Thanet District Council

Annual Status Report 2021

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2021 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date: June, 2021

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Executive Summary: Air Quality in Our Area

Air Quality in Thanet 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 equalities 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 ages[3], with a total estimated healthcare cost to the NHS and social care of £157 million in 2017[4].

During 2020, no monitoring locations reported an exceedance of the annual mean NO_2 AQS objective (40µg/m^3), nor were any within 10% of the objective. The maximum reported concentration was 31.7µg/m^3, reported at the triplicate co-location site TH13,46,47 (The Square, Birchington).

Monitored annual mean NO_2 concentrations across Thanet District Council have largely shown a decrease compared to previous years. The decrease observed in 2020 can largely be attributed to the impacts of the COVID-19 pandemic. However, even without the inclusion of the 2020 data, monitoring across the district suggests that annual mean NO_2 concentrations have been decreasing, or remaining relatively stable (and below 40µg/m^3). Two monitoring locations, TH79 and TH82, reported a slight increase in the annual mean NO_2 concentration in 2020, however these still remain well below 40µg/m^3.

[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 2020

[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

In regards to the 1-hour mean NO_2 AQS objective, whereby there should be no more than 18 hours where concentrations exceed 200µg/m^3, the automatic monitoring locations both continue to report 0 exceedances.

For PM_{10}, the reported annual mean concentrations continue to be below the annual mean PM_{10} AQS objective of 40µg/m^3, with the automatic monitoring location ZH4 at Ramsgate reporting the highest concentration of 24.5µg/m^3. Compared to previous years, the concentrations at both sites are remaining relatively stable. With regards to the 24-hour mean PM_{10} AQS objective, whereby there should be no more than 35 24-hour periods where concentrations exceed 50µg/m^3, there was a maximum of 13 reported at ZH4.

Compliance of the annual mean NO_2 AQS objective has now been achieved for at least 3 years across most of the monitoring locations within the Thanet Urban Air Quality Management Area (AQMA), with the exception of TH85 where this has been achieved for 2 years. Thanet District Council is considering revoking this AQMA, however will look to have at least one more years' worth of data to support this.

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 Strategy[5] sets out the case for action, with goals even more ambitious than EU requirements to reduce exposure to harmful pollutants. The Road to Zero[6] 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 AQMAs are designated due to elevated concentrations heavily influenced by transport emissions.

Thanet District Council has successfully progressed and implemented the following measures:

- Progressing the installation and maintenance of electric charging points;

[5] Defra. Clean Air Strategy, 2019

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

- Progressing the Taxi Licensing Policy, which is still in draft format but due to be completed in 2021. This will include incentives for ULEV and age restrictions of the existing fleet. For new licences, taxis must be Euro 6 vehicles, i.e. <7 years;
- Formal adoption of the Thanet Local Plan as of July 2020, which includes Policy SE05 which focuses on Air Quality. This encourages major developments to promote a shift to use sustainable low emission transport, but also requires all new developments to submit an Air Quality and/or Emissions Mitigation Assessment;
- Thanet Transport Strategy is still in draft; however, it was greed by Thanet District Council and Kent County Council to support the development in the local plan. This has not been formally adopted but is being used for planning purposes;
- Pollution episode alerts are sent out on social media to Thanet residents; and
- A new data management provider contract has been appointed, which will further see the development of the KentAir website.

Thanet District Council continues to uphold and work with the existing partnership with Kent County Council to engage in a joint approach to tackle air quality issues and the implementation of the Thanet Transport Strategy, and as part of the Kent and Medway Air Quality Partnership.

Thanet District Council declared a climate change emergency in July 2019 and has developed a Members Working Group with the aim of producing a Climate Change Emergency Action Plan. This is likely to yield co-benefits with air quality once actions are implemented.

Conclusions and Priorities

Monitoring data from 2020 has shown that there continue to be no exceedances of any AQS objectives, with annual mean NO_2 concentrations continuing to decrease. Road transport is the dominant source of pollution within Thanet's AQMA, and reducing road traffic emissions within the AQMA and across Thanet therefore continues to remain the key air quality priority. This will also contribute to reducing PM_{10} and $PM_{2.5}$ concentrations across the district.

If 2021 monitoring data continues to show that there are no exceedances of the annual mean NO_2 AQS objective, then the Council will look to revoke the Thanet Urban AQMA.

In addition to this, Thanet District Council's priorities for the coming year are as follows:

- To complete installation of the electric charging points across the district and the accompanying Taxi Licensing Policy;
- Continue to engage with land-use and transport planners to ensure the actions adhere to the Local Plan, and are supported by all parts of the authority;
- Continue to raise awareness of air quality issues within the District;
- Continue to work with Kent County Council to undertake identified feasibility studies of measures to tackle air pollution, to determine more robustly the effectiveness and cost of options;
- Encourage the public to use sustainable transportation, including public transport, car sharing, cycling, and walking; and
- Continue the partnership with Kent County Council to engage in a joint approach to tackle air quality issues and the implementation of the Thanet Transport Strategy.

Local Engagement and How to get Involved

As the main source of air pollution within Thanet is road transport emissions, the easiest way for the public to get involved with helping improving air quality in the District would be to find alternatives to travelling by private vehicle. The following are suggested alternatives to private travel that would contribute to improving air quality within the District:

- Use public transport where available – this reduces the number of private vehicles in operation, which will in turn reduce congestion, both of which will help to reduce pollutant concentrations;
- Walk or cycle if your journey allows –choosing to walk or cycle for your journey will reduce the number of private vehicles on the roads, and there is the added benefit of keeping fit and healthy. In addition, many of the cycle routes and footpaths are off-road, meaning you will not be exposed to the higher concentrations that occur close to roads;
- Car/lift sharing – Where a number of individuals are making similar journeys, such as travelling to work or to school, car sharing reduces the number of vehicles on the road and therefore reduces congestion and overall emissions. Car sharing can be promoted via travel plans through the workplace and within schools; and
- Alternatively, fuelled / more efficient vehicles – Fully electric, hybrid and more fuel-efficient cars are available and have different levels of benefits by reducing emissions. Locations of publicly available electric vehicle charging points in Thanet and nearby can be found on the EV Southeast website.

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1 Local Air Quality Management

This report provides an overview of air quality in Thanet District Council during 2020. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

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

A summary of AQMAs declared by Thanet District Council can be found in Table 2.1. The table presents a description of the AQMA that is currently designated within Thanet District Council. Appendix D: Maps of Monitoring Locations and AQMA provides maps of the AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objectives pertinent to the current AQMA designation are as follows:

- NO_2 annual mean.

We propose to begin considering revoking the Thanet Urban AQMA following 2 years of reported compliance across the entire AQMA and this will be progressed following the review of the 2021 data. All monitoring locations within the AQMA, with the exception of TH85, have reported concentrations below the annual mean NO_2 AQS objective for 3 consecutive years. TH85 has reported concentrations below this for 2 years. Many of the monitoring locations have also reported concentrations less than 36µg/m^3, which is within 10% of the AQS objective. The Council appreciates, as stated in the COVID-19 Supplementary Guidance, that consideration of revoking an AQMA solely based upon compliance being achieved in 2020 should be avoided. Despite this, concentrations at exceeding locations have been observed to have been decreasing year on year, and it is expected that this trend would have continued into 2020 even under “normal” conditions. It is however believed that due to Thanet being a popular seaside resort, there may be an increase in traffic influx due to the increased desire for a staycation in 2021. This could mean that NO_2 concentrations may increase during 2021. The Council will therefore look to have at least one more years’ worth of data in order to further understand and support this. Progression of revoking this AQMA will be considered fully after the review of the 2021 monitoring data. (see monitoring, Section 3.1.3).

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	Name and Date of AQAP Publication	Web Link to AQAP
Thanet Urban AQMA	17/11/2011	NO2 Annual Mean	An area encompassing a number of urban areas within Thanet	No	47µg/m^3	31.7µg/m^3	Air Quality Action Plan. Published 2013	Visit the AQAP for the Thanet Urban AQMA

☒ **Thanet District Council confirm the information on UK-Air regarding their AQMA is up to date.**

☒ **Thanet District Council confirm that all current AQAPs have been submitted to Defra.**

Progress and Impact of Measures to address Air Quality in Thanet District 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". Additional comments provided are as follows:

1. *"Robust and accurate QA/QC procedures were applied. Calculations for bias adjustment, annualisation and distance-correction factors were outlined in detail.*
2. *The Council has included discussion and review of its AQMAs and monitoring strategy, informed by the monitoring network. This demonstrates the Council's proactive and dedicated approach to improving air quality across the area.*
3. *Comments from last year's ASR have been mentioned and addressed. This is welcomed, and we encourage this to continue in future ASRs.*
4. *The Council can now look to revoke the AQMA currently in place with concentrations of NO_2 seen to remain below the desired level applicable for revocation of an AQMA.*
5. *However, the need for an updated AQAP was mentioned in last years' ASR appraisal, and this has not yet been adopted. The Council is encouraged to adopt a revised AQAP in the next reporting year unless the revocation of the AQMA is carried out.*
6. *The Public Health Outcomes Frameworks was mentioned. The Council have referred specifically to indicator D01, which is the fraction of mortality attributable to particulate air pollution, and this is encouraged.*
7. *Council have provided a clear map of the diffusion tube monitoring network; trends are displayed and discussed in the report, this is welcomed.*
8. *Overall the report is detailed, concise and satisfies the criteria of relevant standards. The Council should continue their good and thorough work."*

Thanet District Council continues to have the intent to revoke the Thanet Urban AQMA as all monitoring locations are reported to be below the annual mean NO_2 AQS objective. Although the COVID-19 pandemic has had an impact on traffic volumes, and concurrently NO_x emissions, NO_2 concentrations were reported to be below the AQS objective prior to this. Thanet District Council intended to revoke the AQMA following the review of the 2021

monitoring data. The Council proposes to begin considering revocation of the AQMA as compliance is being achieved at all monitoring locations within the AQMA, but it is appreciated that 2020 is an atypical year and that 2021 may see an increase in NO_2 concentrations as a result of staycations. The Council will look to formally revoke the AQMA following the review of the 2021 monitoring data. As such, no revised AQAP has been produced, but as stated in last year's ASR, measures will continue to be progressed through other policy areas such as the Kent Low Emissions Strategy, the Thanet Transport Strategy, and the planning system.

Thanet District Council has taken forward a number of direct measures during the current reporting year of 2021 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 10 measures are included within Table 2.2, with the type of measure and the progress Thanet District Council have made during the reporting year of 2021 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in the respective Action Plan. Key completed measures are:

- Progressing the installation and maintenance of electric charging points;
- Progressing the Taxi Licensing Policy, which is still in draft format but due to be completed in 2021. This will include incentives for ULEV and age restrictions of the existing fleet. For new licences, taxis must be Euro 6 vehicles, i.e. <7 years;
- Formal adoption of the Thanet Local Plan as of July 2020, which includes Policy SE05 which focuses on Air Quality. This encourages major developments to promote a shift to use sustainable low emission transport, but also requires all new developments to submit an Air Quality and/or Emissions Mitigation Assessment;
- Thanet Transport Strategy is still in draft; however, it was greed by Thanet District Council and Kent County Council to support the development in the local plan. This has not been formally adopted but is being used for planning purposes;
- Pollution episode alerts are sent out on social media to Thanet residents; and
- A new data management provider contract has been appointed, which will further see the development of the KentAir website.

Thanet District Council's priorities for the coming year are:

- To complete installation of the electric charging points across the district and the accompanying Taxi Licensing Policy;
- Beginning to consider the formal revocation of the Thanet Urban AQMA;
- Continue to engage with land-use and transport planners to ensure the actions adhere to the Local Plan, and are supported by all parts of the authority;
- Continue to raise awareness of air quality issues within the District;
- Continue to work with Kent County Council to undertake identified feasibility studies of measures to tackle air pollution, to determine more robustly the effectiveness and cost of options;
- Encourage the public to use sustainable transportation, including public transport, car sharing, cycling, and walking; and
- Continue the partnership with Kent County Council to engage in a joint approach to tackle air quality issues and the implementation of the Thanet Transport Strategy

The principal challenges and barriers to implementation of measures that Thanet District Council anticipates facing is that the Action Plan is out of date, however the Council is seeking to revoke the AQMA after multiple years of reported compliance.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Thanet Air Quality and Planning Technical Guidance 2016	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2015	2016	Local Authority Environmental Health, Local Authority Planning Dept.	Developer Contributions	NO	Not Funded	-	Completed	-	-	Ongoing planning policy	All development in urban AQMA >10units is required to have EV charge points and major dev required to carry out Damage Costs Calc.
2	Kent and Medway Energy and Low Emissions Strategy	Policy Guidance and Development Control	Low Emissions Strategy	2020	2023	Kent County Council	-	NO	Not Funded	-	Implementation	-	-	Implementation on-going	Identifies an evidence-based approach to deliver clean growth and eliminate poor air quality. Adopted by Kent Leaders Oct 2020
3	Thanet District Council Local Plan Adopted July 20202	Policy Guidance and Development Control	Other policy	2020	2031	Local Authority Planning Department	Developer Contributions	NO	Not Funded		Implementation	-	-	Implementation on-going	The LP contains many policies relevant to air quality improvements:
4	Thanet Transport Strategy 2015 - 2031	Policy Guidance and Development Control	Other policy	2020		Kent County Council Highways and Local Authority Strategic Planning Dept	-	NO	Not Funded	-	Implementation	-	Inner Circuit Road, Thanet Parkway station	Implementation on-going	Although not yet formally adopted, KCC and TDC use to support adopted Local Plan.
5	Thanet Parkway Train Station	Promoting Travel Alternatives	Promote use of rail and inland waterways	2021	2023	KCC and TDC	DfT & KCC	NO	Partially Funded	>£10 million	Implementation	-	-	Construction started March 2021	£12M Gov Funding & £6M KCC funding
6	Cycling and Walking audit to identify areas for improvement	Alternatives to private vehicle use	Promotion of cycling	2020	2021	Local Authority	DfT	NO	Funded	£10k - £50k	Implementation	1%	Number of cyclists/walkers	Underway	Working with Sustrans to support development plans
7	Promotion of air quality issues	Public Information	Via the Internet	2016		Local Authority	-	NO	Not Funded	-	-	-	Number of press releases, reports on website	-	During Covid info via website and social media
8	Updated Parking Policy draft	Traffic Management	Emission based parking or permit charges	2021	2022	Local Authority Parking Dept	-	NO	Not Funded	-	Planning	-	-	Underway	-
9	Taxi Licensing Policy	Promoting Low Emission Transport	Taxi emission incentives	2020	2021	Local Authority Licensing Dept	-	-	-	-	Implementation	-	-	Underway	Promoting Euro 6 and incentivising ULEVs
10	ULEV funding application EV charging points for taxis	Promoting Low Emission Transport	Taxi emission incentives	2019	2022	Kent Councty Council and LA Environmental Health Dept	DfT	NO	Funded	£10k - £50k	Completed	-	Number of chargers installed	Completed March 2021	2 x 2 rapid chargers in Market Street and Albion Road car parks
11	EV Points are maintained and available for the public	Promoting Low Emission Transport	Other	2013	-	Local Authority Parking Dept	-	-	-	-	-	-	Number of charges	Ongoing	Maintenance of EV point and back office
12	Kent Realising Electric Vana Scheme	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2021	-	Kent County Council	DfT	-	-	£1 million - £10 million	Implementation	-	-	Underway	Electric van trials for business

$PM_{2.5}$ – 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.

Currently, no monitoring of $PM_{2.5}$ completed within Thanet, however PM_{10} concentrations are monitored at both the automatic monitoring sites located in Ramsgate and Birchington. Therefore, concentrations of $PM_{2.5}$ have been estimated from PM_{10} guidance in line with guidance specified in LAQM.TG(16). Data from the Automatic Rural and Urban Network (AURN) monitoring station Chatham Roadside in Medway (~53km west of Birchington-on-Sea, and ~61km west of Ramsgate) has been used to calculate an estimated $PM_{2.5}$ concentration at both monitoring sites. The Chatham Roadside site was chosen due to it being the closest AURN site to the automatic monitoring sites within Thanet where both PM_{10} and $PM_{2.5}$ are measured.

The methodology detailed within Box 7.7 of LAQM.TG(16) has been followed to calculate a locally derived $PM_{2.5}$ / PM_{10} ratio of 0.495. Applied to the 2020 PM_{10} annual mean concentrations of 24.3µg/m^3 and 24.5µg/m^3 at Birchington and Ramsgate respectively, this gives an estimated $PM_{2.5}$ annual mean of 11.4µg/m^3 and 12.1µg/m^3. These estimated annual mean concentrations are below to the recommended 2020 annual mean objective for $PM_{2.5}$ (25µg/m^3).

The current Defra 2020 background maps (based on 2018 monitored concentrations) for Thanet District Council estimates that all background concentrations of $PM_{2.5}$ are far below the recommended December 2020 annual mean objective for $PM_{2.5}$. The highest concentration is predicted to be 10.9µg/m^3 within the 1 x 1km grid square with the centroid grid reference of 638500, 165500. This is an area just to the north of the Ramsgate Port that contains parts of the port but also the A255. It is important to note that these estimations do not take into consideration any impacts as a result of the COVID-19 pandemic.

The Public Health Outcomes Framework data tool compiled by Public Health England and The Department of Health has a number of public health indicators that are used focus public health action, identify areas of health inequality and concern and monitor the

differences in health impacts across regions in the UK. This framework includes an indicator “D01- Fraction of Mortality Attributable to Particulate Air Pollution” which is calculated using background annual average $PM_{2.5}$ concentrations, modelled at a $1km^2$ resolution based on measured concentrations from the AURN. As such, this quantifies the mortality burden of $PM_{2.5}$ within England on a county and local authority scale. The 2019 fraction of mortality attributable to $PM_{2.5}$ pollution across England is 5.1%, and in contrast the fraction within the Thanet is slightly above the national average at 5.2%. The regional average for the South East is also 5.2%. The 2019 fraction of mortality has been used as opposed to the 2020 fraction as the data has not been made available at the time of writing.

Measures to improve air quality often have shared wins with other public health indicators, a good example being the encouragement of active travel and commuting leading to increased physical activity and increased wellbeing. Thanet District Council is part of the Kent Health and Wellbeing Board, brining together County and District Councillors, senior officers from the NHS Area Team, Clinical Commissioning Groups, Social Care, the public, and members of the local Healthwatch. Together, this board produced the Kent Joint Health and Wellbeing Strategy, setting out how the multidisciplinary teams can align their plans to improve public health and tackle key health issues.

Many of the measures employed by Thanet District Council aims to reduce vehicular travel frequency and time, such as the encouragement of active travel. NO_x and $PM_{2.5}$ emissions arise from vehicular sources, and therefore although the measures pursued by Thanet District Council focus on reducing NO_2 concentrations many of these will also likely have a positive impact on reducing $PM_{2.5}$ concentrations.

Thanet District Council is part of the Kent and Medway Air Quality Partnership (K&MAQP), which aims to deliver a consistent approach to tackling air pollution across the County, sharing knowledge and information between Kent County Council, district councils, health authorities, Highways England, the Environment Agency, Public Health England and various consultants and research partners. The Kent and Medway Air Quality Monitoring Network (K&MAQMN) includes a number of sites monitoring pollution (including $PM_{2.5}$) across the County. Data for the network is reported through a dedicated website, KentAir. Thanet District Council has been working with members of K&MAQP and KCC on the production of a Kent and Medway Low Emissions Strategy/Action Plan.

The planning regime is also important for reducing $PM_{2.5}$ concentrations. With the formal adoption of the Thanet Local Plan, the updated Air Quality Policy SE05 focuses on

ensuring that all future developments produce an Air Quality and/or Emissions Mitigation Assessment to prevent the users and local area are not adversely impacted by air quality. This also encourages developments to encourage the use of sustainable and low emissions transport. The draft Thanet Transport Strategy is also included within the Local Plan and sets out improvements which will also benefit the reduction of $PM_{2.5}$ concentrations.

Thanet District Council does not have any smoke control areas; however it does provide guidance on "Smoke and Bonfires" in order to reduce air pollution arising from these. This includes guidelines for burning waste as part of a bonfire, the use of wood burners and stoves, but also sets out how to make a nuisance complaint if required. This was further updated to recommend that no bonfires should take place during the COVID-19 pandemic, as whilst residents are spending more time in their homes this could cause breathing difficulties, especially if they are suffering with COVID-19 symptoms.

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

This section sets out the monitoring undertaken within 2020 by Thanet District Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2016 and 2020 to allow monitoring trends to be identified and discussed.

Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Thanet District Council undertook automatic (continuous) monitoring at 2 sites during 2020. Table A.1 in Appendix A shows the details of the automatic monitoring sites. Table A.3 presents automatic monitoring results for Thanet District Council, with automatic monitoring results also available through the KentAir 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

Thanet District Council undertook non-automatic (i.e. passive) monitoring of NO_2 at 32 sites during 2020, inclusive of 5 triplicate sites. 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.

3.1.3 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 2020 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.

In regards to the automatic monitoring, both sites are reporting concentrations well below the annual mean NO_2 AQS objective of 40µg/m^3, with Site ZH5 (The Square, Birchington) reporting the highest of the two at 24.3µg/m^3. Annual mean NO_2 concentrations at both of these sites have decreased from that reported in 2019, continuing the decreasing trend which has been observed previously. In addition to this, both sites have reported a total of 0 hours in 2020 where hourly mean concentrations were exceeding 200µg/m^3, therefore well below the 1-hour mean NO_2 AQS objective.

For the diffusion tubes, all monitoring locations, both inside and outside the AQMA boundary, reported an annual mean NO_2 concentration well below the annual mean NO_2 AQS objective of 40µg/m^3. The maximum reported annual mean concentration in 2020 was 31.7µg/m^3, reported at the triplicate site TH13,46,47 (The Square, Birchington). Similarly to the automatic monitoring locations, all of the diffusion tube locations, with the exception of TH82, have shown a decrease in annual NO_2 concentrations compared to 2019. TH82 has reported an increase of 0.9µg/m^3, however this is still well below the AQS objective (21.7µg/m^3). The trends observed at all sites over the past 5 years indicate that annual mean NO_2 concentrations have largely been decreasing year-on-year, especially in areas where concentrations are elevated or have previously been exceeding. Some sites

show a relatively stable trend; however these are in areas where concentrations are reported to be very low.

The decrease in annual average NO_2 concentrations from 2019 to 2020, which has been observed at the majority of sites, is likely in part due to the impact of the COVID-19 pandemic. The UK Government enforced numerous lockdowns and produced guidelines for people to work at home, and stay local, where possible. This is discussed in detail in Appendix F; however, it has been seen across the UK the traffic volumes decreased significantly, an as such NO_x emission also fell. This is believed to have resulted in a decrease in NO_2 concentrations of up to 30% in urban areas.

As no diffusion tube sites reported an annual average concentration in excess of 60µg/m^3, there is no risk of there being more than 18 hours where hourly concentrations exceeded 200µg/m^3.

As no site (diffusion tube or automatic) reported an annual average NO_2 concentration of 36µg/m^3 or higher, fall-off with distance correction calculations have not been carried out.

3.1.4 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.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.

Automatic monitoring conducted within Thanet District Council at the two locations ZH4 (Ramsgate) and ZH5 (Birchington) have reported annual mean PM_{10} concentrations well below the annual mean PM_{10} AQS objective of 40µg/m^3 – 24.5µg/m^3 and 23.0µg/m^3 respectively. The annual mean concentration at ZH4 has risen slightly compared to 2019 by 1.9µg/m^3, whereas at ZH5 this has decreased by 0.9µg/m^3.

In addition, the total number of 24-hour average concentrations exceeding 50µg/m^3 at ZH4 and ZH5 were 13 and 10 respectively. This is well below the AQS objective of 35. The number of exceedances at ZH4 is greater than 2019 (where 3 were reported), however this fluctuates from year to year. ZH5 reported slightly fewer exceedances than the 14 reported in 2019.

3.1.5 Particulate Matter ($PM_{2.5}$)

As detailed in 0, $PM_{2.5}$ concentrations have been estimated from the monitored PM_{10} concentrations at ZH4 and ZH5, which should be carried out in the absence of $PM_{2.5}$ monitoring – as per LAQM.TG(16). The estimated annual mean $PM_{2.5}$ concentration in 2020 is 12.1µg/m^3 at ZH4, and 11.4µg/m^3 and ZH5, both below the guideline annual mean objective of 25µg/m^3 for $PM_{2.5}$.

The concentrations used to derive the $PM_{2.5}$ / PM_{10} ratio, and to estimate an annual mean $PM_{2.5}$ concentration, are presented in Table A.8.

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)
ZH4 Thanet Ramsgate	Boundary Road, Ramsgate	Roadside	638483	165430	NO_2; PM_{10}	YES	Chemiluminescent; beta attenuation	16	4	2
ZH5 Thanet Birchington	The Square, Birchington	Roadside	630284	169052	NO_2; PM_{10}	YES	Chemiluminescent; beta attenuation	4	3	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)
TH05	The Broadway	Kerbside	639020	167982	NO2	Yes - Thanet Urban AQMA	N	2.5	No	2.5
TH10	College Road, Margate	Kerbside	635539	169840	NO2	Yes - Thanet Urban AQMA	0.0	2.0	No	2.5
TH13, TH46, TH47	The Square Birchington	Kerbside	630254	169037	NO2	Yes - Thanet Urban AQMA	2.0	1.0	No	2.5
TH16	Earlesmede Cres, Cliffsend	Background	634445	164416	NO2	Yes - Thanet Urban AQMA	3.0	N/A	No	2.5
TH26	King Street, Ramsgate	Kerbside	638492	165410	NO2	Yes - Thanet Urban AQMA	0.0	3.0	No	2.5
TH27	14, Avebury Avenue, Ramsgate	Urban B/Ground	639097	165971	NO2	Yes - Thanet Urban AQMA	7.0	N/A	No	2.5
TH31	High Street, Manston	Urban Background	634662	166026	NO2	No	9.0	N/A	No	2.5
TH32	Bell Davies Drive, Manston	Urban Background	632994	166428	NO2	No	10.0	N/A	No	2.5
TH33	Hill House Drive	Urban Background	631161	165486	NO2	No	9.0	N/A	No	2.5
TH34	Westwood Road nr Pizza Hut, Broadstairs	Roadside	636570	167894	NO2	Yes - Thanet Urban AQMA	N	14.0	No	2.5
TH36	Star Lane, Ramsgate Road, Margate	Kerbside	636405	168227	NO2	Yes - Thanet Urban AQMA	0.0	2.0	No	2.5
TH37	Kentmere Ave	Suburban	635932	165333	NO2	Yes - Thanet Urban AQMA	10.0	N/A	Yes	2.5

TH48	Canterbury Rd Birchington nr Y	Kerbside	630438	169111	NO2	Yes - Thanet Urban AQMA	1.0	0.5	No	2.0
TH49	Canterbury Rd Birchington nr K	Roadside	630186	168983	NO2	Yes - Thanet Urban AQMA	3.0	3.5	No	2.5
TH51, TH52, TH53	Boundary Road, Ramsgate	Roadside	638472	165432	NO2	Yes - Thanet Urban AQMA	16.0	4.1	Yes	2.5
TH54, TH64, TH65	High Street St Lawrence, Ramsgate	Roadside	637135	165354	NO2	Yes - Thanet Urban AQMA	7.0	1.0	No	2.5
TH55	Coxes Lane Margate Rd Ramsgate, Ramsgate	Roadside	636815	167297	NO2	Yes - Thanet Urban AQMA	3.0	10.0	No	2.0
TH59	Church Street St Peters	Kerbside	638220	168614	NO2	Yes - Thanet Urban AQMA	3.0	2.0	No	2.5
TH66	High Street St Lawrence Façade	Roadside	637112	165331	NO2	Yes - Thanet Urban AQMA	0.0	3.0	No	2.5
TH67, TH68, TH69	20, Hereson Road, Ramsgate	Kerbside	638536	165465	NO2	Yes - Thanet Urban AQMA	0.0	1.0	No	2.5
TH70, TH71, TH72	9, High street, St Lawrence	Roadside	637092	165340	NO2	Yes - Thanet Urban AQMA	0.0	1.0	No	2.5
TH76	Lampost 4 Buenos Aires	Roadside	634752	170679	NO2	Yes - Thanet Urban AQMA	9.5	12.0	No	2.0
TH77	72 High Street, Minster	Kerbside	630972	164708	NO2	No	2.5	1.0	No	1.5
TH78	Manston Way Walk, Ramsgate	Roadside	636014	167851	NO2	No	8.0	2.5	No	2.0
TH79	Canterbury Rd, Sarre	Roadside	625641	165002	NO2	No	0.0	6.5	No	2.5
TH80	Newington Rd, Ramsgate	Roadside	636909	165780	NO2	Yes - Thanet Urban AQMA	0.0	1.0	No	2.5

TH81	Margate Rd, Ramsgate	Roadside	637097	166799	NO2	Yes - Thanet Urban AQMA	0.0	7.8	No	2.5
TH82	Westwood Road nr School, Broadstairs	Roadside	637271	167873	NO2	Yes - Thanet Urban AQMA	7.0	7.9	No	2.5
TH83	Ramsgate Rd (nr car wash) Margate	Roadside	635907	169266	NO2	Yes - Thanet Urban AQMA	0.0	9.5	No	2.5
TH84	Northdown Rd, Margate	Kerbside	635997	171095	NO2	Yes - Thanet Urban AQMA	0.0	6.0	No	3.0
TH85	143 Boundary Rd, Ramsgate	Roadside	638026	165442	NO2	Yes - Thanet Urban AQMA	0.0	0.0	No	3.0
TH86	26 Margate Road, Ramsgate	Roadside	637747	165713	NO2	Yes - Thanet Urban AQMA	2.0	1.5	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 2020 (%) (2)	2016	2017	2018	2019	2020
ZH4	638483	165430	Roadside	97.9	97.9	22.6	22.6	21.3	21.4	17.1
ZH5	630284	169052	Roadside	95.5	95.5	33.6	32.4	31.0	29.3	24.3

☐ **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 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.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%).

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 2020 (%) [2]	2016	2017	2018	2019	2020
TH05	639020	167982	Kerbside	82.7	82.7	33.6	28.6	28.5	27.8	25.1
TH10	635539	169840	Kerbside	92.3	92.3	35.0	31.0	32.3	30.7	28.2
TH13, TH46, TH47	630254	169037	Kerbside	100.0	100.0	**44.1**	**40.6**	37.3	35.9	31.7
TH16	634445	164416	Background	100.0	100.0	16.7	16.4	14.4	14.9	13.9
TH26	638492	165410	Kerbside	100.0	100.0	36.0	33.0	32.4	30.5	25.3
TH27	639097	165971	Urban B/Ground	90.4	90.4	16.3	16.4	14.2	15.1	13.8
TH31	634662	166026	Urban Background	100.0	100.0	14.7	15.8	12.2	12.2	11.3
TH32	632994	166428	Urban Background	92.3	92.3	15.4	16.7	14.0	14.2	13.0
TH33	631161	165486	Urban Background	100.0	100.0	16.5	16.1	15.0	14.6	12.5
TH34	636570	167894	Roadside	92.3	92.3	25.8	23.7	21.8	21.7	19.6
TH36	636405	168227	Kerbside	82.7	82.7	28.6	23.9	26.5	25.5	21.9
TH37	635932	165333	Suburban	100.0	100.0	16.0	16.1	14.4	16.3	14.5
TH48	630438	169111	Kerbside	100.0	100.0	31.2	27.9	29.9	25.5	23.4
TH49	630186	168983	Roadside	92.3	92.3	20.7	22.0	20.8	19.5	16.6
TH51, TH52, TH53	638472	165432	Roadside	100.0	100.0	23.7	21.4	20.2	19.3	17.0
TH54, TH64, TH65	637135	165354	Roadside	100.0	100.0	**40.9**	38.0	32.7	33.7	28.9
TH55	636815	167297	Roadside	90.4	90.4	29.0	27.0	22.7	23.6	21.1
TH59	638220	168614	Kerbside	100.0	100.0	33.3	31.9	28.9	28.3	25.3
TH66	637112	165331	Roadside	100.0	100.0	27.2	26.3	24.7	24.0	21.3
TH67, TH68, TH69	638536	165465	Kerbside	100.0	100.0	35.6	32.2	31.8	30.4	24.0
TH70, TH71, TH72	637092	165340	Roadside	100.0	100.0	**44.9**	**41.6**	38.6	37.6	30.7
TH76	634752	170679	Roadside	100.0	100.0	25.5	25.8	21.3	22.1	20.3
TH77	630972	164708	Kerbside	90.4	90.4	-	23.3	20.9	21.1	18.7
TH78	636014	167851	Roadside	84.6	84.6	-	19.9	16.9	16.8	16.0
TH79	625641	165002	Roadside	90.4	90.4	-	-	21.4	19.6	19.8

TH80	636909	165780	Roadside	100.0	100.0	-	-	21.0	19.1	17.3
TH81	637097	166799	Roadside	82.7	82.7	-	-	21.2	19.1	17.9
TH82	637271	167873	Roadside	82.7	82.7	-	-	25.1	20.8	21.7
TH83	635907	169266	Roadside	90.4	90.4	-	-	19.4	17.2	15.7
TH84	635997	171095	Kerbside	90.4	90.4	-	-	19.1	22.1	20.7
TH85	638026	165442	Roadside	100.0	100.0	-	-	**41.8**	29.2	25.4
TH86	637747	165713	Roadside	100.0	100.0	-	-	36.7	23.4	20.9

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

☒ **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.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 NO_2 Concentrations Within the Thanet AQMA

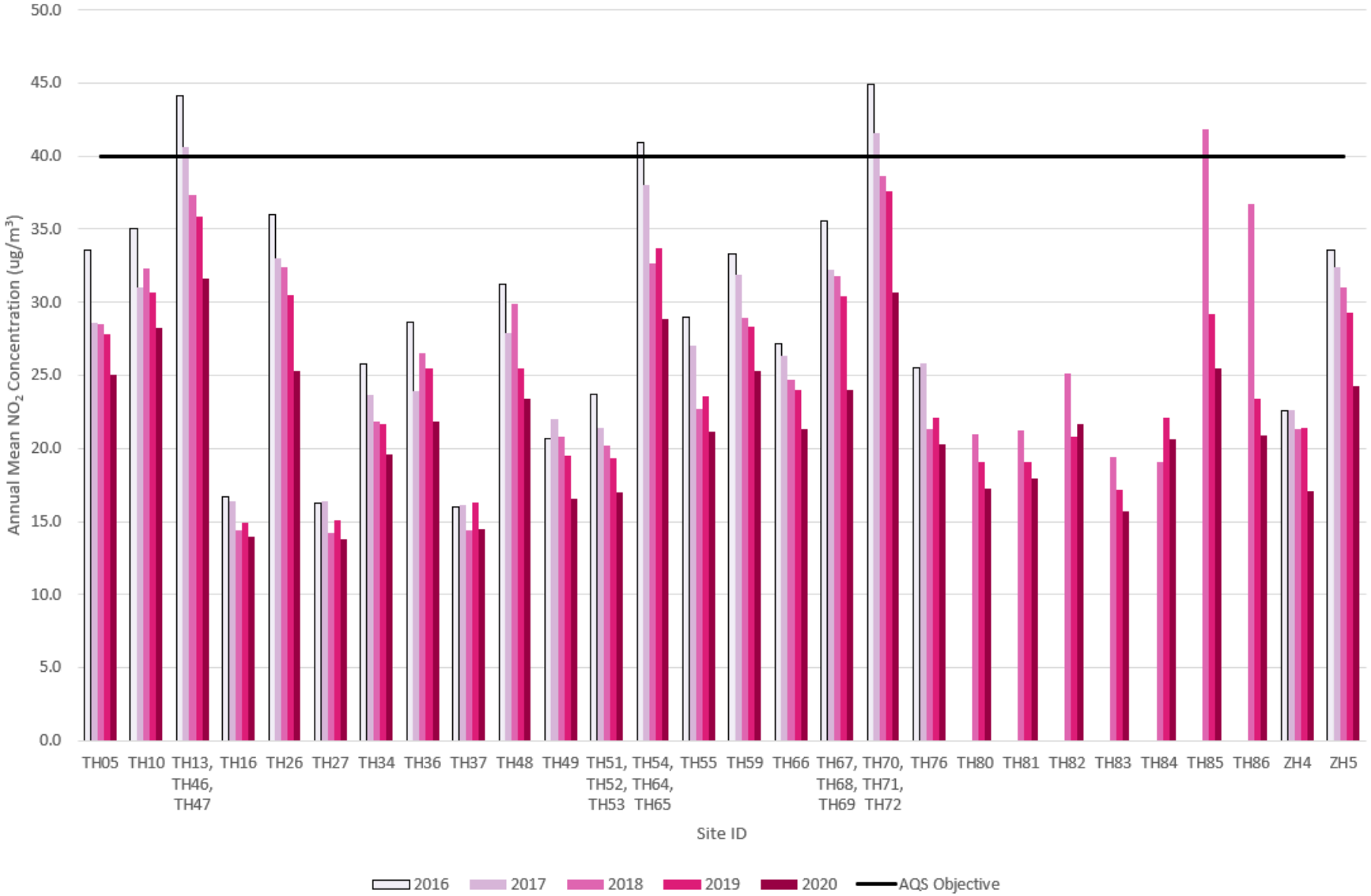


Figure A.2 – Trends in Annual Mean NO_2 Concentrations Outside the Thanet AQMA

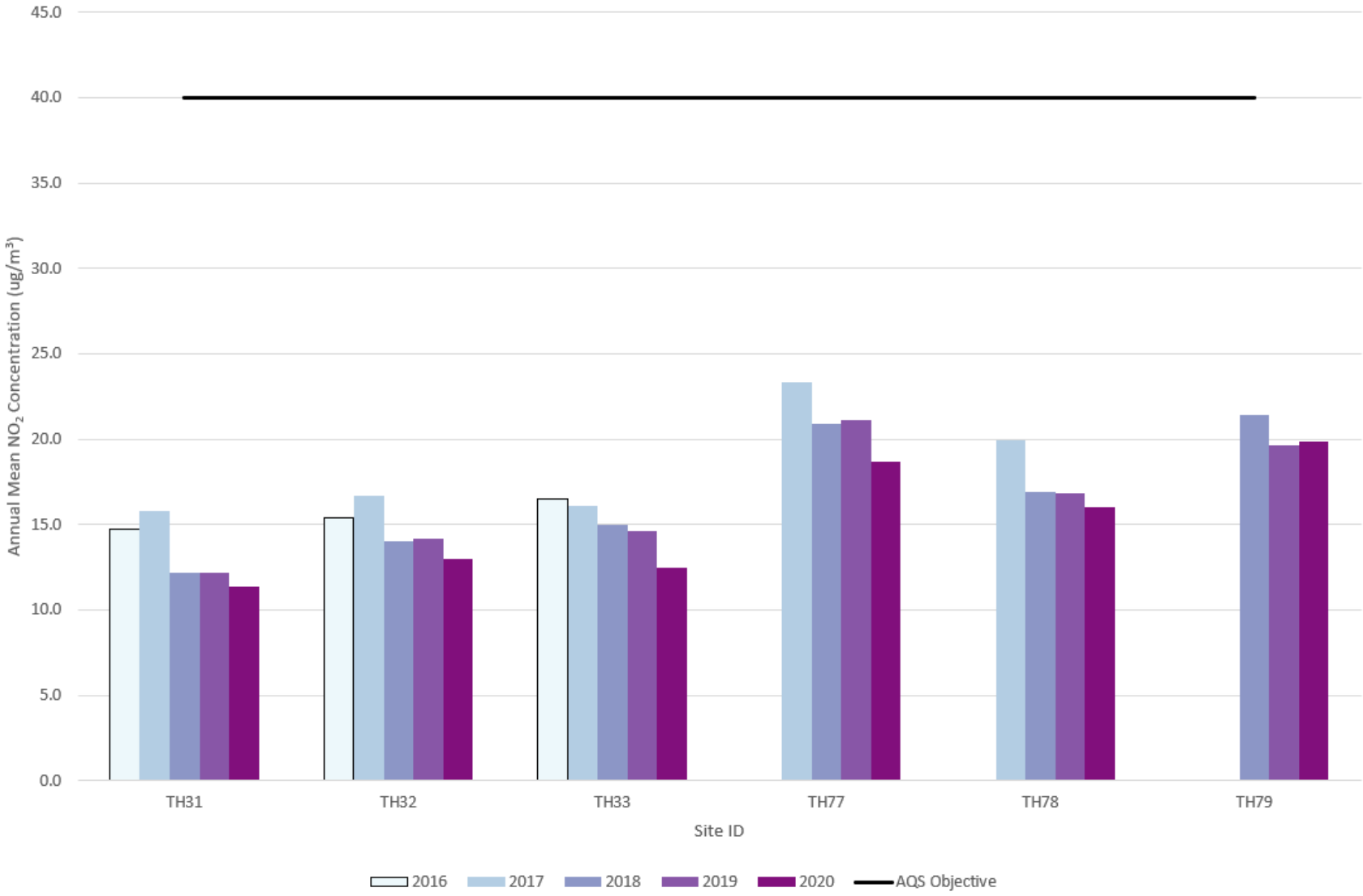


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
ZH4	638483	165430	Roadside	97.9	97.9	0	0	0	0	0
ZH5	630284	169052	Roadside	95.5	95.5	0	0	0	0	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 2020 (%) (2)	2016	2017	2018	2019	2020
ZH4	638483	165430	Roadside	91.9	91.9	25.8	24.8	24.6	22.6	24.5
ZH5	630284	169052	Roadside	93.0	93.0	24.8	23.2	25.2	23.9	23.0

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

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.TG16 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.3 – Trends in Annual Mean PM_{10} Concentrations

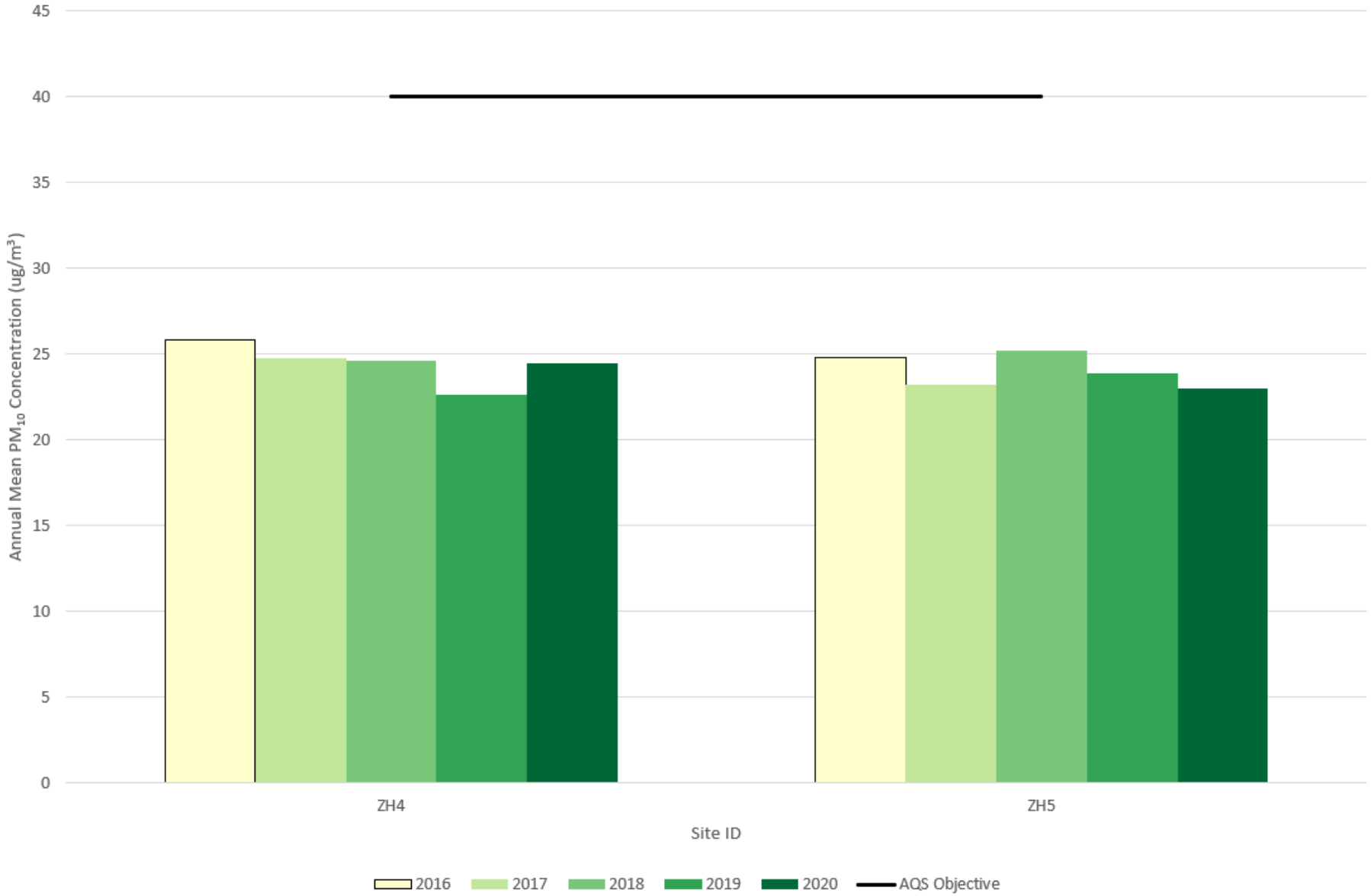


Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
ZH4	638483	165430	Roadside	91.9	91.9	5	13	11	3 (29.3)	13
ZH5	630284	169052	Roadside	93.0	93.0	4	9	10	14	10

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

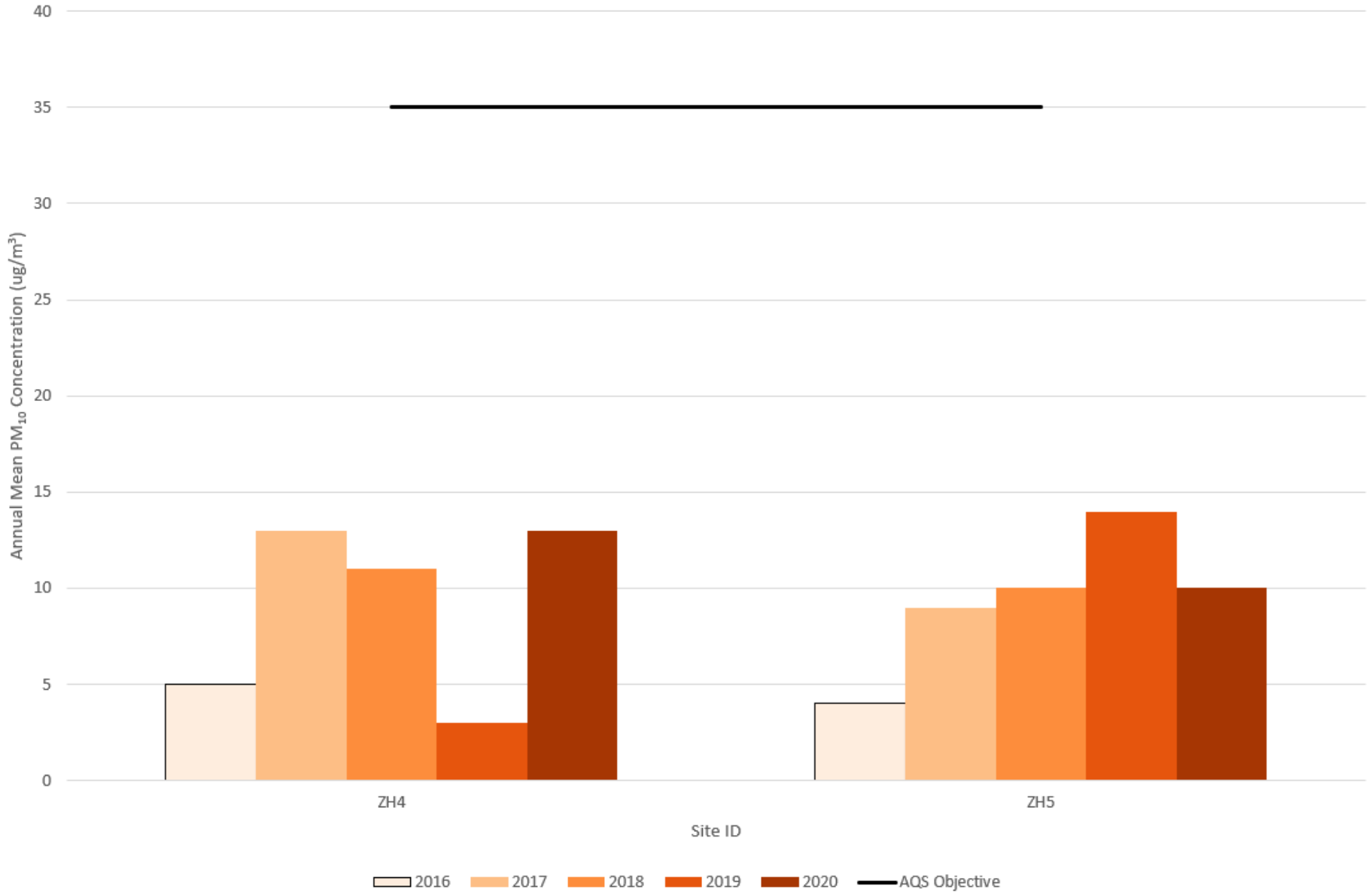


Table A.8 – Estimated Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	Site Type	PM_{10} Valid Data Capture 2020 at (%)	$PM_{2.5}$ Valid Data Capture (%)	2020 PM_{10} Annual Mean Concentration	2020 $PM_{2.5}$ Annual Mean Concentration	2020 $PM_{2.5}$ Annual Mean Concentration (Estimated) – Conversion Ration 0.495
ZH4	Roadside	91.9	-	24.5	-	12.1
ZH5	Roadside	93.5	-	23.0	-	11.4
CHAT (Chatham Roadside)	Roadside	95.8	90.1	22.0	10.9	-

Notes:

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

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.

Appendix B: Full Monthly Diffusion Tube Results for 2020

Table B.1 – NO_2 2020 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.82)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TH05	639020	167982	40.1		24.4	29.6		23.3	19.9	31.9	30.9	27.5	39.1	39.1	30.6	25.1	-	
TH10	635539	169840	38.3		30.0	37.8	29.4	35.7	23.5	38.3	31.9	30.3	41.8	41.8	34.4	28.2	-	
TH13	630254	169037	53.1		29.9	30.3	28.7	39.6	31.1	42.9	38.3	33.9	40.7	40.7	-	-	-	Triplicate Site with TH13, TH46 and TH47 - Annual data provided for TH47 only
TH46	630254	169037	51.7	44.7	23.9	31.7	30.8	37.0	34.7	43.5	43.5	34.8	43.5	43.5	-	-	-	Triplicate Site with TH13, TH46 and TH47 - Annual data provided for TH47 only
TH47	630254	169037	50.5		27.2	31.0	31.0	37.5	34.3	46.5	42.6	38.8	44.2	44.2	38.6	31.7	-	Triplicate Site with TH13, TH46 and TH47 - Annual data provided for TH47 only
TH16	634445	164416	20.3	11.9	13.2	21.3	12.7	15.1	8.7	16.2	20.0	15.2	24.6	24.6	17.0	13.9	-	
TH26	638492	165410	36.7	23.6	12.6	36.0	28.2	32.8	26.9	35.6	36.0	30.5	35.9	35.9	30.9	25.3	-	
TH27	639097	165971	19.8	14.5	13.1	22.4	13.6	15.3	8.8	14.0	13.8		24.6	24.6	16.8	13.8	-	
TH31	634662	166026	18.5	11.9	11.4	19.0	10.6	12.2	7.0	11.6	12.5	10.7	20.2	20.2	13.8	11.3	-	
TH32	632994	166428	18.6		12.0	20.6	11.5	13.3	8.4	14.3	12.9	11.8	25.4	25.4	15.8	13.0	-	
TH33	631161	165486	21.6	12.4	12.5	21.3	12.9	15.1	7.8	15.2	15.1	12.1	18.1	18.1	15.2	12.5	-	
TH34	636570	167894	32.2		18.4	26.9	16.8	20.5	16.2	23.5	20.5	24.5	31.8	31.8	23.9	19.6	-	
TH36	636405	168227	32.8		21.3	28.4		17.5	16.5	28.6	24.7	24.3	36.2	36.2	26.7	21.9	-	
TH37	635932	165333	22.2	16.4	14.8	22.9	13.5	15.8	9.6	16.1	15.3	14.3	25.5	25.5	17.7	14.5	-	
TH48	630438	169111	36.1	25.6	28.1	31.8	22.8	25.0	22.7	26.7	22.3	27.3	37.2	37.2	28.6	23.4	-	
TH49	630186	168983	24.0		15.5	24.3	15.0	18.2	10.3	17.2	19.9	15.0	31.6	31.6	20.2	16.6	-	
TH51	638472	165432	26.8	20.3	15.4	24.0	18.1	20.6	15.0	21.2	21.9	17.7	27.4	27.4	-	-	-	Triplicate Site with TH51, TH52 and TH53 - Annual data provided for TH53 only
TH52	638472	165432	25.9	19.0	14.5	22.5	14.7	19.4	13.5	20.1	21.1	17.9	28.7	28.7	-	-	-	Triplicate Site with TH51, TH52 and TH53 - Annual data provided for TH53 only

TH53	638472	165432	24.3	19.4	16.6	23.7		21.4	12.3	22.1	20.6	17.0	25.3	25.3	20.7	17.0	-	Triplicate Site with TH51, TH52 and TH53 - Annual data provided for TH53 only
TH54	637135	165354	47.7	32.3	31.5		24.8	32.4	22.6	36.7	39.0	33.0	45.2	45.2	-	-	-	Triplicate Site with TH54, TH64 and TH65 - Annual data provided for TH65 only
TH64	637135	165354	46.1	24.2	26.5	38.4	25.8			36.2	36.1	30.0	46.8	46.8	-	-	-	Triplicate Site with TH54, TH64 and TH65 - Annual data provided for TH65 only
TH65	637135	165354	47.1	30.3	29.8	35.8	26.4	28.3	25.0	39.6	41.8	32.7	46.0	46.0	35.2	28.9	-	Triplicate Site with TH54, TH64 and TH65 - Annual data provided for TH65 only
TH55	636815	167297	33.8	25.4	21.8	27.4		20.3	16.2	23.9	24.0	23.8	33.3	33.3	25.7	21.1	-	
TH59	638220	168614	42.7	28.3	28.1	30.9	25.9	29.2	24.1	31.2	34.1	30.1	32.9	32.9	30.9	25.3	-	
TH66	637112	165331	31.1	23.9	22.3	30.0	20.1	26.9	15.9	28.4	27.4	23.2	31.4	31.4	26.0	21.3	-	
TH67	638536	165465		34.2	18.6	28.0		33.3	23.8	38.8	33.6	25.2	35.5	35.5	-	-	-	Triplicate Site with TH67, TH68 and TH69 - Annual data provided for TH69 only
TH68	638536	165465	26.2	17.1	16.8	30.7	31.1	25.2	23.7	36.5	35.8	26.2	34.7	34.7	-	-	-	Triplicate Site with TH67, TH68 and TH69 - Annual data provided for TH69 only
TH69	638536	165465	25.5		18.9	26.7	30.0	33.1	23.3	37.8	35.7	24.7	35.4	35.4	29.3	24.0	-	Triplicate Site with TH67, TH68 and TH69 - Annual data provided for TH69 only
TH70	637092	165340	55.0	25.3	28.1		29.9	37.1	24.3	47.4	46.6	34.5	46.1	46.1	-	-	-	Triplicate Site with TH70, TH71 and TH72 - Annual data provided for TH72 only
TH71	637092	165340	46.9	27.0	27.4	34.0	18.5	36.3	26.8	44.5	46.4	33.3	45.0	45.0	-	-	-	Triplicate Site with TH70, TH71 and TH72 - Annual data provided for TH72 only
TH72	637092	165340	49.2	35.0	29.7		30.9	39.7	26.4	46.5	46.0	31.9	46.6	46.6	37.4	30.7	-	Triplicate Site with TH70, TH71 and TH72 - Annual data provided for TH72 only
TH76	634752	170679	29.6	26.4	19.8	28.7	19.2	22.2	17.2	24.3	21.9	19.7	33.9	33.9	24.7	20.3	-	
TH77	630972	164708	30.4	19.9	18.2	21.6		19.9	15.6	22.4	24.2	21.1	28.8	28.8	22.8	18.7	-	
TH78	636014	167851			14.5	24.9	16.6	17.9	9.5	20.2	19.1	11.1	30.7	30.7	19.5	16.0	-	
TH79	625641	165002	30.9	23.2	21.4	23.8	18.8	21.8	17.6		25.3	23.4	29.9	29.9	24.2	19.8	-	
TH80	636909	165780	24.3	14.9	15.5	26.7	17.4	19.3	11.4	22.4	22.9	16.2	31.0	31.0	21.1	17.3	-	
TH81	637097	166799		18.9	16.0	25.9	17.5	18.3	12.1	21.4	22.7		32.9	32.9	21.9	17.9	-	
TH82	637271	167873	34.4		17.5	27.5	19.9	24.6	17.4	24.3	25.5		36.5	36.5	26.4	21.7	-	
TH83	635907	169266	20.5	12.1	15.7	24.6		17.4	9.1	19.0	19.0	15.2	29.1	29.1	19.2	15.7	-	
TH84	635997	171095	33.4	25.2	18.3	24.8		21.4	20.4	23.9	24.9	19.5	32.7	32.7	25.2	20.7	-	
TH85	638026	165442	40.2	30.3	28.4	29.3	24.3	29.0	22.4	32.5	31.7	28.1	38.1	38.1	31.0	25.4	-	

TH86	637747	165713	34.7	24.9	19.5	26.7	17.9	22.7	17.2	23.6	25.0	22.4	35.3	35.3	25.4	20.9	-	

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

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

☒ **Thanet District Council confirm that all 2020 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 Thanet District Council During 2020

Several new developments have been progressed in 2020. All developments within the Thanet AQMA where there are more than 10 units with associated parking provisions are required to have EV charging points. Table C.1 details a list of planning applications which were commented on by the Environmental Health Department in terms of air quality. If it is a major development, then Thanet District Council are requesting that an Emissions Mitigation Assessment (EMA) is completed, and in some cases an Air Quality Assessment (AQA).

Manston Airport Development Consent Order was approved on the 19th July 2020 by the Secretary of State, however since then it was overturned on judicial review. This is now currently being reconsidered by the Secretary of State.

Table C.1 – Planning Applications with Air Quality Conditions (2020)

Reference	Location	Details	Comments
WK/202103614	Lanthorne Court, Lanthorne Road, Broadstairs, Kent, CT10 3PB.	Details pursuant to condition 7 of planning permission TH/19/1761	EV details 50 points
WK/202100954	Canterbury Road, West, Birchington, Kent.	Huge strategic development of 1650 dwellings. Has come forwards since the Local Plan was approved in 2020. Expected to have a significant impact on traffic levels and is to be assessed at the application stage. The Transport Strategy in conjunction with the Local Plan will require an inner road circuit as part of the development.	OTTH/20/1755 - AADT 2018 AQ & Noise 1650 dwellings EMA £627k ** Strategic Housing Site allocated in the adopted local plan
WK/202100126	Lanthorne Court, Lanthorne Road, Broadstairs, Kent, CT10 3PB.	Details pursuant to conditions 8 and 9 of TH/19/1761	EMA - £19k plus 53 EV points
WK/202075562	Land At, New Haine Road, Ramsgate, Kent.	-	TH/20/1435 - Noise & AQ EMA £39k

Reference	Location	Details	Comments
WK/202074937	Land East Of, Columbus Avenue, Manston Park, Ramsgate, Kent.	Erection of 10 No. general industrial units, associated parking and access road. TH/20/1565	AQ and EV condition
WK/202074432	St Stephens, Haine Road, Ramsgate, Kent, CT12 5ES.	Erection of 115no. dwellings comprising a mix of 2, 3 and 4-bed houses, and 1 and 2 bed-apartments, with vehicular access from Haine Road, together with associated highway infrastructure works, parking, and landscaping	TH/20/1525 - EMA £78k
WK/202071738	Dent De Lion Road, Westgate On Sea, Kent.	Huge strategic development. Has come forwards since the Local Plan was approved in 2020. Expected to have a significant impact on traffic levels and is to be assessed at the application stage. The Transport Strategy in conjunction with the Local Plan will require an inner road circuit as part of the development.	TH/20/1400 - EMA £794k Land South of Westgate & Garlinge *Strategic Housing Allocation in adopted local Pan
WK/202065846	Former Car Storage Site, Manston Road, Ramsgate, Kent.	Outline application for 48 dwellings including access with all other matters reserved	TH/20/1320 EMA £27K plus EV
WK/202065197	123 Canterbury Road, Westgate On Sea, Kent, CT8 8NW.	Change of use from Residential Institution (use class C2) to 12No. 1 Bed flats and 15No. 2 Bed flats and the erection 12No 2 bed dwellings (use class C3) with associated parking and landscaping together with alterations to fenestration and refurbishment	F/TH/20/1030 - EV 5 spaces, noise & AQ assessment
WK/202065195	Land West Of, Invicta Way, Manston Park, Monkton, Kent.	Erection of 9No commercial units (use class B2)	F/TH/20/1254 - 10% EV
WK/202061583	Enterprise Way, Westwood Industrial Estate, Margate, Kent.	Erection of a 5MW power generation plant consisting of 2no. generators and single storey substation and associated equipment and 2.4m high fencing and 3.5m high acoustic barrier	TH/20/1075 - Air Quality Comments
WK/202056028	Mcdonalds Restaurant, Westwood Road, Broadstairs, Kent, CT10 2NN.	Installation of 4 No electric vehicle charging stations together with associated equipment	TH/20/1054 – EV details
WK/202047123	Land And Buildings On The North West Side Of, Shottendane Road, Margate, Kent.	-	TH/20/0847 - EMA 450 dwellings
WK/202045492	Seagulls, Cliff	Erection of a three-storey building containing 8	TH/20/0842 – standard EV

Reference	Location	Details	Comments
	Promenade, Broadstairs, Kent, CT10 3QY.	No 2 bed and 2 No 3 bed self-contained flats with underground parking, following demolition of existing dwelling	charging points (11 spaces)
WK/202037295	Fairfield Manor, Fairfield Manor Care Centre, Fairfield Road, Broadstairs, Kent, CT10 2JY.	Erection of 5 storey building consisting of 30No 1bed and 22No 2bed retirement flats with associated communal facilities, new access, parking and landscaping following demolition of existing buildings	TH/20/0585 - AQ EMA
WK/202033360	Kingsgate College, Convent Road, Broadstairs, Kent, CT10 3PX.	-	TH/20/0591 - EV chargers
WK/202032067	Manston Road, East, Manston, Kent.	Erection of 4 no. 2 storey light industrial/general industrial (use class B1 and B2) commercial buildings with associated external storage (use Class B8) with access, parking and landscaping	TH/20/0590 - AQ EMA £179,411.77
WK/202025428	Land East Of, Columbus Avenue, Manston Park, Ramsgate, Kent.	Erection of 26No. general industrial units, associated parking and access road	TH/20/0303 - EV&AQ
WK/202017516	Lord Of The Manor - House, Canterbury Road East, Ramsgate, Kent, CT12 5EP.	-	TH/20/0352 - 4x EV
WK/202013410	Fairfield Manor, Fairfield Manor Care Centre, Fairfield Road, Broadstairs, Kent, CT10 2JY.	Details pursuant to condition 16 of TH/18/1655 - Air Quality & Condition 20 (Construction Method Statement)	EMA £31,500
WK/202009772	Land East Of 40, Canterbury Road West, Ramsgate, Kent.	Formal consultation from MPA regarding conditions 6 & 7 of planning permission OL/TH/17/0152	OT/TH/17/0152 - Noise aircraft and traffic and AQ EMA £40k
WK/202007563	Land North Of Cottington Road And East Of, Lavender Lane, Cliffsend, Kent.	Application for the reserved matters pursuant to outline permission OL/TH/17/0151 'outline application for the erection of up to 41 No dwellings including access' for appearance, landscaping, layout and scale	TH/19/1780 - Noise Assessment and EV proposals
WK/202002718	Lanthorne Court, Lanthorne Road, Broadstairs, Kent, CT10 3PB.	Outline application for the erection of 53 dwellings including access following demolition of existing buildings	TH/19/1761 - AQ Std EV and EMA

Additional Air Quality Works Undertaken by Thanet District Council During 2020

Thanet District Council has not completed any additional works within the reporting year of 2020.

QA/QC of Diffusion Tube Monitoring

Thanet District Council's diffusion tubes in 2020 were supplied and analysed by SOCOTEC Didcot, using the 50% Triethanolamine (TEA) in acetone preparation method. SOCOTEC's laboratory is UKAS accredited, participating in the AIR-PT Scheme (a continuation of the Workplace Analysis Scheme for Proficiency (WASP)) for NO_2 tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high caliber. The lab follows the procedures set out in the Harmonisation Practical Guidance. In the latest available AIR-PT results, AIR PT AR036 (January – February 2020) and AIR PT AR040 (September – October 2020), SOCOTEC scored 100%. No results are available between May and August 2020 as testing rounds were cancelled due to the COVID-19 pandemic. The percentage score reflects the results deemed to be satisfactory based upon the z-score of $< \pm 2$.

All local authority co-location studies which use tubes supplied by SOCOTEC with the 50% TEA in acetone preparation method in 2020 were rated as 'good', as shown by the precision summary results. 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. Tubes are considered to have a "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more monitoring periods during a year is less than 20%.

Monitoring in 2020 had been completed in adherence with the 2020 Diffusion Tube Monitoring Calendar, whereby most changeovers were completed within ±2 days of the specified date.

Diffusion Tube Annualisation

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

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2021 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.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.

Thanet District Council have applied a local bias adjustment factor of 0.82 to the 2020 monitoring data. A summary of bias adjustment factors used by Thanet District Council over the past five years is presented in Table C.2.

A triplicate co-location study is carried out at the roadside automatic monitoring location ZH4, Boundary Road in Ramsgate, and has been established for a number of years. A local bias adjustment factor of 0.82 was calculated using v1.1 of the Diffusion Tube Data Processing Tool, developed by Bureau Veritas on behalf of DEFRA. Details of this are shown in Table C.2. The diffusion tubes used in the co-location study had a “good overall precision”, and the automatic monitor had a “good overall data capture”.

The national factor for SOCOTEC Didcot 50% TEA in acetone, as presented in the Diffusion Tube Bias Factors Spreadsheet v03_21, was 0.77 based on 22 studies.

The decision to use the local bias adjustment factor was based on the fact that there was good overall data capture and precision at the co-location site (which has now been in operation for multiple years), and that the local factor was more conservative than the national factor. Although not part of the UK Automatic Urban and Rural Network (AURN), the QA/QC procedures carried out at ZH4 by the Kent and Medway Air Quality Monitoring Network (K&MAQMN) are largely equivalent to the AURN. The local factor also remains relatively in-line with the factors applied in previous years.

Table C.2 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2020	Local	-	0.82

2019	National	03/20	0.75
2018	National	06/19	0.76
2017	National	06/18	0.77
2016	Local	-	0.85

NO_2 Fall-off with Distance from the Road

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

No diffusion tube NO_2 monitoring locations within Thanet District Council required distance correction during 2020.

QA/QC of Automatic Monitoring

The QA/QC procedures for the sites are those of the Kent and Medway Air Quality Monitoring Network (K&MAQMN). The K&MAQMN procedures are equivalent to the UK Automatic Urban and Rural Network (AURN) procedures, with the exception of the following:

- Calibration of NOx analysers with NO gas only (AURN also use NO_2);
- Data checks are done once daily, and downloads are done twice daily (AURN are hourly); and
- Independent audits of the stations are undertaken annually (AURN are 6 monthly). Ricardo AEA ratify the data for both the AURN and K&MAQMN sites

All the automatic monitoring data for 2020 and presented within the 2021 ASR is fully ratified. Live and historic automatic monitoring data can be accessed via the KentAir website.

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

The type of PM_{10} monitor(s) utilised within Thanet District Council do not required the application of a correction factor.

Automatic Monitoring Annualisation

All automatic monitoring locations within Thanet District Council recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

NO_2 Fall-off with Distance from the Road

Wherever possible, local authorities should ensure that monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure should be estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

No automatic NO_2 monitoring locations within Thanet District Council required distance correction during 2020.

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1
Periods used to calculate bias	12
Bias Factor A	0.82 (0.76 - 0.89)
Bias Factor B	22% (13% - 32%)
Diffusion Tube Mean (µg/m^3)	20.7
Mean CV (Precision)	5.9%
Automatic Mean (µg/m^3)	17.0
Data Capture	98%
Adjusted Tube Mean (µg/m^3)	17 (16 - 18)

Notes:

A single local bias adjustment factor has been used to bias adjust the 2020 diffusion tube results.

Appendix D: Maps of Monitoring Locations and AQMA

Figure D.1 – Map of Automatic Monitoring Sites

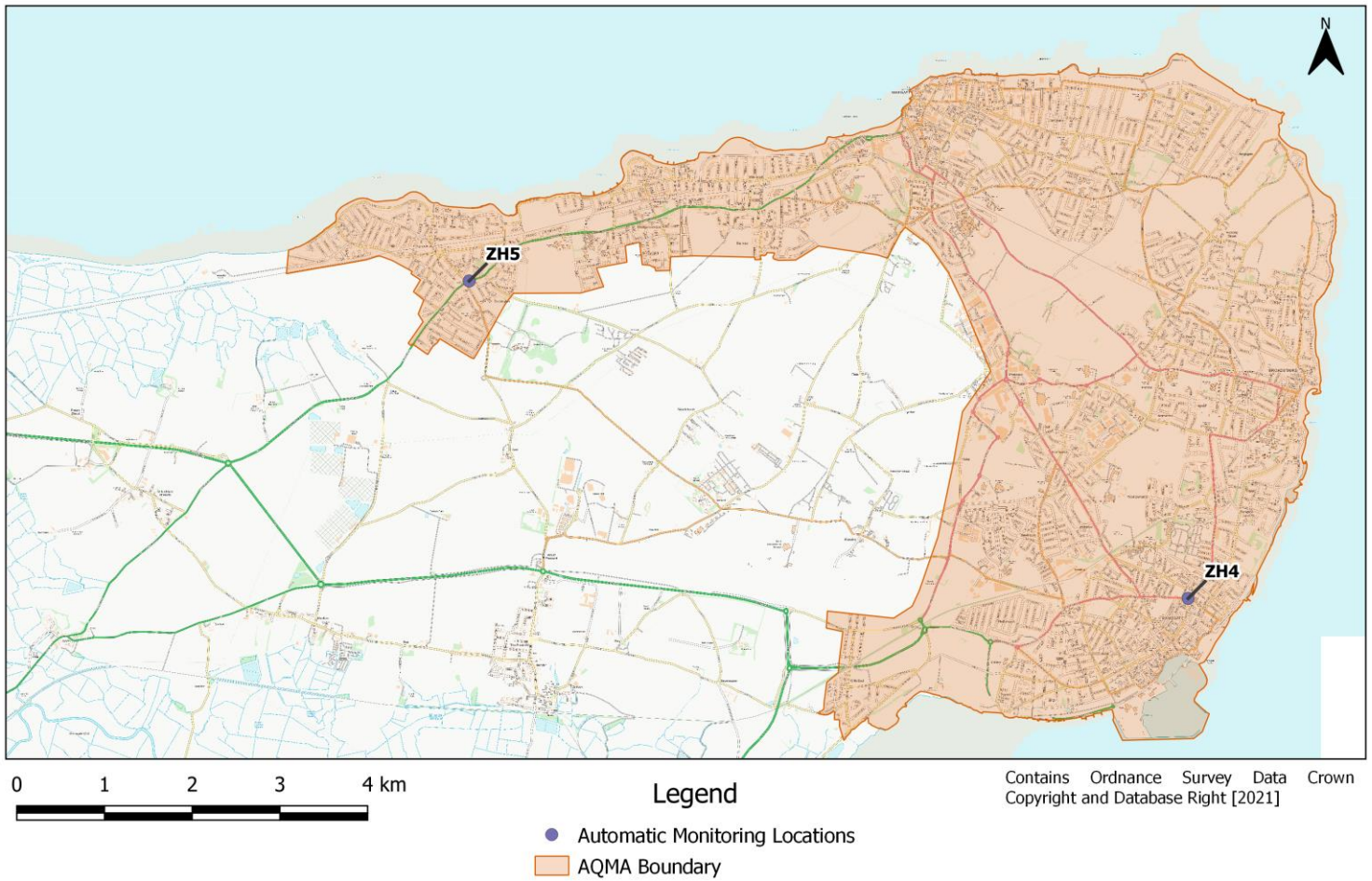


Figure D.2 – Map of Non-Automatic Monitoring Sites

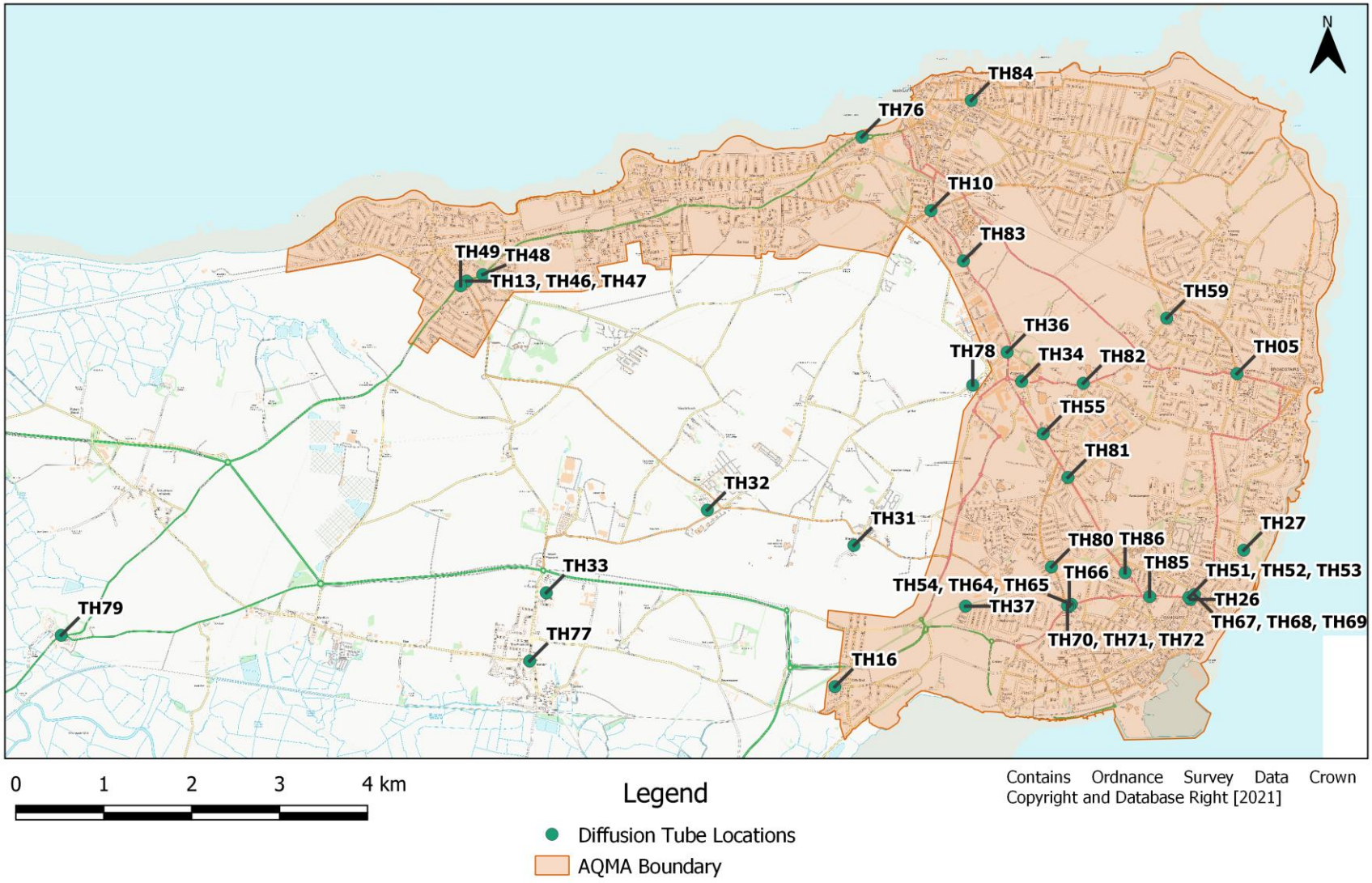


Figure D.3 – Monitoring Locations in Birchington

Figure D.4 – Monitoring Locations in Minster

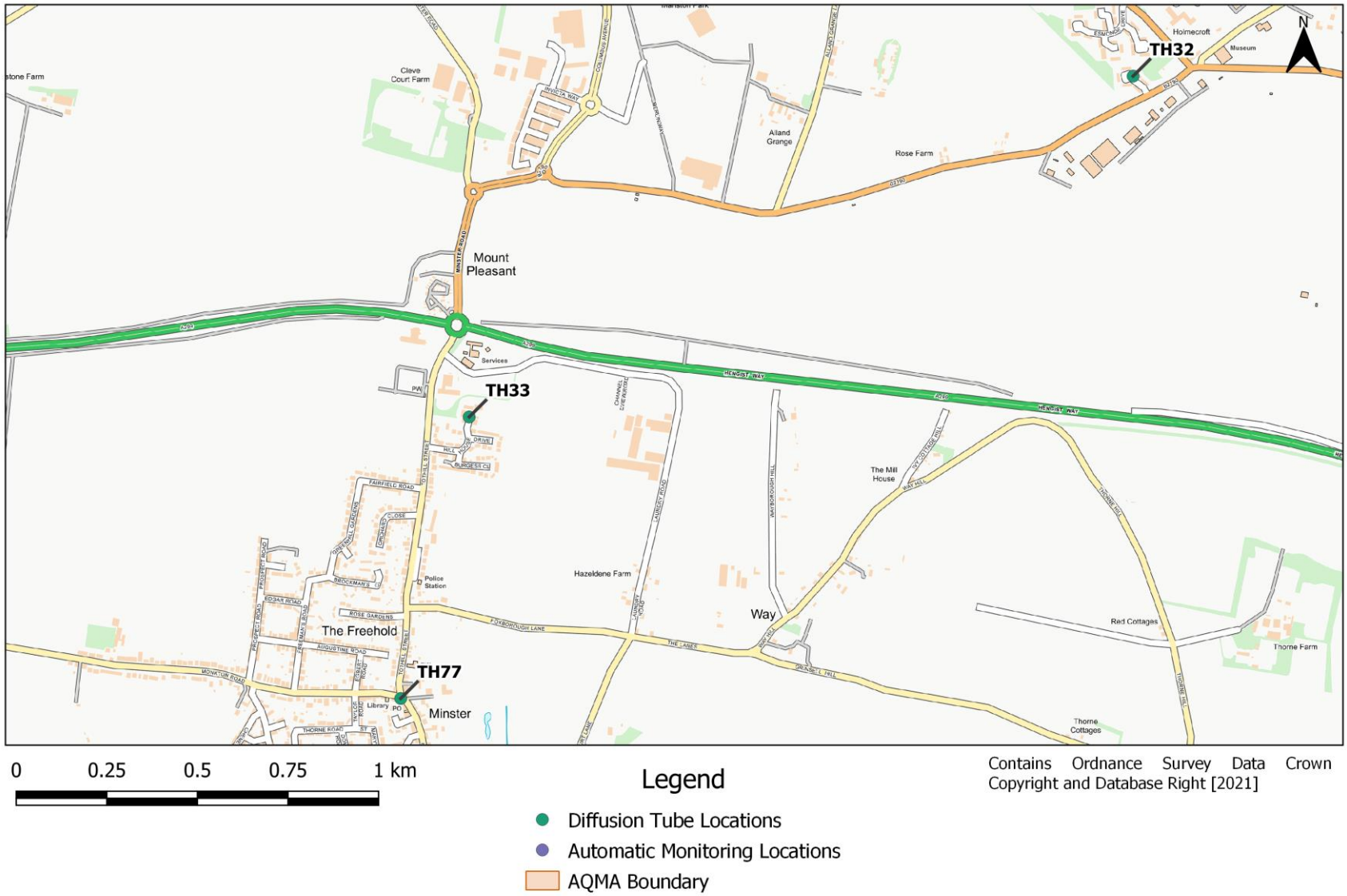


Figure D.5 – Monitoring Locations in Cliffsend, Ramsgate

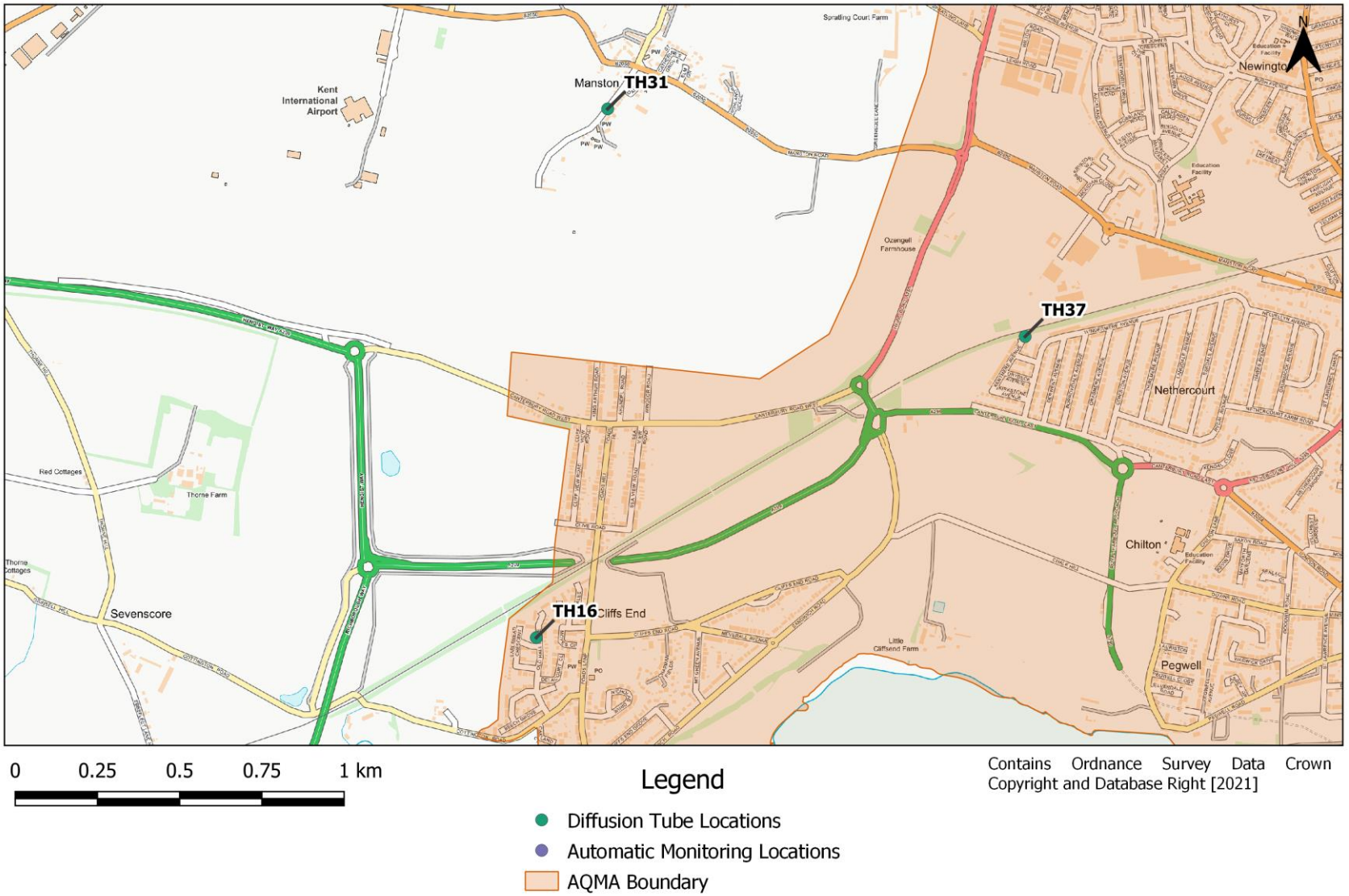


Figure D.6 – Monitoring Locations in Westwood

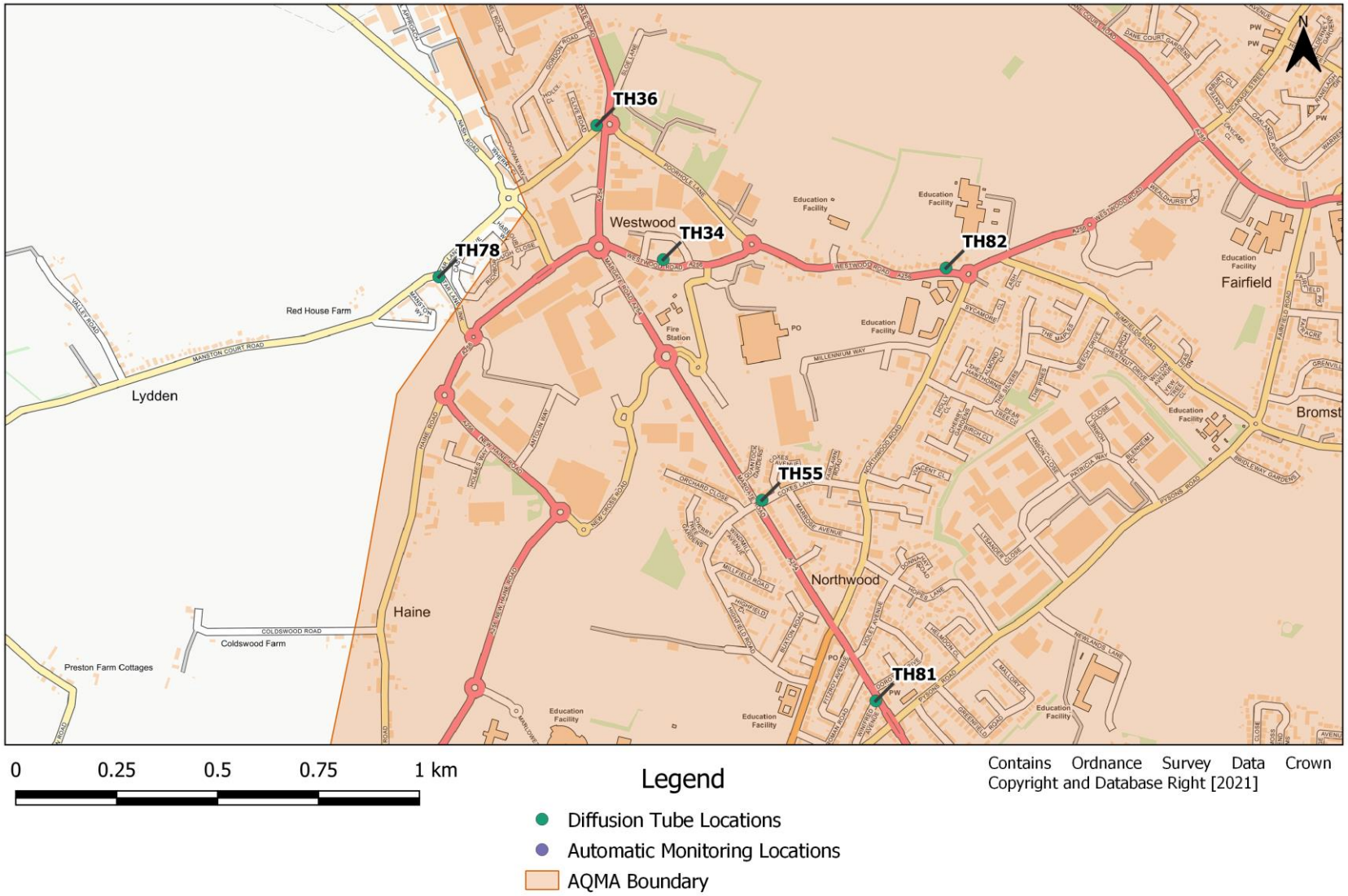


Figure D.7 – Monitoring Locations in St. Peters, Broadstairs

Figure D.8 – Monitoring Locations in Margate

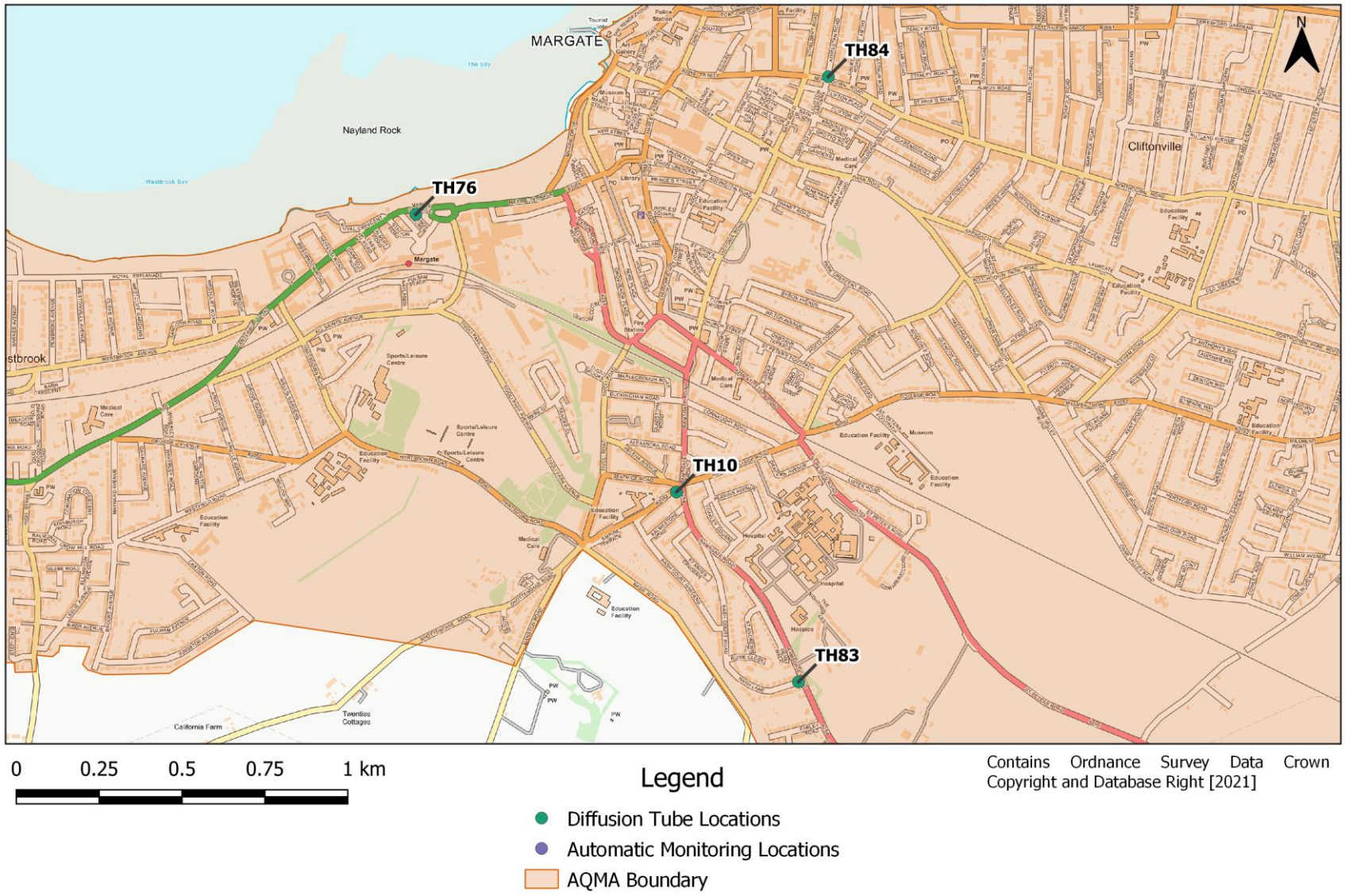


Figure D.9 – Monitoring Locations in Ramsgate

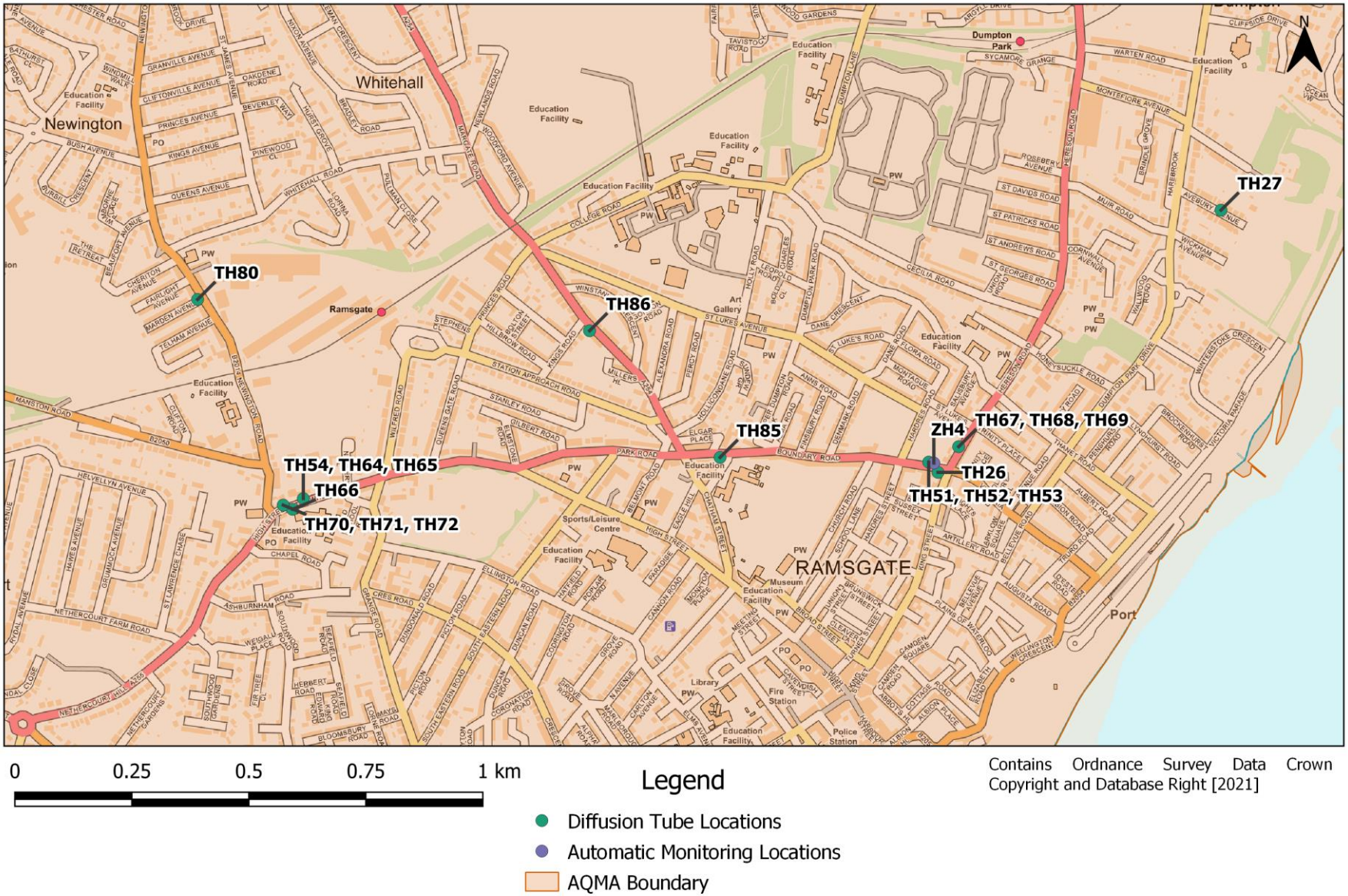
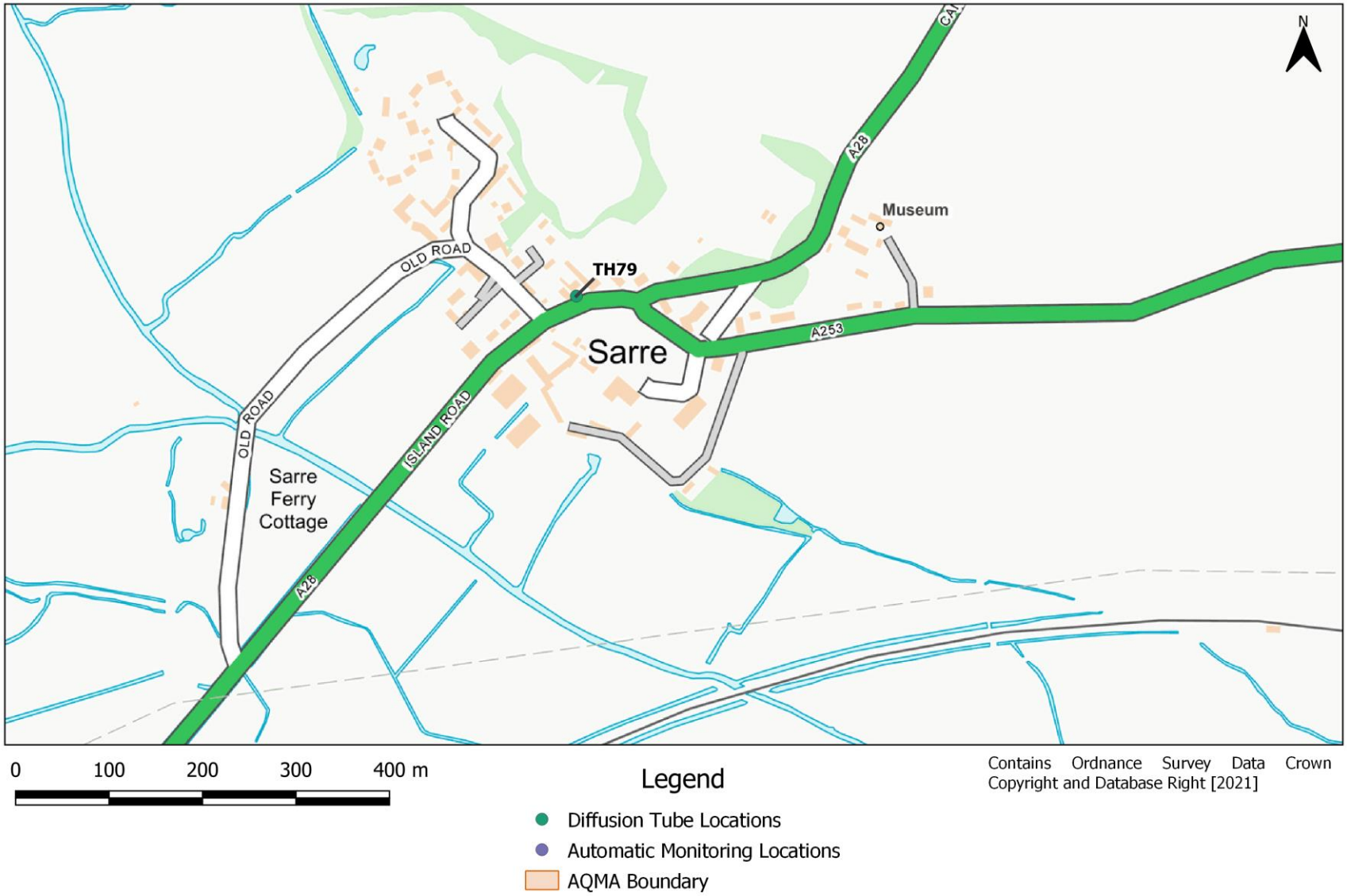


Figure D.10 – Monitoring Locations in Sarre


N
A28
Museum
TH79
OLD ROAD
A253
Sarre
OLD ROAD
ISLAND ROAD
Sarre
Ferry
Cottage
A28
0
100
200
300
400 m
Legend
Diffusion Tube Locations
Automatic Monitoring Locations
AQMA Boundary
Contains Ordnance Survey Data Crown Copyright and Database Right [2021]

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[7]

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

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

Appendix F: Impact of COVID-19 upon LAQM

COVID-19 has had a significant impact on society. Inevitably, COVID-19 has also had an impact on the environment, with implications to air quality at local, regional and national scales.

COVID-19 has presented various challenges for Local Authorities with respect to undertaking their statutory LAQM duties in the 2021 reporting year. Recognising this, Defra provided various advice updates throughout 2020 to English authorities, particularly concerning the potential disruption to air quality monitoring programmes, implementation of Air Quality Action Plans (AQAPs) and LAQM statutory reporting requirements. Defra has also issued supplementary guidance for LAQM reporting in 2021 to assist local authorities in preparing their 2021 ASR. Where applicable, this advice has been followed.

Despite the challenges that the pandemic has given rise to, the events of 2020 have also provided Local Authorities with an opportunity to quantify the air quality impacts associated with wide-scale and extreme intervention, most notably in relation to emissions of air pollutants arising from road traffic. The vast majority (>95%) of AQMAs declared within the UK are related to road traffic emissions, where attainment of the annual mean objective for nitrogen dioxide (NO_2) is considered unlikely. On 23rd March 2020, the UK Government released official guidance advising all members of public to stay at home, with work-related travel only permitted when absolutely necessary. During this initial national lockdown (and to a lesser extent other national and regional lockdowns that followed), marked reductions in vehicle traffic were observed; Department for Transport (DfT) data[8] 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)[9] has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK reductions in NO_2 annual mean

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

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

concentrations were between 20 and 30% relative to pre-pandemic levels, which represents an absolute reduction of between 10 to 20µg/m^3 if expressed relative to annual mean averages. During this period, changes in $PM_{2.5}$ concentrations were less marked than those of NO_2. $PM_{2.5}$ 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/m^3 lower relative to those that would be expected under business-as-usual conditions.

As restrictions are gradually lifted, the challenge is to understand how these air quality improvements can benefit the long-term health of the population.

Impacts of COVID-19 on Air Quality within Thanet District Council

As with much of the UK, the COVID-19 pandemic and subsequent UK Government enforced lockdowns and guidelines to work from home/stay local resulted in traffic volumes to drop in urban areas. Although traffic figures are not available, it has been seen that the 2020 annual mean NO_2 concentrations have decreased compared to previous years in the majority of monitoring locations, and this decrease has been on a larger scale than previously noticed. This is therefore expected to be as an impact of COVID-19 on Air Quality within Thanet District Council.

There have however been no other identifiable impacts as a consequence of COVID-19 upon air quality within Thanet District Council.

Opportunities Presented by COVID-19 upon LAQM within Thanet District Council

No LAQM related opportunities have arisen as a consequence of COVID-19 within Thanet District Council.

Challenges and Constraints Imposed by COVID-19 upon LAQM within Thanet District Council

No challenges or constraints relating to LAQM have arisen during 2020 as a consequence of COVID-19 within Thanet district Council.

Table F 1 – Impact Matrix

Category	Impact Rating: None	Impact Rating: Small	Impact Rating: Medium	Impact Rating: Large
Automatic Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Automatic Monitoring – QA/QC Regime	Adherence to requirements as defined in LAQM.TG16	Routine calibrations taken place frequently but not to normal regime. Audits undertaken alongside service and maintenance programmes	Routine calibrations taken place infrequently and service and maintenance regimes adhered to. No audit achieved	Routine calibrations not undertaken within extended period (e.g. 3 to 4 months). Interruption to service and maintenance regime and no audit achieved
Passive Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Passive Monitoring – Bias Adjustment Factor	Bias adjustment undertaken as normal	<25% impact on normal number of available bias adjustment colocation studies (2020 vs 2019)	25-50% impact on normal number of available bias adjustment studies (2020 vs 2019)	>50% impact on normal number of available bias adjustment studies (2020 vs 2019) and/or applied bias adjustment factor studies not considered representative of local regime
Passive Monitoring – Adherence to Changeover Dates	Defra diffusion tube exposure calendar adhered to	Tubes left out for two exposure periods	Tubes left out for three exposure periods	Tubes left out for more than three exposure periods
Passive Monitoring – Storage of Tubes	Tubes stored in accordance with laboratory guidance and analysed promptly.	Tubes stored for longer than normal but adhering to laboratory guidance	Tubes unable to be stored according to be laboratory guidance but analysed prior to expiry date	Tubes stored for so long that they were unable to be analysed prior to expiry date. Data unable to be used
AQAP – Measure Implementation	Unaffected	Short delay (<6 months) in development of a new AQAP, but is on-going	Long delay (>6 months) in development of a new AQAP, but is on-going	No progression in development of a new AQAP
AQAP – New AQAP Development	Unaffected	Short delay (<6 months) in development of a new AQAP, but is on-going	Long delay (>6 months) in development of a new AQAP, but is on-going	No progression in development of a new AQAP

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 Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
K&MAQMN	Kent and Medway Air Quality Monitoring Network
K&MAQP	Thanet District council is part of the Kent and Medway Air Quality Partnership
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

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