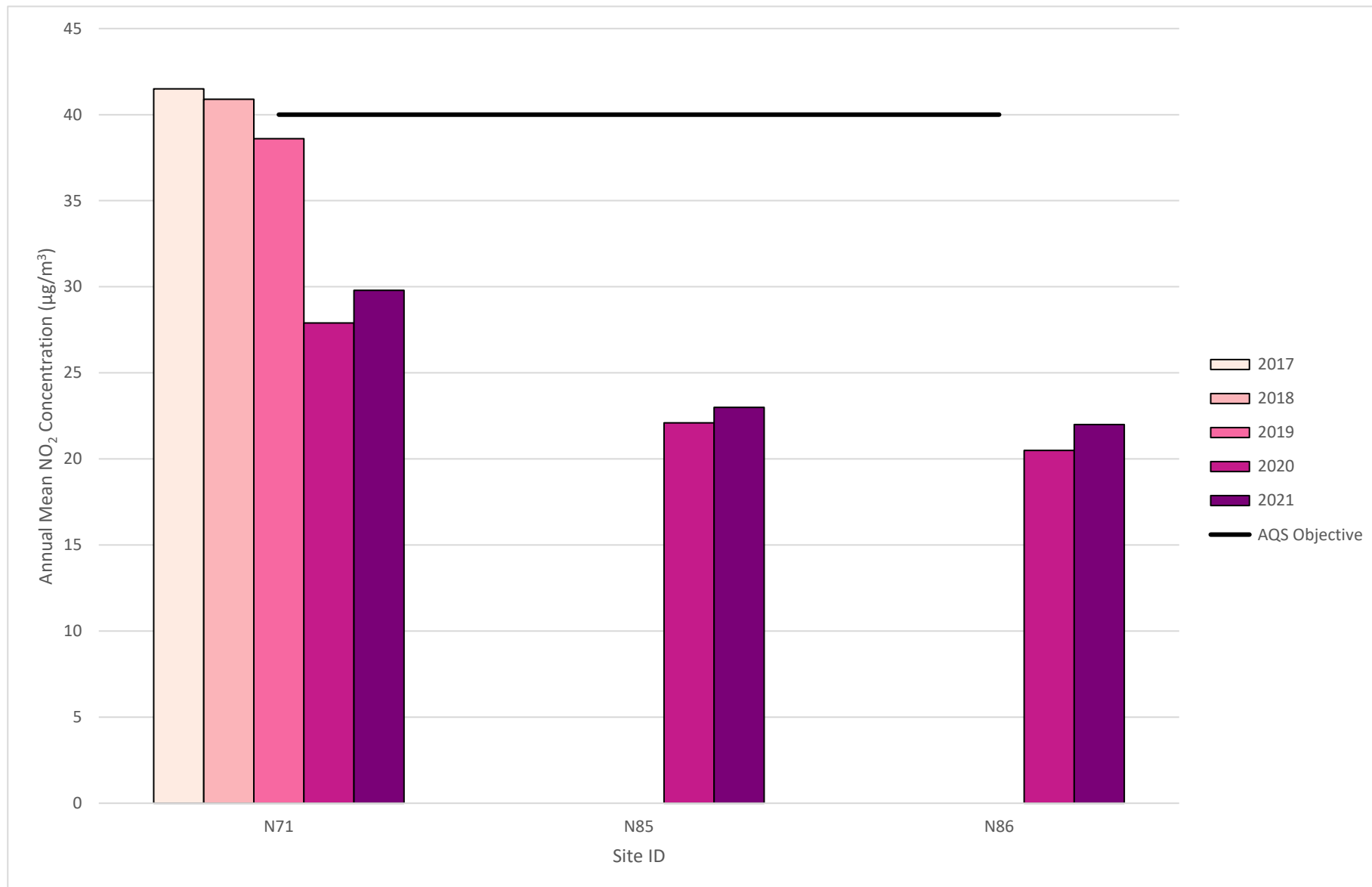


Table A.4 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2020 (%) ⁽²⁾	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
Honiton AURN (Dove Close)	315749	99874	Urban Background	96.44	96.44	98.33	98.33	0	0	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m³ have been recorded.

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ 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%).

Appendix B: Full Monthly Diffusion Tube Results for 2020 and 2021

Table B.1 – NO₂ 2020 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
Exmouth, Exton, Lypstone																		
N01	300267	81193	25.7	18.2	16.6	6.1	12.8	15.5	14.5	19.2	21.4	21.6	21.4	27.5	18.4	15.4	-	
N02	302163	81724	25.0	21.0	14.9	11.9	10.8	16.9	12.7	16.1	18.6	19.4	20.5	22.4	17.5	14.7		
N07	300087	80955	26.2	17.9	14.9	16.6	14.7	12.3	16.9	20.9	23.6	19.6	20.9	23.8	19.0	16.0		
N73	300294	83265	37.8	31.7	25.4	22.0	23.4	29.9	28.4	34.2	34.5	33.1	32.5	37.1	30.8	25.9		
N74	299931	84157	29.2	25.6	18.7	14.6	17.6	23.1	21.3	26.4	26.5	26.2	25.6	28.2	23.6	19.8		
N75	298425	86472	35.8	34.5	26.8	22.9	28.7	33.2	33.8	38.3	39.3	37.2	33.8	38.7	33.6	28.2		
Newton Pop, Sidford, Sidmouth																		
N16	312665	87432	16.3	11.2	10.2	9.7	7.2	8.9	9.3	10.9	11.8	12.1	15.1	16.5	11.6	9.7		
N19	313403	90074	26.1	22.5	15.6	13.4	13.0	16.1	14.6	19.0	19.9	22.8	22.9	22.3	19.0	16.0		
N72	308004	89533	24.9	20.8	15.3	12.5	11.4	15.6	13.6	16.4	18.6	20.9	21.3	18.2	17.5	14.7		
N84	308632	89742	26.9	24.3	16.8	12.8	12.2	16.3	15.3	20.1	21.2	23.9	21.2	23.8	19.6	16.4		
Clyst St George																		
N06	298062	88425	37.6	28.5	20.1	19.6	21.3	23.4	26.2	32.3	38.7	30.3	28.9	36.1	28.6	24.0		
N59	298083	88337	47.4	35.0	28.0	24.0	30.6	38.8	36.7	47.3	41.4	42.2	39.7	44.6	38.0	31.9		
N68	298079	88521	34.7	27.5	22.2	20.4	24.1	23.1	25.9	32.0	30.5	28.0	25.3	29.1	26.9	22.6		
N63_EB	298088	88161	41.2	39.6	31.8	24.6	22.7	23.0	22.6	28.8	30.6	34.8	40.0	42.7	31.9	26.8		
N80	297941	89437	26.2	19.5	14.0	11.7	11.6	15.8	12.9	19.3	18.4	20.1	21.7	25.2	18.0	15.2		
East of Exeter - Beare, Broadclyst																		
N26	299102	93198	24.5	17.1	13.1	11.4	7.9	11.1	9.2	13.2	15.0	16.4	17.4	19.1	14.6	12.3		
N60	297029	93140	40.7	35.9	26.2	19.1	22.1	22.2	26.1	32.7	36.6	34.2	32.3	34.0	30.2	25.3		
N20	300345	94860	17.8	13.2	10.6	10.2	8.2	10.5	8.7	11.7	12.8	14.4	17.0	17.6	12.7	10.7		
N22	301876	95558	14.9	10.8	7.7	7.6	5.4	7.2	5.8	7.7	8.3	10.9	13.1	10.5	9.1	7.7		
N76	300283	95200	17.8	18.2	9.4	9.1	6.1	9.3	7.8	11.2	12.5	14.4	17.7	16.2	12.5	10.5		
N77	301228	95665	18.3		9.7	9.9	4.6	8.5	7.1	9.7	11.4	14.9	16.1	14.2	11.3	9.5		
N78	299763	102177	33.0	26.8	26.9	15.4	11.7	12.8	12.5	16.6	20.6	24.5	27.4	26.5	21.2	17.8		
Clyst St Mary, Farringdon																		
N13	297314	91056	28.0	23.9	16.8	15.3	14.0	17.5	16.2	21.3	20.2	24.5	26.0	27.5	20.9	17.6		
N63_LO DGE	297633	90927	39.3	39.4	28.6	23.9	23.0	22.6	23.0	29.1	31.6	34.3	30.1	30.9	29.6	24.9		
N64_GP	300259	90712	22.6	17.0	18.2	18.9	17.4	17.7	16.6	22.8	23.2	21.7	18.1	18.8	19.4	16.3		
N65	300735	90555	32.4	24.1	21.7	22.2	25.3	28.9	25.9	30.3	33.4	28.6	29.3	25.3	27.3	22.9		
N66	302491	90461	16.3	12.0	11.3	10.3	10.2	9.2	9.6	13.5	15.0	15.4	14.7	12.4	12.5	10.5		
N67	302420	90750	11.2	7.7	7.3	8.0		6.8	5.1	6.7	8.4	8.6	9.4	9.3	8.0	6.7		
N81	297327	90998	33.6	29.4	19.0	14.9	15.2	19.3	16.9	11.6		25.2	27.5	30.3	22.1	18.5		
N82	298923	90859	32.5	30.4	19.0	19.3	16.4	18.6	18.9	21.8	19.9	24.5	27.0	27.5	23.0	19.3		

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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
N83	299997	90722	29.1	21.5	20.8	22.1	16.9	23.9	16.7	25.0	21.9	25.9	24.3	23.8	22.7	19.0		
Axminster																		
N11	329584	98464	43.2	33.9	29.8	24.0	25.2	29.0	28.8	33.6	35.1	33.3	36.1	36.0	32.3	27.2		
N56	329680	98550	38.0	35.0	25.9	19.7	23.6	23.8	27.1	29.3	32.4	33.1	31.6	27.9	28.9	24.3		
N57	329765	98554	27.1	24.7	19.0	15.0	15.3	18.4	17.4	19.9	23.6	24.2	23.3	25.4	21.1	17.7		
N58	329789	98613	35.9	30.9	29.7	26.5	26.5	24.8	28.8	31.2	35.4	37.3	29.4	35.3	31.0	26.0		
N64_AX	329743	98589		19.5	21.2	19.4	18.5	16.2	18.0	21.7	28.6	25.5	27.5	26.7	22.1	18.5		
Ottery, Seaton																		
N10	309882	95449	31.4	24.5	19.4	16.3	16.1	21.6	19.2	24.0	24.7	26.1	26.4	27.3	23.1	19.4		
N14	324479	89930	16.5	10.9	10.6	11.0	7.3	9.1	10.0		13.7		19.2	20.6	12.9	10.8		
Honiton - CENTRAL & EAST HONITON (High Street)																		
N09	316062	100596	37.0	36.9	25.2	16.5	21.0	23.8	26.2	27.9	30.1	32.0	29.3	32.8	28.2	23.7		
N36	316012	100653	40.8	37.2	25.0	14.7	17.9	23.1	26.3	32.2	35.0	31.2	31.1	32.4	28.9	24.3		
N37	316102	100607		39.9	31.8	22.8	24.9	28.5	34.1	37.0	46.6	41.5	37.9	40.5	35.0	29.4		
N44	316629	100837	35.3	35.6	25.0		17.1	17.9	21.6	25.5	25.1	31.4	25.0	29.7	26.3	22.1		
N45	316816	100934	41.5	38.6	26.6	19.4	22.3	26.0	23.5	34.5	34.9	36.2	39.2	34.5	31.4	26.4		
N46	316796	100856	49.8	47.5	34.9	20.0	28.7	36.1	41.6	43.5	47.0	44.7	38.2	43.6	39.6	33.3		
Honiton - West (Near Turks Head Junction)																		
N24	315097	100182	39.5	32.8	26.1	23.7	21.6	27.6	24.9	30.8	31.3	33.6	32.3	34.0	29.8	25.1		
N25	315087	100165	39.6	36.7	24.4	17.9	22.2	24.1	26.9	28.5	35.9	34.5	27.4	32.2	29.2	24.5		
N27	314875	100097	20.6	18.7	14.6	11.7	10.7	12.8	12.5	16.3	18.0	19.4	16.3	18.5	15.8	13.3		
N29	315114	100201	23.6	18.4	15.1	13.9	12.6	14.1	14.1	16.7	19.6	20.4	20.1	22.0	17.6	14.7		
DEFRA AURN SITE - HONITON, DOVE CLOSE																		
N62a	315745	99875	10.7	7.7	8.0	6.9	4.7	5.8	5.7	7.2	9.5	8.7	11.1	10.1	8.0	6.7		
N62b	315745	99875	10.9	7.3	7.8	6.4	4.8	5.7	6.0	6.5	8.7	9.3	9.2	10.9	7.8	6.5		
N62c	315745	99875	10.9	6.8	7.4	6.3	4.5	5.5	5.5	6.8	8.9	10.3	10.7	10.5	7.8	6.6		
Wilmington																		
N71	321135	99875	43.0	38.1	26.2	20.9	24.2	29.3	33.0	39.5	36.7	36.2	35.3	36.2	33.2	27.9		
N85	321401	99949	33.9	30.0	21.8	17.2	18.1	23.2	24.3	30.0	29.5	32.0	24.7	30.5	26.3	22.1		
N86	320914	99950	29.8	27.4	19.0	15.8	17.7	20.2	23.7	27.6	30.2	28.2	26.0	27.4	24.4	20.5		

Key: **TUBE MISSING** **SITE UNACCESSIBLE** **ERRONEOUS DATA**

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16
- Local bias adjustment factor used
- National bias adjustment factor used
- Where applicable, data has been distance corrected for relevant exposure in the final column
- East Devon District Council confirm that all 2020 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined>**.

See Appendix C for details on bias adjustment and annualisation.

Table B.2 – NO₂ 2021 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
Exmouth, Exton, Lypstone																		
N01	300267	81193	23.8	22.1	17.7	21.7	19.8	17.6	18.9	17.0	18.8	23.2	26.5	19.5	20.5	17.3	-	
N02	302163	81724	20.4	15.9	18.3	16.3	14.9	14.7	14.7	14.2	15.3	20.1	25.9	15.8	17.2	14.4		
N07	300087	80955	20.2	23.7	17.0	21.3	24.0	22.8	22.7	20.8	21.0	23.5	22.7	19.3	21.6	18.1		
N73	300294	83265	33.0	27.6	17.0	36.1	30.8	28.6	32.9	21.0	27.5	37.0	40.4	25.3	30.9	26.0		
N74	299931	84157	23.0	24.8	20.0	24.4	24.6	24.5	26.9	23.0	28.6	30.2	30.2	23.0	24.8	20.8		
N75	298425	86472	28.7	30.0	32.6	42.7	36.4	38.1	34.2	30.3	42.2	42.5	32.5	35.5	29.8			
Newton Pop, Sidford, Sidmouth																		
N16	312665	87432	14.4	14.3	11.7	11.7	11.6	10.8	9.9	9.6	10.7	12.0	16.9	6.0	11.6	9.8		
N19	313403	90074	20.3	19.9	18.0	18.4	17.7	17.8	18.5	18.5	41.0	41.0	17.6	20.8	17.4			
N72	308004	89533	17.2	19.0	16.6	17.3	15.9	13.9	16.3	17.0	17.7	23.0	21.8	18.0	17.8	15.0		
N84	308632	89742	14.9	19.4	17.8	19.6	19.8	18.5	18.8	19.8	21.7	24.6	19.2	19.5	16.3			
Clyst St George																		
N06	298062	88425	26.7	24.8	25.4	33.6	25.8	30.3	27.2	26.0	32.1	36.2	43.1	27.3	29.9	25.1		
N59	298083	88337	34.9	29.5	31.4	41.4	39.6	41.1	41.9	38.2	43.5	48.6	49.1	34.0	39.4	33.1		
N68	298079	88521	22.2	26.6	22.0	31.8	27.7	26.3	29.7	28.8	31.2	28.2	30.2	24.1	27.4	23.0		
N63_EB	298088	88161	34.3	32.2	31.1	33.9	32.7	25.6	25.4	27.8	32.3	35.6	40.5	29.3	31.7	26.6		
N80	297941	89437	21.1	18.7	16.2	16.9	17.2	15.8	17.7	15.5	18.7	22.7	25.4	18.0	18.7	15.7		
East of Exeter - Beare, Broadclyst																		
N26	299102	93198	15.6	14.2	12.5	14.0	13.1	10.7	12.7	12.6	13.3	19.7	18.3	17.6	14.5	12.2		
N60	297029	93140	25.1	30.0	28.0	33.3	27.2	29.7	25.7	29.7	31.8	35.8	40.8	32.3	30.8	25.8		
N20	300345	94860	13.4	14.5	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	15.3	15.1	14.0	9.8	Site was inaccessible for 7 months
N22	301876	95558	11.0	11.6	9.1	9.6	7.1	6.5	6.7	7.2	8.1	11.5	12.4	8.9	9.1	7.7		
N76	300283	95200	14.3	15.1	13.4	13.4	12.1	38.9	12.0	12.9	11.5	15.7	16.1	12.9	15.9	13.4		
N77	301228	95665	13.9	13.6	9.7	11.7	10.6	8.5	9.1		10.1	13.6	12.8	12.8	11.5	9.6		
N78	299763	102177	16.7	12.9	16.3	12.9	13.8	15.2	13.2	14.8	13.6	18.9	21.3	15.0	15.4	12.9		
Clyst St Mary, Farringdon																		
N13	297314	91056	20.1	20.6	17.4	20.5	20.6	16.3	20.5	18.4	22.5	26.4	26.5	24.0	21.1	17.8		
N63_LO DGE	297633	90927	31.2	25.7	37.7	33.1	29.9	31.3	29.4	27.7	27.8	33.8	41.0	30.5	31.6	26.5		
N64_GP	300259	90712	18.3	19.3	17.9	21.6	20.9	22.2	20.5	22.7	20.2	24.1	37.6	15.9	21.8	18.3		
N65	300735	90555	24.9	23.3	24.3	34.0	29.8	27.4	29.6	30.8	32.5	32.4	27.2	28.1	28.7	24.1		
N66	302491	90461	12.6	12.4	13.7	11.7	11.3	10.9	11.0	11.6	12.6	14.5	18.4	10.1	12.5	10.5		
N67	302420	90750	6.0	8.6	7.8	9.4	7.5	6.3	6.6	7.0	7.2	9.4	11.0	8.1	7.9	6.6		

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 (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
N81	297327	90998	24.7	22.1	19.3	24.7	26.6	18.6	22.2	19.4	24.8	26.7	29.8	26.4	23.8	20.0		
N82	298923	90859	26.1	24.6	24.8	29.7	21.4	18.1	22.7	20.1	27.8	28.9	33.3	25.7	25.3	21.2		
N83	299997	90722	22.7	21.5	18.3	28.1	27.2	19.5	25.7	10.7	25.6	30.1	29.2	23.4	23.5	19.7		
Axminster																		
N11	329584	98464	30.0	31.6	26.4	37.0	30.8	33.0	36.6	32.2	33.1	39.7	40.2	31.1	33.5	28.1		
N56	329680	98550	33.2	27.4	27.3	28.3	27.9	31.2	32.1	30.3	30.1	36.9	41.6	30.3	31.4	26.4		
N57	329765	98554	24.7	22.6	19.6	21.9	22.3	20.4	19.5	20.2	24.8	25.2	29.3	23.3	22.8	19.2		
N58	329789	98613	32.5	31.8	29.1	35.7	31.3	33.7	33.5	33.6	32.2	35.7	43.2	31.2	33.6	28.2		
N64 AX	329743	98589	27.5	29.8	22.1	29.0	21.1	24.3	23.3	25.8	23.3	27.9	32.1	22.3	25.7	21.6		
Ottery, Seaton																		
N10	309882	95449	23.4	24.4	21.4	26.0	22.0	19.3	21.1	16.8	23.4	26.9	30.6	24.1	23.3	19.6		
N14	324479	89930	16.0	18.0	16.0	16.0	13.3	12.5	12.2	13.1	12.8	15.9	18.0	14.1	14.8	12.5		
Honiton - CENTRAL & EAST HONITON (High Street)																		
N09	316062	100596	27.4	23.8	24.7	28.5	28.8	26.8	29.0	20.6	26.7	37.0	34.9	25.4	27.8	23.4		
N36	316012	100653	27.2	23.6	24.2	31.7	32.0	29.8	33.1	27.1	36.4	24.1	42.8	30.8	30.2	25.4		
N37	316102	100607	34.7	35.4	34.6	41.3		38.4	37.6	35.0	33.5	46.9	50.4	33.8	38.3	32.2		
N44	316629	100837	23.1	23.0	22.9	28.6		22.1	24.4	23.1	24.2	33.5	35.8	23.2	25.8	21.7		
N45	316816	100934	28.2	29.9	26.8	34.0	33.0	30.6	30.3	19.8	33.1	43.7	38.2	31.0	31.5	26.5		
N46	316796	100856	32.5	32.7	31.2	41.4	42.6	40.0	49.2	44.0	41.3	55.5	50.8	42.1	41.9	35.2		
Honiton - West (Near Turks Head Junction)																		
N24	315097	100182	29.3	33.2	26.7	33.1	30.2	25.0	32.5	29.2	26.0	36.4	33.4	26.5	30.1	25.3		
N25	315087	100165	32.9	26.4	28.0	35.6	23.5	28.9	31.0	27.0	29.5	39.8	43.0	27.3	31.1	26.1		
N27	314875	100097	17.4	17.0	15.1	19.3	14.9	13.9	16.3	16.4	16.9	22.0	23.5	15.6	17.3	14.6		
N29	315114	100201	20.1	18.9	16.0	18.4	16.7	14.5	16.9	17.2	18.1	25.0	23.9	18.4	18.7	15.7		
DEFRA AURN SITE - HONITON, DOVE CLOSE																		
N62 a	315745	99875	11.6	11.1	8.5	7.2	5.7	7.0	6.3	7.1	6.9	9.2	11.9	9.3	8.5	7.1		
N62 b	315745	99875	11.6	10.3	8.4	7.5	6.0	6.7	5.7	7.1	7.5	9.1	11.2	8.3	8.3	7.0		
N62c	315745	99875	11.5	10.4	8.2	7.9	5.7	6.5	6.3	7.4	6.6	9.3	11.3	8.0	8.2	6.9		
Wilmington																		
N71	321135	99875	29.3	31.4	27.4	40.1	36.9	32.8	37.6	36.6	36.5	44.4	37.2	35.7	35.5	29.8		
N85	321401	99949	22.7	22.1	22.2	28.1	27.4	22.3	29.8	24.9	29.4	38.8	34.8	26.6	27.4	23.0		
N86	320914	99950	26.0	20.7	19.9	28.5	24.9	24.0	27.2	25.5	28.4	31.4	33.4	23.7	26.1	22.0		

Key: **TUBE MISSING** **SITE UNACCESSIBLE** **ERRONEOUS DATA**

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16
- Local bias adjustment factor used
- National bias adjustment factor used
- Where applicable, data has been distance corrected for relevant exposure in the final column
- East Devon District Council confirm that all 2021 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 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 East Devon District Council During 2020 and 2021

Although there were no new processes during 2020 and 2021, there have been a few newly introduced sources within EDDC. A new Small Waste Incinerator Plant permit was given to Renewable Assets Ltd. This was an existing permitted process, but the permit has varied to allow for the utilisation of Refuse Derived Feedstocks for generation of electric and heat. The stack height was increased from 15 metres to 21.45 metres. The stack diameter is 1.04 metres. At sensitive receptors, the maximum predicted PM₁₀ concentrations are less than 1% and 10% of the relevant long and short-term AQOs, respectively. Therefore, the impact of PM₁₀ emissions from the installation would be assessed as not significant.

A second incinerator unit for Brooke Energy Ltd was also installed. This has a thermal rated input of 4.95 MW. This has been in operation since 2017, previously burning Grade A B and C wood but now only operates on Grade A 'clean' woodchip and so we are in the process of regularising the permit to a Part B Installation. At sensitive receptor locations, the short-term PM₁₀ concentrations are less than 10% of the air quality objective and are assessed as not significant.

Additional Air Quality Works Undertaken by East Devon District Council During 2020 and 2021

East Devon District Council has not completed any additional works within the reporting year of 2020 and 2021.

QA/QC of Diffusion Tube Monitoring

Gradko International Ltd is a UKAS accredited laboratory and participates in laboratory performance and proficiency testing schemes. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a

high calibre. The laboratory follows the procedures set out in the Harmonisation Practical Guidance and participates in the AIR proficiency-testing (AIR-PT) scheme. Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the AIR-PT scheme. Laboratory performance in the AIR-PT is also assessed by the National Physical Laboratory (NPL), alongside laboratory data from the monthly NPL Field Inter-Comparison Exercise.

The method of preparation of the diffusion tubes within EDDC was 20% TEA in water; for both 2020 and 2021. Throughout both years the diffusion tube calendar was adhered to.

Diffusion Tube Annualisation

Annualisation was undertaken at 1 monitoring location (N20) during 2021. This was due to the fact that the tube was inaccessible for 7 months, as a result less than 75% of data was captured. Yarner Wood and Honiton AURN sites were used to annualise the data for N20 during 2021. Details of the annualisation are shown in Table C.1

Table C.1 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Honiton	Annualisation Factor Yarner Wood	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
N20 (2021)	0.8144	0.8599	0.8371	14.0	11.7	

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2021-2022 ASR have been corrected for bias using a separate adjustment factor for the 2020 and 2021 data. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 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.

East Devon District Council have applied a local factor to the 2020 data and the national bias adjustment factor to the 2021 data. A summary of bias adjustment factors used by East Devon District Council over the past five years is presented in Table C.2.

A different sourced factor for each year was based on the highest out of the national or local bias adjustment factor. In 2020 the national factor was 0.82 and the local 0.84. In 2021 the local factor was 0.83 and the national 0.84. As discussed, there were only minor differences between the national and local factors for both years. Details of the calculated local factor used in 2020 are shown in Table C.3

Figure C-1 – National Bias Adjustment 2021

National Diffusion Tube Bias Adjustment Factor Spreadsheet							Spreadsheet Version Number: 03/22			
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 2022 LAQM Helpdesk Website			
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.							Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.			
Step 1:	Step 2:	Step 3:	Step 4:							
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ¹ shown in blue at the foot of the final column.							
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data	If you have your own co-location study then see footnote ² . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953							
Analysed By ¹	Method ² <small>To do your selection, choose (All) from the pop-up list</small>	Year ³ <small>To do your selection, choose (All)</small>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ⁴	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2021	R	Gedling Borough Council	12	32	26	23.1%	G	0.81
Gradko	20% TEA in water	2021	UB	West Northamptonshire Council	11	14	10	32.1%	G	0.76
Gradko	20% TEA in water	2021	R	Ards and North Down Borough Council	10	30	22	38.4%	G	0.72
Gradko	20% TEA in water	2021	R	Birmingham City Council	10	33	25	35.2%	G	0.74
Gradko	20% TEA in water	2021	R	Cheshire West and Chester	12	34	29	14.1%	G	0.88
Gradko	20% TEA in water	2021	R	Cheshire West and Chester	12	33	29	12.6%	G	0.89
Gradko	20% TEA in water	2021	R	Lisburn & Castlereagh City Council	12	25	19	31.9%	G	0.76
Gradko	20% TEA in water	2021	R	Nottingham City Council	12	32	35	-8.1%	G	1.09
Gradko	20% TEA in water	2021	R	SOUTHAMPTON CITY COUNCIL	12	34	32	5.2%	G	0.95
Gradko	20% TEA in water	2021	R	SOUTHAMPTON CITY COUNCIL	12	34	27	28.6%	G	0.78
Gradko	20% TEA in water	2021	R	Bath & North East Somerset	12	31	27	15.1%	G	0.87
Gradko	20% TEA in water	2021	R	Bedford Borough Council	11	34	31	7.6%	G	0.93
Gradko	20% TEA in water	2021	R	Bedford Borough Council	11	19	17	11.7%	G	0.90
Gradko	20% TEA in water	2021	R	Blackburn with Darwen Borough Council	12	27	20	32.3%	G	0.76
Gradko	20% TEA in water	2021	R	Brent Council	12	51	46	9.9%	G	0.91
Gradko	20% TEA in water	2021	R	Gateshead Council	10	23	19	23.8%	G	0.81
Gradko	20% TEA in water	2021	R	Gateshead Council	12	25	22	13.7%	G	0.88
Gradko	20% TEA in water	2021	R	Gateshead Council	11	27	25	9.8%	G	0.91
Gradko	20% TEA in water	2021	R	Gateshead Council	12	31	25	26.6%	G	0.79
Gradko	20% TEA in water	2021	R	Gateshead Council	12	32	34	-4.1%	G	1.04
Gradko	20% TEA in water	2021	KS	Marplebone Road Intercomparison	11	53	42	25.0%	G	0.80
Gradko	20% TEA in 1/2 water	2021	R	Monmouthshire County Council	11	35	29	21.9%	G	0.82
Gradko	20% TEA in water	2021	R	Belfast City Council	12	25	20	24.3%	G	0.80
Gradko	20% TEA in water	2021	UC	Belfast City Council	12	25	20	28.5%	G	0.78
Gradko	20% TEA in water	2021	R	Belfast City Council	12	42	35	19.8%	G	0.84
Gradko	20% TEA in water	2021	R	Belfast City Council	12	38	27	39.4%	G	0.72
Gradko	20% TEA in water	2021	UB	Dudley MBC	12	20	15	36.0%	G	0.74
Gradko	20% TEA in water	2021	R	Dudley MBC	12	30	29	4.2%	G	0.96
Gradko	20% TEA in water	2021	R	Dudley MBC	12	42	40	5.5%	G	0.95
Gradko	20% TEA in 1/2 water	2021	R	Lambeth	10	91	62	46.6%	G	0.68
Gradko	20% TEA in water	2021	R	Lancaster City Council	13	38	32	18.4%	G	0.84
Gradko	20% TEA in water	2021	R	Lancaster City Council	13	28	27	4.9%	G	0.95
Gradko	20% TEA in water	2021		Overall Factor¹ (32 studies)					Use	0.84

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	04/22	0.84
2020	Local	-	0.84
2019	National	06/18	1.05
2018	National	09/17	1.07
2017	National	06/16	1.08

Table C.3 – Local Bias Adjustment Calculation

Local Bias Calculation (2020)	Local Bias Adjustment Input 1
Periods used to calculate bias	11
Bias Factor A	0.84 (0.74 - 0.97)
Bias Factor B	19% (3% - 34%)
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	7.6
Mean CV (Precision)	5.0%
Automatic Mean ($\mu\text{g}/\text{m}^3$)	6.4
Data Capture	99%
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	6(6 - 7)

Notes:

A single local bias adjustment factor has been used to bias adjust the 2021 diffusion tube results.

NO₂ Fall-off with Distance from the Road

No diffusion tube NO₂ monitoring locations within East Devon District Council required distance correction during 2020 or 2021.

Appendix D: Maps of Monitoring Locations and AQMAs

Figure D.1 – 2020/2021 NO₂ Monitoring Locations - Exmouth, Exton and Lypstone

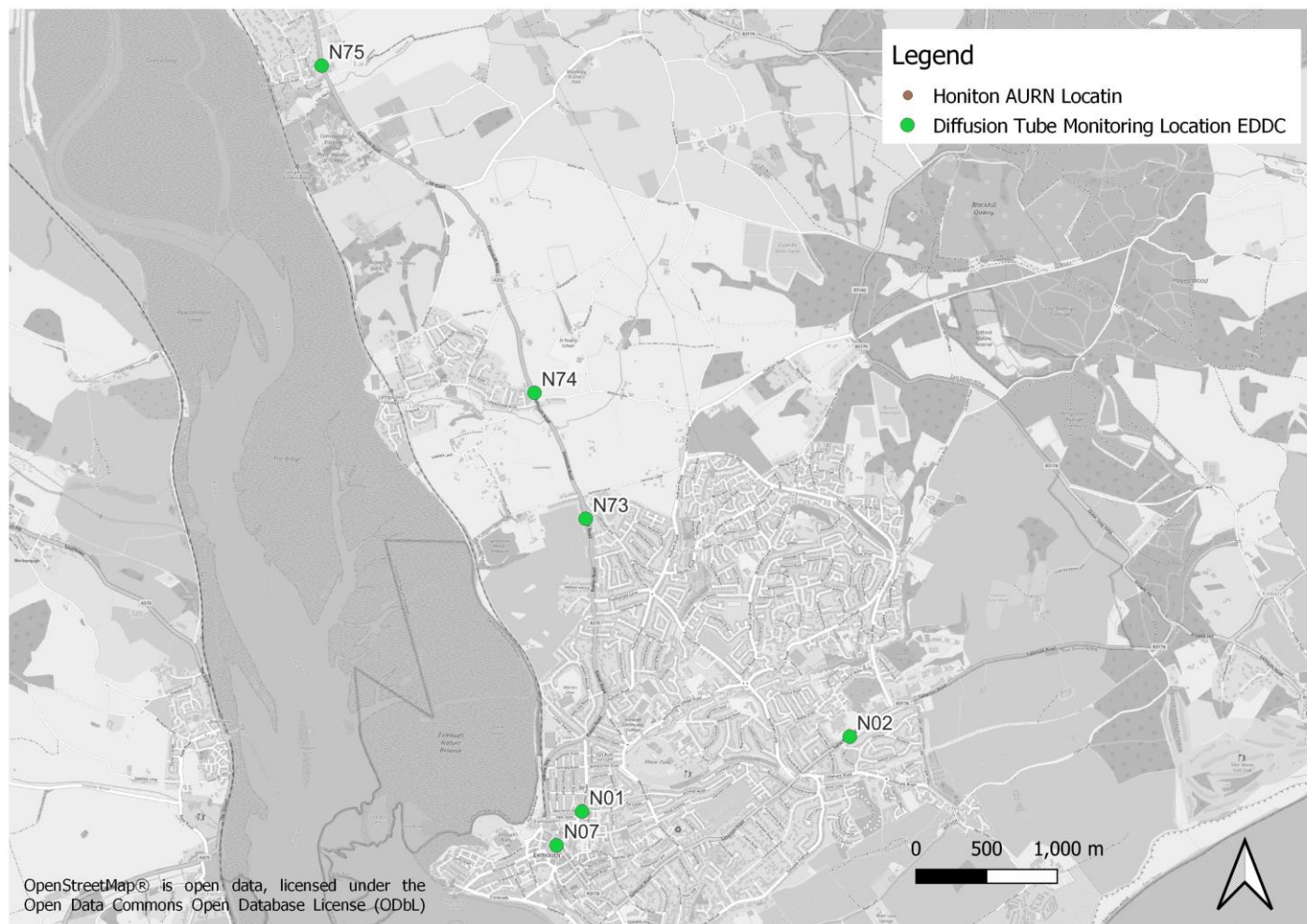


Figure D.2 – 2020/2021 NO₂ Monitoring Locations - Newton Pop, Sidford. Sidmouth

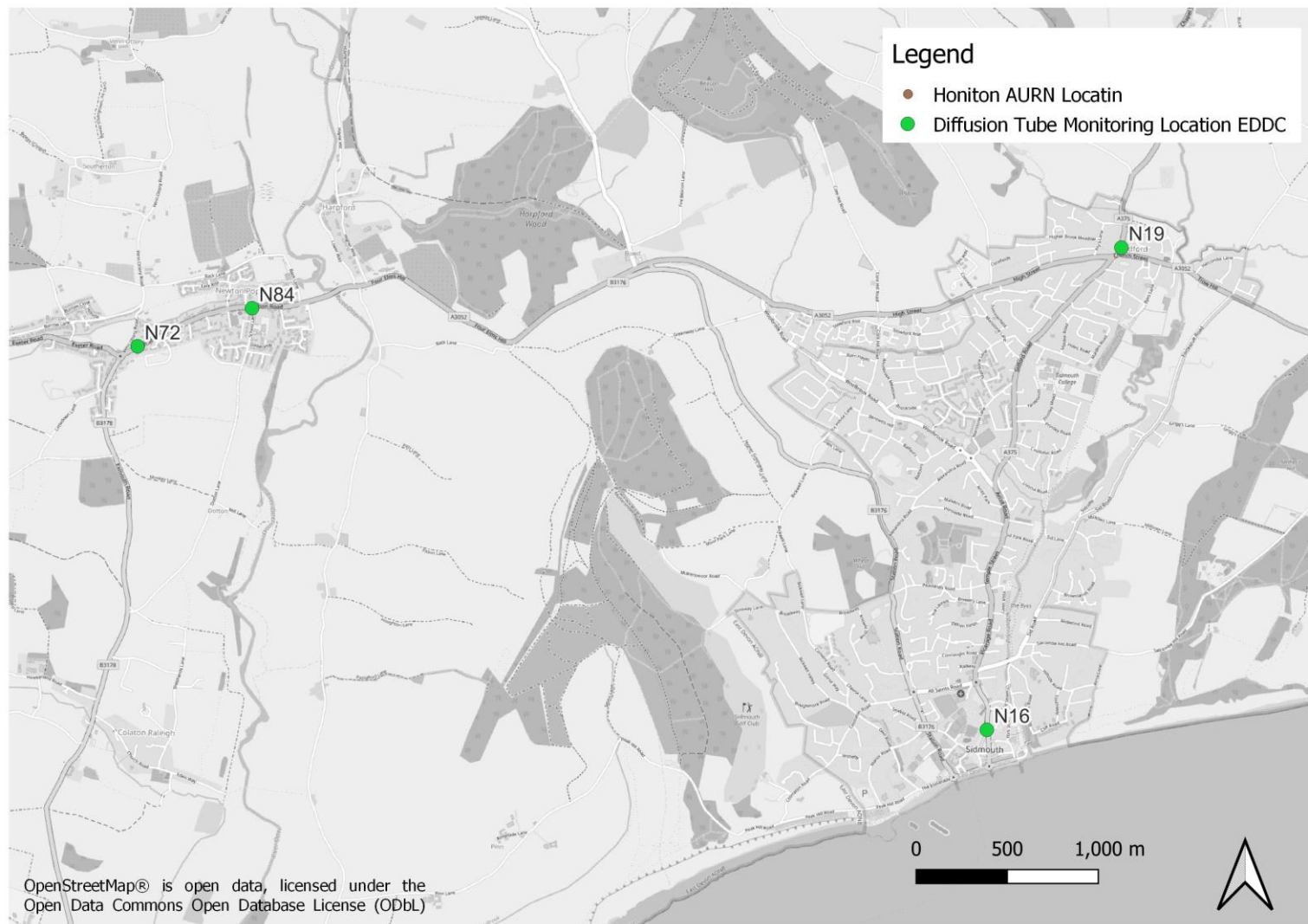


Figure D.3 – 2020/2021 NO₂ Monitoring Locations - Clyst St George



Figure D.4 – 2020/2021 NO₂ Monitoring Locations - East of Exeter, Beare, Broadclyst

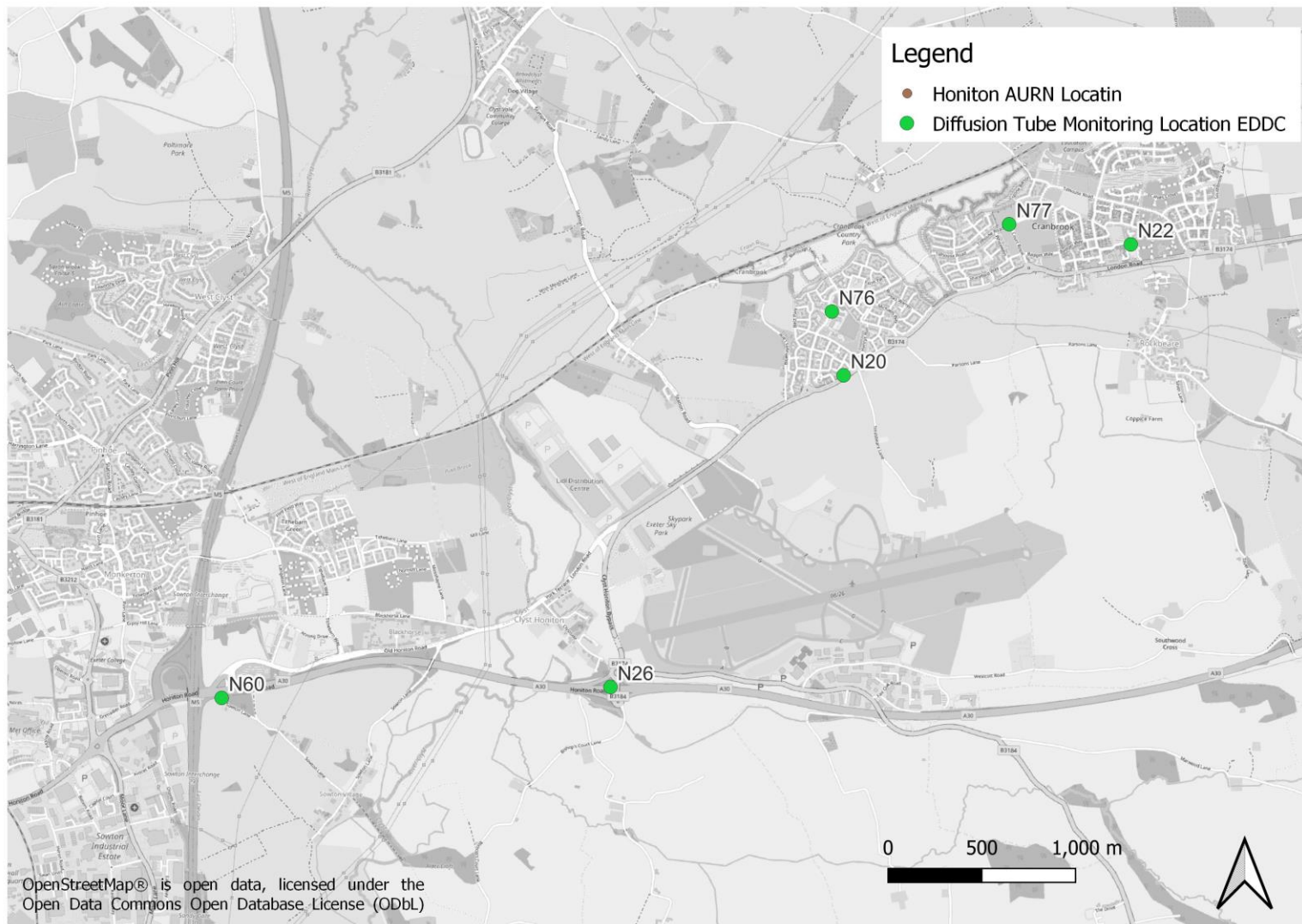


Figure D.5 – 2020/2021 NO₂ Monitoring Locations - Clyst St Mary, Farringdon



Figure D.6 – 2020/2021 NO₂ Monitoring Locations – Axminster



Figure D.7 – 2020/2021 NO₂ Monitoring Locations – Seaton



Figure D.8 – 2020/2021 NO₂ Monitoring Locations – Ottery

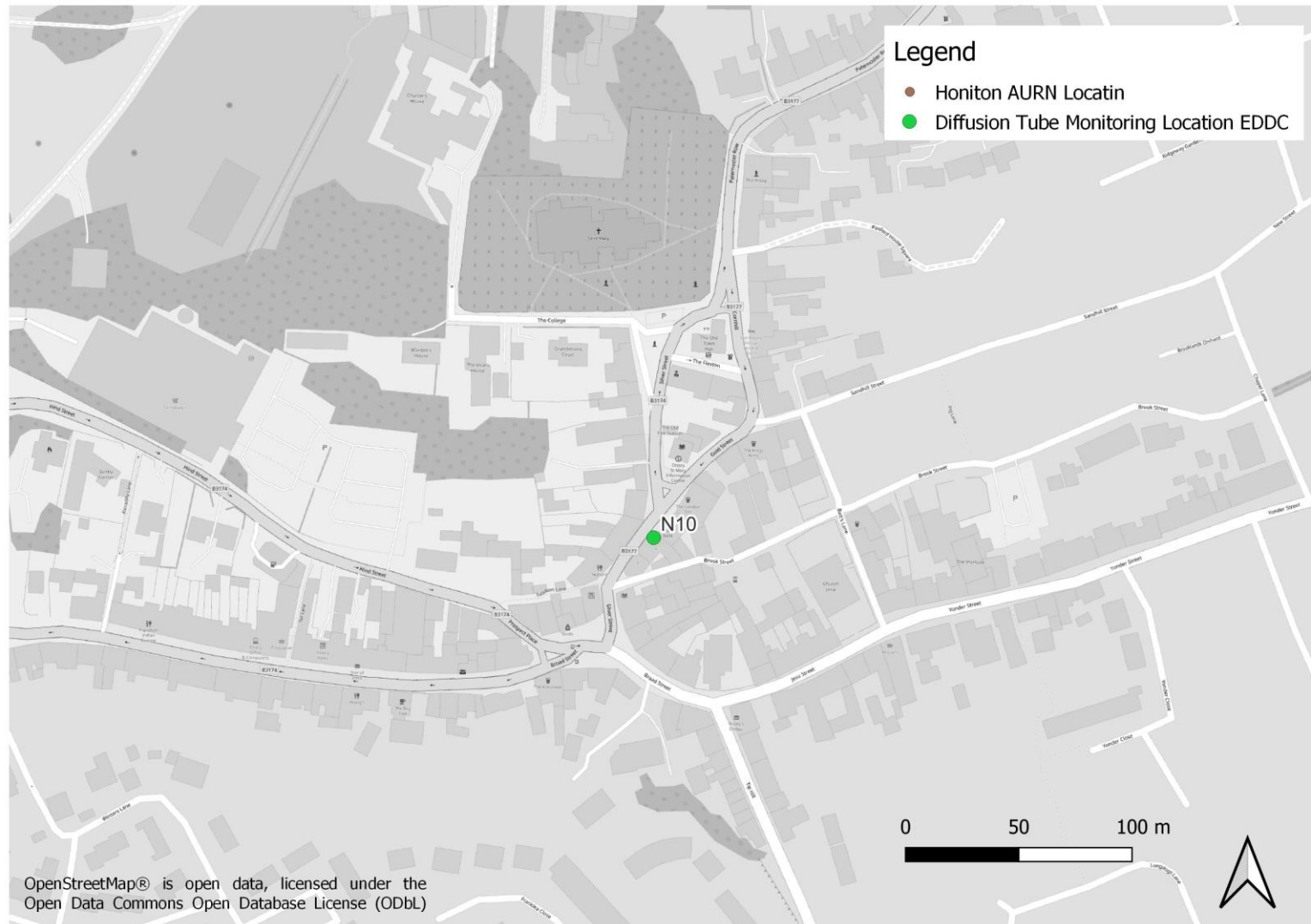


Figure D.9 – 2020/2021 NO₂ Monitoring Locations – Honiton

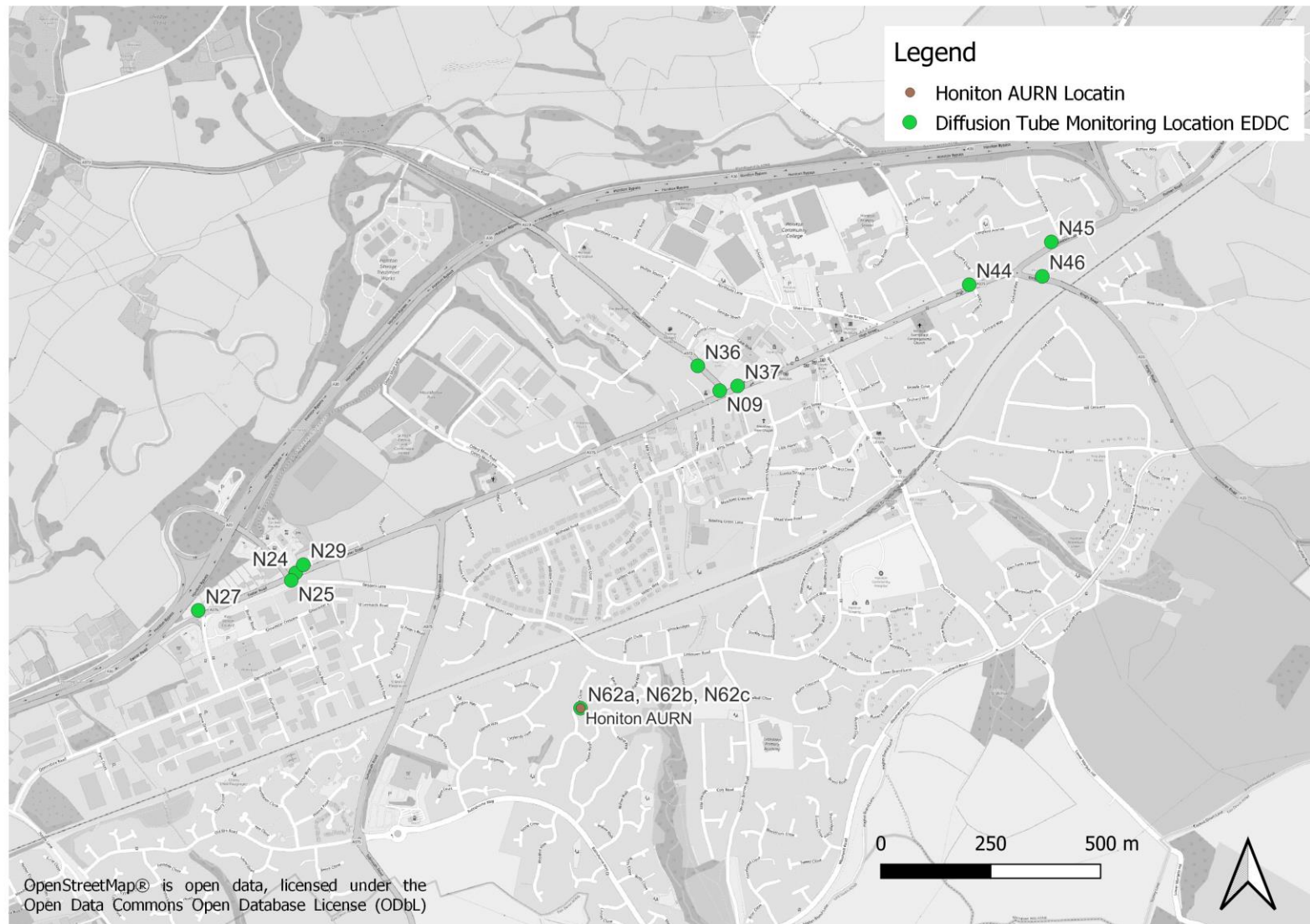


Figure D.10 – 2020/2021 NO₂ Monitoring Locations – Wilmington



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England¹⁹

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

¹⁹ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Appendix F: Zephyr® PM_{2.5} Monitoring

Table F.1 – 2020 and 2021 PM_{2.5} Concentrations

Site ID	Site Location	X	Y	Data Capture 2020	2020 Annual PM _{2.5} Concentration (µg/m ³)	Data Capture 2021	2021 Annual PM _{2.5} Concentration (µg/m ³)
43	Dove Close, Honiton	315745	099880	95.4%	7.07	99.4%	5.15
50	Near roundabout of A376 and A3052, Clyst St Mary	297342	091007	97.5%	7.40	99.7%	6.34
55	A378, Ebford	298085	088569	99.2%	8.81	99.7%	6.08
395	A3053, Clyst St Mary	297624	090947	78.4%	8.97	99.9%	8.70

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide
EDDC	East Devon District Council
DFT	Department For Transport
AQO	Air Quality Objective
AQS	Air Quality Strategy
DELETTI	Devon Low-Carbon Energy & Transport Technology Innovator
SWIP	Small Waste Incinerator Plant
AURN	Automatic Urban and Rural Network
EV	Electric Vehicle
AQEG	Air Quality Expert Group
NPL	National Physical Laboratory

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