2022 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date: September, 2022

Information	East Suffolk Council Details
Local Authority Officer	Denise Lavender
Department	Environmental Protection
Address	East Suffolk House, Riduna Park, Station Road, Melton, Woodbridge, IP12 1RT
Telephone	0333 016 20000
E-mail	environment@eastsuffolk.gov.uk
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Executive Summary: Air Quality in Our Area

Air Quality in East Suffolk 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].

Generally, the air quality within East Suffolk is good. There are two small, localised areas where the objective for annual mean nitrogen dioxide (NO_2) has been exceeded in the past, and the following two Air Quality Management Areas (AQMAs) are currently declared;

- Several houses on the road junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction); and
- Four residential properties within Long Row, Main Road (A12) in Stratford St Andrew.

Each AQMA is discussed briefly overleaf, with more detail provided in Section 2.

The main source of emissions within East Suffolk is road traffic, which means that the pollutants of concern are nitrogen dioxide (NO_2) and particulate matter. Within the town of Felixstowe, emissions from, and associated with, the Port are also a source of these two pollutants.

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[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

NO_2 is measured in the district by an automatic analyser and multiple diffusion tubes. There is an automatic analyser situated within Woodbridge, and in 2021 there were 83 diffusion tube monitoring locations covering 18 areas; Beccles, Blythburgh, Bungay, Farnham, Felixstowe, Framlingham, Kesgrave, Little Glemham, Leiston, Lowestoft, Martlesham, Melton, Oulton Broad, Saxmundham, Stratford St Andrew, the Trimleys, Woodbridge and Wrentham.

The 2021 monitoring results show no exceedances of the annual mean NO_2 objective at any site of relevant exposure.

To improve the accuracy of data collection, a number of triplicate sets of diffusion tubes are reported. In 2021, there were six new monitoring locations sited to investigate concerns raised by local residents and possible changes due to future development in East Suffolk. One site in Felixstowe (FLX 27) with historically low concentrations was removed. NO_2 concentrations within both declared AQMAs were within the objective in 2021, Stratford St Andrew for the fifth year running and Woodbridge for the eighth year running, though the AQMAs have historically been retained as a mechanism for continuing to improve local air quality. There is a general trend of NO_2 reductions across the Council over time. This trend stabilised between 2020 and 2021. This is likely a result of the impact of COVID-19 and the associated travel restrictions in 2020, and the lessening of this effect in 2021 as travel restrictions were lifted.

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 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

[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

important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

There have been a number of actions undertaken by East Suffolk Council (ESC) during the last year to help reduce pollutant emissions and/or provide information to aid us with our air quality plans. These are detailed in Section 2. Key measures completed this year are:

- A draft East Suffolk Council Cycling and Walking Strategy was consulted upon in Autumn 2021, with the aspiration to be adopted Autumn 2022.
- The Fleet Migration Plan was developed in 2021/22, investigating the use of Hydrotreated Vegetable Oil Diesel (HVO). 50 out of 51 Refuse Collection Vehicles are now using HVO, together with some vehicles in the housing fleet.
- Woodbridge Town Council worked with Suffolk County Council (SCC) to bring a new Traffic Regulation Order into force on 30/01/22.
- The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 came into effect on 1 May 2021 and state that wood sold in quantities under $2m^3$ will be required to be certified to show that the moisture content is 20% or less. ESC is working to enforce these regulations and increase public knowledge.
- The Woodbridge AQMA was declared in 2006 for exceedances of the annual mean NO_2 objective (set at 40 $\mu g/m^3$). A public consultation was launched in 2021 to revoke the AQMA and the views of local residents sought. Consultation responses have been collated and published, and ESC will now proceed with revocation of this AQMA.

Development Consent Orders (DCOs)

Lowestoft Gull Wing Bridge

In 2015 Suffolk County Council was given funding to identify and assess a number of ways of improving north-south connections across Lake Lothing. In 2020, the archaeological surveys and groundworks for the development started and work is progressing on target, with an estimated completion date of mid/late 2023.

East Anglia ONE North and East Anglia TWO Offshore Windfarms

The DCO applications for these two projects were submitted to the Planning Inspectorate in October 2019, the Public Examinations closed on 6th July 2021. The Examining

Authorities issued Recommendation Reports to the Secretary of State on 6th October 2021, and the applications were granted consent on 31st March 2022.

The Sizewell C Project

The DCO application by EDF Energy for a new nuclear power station, Sizewell C, was submitted to the Planning Inspectorate in May 2020. A Public Consultation on improved proposals to the application was carried out in November/December 2020. The Public Examination closed on 14th October 2021 and the Secretary of State granted permission on 20th July 2022. This DCO application is referenced in measures STA 7 and STA 8 of Table 2.2 later in this report.

ESC has been scrutinising the proposals and participating in the Public Examinations for the above DCO applications with regard to air quality impacts within the district, including the two declared AQMAs at Stratford St Andrew and Woodbridge. Additional information on the DCOs is provided in section 2.2.

Conclusions and Priorities

In 2021, NO_2 concentrations within the Woodbridge and Stratford St. Andrew AQMAs were below the objective, as were all concentrations of NO_2 monitored throughout the district.

Concentrations of NO_2 within the Woodbridge AQMA have been within the objective for the last eight years with a trend of continued reduction. Concentrations in the Stratford St. Andrew AQMA were below the annual mean NO_2 objective for the fifth year running.

A key priority for ESC in 2022 is to finalise the revocation order for Woodbridge AQMA.

Additional priorities for 2022 are:

- Begin to gather information for use in the ESC Air Quality Strategy review;
- Continue work on the DCOs (EA1N, EA2, SZC) and agree the outline plans, such as; Outline Construction Traffic Management Plan, Outline Travel Plan, Outline Code of Construction Practice, Air Quality Management Plan, Construction Workforce Travel Plan, Outline Dust Management Plan, Dust Monitoring and Mitigation Plans;
- Action the winter solid fuel and wood burning education campaign;
- Work with the ECOStars project to confirm its viability for ESC;

- Continue work to reduce carbon emissions moving towards carbon neutral; and
- Work with the NHS, SCC and the Suffolk Air Quality Management Group to look at delivering an air quality information video more widely.

Local Engagement and How to get Involved

It is really important that we hear the views and comments of our residents, as local knowledge is invaluable. We are continuously updating the air quality pages on our website, which should be easy to navigate and include lots of air quality information.
If you would like to be more directly involved in environmental issues you may wish to join the East Suffolk Greenprint Forum. This is a voluntary network which provides a link between public and voluntary organisations and community groups. It is a hub for community groups to share skills and experiences as well as acting to assist local environmental action in communities and organisations. It has successfully operated since 1996 and has approximately 200 members. The Greenprint Forum is facilitated by ESC and its Steering Group includes representatives of local voluntary organisations. Membership is free and open to all. Further details can be found at East Suffolk Greenprint Forum - East Suffolk Greenprint Forum » East Suffolk Council

So what can I do?

The main source of air pollution in the district is traffic on our roads, but we also have some emissions coming from domestic burning. We are currently meeting the air quality objectives set by the Government, but it will also require a concerted public effort with each person doing their bit to help to clean the air we breathe. The following are some simple ideas we can look at taking to help cut down the pollution we emit:

- Walk, cycle or scoot short trips instead of driving – it's a great way to reconnect with your local community, breathe cleaner air and get some exercise. Even one journey a week could make a big difference if everyone did it;
- Work from home more often if your employer allows – challenge your workplace to make this easier for you;
- If driving is essential, you could look at going electric – hire an electric car or taxi or test drive an electric vehicle to see what it's like;

- If you drive - don't idle – turn off your engine when your vehicle will be stationary for 1 minute or more and it is safe to do so. One minute of car idling produces enough toxic emissions to fill 60 people's lungs;
- Avoid burning household and garden waste – take it to your nearest recycling centre; and
- Avoid using wood burning stoves and open fires where possible – if you do burn, only burn dry well-seasoned wood or smokeless fuel.

The www.greensuffolk.org/travel website has advice on all aspects of alternative greener travel options. Information is also supplied to aid businesses, developers and schools with constructing Travel Plans to suit their needs and free support and advice is available. Businesses may be eligible for up to 50% match funding towards the cost and installation of initiatives to support healthier and greener travel in the workplace.

There is a Cycling Strategy for the whole of Suffolk produced by the County Council and a recently published Cycling and Walking Strategy for ESC.

You can obtain advice on safe cycling routes, download Suffolk cycle maps and find general supportive information on cycling at https://www.suffolkonboard.com/cycle/. In addition, Sustrans, a charity devoted to promoting cycling as a healthier alternative form of transport, also provides useful information which is available on their website at https://www.sustrans.org.uk/ncn/map. We are working to improve the electric vehicle charging network within the district which contributes to the wider charging network in Suffolk. You could consider making your next car purchase an electric one and not only enjoy the economic saving, but also reduce your emissions. Details of local electric charging points can be found at www.zap-map.com/live/ and the site also gives general information about owning electric cars.

Even if you are not thinking of going electric, every driver can do their bit to help emission reduction through the practise of smarter driving. Information is available from the Energy Saving Trust Website via the link: http://www.energysavingtrust.org.uk/travel. By driving 'smarter' you can both save money and reduce harmful emissions to the atmosphere.

Open fires and wood-burning stoves have risen in popularity in recent years and may be an additional form of heating, an attractive feature, or the sole heat source. Some people

are unaware that use in the home increases your own domestic exposure to air pollutants and makes a significant contribution to our national emissions of airborne particulates. While we will never be able to eliminate all airborne particulates, there are simple steps that households can take to limit emissions both indoors and out that will make a big difference. For information on the easy steps everyone can take please visit the ESC website Wood burning in the home » East Suffolk Council

If you would like any further information on national air quality, including the latest news, air pollution forecasts, the latest measured levels and a summary, interactive monitoring, and general information about air pollution, consult the Defra website http://www.ukair.defra.gov.uk.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of East Suffolk Council with the support and agreement of the following officers and departments:

Naomi Goold – Energy projects – Planning

Simon Elvin – Human Resources

Lewis Boudville – Transport, Infrastructure and Parking Services

Sandra Lewis – Strategic Management

Rob Stammers – Waste Strategy and Business Improvement

This ASR has been approved by:

Stephen Baker - Chief Executive, East Suffolk Council

Fiona Quinn - Head of Environmental Services and Port Health, East Suffolk Council

Philip Ridley BSc (Hons) MRTPI - Head of Planning and Coastal Management, East Suffolk Council

Stuart Keeble – Director of Public Health for Suffolk

Graeme Mateer – Head of Transport Strategy, Suffolk County Council

This ASR has been signed off by the Director of Public Health for Suffolk.

If you have any comments on this ASR please send them to Denise Lavender at:

Address: East Suffolk House, Riduna Park, Station Road, Melton, Woodbridge, IP12 1RT

Telephone: 0333 016 20000

Email: environmental.protection@eastsuffolk.gov.uk

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1 Local Air Quality Management

This report provides an overview of air quality in East Suffolk Council during 2021. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995, as amended in 2021) and the relevant Policy and Technical Guidance documents.

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

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

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

NO_2 annual mean.

Woodbridge AQMA

ESC propose to revoke AQMA Order No. 1 2006 - Woodbridge due to consistent years of annual mean NO_2 concentrations below the air quality objective, with a trend of continued reduction (see monitoring section 3). NO_2 concentrations within the AQMA have reduced since 2014 and have now been below the objective level for eight consecutive years, with the maximum average for 2021 being 24.3 µg/m^3. The concentrations at all monitoring locations within the AQMA have not been within 10% of the NO_2 annual mean objective of 40 µg/m^3 (below 36 µg/m^3) for five consecutive years.

The current Action Plan created in 2011 includes 20 measures to reduce NO_2 concentrations from both queueing and moving traffic at this junction. Studies looking at the layout of the junction and the local weather, in particular the wind speed and direction, indicate that emissions from the junction are being ‘funnelled’ in the direction of Melton Hill away from the junction, and then dispersed very slowly within the canyoned area of the AQMA. In light of these findings, many of the options in the original Action Plan are unlikely to have any significant impact on NO_2 levels. The Action Plan was in the process of being updated and a draft version has been approved by Defra. Due to the decision to revoke this AQMA it is the Council’s intention that the draft updated Action Plan will not be finalised, but will be archived for future use if needed.

A draft Detailed Assessment presenting evidence to support the revocation of the Woodbridge AQMA was produced, taken to the Steering Group and finalised. Defra appraisal of the Detailed Assessment confirmed revocation should be undertaken. Public consultation on the Detailed Assessment findings and the intention of ESC to revoke the AQMA ran from May to July 2022.

The Council received 9 responses to the consultation, the results have been collated and placed on the ESC website at Closed consultations with responses » East Suffolk Council. All respondents were replied to individually. ESC is now proceeding with revocation of the Woodbridge AQMA and we aim to have made the Revocation Order within the next 2 months.

All air quality monitoring within the AQMA and at this junction in Woodbridge will continue.

Stratford St Andrew AQMA

The AQMA Order No. 3, 2014 - Stratford St Andrew was declared in June 2014. The AQMA last saw exceedances of the annual mean NO_2 objective in 2016 (42.9 µg/m^3). NO_2 concentrations have fallen each year thereafter and the AQMA has achieved compliance for five consecutive years. The maximum annual mean NO_2 concentration recorded in 2021 measured 28.3 µg/m^3, only slightly higher than in 2020 which was 27.1 µg/m3. Measurements in 2020 were expected to be low due to the possible impacts of the Covid-19 lockdowns on traffic flows using this route.

The Action Plan received Defra approval in March 2018 and consists of two short term, priority action measures and six longer term aspirational measures. The main priority measure, for the County Council to move the 30/50mph change of speed limit sign further south out of the village was undertaken in December 2017. ESC is continuing to monitor in this location and the Steering Group have looked at the aspirational measures within the Action Plan. Taking forward any of the aspirational measures within the AQAP was put on hold whilst awaiting the outcome of the Sizewell C Development Consent Order (DCO) application. This has recently been consented by the Secretary of State and includes a bypass of this AQMA which should drastically improve NO_2 concentrations going through the village.

Although NO_2 measurements have fallen within the annual mean NO_2 objective level of 40µg /m^3, the Council is not looking to revoke this AQMA currently. Construction traffic associated with the Early Years works to build the associated developments for the

Sizewell C DCO will travel through the AQMA whilst the 2-villages bypass is being constructed. Traffic from the EA1N and EA2 DCO developments may overlap with this period also.

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 National Highways?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
Air Quality Management Area Order No. 1, 2006	Declared 3rd April 2006	NO_2 Annual Mean	An area encompassing a number of properties near the junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge	NO	48 µg/m^3	24.3 µg/m^3	AQAP for AQMA No. 1, February 2011	http://www.eastsuffolk.gov.uk/assets/Environment/Environmental-Protection/Air-Quality/FinalAirQualityActionPlanWoodbridgeFeb2011.pdf
Air Quality Management Area Order No. 3, 2014	Declared 18th June 2014	NO_2 Annual Mean	The four properties situated within 1-5 Long Row, main Road (A12), in Stratford St. Andrew	NO	42 µg/m^3	28.3 µg/m^3	AQAP for AQMA No. 3, March 2018	http://www.eastsuffolk.gov.uk/assets/Environment/Environmental-Protection/Air-Quality/AQAP-Stratford-St.-Andrew-Final-November.pdf

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

☒ **East Suffolk Council confirm that all current AQAPs have been submitted to Defra.**

2.2 Progress and Impact of Measures to address Air Quality in East Suffolk Council

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

1. The national diffusion tube bias adjustment factor has been taken from the 06/21 version of the national database and this has been used for all diffusion tubes outside the Woodbridge AQMA. A new version (09/21) was the latest available published version at the time of submission. It is not considered that this latest version would significantly change the results presented within the report but the local authority is reminded to keep up to date with the latest available tools. It is noted that this was also an issue in last year's ASR. A Local factor has been used for monitoring within the Woodbridge AQMA. This is consistent with previous years.
2. Within Table A.1, it is specified that the monitoring site is within an AQMA. Please include the AQMA within which the monitoring is located within this table in future.
3. A high level of detail has been provided within the ASR in regard to the positive works being undertaken by the Council in terms of working to reduce air pollutant concentrations across the city. This is welcomed and updates for all described measures should be provided within the 2022 ASR.
4. Maps are clearly provided for each monitoring location in detail within the local authority, this is welcomed. A map showing an overview across the whole local authority may be helpful within future ASRs.
5. Within the excel sheet uploaded, a different value is provided to that within the word document. Table 2.1 of the Excel file has a different level of exceedance in AQMA No.3 (27.1 in report and 27.4 in excel). It is believed the value should be 27.1 in line with monitoring in Table A.4. The local authority is reminded to check for consistency across all submitted documents.
6. Information has been submitted for the revocation of AQMA no.1, it is considered the evidence submitted is sufficient to determine that it is unlikely that there would be future exceedances of the annual mean objective for NO_2 within this AQMA.
7. Appendix F has been completed detailing the local authority's approach to the Covid-19 pandemic. It is welcomed that the council has found opportunities to improve sustainable travel infrastructure as a result of the pandemic.

ESC 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. 50 measures are included within Table 2.2, with the type of measure and the progress ESC has 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 their respective Action Plans for Woodbridge Junction AQAP and Stratford St. Andrew AQAP. Key completed measures are:

- A draft ESC Cycling and Walking Strategy was consulted upon in Autumn 2021, with aspiration to be adopted Autumn 2022. The draft includes suggested schemes for Woodbridge and Melton.
- Fleet Migration Plan for ESC and associated partners was developed in 2021/22 investigating the use of Hydrotreated Vegetable Oil (HVO). In July 2022 14 Refuse Collection Vehicles (RCV) were hired to replace vehicles incompatible with HVO, 50 out of 51 RCVs are now using HVO. Of the housing fleet, 8 out of 78 vehicles are using HVO. The purchase of a new fleet will pave the way for providing an efficient, reliable and environmentally sustainable transport solution for the collection of refuse – providing meaningful change, immediately and into the future.
- Woodbridge Town Council has worked with Suffolk County Council to bring a new Traffic Regulation Order into force on 30/01/22. It comprises a Pedestrian Zone except for permit holders and for loading together with a no waiting zone. This will reduce the number of vehicles waiting to go straight over at the traffic lights close to the declared AQMA. These vehicles hold up the left filter traffic and so a reduction in their number will improve traffic flow and reduce congestion at the junction.
- The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 came into effect on 1 May 2021 and state that wood sold in quantities under $2m^3$ will be required to be certified to show that the moisture content is 20% or less. Many homes in East Suffolk have open fires or wood-burning stoves. Wood displaying the Ready to Burn logo has a 20% moisture content or less and can be burnt straight away. East Suffolk Council is working to enforce these regulations across the district.
- The Woodbridge AQMA was declared in 2006 for exceedance of the annual mean NO_2 objective (set at 40 $\mu g/m^3$). NO_2 concentrations within the AQMA began to fall in 2006, and from 2014 have now been below the air quality objective for eight consecutive

years. A draft Detailed Assessment presenting evidence to support the revocation of the Woodbridge AQMA was produced, taken to the Steering Group and finalised. Defra appraisal of the Detailed Assessment confirmed revocation should be undertaken. Public consultation on the Detailed Assessment findings and the intention of ESC to revoke the AQMA ran from May to July 2022. The results from the Consultation have been collated and placed on the ESC website at Closed consultations with responses » East Suffolk Council. ESC is now proceeding with revocation of the Woodbridge AQMA with an aim to make the Revocation Order within the next 2 months.

The Suffolk Air Quality Summit was held via Teams on 28 January 2022 with participants from across the county. This meeting covered an introduction to air quality, the effects of Air Pollution on Health and the current air quality situation across Suffolk was followed by three presentations given by representatives from organisations who are currently working on projects to reduce air pollution both locally and nationally. Suffolk Air Quality Profile - Healthy Suffolk

Development Consent Orders

Lowestoft Gull Wing Bridge

In 2015 SCC was given funding to identify and assess a number of ways to improving north-south connections across Lake Lothing. This scheme aimed to reduce congestion, encourage alternative modes of transport (public transport, walking and cycling), reduce accidents and regenerate Lowestoft. In 2020, the archaeological surveys and groundworks for the development started, and work is progressing on target with an estimated completion date of mid/late 2023. This DCO is referenced in measure ESC21 of Table 2.2

East Anglia ONE North and East Anglia TWO Offshore Windfarms

The DCO applications for these two projects were submitted to the Planning Inspectorate in October 2019, the Public Examination closed on 6th July 2021. The Examining Authorities issued Recommendation Reports to the Secretary of State on 6th October 2021, and the applications were granted consent on 31st March 2022. The applications are now both subject to judicial reviews.

ESC officers and appointed air quality consultants scrutinised the application documents and participated in the examination process. Through this process, concerns and representations regarding cumulative impacts have resulted in a commitment from the

applicant for 70% of the Heavy Goods Vehicles to be Euro VI standard, where the construction periods of this project and the Sizewell C project overlap. The applications include an Outline Construction Traffic Management Plan, Outline Travel Plan, Outline Code of Construction Practice and an Air Quality Management Plan with the Applicant committing to air quality management measures listed in the Outline Code of Construction Practice (OCOCP), and air quality impacts being monitored and mitigated through an Air Quality Management Plan (AQMP). These will all be secured through DCO Requirements. This DCO applications are referenced in measure STA8 of Table 2.2.

The Sizewell C Project

The DCO application by EDF Energy for a new nuclear power station, Sizewell C, was submitted to the Planning Inspectorate in May 2020. A Public Consultation on improved proposals to the application was carried out in November/December 2020. The Public Examination began 14th April 2021 and closed 14th October 2021. The Secretary of State granted consent for this application on 20 July 2022. This DCO application is referenced in measures STA 7 and STA 8 of Table 2.2.

ESC officers and appointed air quality consultants scrutinised the application documents and participated in the examination process. The following air quality mitigation measures have consequently been established:

- To control traffic and related air quality effects during construction, the application includes the provision of two park and ride sites, the freight management facility, use of sea via the Beach Landing Facility and rail freight. With additional mitigation via the accommodation campus, caravan park, and park and ride at the Ancillary Construction Area;
- To aid in the reduction of impacts from non-mobile plant, stack heights for the diesel generators will be optimised in respect of the energy centre, combined heat and power plant, and backup generators;
- Construction dust would be limited as far as practicable by having access points as far as possible from sensitive receptors;
- Commitment for all Heavy Duty construction road vehicles to comply with the requirements of Euro VI emission standards unless they fall under an exemption (only 8% allowed for exemption in any one year period). Delivering >92% Euro VI vehicles in the fleet. Any exempt vehicle must meet Euro V standards where possible and where not achieved additional information must be agreed with ESC

and a Transport Review Group (TRG). Registration scheme to be established reporting to the TRG;

- A series of management documents to deliver the mitigation are secured or proposed. These include the Construction Workforce Travel Plan, Construction Traffic Management Plan, Outline Dust Management Plan (ODMP), Dust Monitoring and Mitigation Plans (DMMP) and Code of Construction Practice (CoCP). All are secured by the DCO or Deed of Obligation;
- A Traffic Incident Management Plan will demonstrate that traffic would not be diverted through Woodbridge and the AQMA declared there;
- The CoCP requires site inspections to be carried out to ensure compliance with the ODMP and additional DMMP to be developed by contractors prior to work commencing;
- Non Road Mobile Machinery (NRMM) commitment agreed with ESC for Stage IV compliant engines and how this will be managed. Provision of site electrical power and use of alternative supply sources where possible with an early switch to mains power;
- 20% car park spaces at the Main Development Site for active electric vehicle charging and further 20% for passive charging. Northern and Southern Park and Rides to have capacity for 40% with initial active 5% provided on first occupation;
- Real time PM_{10} monitoring data to be collected to assess effectiveness of dust control measures. Must use accredited and calibrated techniques and reference methods; and
- Commitment to support on-going monitoring of NO_2 by ESC via a Deed of Obligation.

ESC anticipates that the measures stated above and in Table 2.2 will ensure concentrations remain low across the district, and compliance will continue to be achieved in future years and enable the revocation of the Woodbridge and Stratford St. Andrew AQMAs.

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
Woodbridge Action Plan															
WBG 3	Extension of restrictions to Thoroughfare (8am-6pm)	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2013	Originally 2014 - 2015, now unknown - not implemented as yet	Woodbridge Town Council and Suffolk County Council	Funding unknown	NO	Not Funded	Unknown	Completed	Recent air quality modelling shows max reduction of 0.1µg/m^3 in AQMA.	Reduction in peak queue lengths on Melton Hill.	Feasibility study undertaken. Negligible impact on AQMA NO_2 conc. so no further work will be undertaken by SCDC on this measure. Woodbridge Town Council wish to change the Traffic Regulation Order (TRO) for the Thoroughfare with stricter enforcement. 3 options consulted on. New TRO came into force 30/01/22 - Pedestrian Zone except for permit holders and for loading together with a no waiting zone.	Town Council wish to alter and enforce the TRO but unable to do so until decriminalisation act in force. See Measure 4 below for further detail. Police provided ticket enforcement for 1 day and number of restricted vehicles entering from 10am-4pm reduced from 160 to 110.
WBG 15c	Travel Plan for the District Council Offices	Promoting Travel Alternatives	Workplace Travel Planning	2009	2016	ESC - Environmental Health	ESC	NO	Funded	< £10k	Completed	2% for 15a, b & c combined	Travel Plan adopted. Key actions completed	2016 Travel Plan adopted for new Council Offices in Melton. Offices moved Nov 2016. Original site to be used for housing. Traffic survey of Council Offices undertaken to determine impact on AQMA. Travel survey indicates that fewer staff now driving through AQMA - only 15 staff who responded said they travel through the AQMA. 2 EV charge points installed and Electric Pool Vehicle available for staff use. 4 pool cycles available for staff use.	Need to investigate how to determine effectiveness of Travel Plan year on year. ESC Electric Pool Vehicle use - 6,030 miles in 2021.
WBG 2	Install right hand turning lane at lights on Thoroughfare/ Melton Hill arm of junction	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2010	Originally 2011-2012, now on hold - not implemented	SCC	Unknown	NO	Not Funded	Unknown	Aborted	Marginal benefit	Reduction in peak queue lengths	Preliminary design prepared - will move carriageway closer to Suffolk Place residential home - may increase emissions here therefore has not been progressed to date. Measure to be retained in updated Action Plan as ‘aspirational’	This measure was investigated and there appeared not to be enough room at the junction. SCC has advised that this should be left in the Action Plan as it could be looked at again in more detail if there are no other alternatives.

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WBG 16	Promotion of cycling and walking in Woodbridge	Promoting Travel Alternatives	Promotion of cycling	2010	-	SCC	Unknown	NO	Partially Funded	£10k - 50k	Ongoing	Marginal benefit	None currently	Cycling and walking reviewed by County Council. New footpath on Pytches Road and 30mph lit sign to calm traffic and aid walking to school. 5 new cycle racks behind Café Nero and 3 on Market Hill. Sandy Lane cycle scheme implemented. SCC to investigate drawing up a list of possible schemes - no further progress. SCC have produced a new Cycle Map for Woodbridge. Measure will be kept in updated Action Plan as 'aspirational'. Draft East Suffolk Council Cycling and Walking Strategy consulted upon Autumn 2021 with aspiration to be adopted Autumn 2022. Includes suggested schemes for Woodbridge and Melton.	Cycle racks and Sandy Lane cycle scheme can only have a positive impact to increase the number of people cycling and reduce the number of vehicles on the road. If we have a list of potential schemes any funding which can be accessed (via Planning system or other) can then be used. ESC Cycling and Walking Strategy when adopted does include schemes for Woodbridge and Melton but these do not have any current funding associated with them.
WBG 15b	School Travel Plans	Promoting Travel Alternatives	School Travel Plans	2010	-	SCC and ESC	SCC and ESC	NO	Partially Funded	Unknown	Aborted	2% for 15a, b & c combined	Contact schools to remind them about Travel Plan. Contact Woodbridge School re adopting a Travel Plan. Woodbridge School contacted. **Travel Plans superseded via SCC Modeshift Stars (see ESC 19). This measure will be removed from the table next year.**	All schools in Woodbridge historically adopted a Travel Plan. Exception is Woodbridge School who have been encouraged to produce one in future – they do provide significant information about sustainable travel to the school for all pupils. New footpath on Pytches Road and 30mph 'reduce your speed sign' for Woodbridge CPS users. School Travel Plans may no longer be in use at some of the schools so SCC advised postcode plots of students could be undertaken to identify any schools which may put significant traffic through AQMA. These can then be targeted. Postcode plots have not been possible to obtain from SCC to date so will need to re-assess a way forward. **Travel Plans superseded via SCC Modeshift Stars (see ESC 19). This measure will be removed from the table next year.**	Will have a positive effect to reduce cars using junction, but no real way to measure whether emission reduction target will be reached. Look to target specific schools who potentially have significant pupil vehicular traffic through the AQMA for further work. This is proving difficult to determine for Data Protection reasons. Moving forward we will look to deliver air quality information/education and anti-idling events at all primary schools in Woodbridge. See measures ESC 19 (School Travel Plans via Modeshift Stars) and ESC29 (education campaigns at schools).
WBG 8	Investigate Clean Bus Technology Fund to retrofit buses	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2016	-	ESC	ESC and Clean Bus Technology Grant/Fund	NO	Not Funded	Unknown	Not required	Marginal benefit for AQMA	Number of buses through Woodbridge fitted with new technology	This action depends on any future opportunities for funding. We **approached relevant bus companies but there was no interest** in a scheme such as this and bus companies must be on board. **This measure will be removed from the table next year.**	This measure will be kept within the updated Action Plan as an aspirational measure for future consideration. We would need to submit a successful bid and have local bus companies engage. To qualify for the grant the Council would need a guarantee that buses through the AQMA are upgraded and used within an AQMA for 5 years. NO_2 concentrations within the AQMA have been below the Objective for 5 years now which may impact success with the grant funding.

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WBG 18	Raise air quality awareness	Public Information	Via the Internet	On-going	On-going	ESC	ESC	NO	Funded	< £10k	Implementation	n/a	Website promotion of air quality and reports. Web pages updated and promoted 2019, kept up to date thereafter. Social media campaigns surrounding Clean Air Day in 2019, 2020 and 2021.	Articles published in local magazines and papers. ESC website air quality pages redesigned and updated in 2019. Enhanced use of Twitter (@EastSuffolk) and Facebook. Social media campaigns for 2019, 2020 and 2021 Clean Air Day. Suffolk Air Qulaity Group in 2022 worked with the NHS and Suffolk County Council Public Health to produce a video released on Clean Air Day detailing some of the health implications of poor air quality.	-
Stratford St Andrew Action Plan Measures															
STA 1	Move the location of the southern 30mph speed limit sign southwards	Traffic Management	Reduction of speed limits, 20mph zones	2017 Suffolk County Council (SCC) lead and funded	2017	SCC	SCC	NO	Funded	< £10k	Completed	Reduction in concentration by up to 2 µg/m^3	Reduction in NO_2 concentrations in AQMA. Reduction in vehicle speed within AQMA. NO_2 concentrations in AQMA reducing since 2017. NO_2 2019 = 36µg/m^3 and 2021 = 28µg/m^3. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19. Speeds have reduced Northbound in the AQMA but have increased slightly Southbound.	Speed limit panel agreed experimental TRO. Speed limit moved. Traffic speed survey pre and post move. Survey shows decrease in vehicle speeds Northbound but very slight increase in vehicle speeds Southbound at the site of the AQMA.	Air quality monitoring will now determine the effectiveness of this measure to reduce NO_2 concentrations. NO_2 concentrations within AQMA reduced 3-4µg/m^3 in 2017 (prior to speed limit changes), 1µg/m^3 in 2018 after the speed limit move, 2µg/m^3 in 2019 and a further 8µg/m^3 in 2021. Unable to use 2020 data due to reduced traffic flows related to lockdowns associated with Covid-19.
STA 2	Assessment of planning applications for impact on air quality	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Ongoing	Ongoing	ESC Environmental Health and Planning	ESC	NO	Funded	£10k - 50k	Implementation	No significant increases in concentrations due to new developments	No new housing introduced into area of exceedance (AQMA) unless mitigation measures are in place to offset impacts. No new housing introduced to date.	Officers in Environmental Protection work with Planning to ensure that each application is appropriately assessed for air quality. 4 new planning application received for Stratford St Andrew Parish in 2021, commented on by Environmental Protection - not in or near or likely to impact on AQMA.	The assessment process takes account of national guidance (including EPUK / IAQM) and local procedures.
STA 3	Measure 1 together with a southbound permanent vehicle activated sign	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£10k - 50k	Pending	Reduction in concentration to below the objective	Reduction in NO_2 concentrations in AQMA. Reduction in vehicle speed within AQMA.	Follow on from measure 1 if it was not successful. Steering Group discussions in 2020 surrounding use of a temporary VAS installed by SCC/ESC and run by the Parish Council. NO_2 concentration 2019 = 36µg/m^3 and 2021 = 28µg/m^3 - therefore concentrations are continuing to fall and this measure not required for implementation to date. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Would need a site assessment and require capital funding (min £8,000) and revenue funding. Not yet approved.

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STA 4	Measure 1 together with a northbound permanent vehicle activated sign	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£10k - 50k	Pending	Reduction in concentration to below the objective	Reduction in NO_2 concentrations in AQMA. Reduction in vehicle speed within AQMA	Ideally this camera would be installed alongside measure 3 to smooth all traffic flow close to the AQMA if required. NO_2 concentration 2019 = 36µg/m^3 and 2021 = 28µg/m^3 - therefore concentrations are continuing to fall and this measure not required for implementation to date. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Would need a site assessment. Would require capital funding (min £8,000) and revenue funding. Not yet approved.
STA 5	Southbound speed camera just prior to cottages	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£10k - 50k	Pending	Reduction in concentration to below the objective	Reduction in NO_2 concentrations in AQMA. Reduction in vehicle speed within AQMA.	Follow on from measure 1 if it was not successful and measures 3 and/or 4 were not undertaken. NO_2 concentration 2019 = 36µg/m^3 and 2021 = 28µg/m^3 - therefore concentrations are continuing to fall and this measure not required for implementation to date. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Would need a site assessment to confirm adequate location and radar sightline. Need support from Suffolk Roadsafe Board and police. Would require capital funding of £40,000.
STA 6	Average speed camera system throughout Stratford St Andrew and Farnham	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£100k - £500k	Pending	Reduction in concentration to below the objective	Reduction in NO_2 concentrations in AQMA. Reduction in vehicle speed within AQMA.	Consideration of option only. Aspirational measure due to high costs. Dependent on measure 1, 3, 4 and 5. NO_2 concentration 2019 = 36µg/m^3 and 2021 = 28µg/m^3 - therefore concentrations are continuing to fall and this measure unlikely to be required. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Needs a site assessment to confirm adequate location and radar sightline, support from Suffolk Roadsafe Board and police. High capital funding cost of £250,000 and high revenue. Funding unlikely to be affordable.
STA 7	Possible A12 Stratford St Andrew bypass	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2022 / 2023	2026	EDF Energy if the DCO is successful	EDF Energy if the DCO is successful	NO	Not Funded	£1 million - £10 million	Planning	Reduction in concentration to below the objective	Reduction in NO_2 concentrations in AQMA. Reduction in traffic flows within AQMA	A bid for Government funding (DfT) by Suffolk County Council for a 4 village bypass (Farnham, Stratford St. Andrew, Little Glemham and Marlesford) was not successful. Alternative funding has not materialised. DCO application for Sizewell C submitted with an integrated transport strategy. Two Village Bypass of Stratford St Andrew and Farnham (covering the AQMA) is included in the proposals and subject to obtaining consent should be available for use by peak construction. Anticipated start of Early Years construction 2023/4. Public Examination for Sizewell C finished October 2021. Consent granted 20 July 2022 by the Secretary of State for Business, Energy and Industrial Strategy.	Sizewell C DCO Integrated Transport Strategy includes up to 1,000 HGV on busiest day at peak, 650 HGV average day at peak. Early Years construction traffic will pass through AQMA at Stratford St Andrew until Two Villages Bypass is constructed and ready for use. Estimated construction period for bypass is 2 years. Current estimate is that Early Years construction works will start 2023/24.

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STA 8	Mitigation of construction traffic emissions from Sizewell C and other Nationally Significant Infrastructure Projects (NSIPs) through the planning process (relevant to the AQMA at Stratford St Andrew)	Policy Guidance and Development Control	Low Emissions Strategy	2019 and ongoing	2022	ESC, currently working with EDF Energy & Scottish Power Renewables if the DCOs are successful	ESC staffing and EDF Energy / Scottish Power Renewables if the DCOs are successful	NO	Funded	Unknown	Planning	No significant increase in concentrations	Number of low emission vehicles in fleet. EA1N & EA2 applicant has committed to 70% of HGVs complying with Euro VI standards where the construction periods of this project, the other East Anglia project and the Sizewell C project overlap. SZC applicant has committed to all construction road vehicles complying with Euro VI standards bar a few exemptions = >92% of the fleet.	Preliminary discussions on likely impacts at pre-application stage. Development Consent Order (DCO) applications submitted for Sizewell C (SZC), EA1N and EA2 Offshore Windfarms. DCO for SZC includes proposal for construction of 2-village bypass on the A12, bypassing both Stratford St Andrew (including the AQMA) and Farnham. Additional monitoring requirements and mitigation particularly for SZC Early Years construction before the bypass under discussion as part of the DCO. Discussions on use of latest EURO classifications for the construction fleet for both applications. Secretary of State granted consent for EA1N and EA2 31 March 2022 but are now subject to judicial review. Secretary of State granted consent for SZC 20 July 2022.	DCO application for Sizewell C submitted with an integrated transport strategy which includes up to 1,000 HGV on busiest day at peak, 650 HGV average day at peak, a Two Village Bypass of Stratford St Andrew and Farnham is included in their proposals and subject to obtaining consent should be available for use by peak construction. Anticipated construction 2022/2023. Modelling of the potential impact on the AQMA has been conducted for both SZC and EA1N & EA2 including cumulative impacts and has been scrutinised, discussed and accepted by ESC. EA1N and EA2 consent includes Outline Construction Traffic Management Plan, Outline Travel Plan, Outline Code of Construction Practice, Air Quality Management Plan. SZC have committed to 2 off-site park and rides, freight management facility, increased use of rail and sea, accommodation campus together with Construction Workforce Travel Plan, Construction Traffic Management Plan, Outline Dust Management Plan (DMP) and Code of Construction Practice (CoCP).
Other measures within the East Suffolk District															
ESC1	Evaluate and implement efficient power technologies (e.g. hybrid-electric) for cargo handling equipment (rubber tyre gantry (RTG) cranes) in the Port of Felixstowe	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2010	Ongoing	Port of Felixstowe	Port of Felixstowe	NO	Funded	> £10 million	Implementation	Unknown	Number of RTG Cranes using improved efficiency power source. Number of blocks converted to electric. 58 e-RTGs (electrified RTGs). 38 blocks converted to electric.	58 of the total 90 RTG's in use on the Port are electric capable (50 e-RTGs and 8 Ae-RTGs). Ae-RTGs are remote controlled. The Port plan to replace the remaining 32 diesel units over the coming years. 17 electric capable replacement Ae-RTGs are planned to replace diesel RTGs - current timetable is 6 in 2023, 5 in 2024 and 6 in 2025. Additional container zone electrification is now planned to coincide with the introduction of the 17 new Ae-RTGs over the next 3 year period on Landguard Terminal (Berths 8 & 9). Technical specifications for the conversion of a further 20 blocks serving Berths 8&9 prepared with works scheduled late 2022 running for a 2 year period. The Port successfully commissioned an all-electric RTG - does not require use of a diesel engine to transfer it between blocks, uses lithium ion battery - therefore emissions free. Technical specification being completed for capital expenditure from 2023 for replacing RTGs with these.	To mitigate the increase in electricity demand the Port has been progressing energy efficiency projects and renewable energy generation (Solar PV). 2021 - generated 453MWh of energy from solar power. Quay crane lighting upgrade project fitting LED to 12 cranes completed - will reduce energy usage.

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ESC2	Adopt NOx abatement technologies on Internal Movement Vehicles (IMVs) in the Port	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2010	Ongoing	Port of Felixstowe	Port of Felixstowe	NO	Funded	> £10 million	Implementation	Unknown	Number of IMVs replaced. Reduction in NO_2 and SO_2 concentrations at the Port. 135 of the 260 units replaced.	83 IMVs replaced 2011-2016. 52 IMVs replaced 2017/2018. 17 replaced 2019. Total of 135 of the 260 units replaced 2020. 2 x new internal tractors for roll-on roll-off operations in 2018. IMVs are replaced on a 15 year cycle. 24 new electric IMVs planned (subject to delivery of the necessary electrical infrastructure) 2023 and a further 24 in 2024. The current plan is that any new IMVs will be electric prior to transferring to alternative fuel use age (Hydrogen). 2 new battery powered autonomous trucks ordered 2022 for internal container movement. Reduction in NO_2 and SO_2 over time. Some NO_2 sites showing slight increases in 2019 and others show continued reductions which is plateauing. No monitoring results for 2020 due to impact of Covid-19 on monitoring regime.	All new IMVs utilise Adblue as part of exhaust gas recirculation technology and currently comply to Euro VI emissions standards instead of Euro IIIa. The recently purchased IMVs are fitted with start/stop engine technology and the latest emission compliant Volvo engines. Expected to deliver a 10% reduction in emissions compared with a conventional tractor unit. Any future IMVs (post 2020) will be electric. SO_2 monitoring information obtained form PoF 2021 - results routinely below limit of detection across 6 sampling locations - low levels attributed to adoption of low sulphur fuel/ use of scrubber systems by visiting vessels in compliance with the North Sea Emission Control Area requirements. Not related to IMVs so **SO_2 concentration reduction will be removed from the KPI going forward.**
ESC3	Increased use of rail transport for movement of goods at the Port of Felxlistowe	Freight and Delivery Management	Other	2018	Ongoing	Port of Felixstowe	Port of Felixstowe	NO	Funded	Unknown	Implementation	unknown	Number of daily freight services. Percentage rail modal share. 33 daily freight services 2019/20. 37 daily freight services May 2021. 28% modal share 2021.	33 daily freight services from the Port 2019/20. This fell slightly in 2020 due to impact of Covid-19 pandemic but is recovering and has increased to 37 as of May 2021. Made possible due to demand for additional services and a significant reduction in the demand for passenger services due to the Covid-19 pandemic which has opened up opportunities. The Port continues to maximise length of each rail service. 28% rail modal share 2018 and 2019. This again fell slightly in 2020 due to Covid-19 pandemic but is recovering again and back to 28% in 2021.	Modal shift to rail is a top priority for the Port and senior managers liaise with Government frequently. The branch line improvement (opening of the Trimley Loop) has increased the theoretical freight capacity of the Branch Line to 45-47 daily paths, however there is a bottleneck at Ely. 2021 - the Port has been advised that there are still a few freight service path opportunities available on the Felixstowe-Nuneaton corridor despite the lack of progress at Ely and elsewhere.
ESC7	Assessment of planning applications for impact on air quality	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Ongoing	Ongoing	ESC Environmental Health and Planning	ESC Environmental Health and Planning	NO	Funded	£50k - £100k	Implementation	Unknown	Number of Planning applications considered. Planning applications processed by Environmental Protection Team; 2018=1,282 2019=1,075 2020=1,026 2021=1024	Officers in Environmental Protection work with Planning to ensure that each relevant application is appropriately assessed for air quality impacts and responses sent to Planning where necessary. Planning applications processed - 2019 onwards the figures do not include pre-application advice.	The assessment process takes account of national guidance (including EPUK / IAQM) and local procedures. The Environmental Protection Team also deal with many requests for pre-application advice from applicants.

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ESC8	Air quality included in the East Suffolk Council - Suffolk Coastal Local Plan (Core Strategy & Development Management Policies, Site Allocations and Area Specific Policies and Felixstowe Peninsula Area Action Plan)	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2013	2020	ESC Planning Department and Environmental Protection Team	ESC	NO	Funded	Unknown	Completed	Unknown	Adoption of Local Plan documents. Air quality considered in relevant planning applications. Existing documents adopted 2013 and 2017. East Suffolk Council - Suffolk Coastal Local Plan covering period 2018-2036 adopted September 2020. Planning applications processed by Environmental Protection Team; 2018=1,282 2019=1,075 2020=1,026 2021=1,024	Existing documents adopted and published in 2013 and 2017. Previous Site Allocations and Area Specific Policies document completed with air quality recommendations included. The East Suffolk Council - Suffolk Coastal Local Plan to cover 2018-2036 was adopted September 2020.	To ensure that developments are appropriate and the air quality impacts are adequately assessed. Large and ambitious development plans in the former Suffolk Coastal area require careful management. 9,756 homes expected to be delivered between 2018-2036. Annual monitoring information available on website www.eastsuffolk.gov.uk/planning/planning-policy-and-local-plans/suffolk-coastal-local-plan/monitoring-information/ Air quality is a key objective within the Sustainability appraisal framework against which all policies and site allocations have been assessed. Policy SCLP7.1: Sustainable Transport, SCLP7.2: Parking Proposals and Standards includes electric charge points and encourages park & ride sites, SCLP9.1: Low Carbon and Renewable Energy and SCLP9.2: Sustainable Construction, and Policy SCLP10.3: Environmental Quality.
ESC9	Promotion of travel alternatives in the Local Plan	Promoting Travel Alternatives	Promotion of walking	2013	2020	ESC Planning Department and Environmental Protection Team	ESC	NO	Funded	Unknown	Completed	Unknown	Sustainable travel included in the adopted Local Plan documents	Existing documents adopted and published in 2013 and 2017. The East Suffolk Council - Suffolk Coastal Local Plan to cover 2018-2036 was adopted September 2020.	Policy SCLP7.1: Sustainable Transport encourages people to use non-car modes of transport. Supports developments that integrate into pedestrian, cycle and public transport networks
ESC11	Provision of information to the Public and commerce on reducing emissions from solid fuel and wood burning, including Ready to Burn campaign	Public Information	Via the Internet	2018	Ongoing	ESC	ESC	NO	Funded	< £10k	Implementation	Unknown	Information available on East Suffolk website - completed. Information disseminated to the Public and commercial sectors. Information campaign undertaken Winter 2021	Council website page on biomass and wood burning added and publicised. Article in Greenprint Forum newsletter. Information being sent out to any burning complaints. Information sent to 300 businesses in Suffolk, all Parish Councils, highlighted to all air quality Consultees during ASR 2017 Consultation, leaflets provided at Business drop-in events. Wood burning information promoted during Clean Air day 2019 and 2020 and updated on website. Information campaign undertaken Winter 2021.	Investigating promotion of Ready to Burn scheme to local wood suppliers as there is no-one locally. No further work undertaken on this to date

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ESC12	Greener travel information available on the SCC website	Promoting Travel Alternatives	Personalised Travel Planning	2017	2018	SCC	SCC	NO	Funded	Unknown	Completed	Unknown	Number of visitors to the website. 2018 - 5134 visitors to Local Links developer travel plans and 1056 to SCC travel plans websites. 2019 (Apr-Dec) - 877,825 visits to Suffolk on Board (137,080 were related to school travel). 1,175 visits to SCC Travel Plan pages in 2019. In 2020 there were 100,000 users and 470,000 page views of Suffolk onboard (150,000 related to school travel). There were 1,677 users of the SCC Travel Plan pages and 3,059 page views. Unable to obtain 2021 data as yet.	SCC website updated for greener travel and travel planning. Number of visitors to websites monitored. April 2019 'Local Links' pages moved to 'Suffolk on Board' pages which also includes buses and other forms of public transport. 2021 - SCC Travel Plan pages (Local Links) have now merged with Suffolk Spokes and moved onto www.thewaytogosuffolk.org.uk. This website supports businesses with travel plans and acts as a signpost to other sources of information such as Suffolk On Board and SCC.	http://www.sufolkonboard.com - information on greener travel including journey planning, business support and car sharing. Interesting trend seen from Mar to Sept 2020 (from start of lockdown to the present) showing consistently higher visits to cycling pages of Suffolk on Board
ESC13	Promotion of travel alternatives for staff at ESC	Promoting Travel Alternatives	Promotion of cycling	2013	Ongoing	ESC	ESC	NO	Funded	Unknown	Implementation	Unknown	Council promotes cycling and walking as a positive alternative form of travel for its staff. Tax free bike 'Cycle 2 Work scheme'. Bike purchases: 2018/19 - 14 bikes 2019/20 - 4 bikes 2020/21 - 0 bikes 2021/22 - 8 bikes. Due to Covid-19 restrictions, pool bikes not used during 2020 but back in use for Summer 2021.	Staff encouraged to use cycles. Tax free bike 'Cycle 2 Work scheme' started 2013. 19 bikes purchased Oct 16 - Apr 18. From end 2021 scheme now in place for applications all year round where previously it was quarterly windows. Business mileage rate for cycling. Emergency Ride Home scheme. Travel Survey in 2017 indicated increased number of staff who cycle to work. 4 pool bikes provided for use and promoted.	Riduna Park building has: covered and secure cycle parking/racks for 40 bikes, shower/changing/ drying facilities and lockers.

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ESC14	Fleet emissions improvements for freight haulage companies based in Felixstowe	Vehicle Fleet Efficiency	Other	2018 to draw up list. 2020 to contact hauliers	2025	ESC and National Highways	ESC and National Highways Grant funding if approved	NO	Partially Funded	£100k - £500k	Planning	Unknown	Number of haulage firms engaged in the process	Investigated potential emission improvements (driver training, fleet replacement, alternative technologies - low rolling-resistance tyres, telematics, or improved aerodynamics). List of haulage companies around the Port drawn up with contact details. Survey of hauliers undertaken Feb 2020 to ascertain fleet make up and any emission reduction programmes in place. Received 9 responses. Looking at ECO Stars scheme as a result of the survey. Grant application for National Highways funding submitted 31st March 2020. 2020/21 - National Highways requested additional information to assess the Grant funding application and information sent. Chased response from National Highways since this time. July 2022 contact and discussions established to determine whether grant application is now possible. Decision should be made either way during 2022.	Low response rate from hauliers survey. Responses obtained showed interest for sign up to ECO Stars scheme. Applied for Highways England Air Quality fund in conjunction with ECO Stars scheme 31st March 2020. No response from Highways England on grant application. On hold until disruption from Covid-19 pandemic has eased and final response from Highways England obtained. Discussions with National Highways resumed July 2022, but we are already half way through the funding program timescale (completes April 2025) so not sure if project can be delivered in time. Discussions on-going and final decision will be made before end 2022.
ESC15	Installation of 11 Rapid Electric Vehicle Charging Units for Public use in Suffolk, Norfolk and Essex – planned site within Felixstowe	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2018	2019	Highways England. Babergh and Mid Suffolk DC lead for all points on behalf of all relevant local authorities. ESC involvement with the tender	Highways England	NO	Funded	Unknown	Completed	Unknown	For the Felixstowe charger within ESC; kWh of charge used, estimate of EV miles driven using this charge (0.34kWh per mile driven on average) 1/5/19-18/4/20 = 1,662.82 kWH used = 4,890 EV miles. 2020 = 3903.81 KWh used = 11,438 EV miles. 2021 = 962 sessions with 25,428KWh used, 74,504 EV miles.	Rapid chargers installed by Highways England in Ipswich, UES Norwich, Bury St Edmunds, Felixstowe and Great Yarmouth. Rapid charger within Felixstowe in ESC installed and live from April 2019.	Babergh and Mid Suffolk District Councils are leading a Highways England funded project of seven local authorities, in Suffolk, Norfolk and Essex, working together to install 11 rapid charging points along strategic roads in East Anglia. The project supports the Government initiatives to increase the number of electric vehicles and end the sale of conventional petrol and diesel cars in the UK by 2040.
ESC18	Suffolk Car share	Alternatives to private vehicle use	Car & lift sharing schemes	2001	2015	SCC and ESC	SCC	NO	Funded	Unknown	Completed	Unknown	Annual increase in users of the site over the last 5 years. 2015 - 2,189 2016 - 2,339 2017 - 2,662 2018 - 2,896 2019 - 3,139 July 2021- 3,750. No further site user data now available. **This measure will be removed from the table next year**	Number of site users has increased from 2,189 in 2015 to 3,750 members in July 2021. Includes specific groups for Sizewell Carshare (EDF Energy employees) and SCC & Suffolk Constabulary. Dec 2021 - Suffolk County Council no longer have a contract with Liftshare, although they are still promoting use of the website. As such they are unable to access any site user data. **This measure will be removed from the table next year**	Free web based contact database. Site users are across whole of Suffolk we cannot obtain a breakdown for ESC area https://liftshare.com/uk/community/suffolk

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ESC19	SCC adoption of national award scheme for School Travel Plans	Promoting Travel Alternatives	School Travel Plans	2017	2019	SCC	SCC	NO	Funded	Unknown	Completed	Unknown	Adoption of scheme - completed. Number of schools signed up to scheme and number who have received accreditation June 2019 - 12 schools within ESC, 0 accredited September 2020 - 14 schools signed up and 2 have Bronze accreditation. December 2021 - 16 schools signed up with 2 Bronze accreditations.	Modeshift STARS scheme adopted by SCC. 12 schools formally signed up within ESC in June 2019, increased to 14 in September 2020 and 16 in June 2021. 2 schools in ESC have gained Bronze accreditation and 4 primary schools have been working on their travel plans in 2019/20 - these 4 schools are located in Oulton Broad, Carlton Colville, Lowestoft and Martlesham.	Free to use national award scheme for schools who have demonstrated excellence in supporting cycling, walking, and other forms of sustainable travel. Helps schools to write and monitor their travel plans https://www.suffolk.gov.uk/planning-waste-and-environment/planning-and-development-advice/travel-plans/school-travel-plans/
ESC20	20 mph speed limit in Woodbridge	Traffic Management	Reduction of speed limits, 20mph zones	2016	2024	Woodbridge Town Council and Suffolk County Council (SCC)	Woodbridge Town Council and SCC with possible funding bid for CIL monies	NO	Not Funded	Unknown	Planning	Marginal benefit in terms of emission reductions due to potential through traffic reduction	Reduction in measured average speed along routes	Proposal taken by Woodbridge Town Council to SCC Speed Limit Panel. Panel agreed the proposal for 20mph zones/limits on the central B1438 and historic core roads in Woodbridge. This will include the AQMA. Proposal confirming physical measures required as it must be self-enforcing. Funding being sought to take this forward. Once a scheme is in known with costings can look for funding avenues - one possibility is CIL.	Costings of physical works unknown. Potential success of any funding bid unknown. Need to ensure that proposals do not create any air quality concerns at locations along the route.
ESC21	Third vehicular crossing of Lake Lothing - Gull Wing Lowestoft	Transport Planning and Infrastructure	Other	2010	2023	SCC	SCC	NO	Funded	> £10 million	Implementation	Unknown	Lake Lothing Third Crossing open. Reduction in NO_2 concentrations in Lowestoft Town Centre (Bascule Bridge) and Oulton Broad	Examination closed 5th June 2019. On 30 April 2020, the Secretary of State for Transport decided under section 114 of the Planning Act 2008 to make an Order granting development consent for the Lake Lothing Third Crossing. The Order came in to force on 21 May 2020. Construction delayed slightly and began April 2021. Gull Wing crossing now planned to open mid to late 2023, significantly affecting traffic routes through urban Lowestoft.	Lengthy timescale. Approximate costs in excess of £80million. Possible construction delays due to Covid-19. New crossing could result in a large reduction of traffic congestion in Oulton Broad and the Lowestoft Town Centre.

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ESC25	East Suffolk Council - Waveney Local Plan (March 2019) covering the former Waveney Local Planning Authority area, excluding the Broads Authority area.	Policy Guidance and Development Control	Other policy	2019	2019	ESC	ESC	NO	Funded	Unknown	Completed	Unknown	Adoption of Local Plan documents. Air quality considered in relevant planning applications. Policies to promote alternative forms of travel. Planning applications processed by Environmental Protection Team; 2018=1,282 2019=1,075 2020=1,026 2021=1,024	East Suffolk Council - Waveney Local Plan adopted March 2019. Covers period 2014-2036. Policy WLP8.21: Sustainable Transport also supports facilities for charging plug-in and ultra-low emission vehicles, WLP8.27: Renewable and low carbon energy and WLP8.28: Sustainable Construction. Planning applications processed - 2019 onwards the figures do not include pre-application advice.	Large and ambitious development plans in the former Waveney area require careful management. 9,235 homes expected to be delivered 2014-2036. Annual monitoring information available on website www.eastsuffolk.gov.uk/planning/planning-policy-and-local-plans/suffolk-coastal-local-plan/monitoring-information/
ESC27	East Suffolk Council Walking and Cycling Strategy	Promoting Travel Alternatives	Promotion of cycling	2016	2022	ESC	ESC	NO	Funded	Unknown	Implementation	Unknown	Strategy adopted - Waveney Strategy completed. ESC Strategy draft being drawn up following public consultation. This will supersede the Waveney Strategy. Final consultation undertaken Autumn 2021	Waveney DC Cycling Strategy formally adopted 2016, final draft published 2018. ESC extending this document across the whole of the Council to also include walking infrastructure and this will then supersede the Waveney Cycling Strategy. Initial public consultation October 2020 to look at where the gaps are. Draft Strategy produced for second consultation Autumn 2021. Final Strategy being taken to Full Council October 2022.	This measure originally related only to the Waveney DC Cycling Strategy which was adopted in 2016, measure now altered to ESC Cycling and Walking Strategy. Infrastructure gaps to be identified but funding opportunities may be problematic. We have created a cycle / foot route behind Morrisons in Felixstowe, from Grange Farm Rd to Grange Rd, this was completed December 2019.
ESC 29	Air quality information/ education activities for primary schools within ESC including anti-idling events	Public Information	Via other mechanisms	2019	2023	ESC	ESC	NO	Partially Funded	< £10k	Implementation	Unknown	Number of events	A temporary officer was employed and undertook 7 anti-idling events and 2 Air Quality Ambassador events at the Council Offices involving 8 schools in the lead up to Clean Air Day 2019. Graduate intern employed 2019/20, undertook an assembly on air pollution alongside an anti-idling event at an additional 8 schools in ESC. We have not physically been back into schools since the Covid-19 restrictions in 2020. Clean Air Day schools resources promoted to all Suffolk schools by County Council June 2022.	Graduate intern employed for 8 months to undertake this project. Graduate has now finished - unsure how this will be resourced going forward. Unable to continue these events at this time due to restrictions surrounding Covid-19.

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ESC 30	Promotion of cycling	Promoting Travel Alternatives	Promotion of cycling	Historic	2021	ESC and SCC	ESC and SCC	NO	Funded	Unknown	Implementation	Reduced vehicle emissions	Production of Cycling and Walking Strategy for ESC. Draft consulted on Autumn 2021 with aspiration for Strategy to be adopted Autumn 2022 - see also measure ESC27. Number of bikeability lessons delivered in schools within ESC. SCC has delivered 106 Bikeability courses within ESC September 2018 - July 19 training 1,272 children to Level 1 or 2 standard.	ESC webpage on cycling in the district can be found at https://www.eastsuffolk.gov.uk/leisure/cycling/ SCC webpages on cycling; https://www.suffolkonboard.com/cycle/provides free cycle maps for areas in Suffolk and https://www.suffolk.gov.uk/children-families-and-learning/schools/walking-and-cycling-to-school/ provides information about cycling to school including bikeability. Park & Cycle from Martlesham Park & Ride to Ipswich Town Centre introduced - commuters can park for free and cycle into Ipswich.	ESC website includes information on cycling in the district including information on the current Waveney Cycling Strategy and production of a new Cycling and Walking Strategy for ESC. SCC webpages provide free cycle maps for Beccles, Felixstowe, Halesworth, Lowestoft and Woodbridge together with information on cycling including the SCC Cycling Strategy. Difficult to gain access to schools to run bikeability courses during Covid-19 pandemic.
ESC 31	Electric charging points in Norse depots	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2020	ESC and Norse	ESC and Norse	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Provision of charge points. Provision of electric vehicles. Annual mileage driven by electric vehicles. 2020 - total of 20 charge points supporting 8 EVs. 2020/21 = 58,238 miles 2021/22 = 76,369 miles	12 EV charge points installed at Suffolk Coastal Norse Depot Ufford and 8 EV charge point electric charge points installed at ESC and Waveney Norse depot Lowestoft. 7 electric vehicles based at Ufford and 1 at Lowestoft.	-
ESC 32	Norse consultant assessed alternative fuels	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2022	Norse	ESC and Norse	NO	Funded	Unknown	Planning	Reduced vehicle emissions	-	Feasibly of project is currently being discussed and a report drawn up to take to Council Cabinet. Hydrogen technology will be investigated in the medium term (5+ years) with an interim solution to be chosen to take forward in 2021/22. Interim solution chosen is Hydrotreated Vegetable Oil (HVO) with 50 out of 51 Refuse Collection Vehicles now using it and some of the Housing Fleet (see ESC 34).	Hydrogen technology is not at the stage where it would be a feasible alternative at the current time for the Council's fleet so an interim solution is being looked at. Hydrogen technology will continue to be looked at in the medium term (5+ years).

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ESC 33	The Lowestoft Town Centre Masterplan - improvements to cycling, walking and public transport	Transport Planning and Infrastructure	Other	2020	Uknown	ESC, Lowestoft Town Council, Lowestoft Vision, Suffolk County Council and Suffolk Chamber of Commerce	ESC	NO	Funded	Unknown	Planning	Unknown	n/a	Masterplan has moved into the Feasibility Stage and a bid for the Town Funds Money is being developed. Lowestoft Town Investment Plan 2021-31 developed with more detail on work planned and funding including that secured, requested from the Towns Fund and unfunded as yet. Gateway Improvements to Lowestoft Port and the Station Quarter and Cultural Quarter improvements are all planned to improved accessibility and connectivity for walking and cycling across the Town. Masterplan is also looking at a new public transport link connecting central Lowestoft along the north-south access - one idea is an electric tram system.	The aim of this masterplan is to decrease traffic and emissions which hopes to encourage more cycling and ped opportunities. This ideally will balance the different modes of travel through Station Square. All work in the Masterplan will need reviewing after the opening of the Gull Wing bridge late 2023 as this should help ease congestion within the Town.
ESC 34	Fleet Migration for council and associated partners	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2020	2021	ESC and Norse	ESC and Norse	NO	Funded	Unknown	Planning	Reduced vehicle emissions	Number of Low emissions Vehicles acquired	Ambition to migrate all of the existing Council fleet (including those used by our partners) to a low carbon alternative. Fleet Migration Plan developed 2021/22 investigating use of Hydrotreated Vegetable Oil Diesel (HVO). July 2022 – Hired in 14 Refuse Collection Vehicles (RCV) to replace vehicles incompatible with HVO, - 50 out of 51 RCVs now using HVO. Housing fleet - 8 out of 78 vehicles using HVO.	-
ESC 35	ESC Air Quality Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2020	2021	ESC	ESC	NO	Funded	< £10k	Completed	n/a	Adoption of Strategy. Strategy approved by cabinet June 2021 and adopted.	Strategy drafted and approved by ESC Cabinet June 2021. 1 year post created and filled for graduate to work on update information due 2023	Final draft produced end of 2020. Formal approval and adoption by Full Council June 2021. Document will be reviewed and updated bi-annually.
ESC 36	Port of Felixstowe Air Quality Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	2020	Port of Felixstowe	Port of Felixstowe	NO	Funded	Unknown	Completed	n/a	Adoption of Strategy. Update provided every 3 years.	In December 2019 a Statement of Intent was produced followed by the Port Air Quality Strategy in 2020. Scheduled review of Strategy will commence 2022.	Strategy includes a number of measures to reduce emissions from the Port. The most relevant are included in measures above - ESC 1, 2 and 3. 2022 update will reflect air quality synergies from Hutchinson Ports decarbonisation strategy.

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ESC 37	Quiet Lanes within ESC	Promoting Travel Alternatives	Other	2021	2023	Quiet Lanes Suffolk, East Suffolk Greenprint Forum, ESC, SCC, Babergh District Council, Mid Suffolk Council, Town & Parish Councils and Village Groups	ESC, East Suffolk Greenprint Forum, SCC 2020 Fund, Babergh District Council, Mid Suffolk District Council, Voluntary contributions from some participating parish councils	NO	Funded	£100k - £500k	Implementation	Reduced vehicle emissions	Number of quiet lanes designated in ESC. Number of parishes with designations. 13 Quiet Lanes in 2013/14 spanning 7 parishes. Additional 7 Quiet Lanes designated in 2 further parishes March 2021. March 2022 - 129 Quiet Lanes covering 36 parishes.	13 Quiet Lanes were designated in 2013/14 spanning 7 parishes - Bromeswell, Butley, Chillesford, Eyke, Newbourne, Felixstowe and Waldringfield. March 2021 - 4 Quiet Lanes designated in Snape and 3 in Glemsford. Up to 140 new designations applied for in ESC for 'Phase 2' later in 2021. March 2022 – 36 parishes within ESC with designated Quiet Lanes, comprising 129 Lanes.	Aim is to encourage more people to feel safe using their local rural roads by non-motorised means instead of their cars. A Quiet Lane is a nationally recognised designation of single track road (i.e. no line markings), typically with less than 1,000 vehicle use per day. Project also entails a high-profile awareness and behaviour change communications campaign aimed at drivers on the message of “Expect and Respect”.
ESC 38	Katch a Lift - 1 year trial demand responsive Electric taxi service between Framlingham, Wickham Market and Campsea Ashe train station	Alternatives to private vehicle use	Other	2020	2022	SCC (suffolkonboard), CarsSmart ESC, Framlingham Town Council, The East Suffolk Lines, Community Rail Partnership	SCC, ESC Community Partnership & the Community Rail Partnership	NO	Funded	£50k - £100k	Implementation	Reduced vehicle emissions	Viability of the service	‘Katch a Lift' is a 1 year trial demand responsive taxi service using an electric vehicle running between Framlingham, Wickham Market and Campsea Ashe train station. It will be subsidised with a view to confirming its viability which is possible with multi-occupancy. Scheme started May 2021 but extended to Dec 2022 due to Covid-19 impacts.	Private electric charge points installed at Campsea Ashe Station for the taxi. Taxi must be booked in advance using phone or app. Initial uptake may be slow due to public's response to Covid-19 pandemic.
ESC 39	Installation of public electric vehicle charge points by ESC	Promoting Low Emission Transport	Other	2019	2021	ESC	ESC	NO	Funded	£50k - £100k	Completed	Reduced vehicle emissions	Number of sessions used, KWh of charge & number of EV miles driven.	1 electric charge point installed at Woodbridge leisure centre live Sept 2019. 2 charge points at Bungay installed and live June 2021. Woodbridge 2020 - 173 sessions using 1,304 kWh = 3,822 EV miles. Woodbridge 2021 - 499 sessions using 5,325 kWh = 15,781 EV miles. Bungay 2021 for 2 vehicles - 169 sessions using 2,190 KWh = 6,419 EV miles	-
ESC 40	SCC Travel Demand Management Project within Suffolk	Promoting Travel Alternatives	Other	2020	2020	SCC	SCC	NO	Funded	£10k - 50k	Completed	Reduced vehicle emissions	Promotion campaign executed. 4 week campaign undertaken from 2nd November 2020	Waveney DC Cycling Strategy formally adopted 2016, final draft published 2018. ESC extending this document across the whole of the Council to also include walking infrastructure and this will then supersede the Waveney Cycling Strategy. Initial public con	Aim to maintain and promote the positive travel habits used more widely during the Covid-19 lockdowns.

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ESC 41	SCC temporary trial cycling improvements in ESC	Transport Planning and Infrastructure	Cycle network	2020	2020	SCC	SCC via Central Government Transport Recovery Grant	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Number of trial schemes implemented. Number of schemes made permanent. 4 trial schemes implemented - 2 in Beccles and 2 in Felixstowe	4 temporary trial cycling schemes: Lowestoft Rd in Beccles between East of Beccles and Ellough Rd; Market Row to New Market in Beccles; Hamilton Rd in Felixstowe and High Road East & West in Felixstowe. Plans designed for Hamilton Rd Felixstowe trial to be made permanent. All schemes consulted on and waiting for summary of results.	£1.685 million funding from central Government following Covid-19 pandemic has produced the Transport recovery Plan 2020 for Suffolk to be used for improving walking, cycling and public transport. All schemes were temporary trials only.
ESC 42	Small electric vehicle fleet at the Port of Felixstowe	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2021	2022	Port of Felixstowe	Port of Felixstowe	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Number of small fleet electric capable vehicles	The Port has added to its fleet of EV small vehicles to replace diesel vehicles and now operates 15 EV passenger cars and 2 EV small vans	-
ESC 43	Installation of electric charge points and electric pool vehicles at ESC Port Health Office, Felixstowe	Promoting Low Emission Transport	Other	2020	2021	ESC	ESC	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Charge points installed. Mileage undertaken by EV 2021 - 807 miles	2021 - Charge points installed. 1 hybrid pool vehicle for staff work use.	As vehicle is hybrid unsure if mileage undertaken is all via electric.
ESC 44	'Go Jauntly' walking app covering areas in East Suffolk district	Promoting Travel Alternatives	Promotion of walking	2021	2022	ESC	ERDF Welcome Back Fund	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Walking app available to public. Number of miles of trails on app in ESC. 70 miles of trails covering 12 towns in ESC	Spring 2022 Go Jauntly app made available to the public with ESC routes. 70 miles of walking trails covering Aldeburgh, Beccles, Bungay, Framlingham, Felixstowe, Halesworth, Leiston, Lowestoft, Saxmundham, Southwold, Wickham Market and Woodbridge.	-
ESC 45	Through the Suffolk Climate Change Partnership - ESC to reduce carbon emissions moving towards carbon neutral by 2030	Other	Other	2019	2030	ESC and Suffolk Climate Change Partnership including Environment Agency, Groundwork Suffolk and University of Suffolk	ESC, Suffolk Climate Change Partnership	NO	Partially Funded	Unknown	Planning	Emission reductions across ESC	Project involvement 2021 - Launch of Small Grants Scheme for projects to develop active sustainable travel. Environmental Guidance Note for building industry. Government's Green Homes Grant funding for energy efficiency measures for owner/occupiers. Consulting on Sustainable Development Supplementary Planning Guidance. Council fleet transfer onto HVO (see ESC 34)	East Suffolk Environment Task Group set up - cross-party group to analyse policies and identify areas for improvement. Task Group meets quarterly and reports to Cabinet. Intention is to thread the environment through all decisions, choices and policy formation.	-

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ESC 46	Suffolk Air Quality Profile	Other	Other	2020	2023	SCC Public Health & Communities, all Suffolk local authorities including ESC	SCC Public Health	NO	Funded	Unknown	Implementation	Emission reductions in Suffolk	Production of Air Quality Profile. Undertake Air Quality Summit. Develop SCC strategy. Air Quality Profile published June 2021. Air Quality Summit undertaken January 2022.	Suffolk Air Quality Profile published June 2021 aim is to increase understanding of public health impact of poor air quality on health in Suffolk and act as a catalyst for further action. https://www.healthysuffolk.org.uk/projects/aqprofile. Air Quality Summit January 2022 for all County, District and Borough Councillors to increase air quality knowledge.	AQ Profile describes; the impact of poor air quality on the public's health; identifies areas of concern within Suffolk; what can be done to mitigate the harmful impact of poor air quality. The Suffolk Air Quality Summit covered an introduction to Air Quality, the effects of Air Pollution on Health and the current Air Quality situation across Suffolk. For more information see https://www.healthysuffolk.org.uk/projects/aqprofile

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

As detailed in Policy Guidance LAQM.PG(22) (Chapter 8), 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.

The Suffolk Air Quality Group, of which ESC is a member, has engaged with Suffolk County Council (SCC) Public Health in order to move forward together with regard to tackling $PM_{2.5}$. SCC has produced the Healthy Suffolk Joint Strategic Needs Assessment (JSNA) which aims to accurately assess the health needs of the local population and underpins the Health and Wellbeing Strategy. ESC, together with the other Suffolk Local Authorities, worked with SCC's Transport and Public Health teams to prepare an 'Air Quality Profile' report for Suffolk which was published June 2021 and now forms part of the JSNA documents. The report maps, at a district and borough level, local air pollution levels and supports efforts to increase understanding of the public health impact of poor air quality on health in Suffolk. It sets a number of actions to strengthen the system and the County Council's response to poor air quality:

1. Providing training and resource to increase the technical knowledge of officers such as transport, spatial planners, elected members and wider partners on the impact of air quality on health, and the actions which can be taken to mitigate;
2. Strengthening wider communication to the public on health impacts of air quality;
3. Undertaking further research at local level on links between air quality and health in Suffolk;
4. Mapping and sharing current interventions and good practice; and
5. Developing a County Council strategy to describe the levers SCC have to positively impact on AQ, and consider how to optimise.

Following on from the Air Quality Profile, an Air Quality Summit was held in January 2022 for all County, District and Borough Councillors to provide an introduction to air quality, and discuss the health impacts together with the current air quality situation across Suffolk. A draft Action Plan is also being produced for Suffolk setting out interventions that could be undertaken to achieve the above actions.

The Council, working in partnership with SCC and other potential partners, is committed to promoting alternative forms of transport and modes of travel such as cycling, walking, car sharing and public transport with the aim of reducing the reliance on private cars. Both the Waveney and SCC Cycling Strategies (and the ESC Walking and Cycling Strategy currently being produced - ESC 27) recognise the need for continued promotion of cycling and for greater improvements to the cycling infrastructure. SCC has spent £1 million to date on cycle improvements within Lowestoft, and the Lowestoft Town Centre Masterplan (ESC 33) aims to improve cycling and walking across the Town.

A number of measures listed in Table 2.2 (ESC 9, 12, 13, 19, 27, 30, 40, 41, 44) should impact positively in reducing emissions by promoting a change in travel culture and providing advice, support and the necessary infrastructure to encourage the use of other means of transport rather than the car. The promotion of active travel in the form of cycling and walking within the District has wider benefits and has strong links to the Public Health Outcomes Framework (PHOF) in terms of improving the health and wellbeing of the population, as well as improving the local air quality.

PHOF indicator DO1 – Fraction of mortality attributable to particulate ($PM_{2.5}$) air pollution for 2020 gives a value 5.7% for Suffolk and 5.8% for the East of England region. For comparison, the PHOF indicator for whole of England is 5.6%.

Reductions in $PM_{2.5}$ emissions are also targeted by the following measures related to Planning:

- Assessments of planning applications to consider their impact on air quality (ESC7);
- Air quality is included in the new ESC Local Plan documents (ESC8); and
- The Local Plan promotes travel alternatives for the district which aims to reduce emissions from motor vehicle use (ESC9).

SCC has a number of measures that aim to increase the number of people walking, cycling and using greener travel methods within the district, with the aim of reducing the reliance on private cars. This has strong links with the Public Health Outcomes Framework in terms of improving the health and wellbeing of the population as well as improving local air quality through reduced congestion and vehicle emissions:

- Provision of Greener Travel Information (ESC 12);
- Adoption of a national award scheme (Modeshift Stars) to assist schools with Travel Plans (ESC 19);

- Promotion of cycling within Suffolk via enhanced webpages and bike-ability courses in schools (ESC 30);
- Establishing Quiet Lanes across the County in partnership with local authorities and other bodies (ESC 37);
- Travel Demand promotion following the COVID-19 lockdowns to maintain and promote the positive travel habits that were used more widely during this time (ESC 40); and
- Provision of 4 temporary trial cycling schemes in ESC using the COVID-19 Government funding (ESC 41)

There are a number of measures which will reduce $PM_{2.5}$ emissions locally to the Council Offices, within the two AQMAs, and more widely across the district:

- Emission reduction measures being undertaken by the Port of Felixstowe will aid to reduce emissions of $PM_{2.5}$. Efficient power technologies fitted to Rubber-Tyred Gantry cranes (RTGs) – ECO-RTGs and electric RTGs replacement program in place (ESC 1) and abatement technologies fitted to Internal Movement Vehicles and replacement program in place (ESC 2). Increased use of rail to move freight (ESC 3);
- Provision of information to the Public and commerce on reducing emissions from solid fuel and wood burning (ESC11);
- Promotion of travel alternatives for ESC staff (ESC 13);
- Third vehicular crossing of Lake Lothing in Lowestoft. This will significantly reduce congestion and therefore PM emissions within Lowestoft (ESC 21);
- School Travel - deliver air quality information/education and anti-idling events at all primary schools (ESC 29);
- A number of measures will increase uptake and use of low or zero emission vehicles (ESC 31, 32, 34, 38, 39 and 42);
- The new Traffic Regulation Order for the Thoroughfare, close to the Woodbridge AQMA, will reduce congestion at this junction by freeing up the left filter lane at the lights (WBG3);
- Travel Plan for the District Council offices (measure WBG15c);
- Promotion of walking and cycling in Woodbridge (measure WBG16);
- Raising air quality awareness through better website, press releases, publicity (measure WBG18);

- Possible A12 Stratford St. Andrew bypass would smooth the traffic flow thereby reducing $PM_{2.5}$ emissions (measure STA7); and
- Mitigation of emissions from Sizewell C construction traffic through use of low emission Heavy Goods Vehicles (measure STA8).

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

This section sets out the monitoring undertaken within 2021 by East Suffolk 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.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

ESC undertook automatic (continuous) monitoring at one site during 2021. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The Air Quality England page (available at: https://www.airqualityengland.co.uk/) presents automatic monitoring results for ESC, with automatic monitoring results also available through the UK-Air website .

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

3.1.2 Non-Automatic Monitoring Sites

ESC undertook non- automatic (i.e. passive) monitoring of NO_2 at 83 sites during 2021. 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: Map(s) of Monitoring Locations and AQMAs. 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.

The diffusion tube network is updated as required in response to new potential sources of pollution, new receptors being introduced, proposed land development, or concerns raised by local residents. These are located with reference to the LAQM technical guidance. Six new sites were added to NO_2 monitoring network in 2021 across the district, within the following towns/parishes:

- Beccles – one site added in a street canyon to monitor any changes due to the proposed Sizewell C construction traffic;
- Bungay – one site added following local concerns;
- Little Bealings – one site added in the village close to where it crosses the A12 following local concern;
- Marlesford – one new site added in this location on the designated route for the proposed Sizewell C construction traffic; and
- Wickham Market – two new sites to monitor any changes due to the proposed Sizewell C construction traffic.

The following monitoring sites were removed at the end of 2020, to ensure that resources were allocated appropriately with reference to LAQM guidelines:

- FLX 27 – removed as the location was becoming difficult to maintain and FLX 26 nearby is showing higher concentrations.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

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

For diffusion tubes, the full 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.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.

During 2021, the continuous analyser, located at a relevant receptor within the Woodbridge AQMA recorded a good data capture rate of 96%. The monitor measured an annual mean NO_2 concentration of 25 µg/m^3 in 2021. This is within the air quality objective for the eighth year running. In the last two years, the annual mean concentration has also showed a significant reduction from 31 µg/m^3 in 2019. The 1-hour objective is set at 200 µg/m^3 not to be exceeded more than 18 times per year. The automatic analyser in Woodbridge did not record any 1-hour mean concentrations in excess of at 200 µg/m^3, thus achieving compliance with the 1-hour mean NO_2 air quality objective.

The results from diffusion tube monitoring show that there are no sites across the Council with annual mean concentrations at or above the objective level of 40 µg/m^3 in 2021. There are no instances of the annual mean exceeding 60 µg/m^3 in 2021 and therefore the risk of exceeding the 1-hour objective at any locations is very low. Additionally, there were no diffusion tube locations which recorded a concentration within 10% of the air quality objective (i.e. any site above 36 µg/m^3 and therefore close to, but not above, the objective level of 40 µg/m^3). The maximum annual mean concentration was 33.2 µg/m^3, recorded at triplicate site LOW 6, located next to Lowestoft Harbour.

Trend graphs showing annual mean NO_2 concentrations at all diffusion tube sites within the district with multiple years of data are presented in Appendix A: Monitoring Results, Figures A.1 to A.7.

Monitoring locations across the Council have seen an overall decreasing annual mean NO_2 concentrations over the last 5 years. This trend is particularly evident in diffusion tubes in Felixstowe. Some areas show a less discernible trend, with stable or fluctuating concentrations. In particular, between 2020 and 2021, all areas saw a stabilisation in concentrations, with a number of areas showing small increases in concentrations. This trend is evident at the Woodbridge continuous analyser, with no change in concentration recorded between 2020 and 2021. This is likely due to the impact of COVID-19 and associated travel restrictions in 2020 and the lessening of this impact in 2021, with the return of some vehicles to the roads.

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)
WBG	Woodbridge Junction	Roadside	627596	249261	NO_2	Yes - AQMA No. 1 - Woodbridge	ozone chemi-luminescence	0	1.2	2.6

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)
LOW 1	Belvedere Road 1	Roadside	654606	292625	NO_2	No	n/a	2.5	No	1.9
LOW 2	1 Fir Lane (lamppost)	Roadside	653209	293785	NO_2	No	6.0	0.5	No	1.8
LOW 3	[redacted] Mill Road	Roadside	654477	292395	NO_2	No	6.8	1.2	No	1.9
LOW 5	St Margarets Church	Urban Background	654065	294200	NO_2	No	-	-	No	1.7
LOW 6a, LOW 6b, LOW 6c	9 Pier Terrace	Roadside	654690	292625	NO_2	No	0.0	2.5	No	1.8
LOW 7	Belvedere Rd / London Rd South	Roadside	654671	292601	NO_2	No	7.0	2.5	No	1.7
LOW 8	Levington Court, London Rd South	Roadside	654660	292571	NO_2	No	0.0	5.7	No	1.7
LOW 9	Lampost at [redacted] Denmark Road	Roadside	654723	292914	NO_2	No	9.4	2.3	No	1.8
LOW 10	[redacted] Waveney Drive	Roadside	653917	292414	NO_2	No	4.5	0.8	No	1.9
LOW 11	Stradbroke Road / Bloodmoor Road	Roadside	652552	290427	NO_2	No	0.0	8.3	No	1.8
LOW 12	21 Rotterdam Road	Roadside	654200	294039	NO_2	No	0.0	16.8	No	1.9
LOW 13	Lampost at [redacted] Denmark Road	Kerbside	654049	292963	NO_2	No	0.5	0.9	No	1.7
LOW 14	1 Fir Lane (house)	Roadside	653228	293811	NO_2	No	0.0	9.1	No	2.0

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)
OBR 1	Saltwater Way / Bridge Road	Roadside	652046	292503	NO_2	No	6.0	3.2	No	1.9
OBR 2	31 Bridge Road (opp. Golden Court)	Roadside	652304	293021	NO_2	No	0.0	4.3	No	2.0
OBR 4	12 Beccles Rd/Cotmer Road	Roadside	651869	292127	NO_2	No	0.0	5.2	No	0.9
OBR 5	181 Normanston Drive	Roadside	652554	293282	NO_2	No	0.0	6.4	No	1.7
BEC 1	[redacted] Ingate (by crossing)	Roadside	642615	289909	NO_2	No	0.0	1.3	No	1.8
BEC 3	Fredricks Road cycle sign	Roadside	642553	289922	NO_2	No	0.0	1.5	No	1.8
BEC 4	1 Ingate	Roadside	642564	289922	NO_2	No	0.0	1.3	No	1.7
BEC 5a, BEC 5b, BEC 5c	[redacted] Ingate	Kerbside	642592	289916	NO_2	No	0.0	0.9	No	1.8
BEC 6	Old Market (near bus station)	Roadside	642158	290574	NO_2	No	0.0	3.0	No	1.9
BEC 7	20A London Road, Beccles (A145)	Roadside	644220	290213	NO_2	No	0.0	1.5	No	1.8
BUN 1	[redacted] Trinity Street	Roadside	633670	289817	NO_2	No	0.0	1.6	No	2.0
BUN 2	[redacted] Lower Olland Street	Roadside	633827	289480	NO_2	No	0.0	1.5	No	1.8
BLY 1	A12 / Chapel Road	Roadside	645183	275218	NO_2	No	0.0	1.3	No	1.8
BRAM 1	[redacted] The Street	Roadside	639967	273904	NO_2	No	0.0	1.3	No	1.8
HLW 1	[redacted] Andrew Johnston Way	Roadside	638587	277112	NO_2	No	0.0	7.6	No	1.8
FLX 12	119 Hamilton Road	Roadside	630363	234890	NO_2	No	0.0	5.0	No	1.7

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)
FLX 14	1 Adastral Close	Industrial	628604	232847	NO_2	No	0.0	5.8	No	1.8
FLX 17	38 Spriteshall Lane, Trimley St Mary	Roadside	628817	236323	NO_2	No	0.0	31.0	No	2.0
FLX 20	73 Glemsford Close	Industrial	628669	233979	NO_2	No	10.0	54.0	No	2.0
FLX 21	[redacted] Kings Fleet Road	Suburban	629253	234431	NO_2	No	n/a	1.5	No	2.0
FLX 22	13 Levington Road	Industrial	629172	233446	NO_2	No	0.0	9.0	No	2..3
FLX 23	23 Heathgate Piece, Trimley St Mary	Roadside	628542	236592	NO_2	No	0.0	25.0	No	1.8
FLX 24	22 Brandon Road	Roadside	628358	234634	NO_2	No	0.0	32.0	No	2.0
FLX 26a, FLX 26b, FLX 26c	Dooley Inn, Ferry Lane front	Roadside	627959	234246	NO_2	No	0.0	13.0	No	2.5
FLX 39	424 High Rd, Trimley St Mary	Roadside	628760	236071	NO_2	No	0.0	11.0	No	2.8
TRM 3	216 High Road, Trimley St Martin	Roadside	627618	237092	NO_2	No	0.0	1.8	No	1.6
TRM 4	[redacted] High Road, Trimley St Martin	Roadside	627613	237080	NO_2	No	0.0	1.6	No	1.9
TRM 5	McColls, High Rd, Trimley St Martin	Roadside	627629	237078	NO_2	No	0.0	4.2	No	1.9
TRM 8	[redacted] High Road, Trimley St Mary	Roadside	628270	236266	NO_2	No	1.8	1.4	No	1.7
TRM 10	293 High Street, Walton	Roadside	629340	235737	NO_2	No	0.0	2.9	No	1.9
TRM 12	193 High Street, Walton	Roadside	629641	235529	NO_2	No	0.0	2.3	No	2.0

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)
KSG 9	[redacted] Main Road	Roadside	621680	245796	NO_2	No	n/a	2.6	No	2.0
KSG 10a, KSG 10b, KSG 10c	The Bell Inn, Main Road (front window)	Roadside	621815	245785	NO_2	No	0.0	2.7	No	1.8
KSG 13	The Bell Inn, Main Road (downpipe set back)	Roadside	621809	245778	NO_2	No	0.0	9.0	No	1.6
MEL 5	6 The Street	Roadside	628145	250417	NO_2	No	0.5	3.6	No	1.8
MEL 7	28 The Street	Kerbside	628177	250478	NO_2	No	0.0	0.3	No	1.9
MRT 1a, MRT 1b, MRT 1c	Horseman Court	Roadside	624633	245447	NO_2	No	0.0	21.0	No	1.7
MRT 6	Main Road / School Lane	Roadside	625200	247100	NO_2	No	0.3	2.0	No	1.7
MRT 7	[redacted] Felixstowe Road	Roadside	625009	246730	NO_2	No	0.0	20.0	No	2.0
MRT 8	[redacted] Post Office Cottages, The Street	Roadside	625290	247385	NO_2	No	3.7	1.5	No	1.9
LGM 2	Carlton Lodge, Main Road	Roadside	634051	258315	NO_2	No	0.0	6.3	No	2.2
FAR 1	Turret House, The Street	Roadside	636273	260134	NO_2	No	0.0	1.9	No	1.7
FAR 2a, FAR 2b, FAR 2c	Post Office Stores, The Street	Roadside	636274	260120	NO_2	No	0.0	1.4	No	1.8
STA 1a, STA 1b, STA 1c	1 Long Row, Main Road	Roadside	635753	260002	NO_2	Yes, AQMA No. 3 - Stratford St. Andrew	0.0	2.0	No	1.9
STA 2	Road sign opposite Long Row	Roadside	635732	259995	NO_2	No	n/a	1.7	No	1.6

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
STA 6	Jacobs Cottage, Main Road	Roadside	635794	260042	NO_2	No	0.0	7.0	No	1.8
STA 7	30mph sign, Long Row	Roadside	635736	259984	NO_2	No	n/a	1.9	No	1.3
STA 8a , STA 8b , STA 8c	5 Long Row, Main Road	Roadside	635743	259992	NO_2	Yes, AQMA No. 3 - Stratford St. Andrew	0.0	2.0	No	1.7
THEB 1	Leiston Road (opp. Lion Inn PH)	Kerbside	643797	265815	NO_2	No	1.0	0.9	No	1.6
MID 1	2 The Moor	Roadside	641611	267791	NO_2	No	0.0	2.5	No	2.0
YOX 1	Brook Street (outside Kings Head PH)	Roadside	639647	268740	NO_2	No	0.0	1.4	No	2.0
SAX 1	[redacted]Church Street	Roadside	638683	263014	NO_2	No	0.0	1.0	No	2.0
LEI 2	Lamppost [redacted] Sizewell Road	Roadside	644557	262464	NO_2	No	0.5	1.4	No	1.8
LEI 3	White Horse Hotel, Station Rd	Roadside	644325	262634	NO_2	No	0.0	2.3	No	2.2
TUN 1	The Old Bakery, Snape Road	Kerbside	636110	255114	NO_2	No	0.0	0.5	No	1.9
LTB 1	30mph sign, Martlesham Road, Little Bealings	Kerbside	624194	247362	NO_2	No	54.0	0.9	No	2.0
MLS 1	Street Sign nr [redacted] Main Road (A12)	Roadside	632734	257733	NO_2	No	5.0	1.8	No	1.6

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WKM 1	Lampost at [redacted] High Street	Roadside	630180	255718	NO_2	No	0.0	1.5	No	1.9
WKM 2	Drainpipe on 70a High Street	Kerbside	630164	255904	NO_2	No	0.0	0.6	No	2.0
WBG 1a, WBG 1b, WBG 1c	[redacted] Thoroughfare	Roadside	627596	249261	NO_2	Yes, AQMA No. 1 - Woodbridge	0.0	1.3	Yes	2.4
WBG 3	[redacted] Kingston Farm Road	Suburban	626997	248488	NO_2	No	n/a	1.0	No	1.9
WBG 5	Suffolk Place corner	Roadside	627604	249243	NO_2	No	0.0	2.5	No	2.3
WBG 8	95 Thoroughfare	Roadside	627601	249283	NO_2	Yes, AQMA No. 1 - Woodbridge	1.0	1.6	No	2.4
WBG 10	St John's Street signpost	Roadside	627570	249240	NO_2	No	0.5	1.2	No	2.1
WBG 12	8 Lime Kiln Quay Road	Roadside	627664	249203	NO_2	No	0.5	5.0	No	1.8
WBG 13	Traffic lights at [redacted] Thoroughfare	Roadside	627585	249239	NO_2	No	2.5	1.8	No	1.9
WBG 18	97 Thoroughfare	Roadside	627627	249339	NO_2	Yes, AQMA No. 1 - Woodbridge	0.0	1.1	No	2.2
WBG 20	Suffolk Place - Lime Kiln Quay	Roadside	627604	249295	NO_2	Yes, AQMA No. 1 - Woodbridge	0.0	2.6	No	1.9
WBG 24	29 Grove Road (Southbound)	Roadside	626026	249631	NO_2	No	0.0	9.7	No	1.7
WBG 25	6 Grove Road (Northbound)	Roadside	626038	249389	NO_2	No	0.0	7.8	No	2.0

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 2021 (%) (2)	2017	2018	2019	2020	2021
WBG	627596	249261	Roadside	96.0	96.0	37	32	31	25	25

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

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

Notes:

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

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

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

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

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
LOW 1	654606	292625	Roadside	100	100.0	33.8	27.2	28.0	22.4	23.8
LOW 2	653209	293785	Roadside	100	100.0	20.4	25.4	29.5	24.2	23.4
LOW 3	654477	292395	Roadside	100	100.0	24.4	23.3	20.3	16.0	19.3
LOW 5	654065	294200	Urban Background	100	100.0	14.7	13.5	13.7	10.7	11.0
LOW 6a, LOW 6b, LOW 6c	654690	292625	Roadside	100	100.0	36.3	34.7	33.2	29.3	33.2
LOW 7	654671	292601	Roadside	100	100.0	29.8	29.2	30.3	24.8	27.8
LOW 8	654660	292571	Roadside	100	100.0			20.7	17.6	18.8
LOW 9	654723	292914	Roadside	91.7	92.9			27.9	24.6	24.1
LOW 10	653917	292414	Roadside	100	40.4			22.6	18.5	17.0
LOW 11	652552	290427	Roadside	100	100.0			25.7	20.9	22.8
LOW 12	654200	294039	Roadside	100	100.0				12.2	13.4
LOW 13	654049	292963	Kerbside	100	100.0				16.7	17.9
LOW 14	653228	293811	Roadside	100	100.0				15.9	15.4
OBR 1	652046	292503	Roadside	100	100.0	25.6	26.2	27.5	21.0	23.0
OBR 2	652304	293021	Roadside	100	100.0	23.6	26.0	22.1	18.4	20.1
OBR 4	651869	292127	Roadside	100	100.0		22.0	21.8	18.3	18.8
OBR 5	652554	293282	Roadside	100	100.0			19.4	15.6	16.1
BEC 1	642615	289909	Roadside	91.7	92.9	27.6	24.9	23.3	18.0	19.1
BEC 3	642553	289922	Roadside	100	100.0		34.7	33.6	25.3	25.7
BEC 4	642564	289922	Roadside	100	100.0		24.2	20.8	16.9	18.7
BEC 5a, BEC 5b, BEC 5c	642592	289916	Kerbside	100	100.0		33.2	29.3	22.7	26.1
BEC 6	642158	290574	Roadside	100	100.0			21.8	14.0	14.5
BEC 7	644220	290213	Roadside	100	100.0					14.8
BUN 1	633670	289817	Roadside	100	100.0	26.4	25.7	26.1	21.2	22.2
BUN 2	633827	289480	Roadside	91.7	92.0					30.7
BLY 1	645183	275218	Roadside	100	100.0			28.2	21.1	23.3
BRAM 1	639967	273904	Roadside	91.7	92.9				11.8	12.9
HLW 1	638587	277112	Roadside	100	100.0				10.9	11.5
FLX 12	630363	234890	Roadside	91.7	90.9	25.7	24.1	23.3	19.8	20.1
FLX 14	628604	232847	Industrial	100	100.0	25.4	25.0	24.1	21.9	22.0
FLX 17	628817	236323	Roadside	100	100.0	20.8	21.2	20.4	17.3	17.8

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 2021 (%) [2]	2017	2018	2019	2020	2021
FLX 20	628669	233979	Industrial	100	100.0	31.3	26.2	27.5	25.1	22.1
FLX 21	629253	234431	Suburban	100	100.0	21.9	19.8	20.0	17.7	17.3
FLX 22	629172	233446	Industrial	91.7	90.9	22.1	19.9	20.1	18.2	17.3
FLX 23	628542	236592	Roadside	100	100.0	21.6	27.1	24.7	20.3	21.9
FLX 24	628358	234634	Roadside	100	100.0	25.6	24.2	22.6	21.0	20.7
FLX 26a, FLX 26b, FLX 26c	627959	234246	Roadside	100	100.0	37.4	34.8	32.3	28.9	30.1
FLX 39	628760	236071	Roadside	100	100.0	23.1	22.4	22.6	18.7	18.8
TRM 3	627618	237092	Roadside	100	100.0	**41.1**	24.5	23.0	19.1	19.8
TRM 4	627613	237080	Roadside	100	100.0		26.0	25.1	21.4	20.9
TRM 5	627629	237078	Roadside	100	100.0		23.6	21.9	18.5	19.6
TRM 8	628270	236266	Roadside	100	100.0		27.7	27.0	23.2	23.6
TRM 10	629340	235737	Roadside	100	100.0		25.8	26.6	22.2	22.2
TRM 12	629641	235529	Roadside	100	100.0		24.7	23.7	20.5	20.9
KSG 9	621680	245796	Roadside	100	100.0	31.7	29.7	29.1	22.7	22.2
KSG 10a, KSG 10b, KSG 10c	621815	245785	Roadside	100	100.0	34.5	34.7	32.3	24.9	26.5
KSG 13	621809	245778	Roadside	100	100.0			23.8	18.2	18.9
MEL 5	628145	250417	Roadside	100	100.0	26.4	23.0	24.2	20.4	19.9
MEL 7	628177	250478	Kerbside	100	100.0	26.0	24.4	23.7	17.2	19.2
MRT 1a, MRT 1b, MRT 1c	624633	245447	Roadside	100	100.0	24.0	23.2	22.3	18.5	19.5
MRT 6	625200	247100	Roadside	100	100.0				14.4	15.5
MRT 7	625009	246730	Roadside	100	100.0				12.0	11.4
MRT 8	625290	247385	Roadside	100	100.0				13.7	14.4
LGM 2	634051	258315	Roadside	100	100.0	18.6	18.9	17.1	14.7	14.0
FAR 1	636273	260134	Roadside	100	100.0	23.7	23.5	21.2	17.0	17.8
FAR 2a, FAR 2b, FAR 2c	636274	260120	Roadside	100	100.0	27.7	27.4	24.4	19.0	20.3
STA 1a, STA 1b, STA 1c	635753	260002	Roadside	100	100.0	35.1	34.0	32.3	23.8	26.0
STA 2	635732	259995	Roadside	100	100.0	25.5	24.1	24.6	14.9	15.8

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 2021 (%) [2]	2017	2018	2019	2020	2021
STA 6	635794	260042	Roadside	100	100.0	21.5	21.3	20.2	15.8	16.8
STA 7	635736	259984	Roadside	100	100.0	30.7	30.2	28.0	20.4	22.6
STA 8a, STA 8b, STA 8c	635743	259992	Roadside	100	100.0	38.8	37.7	36.2	27.4	28.3
THEB 1	643797	265815	Kerbside	100	100.0				14.8	16.1
MID 1	641611	267791	Roadside	100	100.0				8.7	8.4
YOX 1	639647	268740	Roadside	91.7	92.9				13.8	13.6
SAX 1	638683	263014	Roadside	100	100.0	29.9	28.7	27.8	20.7	25.1
LEI 2	644557	262464	Roadside	91.7	90.9	25.7	25.9	22.7	18.6	20.1
LEI 3	644325	262634	Roadside	91.7	92.3	21.3	22.7	21.8	17.8	19.3
TUN 1	636110	255114	Kerbside	100	100.0				13.1	13.5
LTB 1	624194	247362	Kerbside	100	100.0					16.4
MLS 1	632734	257733	Roadside	100	100.0					19.6
WKM 1	630180	255718	Roadside	100	100.0					13.7
WKM 2	630164	255904	Kerbside	100	100.0					18.6
WBG 1a, WBG 1b, WBG 1c	627596	249261	Roadside	100	100.0	36.7	32.8	33.7	23.1	24.3
WBG 3	626997	248488	Suburban	100	100.0	13.7	12.4	13.1	9.5	9.6
WBG 5	627604	249243	Roadside	100	100.0	21.0	20.6	20.9	14.7	15.9
WBG 8	627601	249283	Roadside	100	100.0	34.3	32.5	32.5	22.5	23.8
WBG 10	627570	249240	Roadside	100	100.0	25.1	25.7	24.3	15.5	16.7
WBG 12	627664	249203	Roadside	100	100.0	22.4	19.9	21.5	14.9	14.8
WBG 13	627585	249239	Roadside	100	100.0	28.1	27.6	27.1	18.8	20.6
WBG 18	627627	249339	Roadside	100	100.0	28.9	29.7	29.9	20.6	21.0
WBG 20	627604	249295	Roadside	100	100.0	34.0	31.0	30.3	21.5	22.2
WBG 24	626026	249631	Roadside	100	100.0				21.2	21.0
WBG 25	626038	249389	Roadside	100	100.0				17.1	18.2

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

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

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

Notes:

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

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

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

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

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

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.1 – Trends in Annual Mean NO_2 Concentrations in Lowestoft.

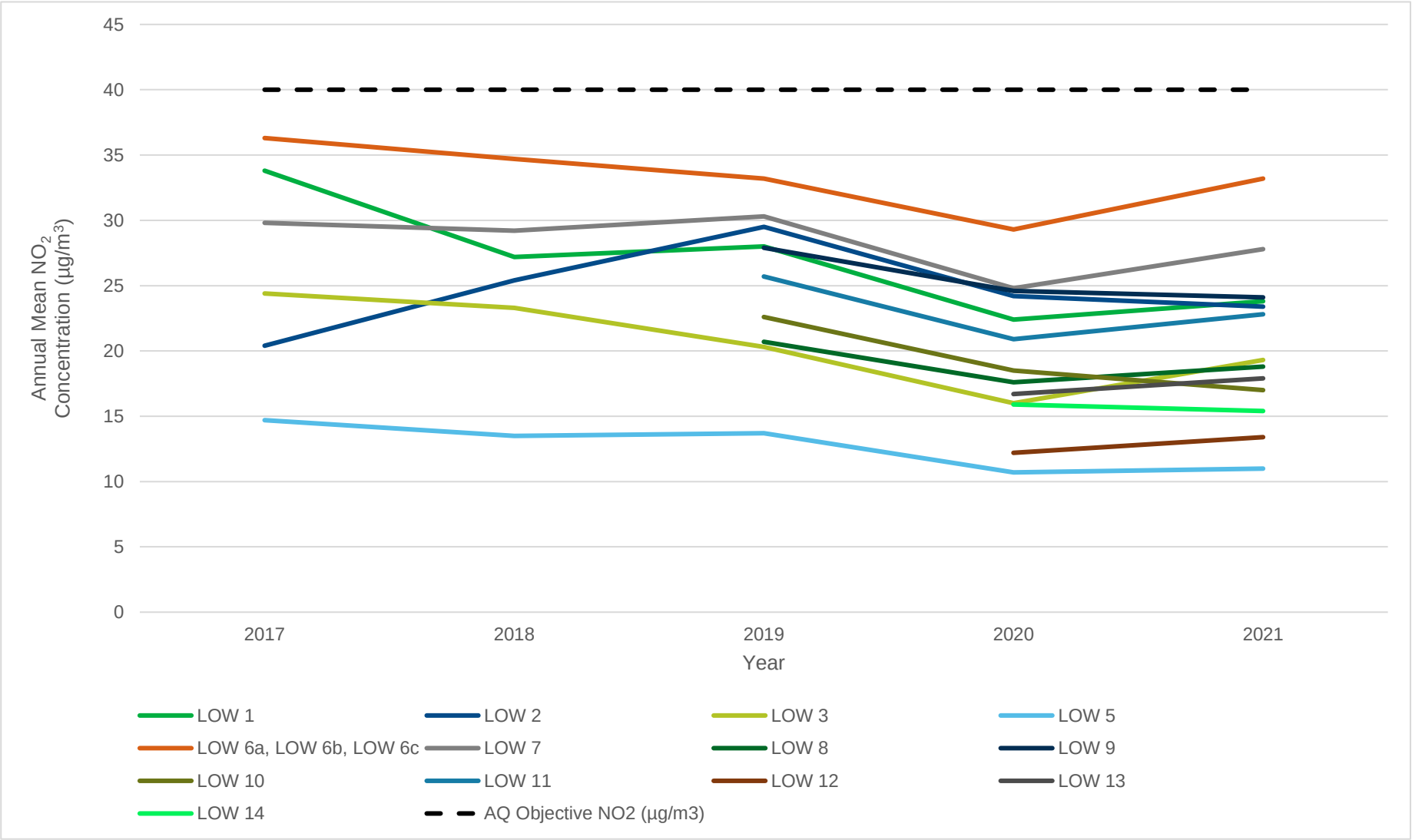


Figure A.2 – Trends in Annual Mean NO_2 Concentrations in Beccles, Bungay and Oulton Broad.

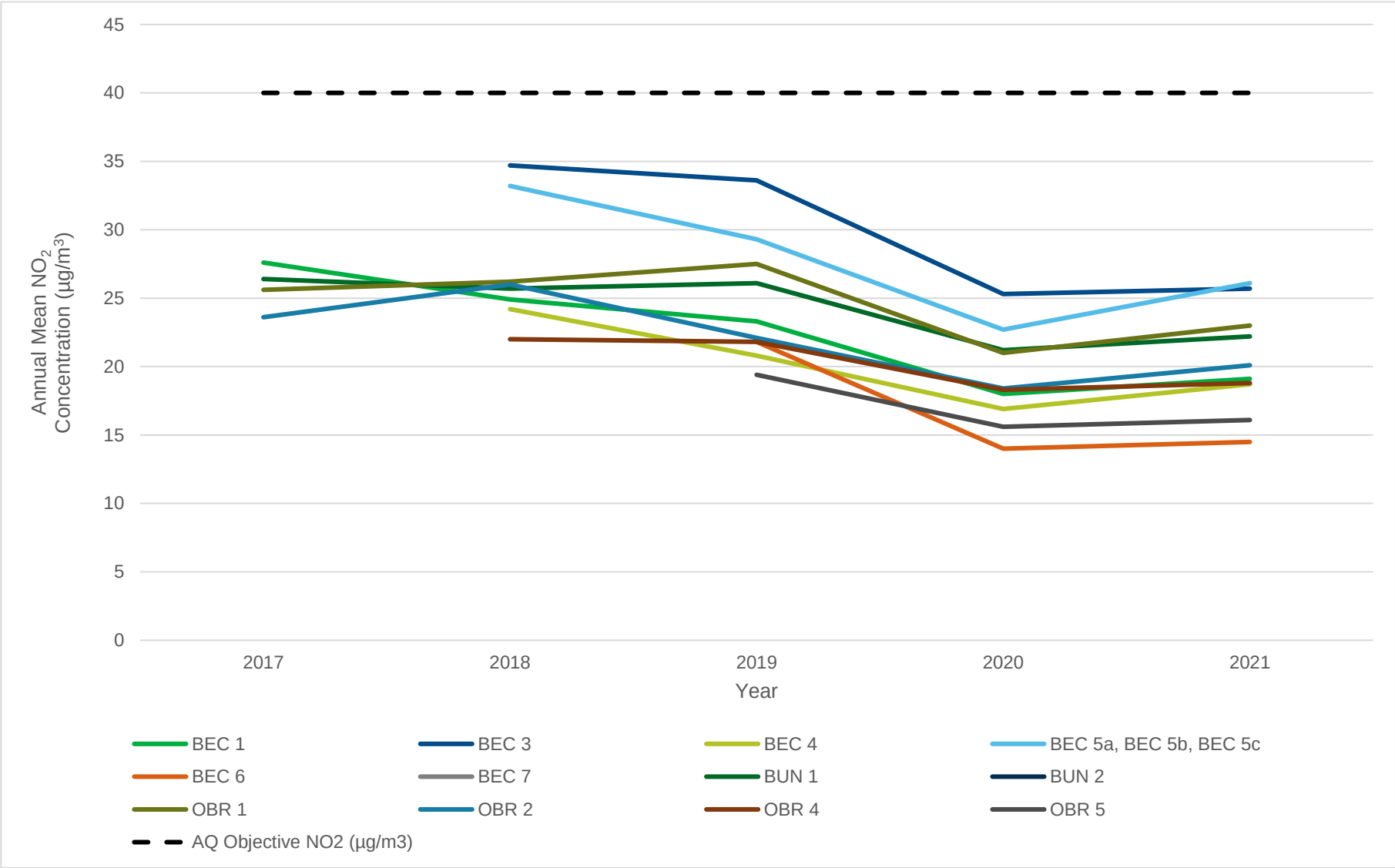


Figure A.3 – Trends in Annual Mean NO_2 Concentrations in Felixstowe.

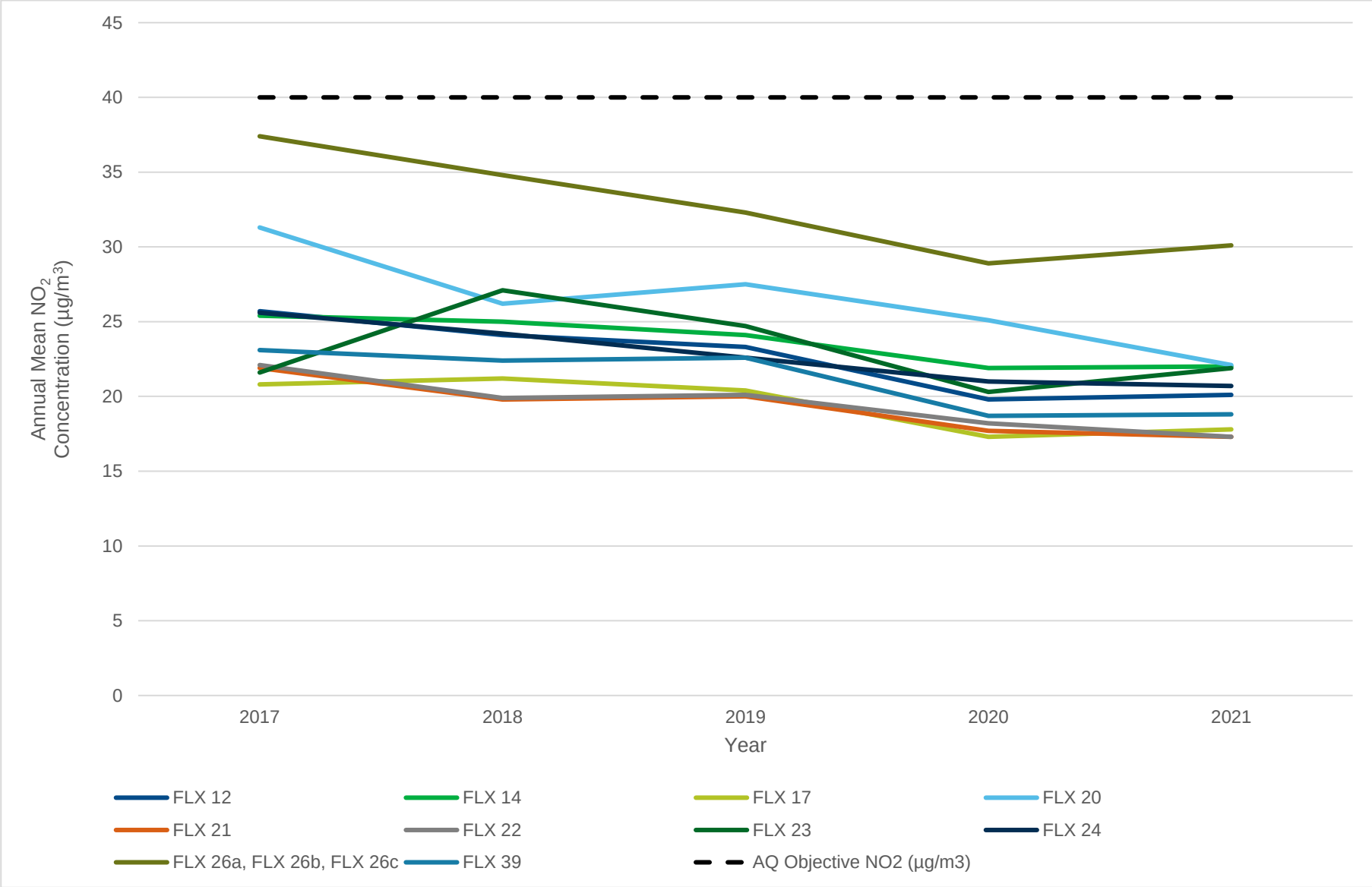


Figure A.4 - Trends in Annual Mean NO_2 Concentrations in Trimley, Kesgrave and Martlesham.

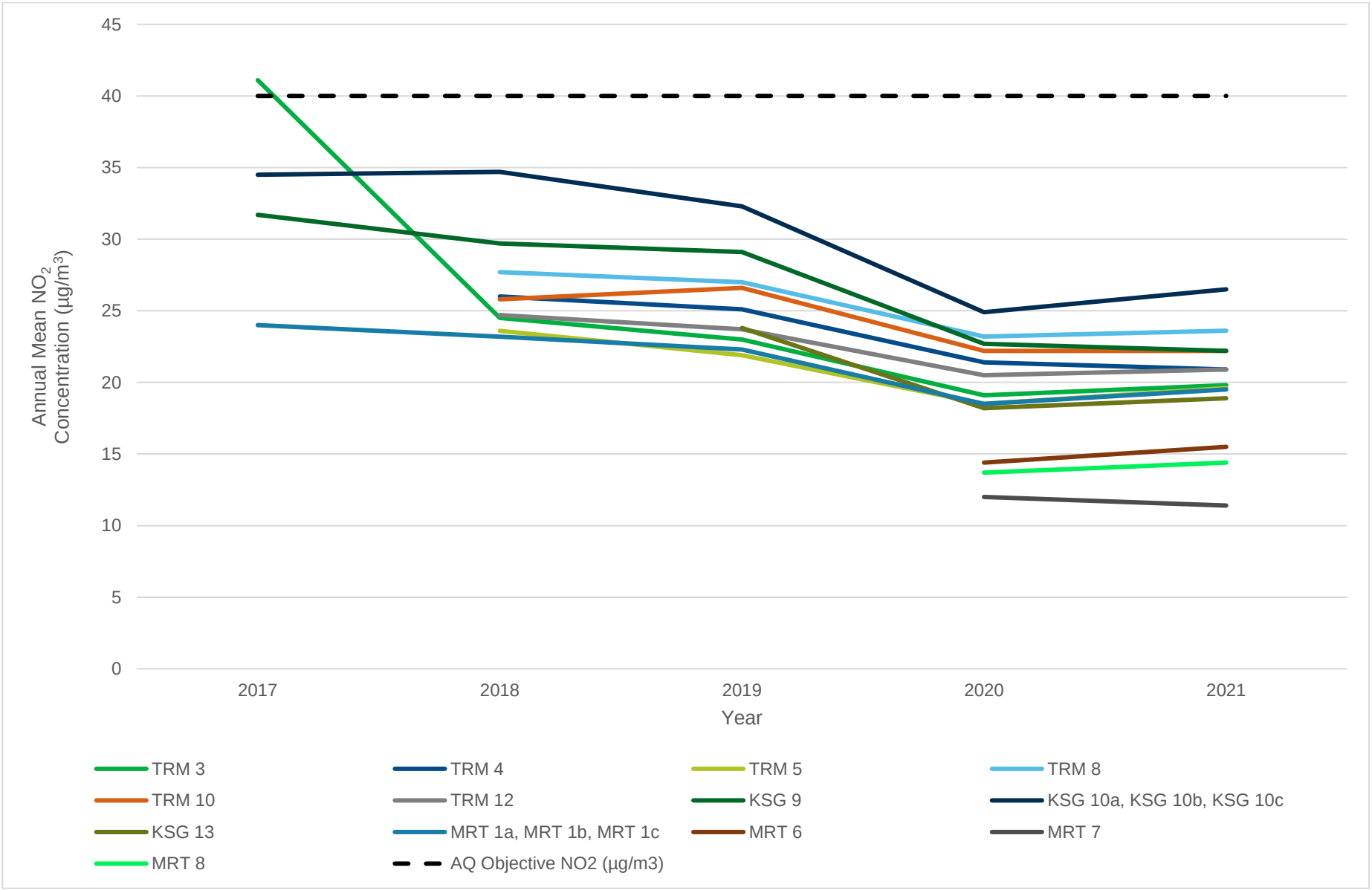


Figure A.5 - Trends in Annual Mean NO_2 Concentrations in at sites in Woodbridge.

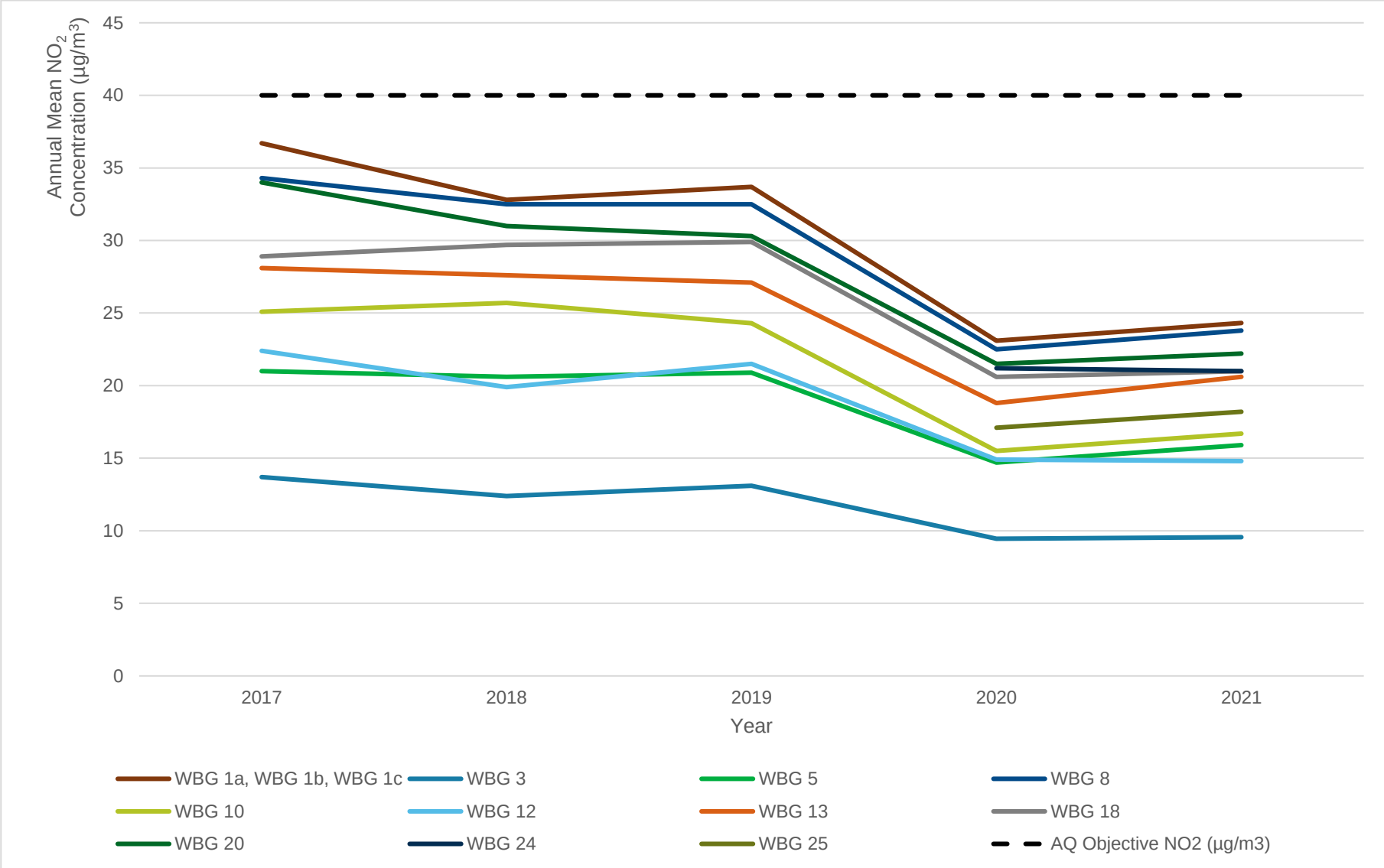


Figure A.6 - Trends in Annual Mean NO_2 Concentrations in at sites along the A12.

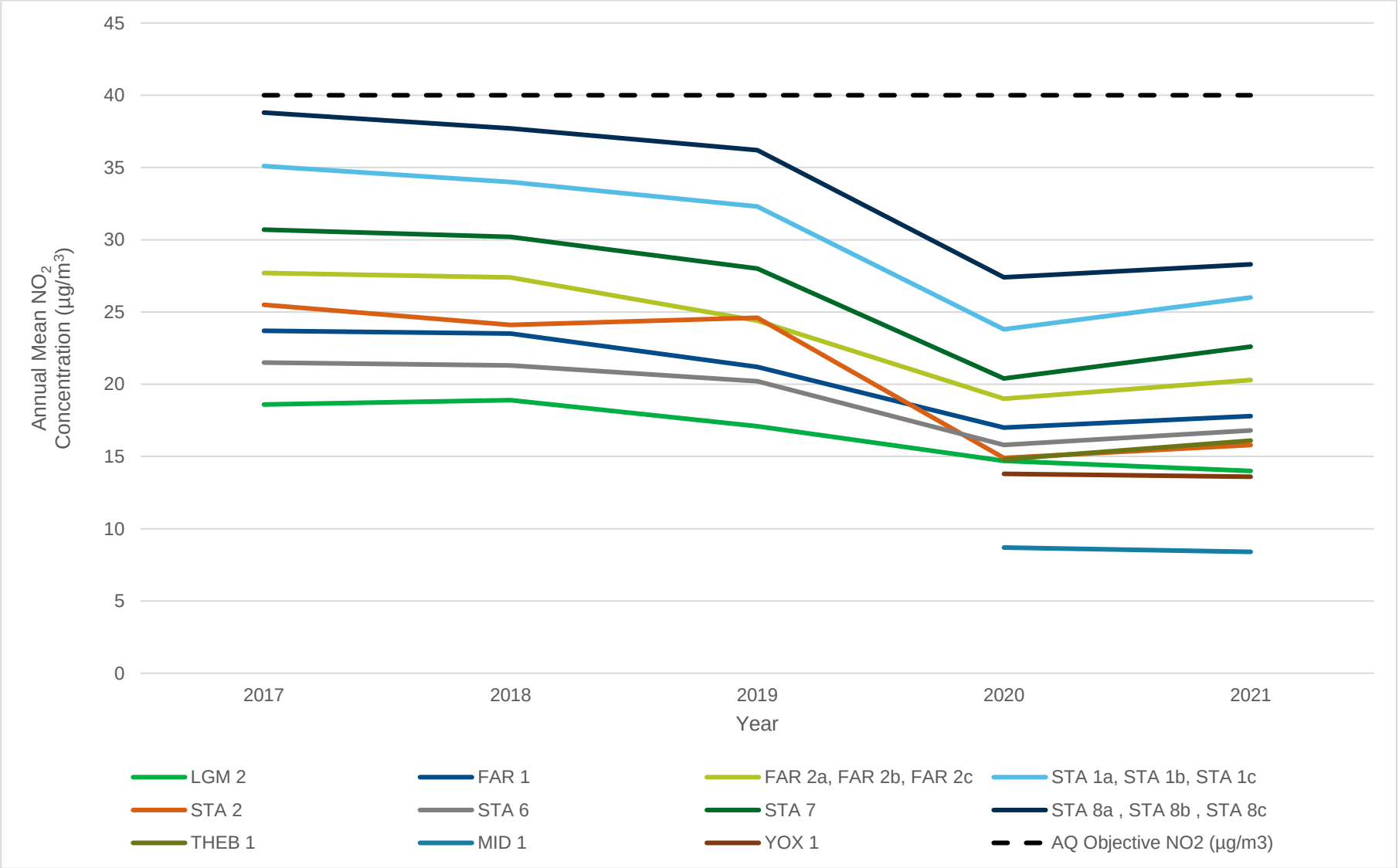


Figure A.7 - Trends in Annual Mean NO_2 Concentrations in at sites in Saxmundham, Leiston, Tunstall, Marlesford, Wickham Market, Melton and Blythburgh.

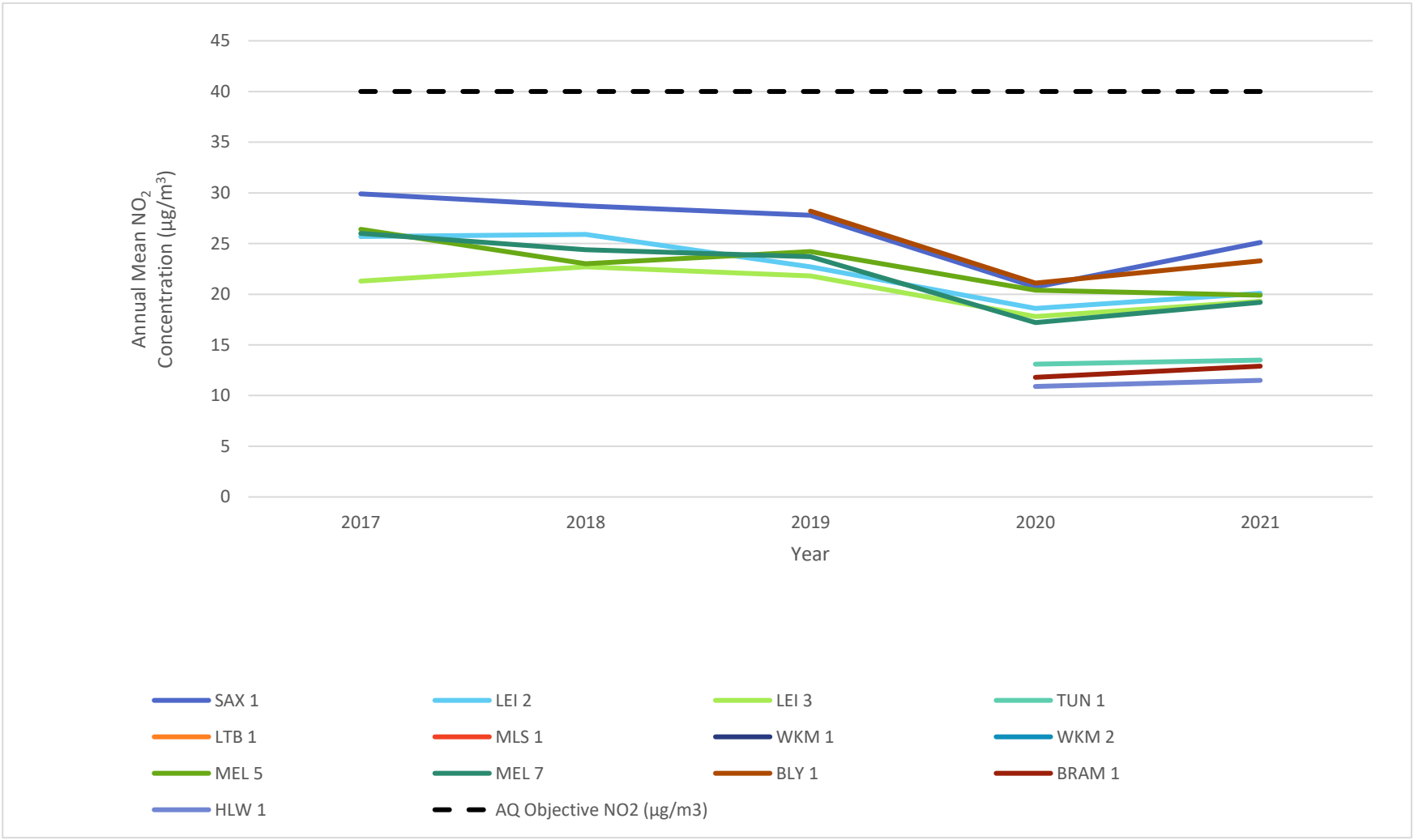


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
WBG	627596	249261	Roadside	96.0	96.0	1	0	0	**0(122)**	**0**

Notes:

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

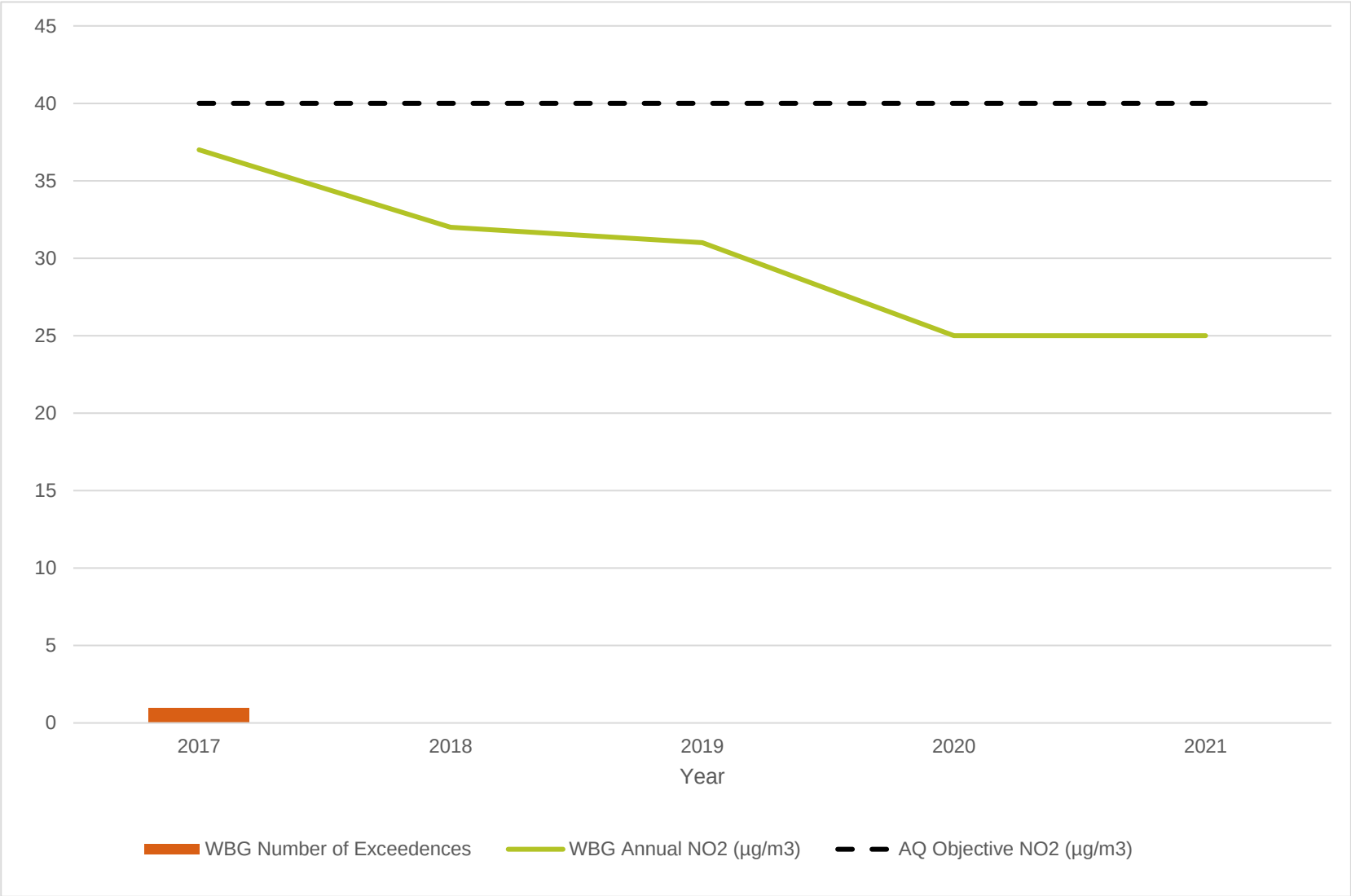
Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

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%).

Figure A.8 – Trends in Annual Mean NO_2 Concentrations and Number of NO_2 1-Hour Means > 200µg/m^3 at Site WBG.



Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO_2 2021 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (1)	Comment
LOW 1	654606	292625	32.4	30.3	28.2	22.4	29.1	25.9	22.9	22.4	40.2	37.0	37.7	38.4	30.6	23.8	
LOW 2	653209	293785	34.5	31.8	30.2	18.3	31.5	23.6	26.2	21.2	36.6	31.2	34.6	40.9	30.1	23.4	
LOW 3	654477	292395	26.7	26.2	22.6	26.4	25.2	26.7	21.4	18.4	28.6	20.0	28.3	25.9	24.7	19.3	
LOW 5	654065	294200	17.8	18.9	14.6	9.9	11.6	10.8	10.6	6.4	16.3	15.5	18.1	18.0	14.0	11.0	
LOW 6a, LOW 6b, LOW 6c	654690	292625	38.8	37.0	42.4	56.5	45.0	38.1	42.5	35.4	42.8	37.1	53.1	41.9	42.5	33.2	Triplicate Site
LOW 7	654671	292601	36.0	35.0	33.6	38.0	34.6	29.5	38.5	31.7	42.3	26.5	41.8	40.3	35.7	27.8	
LOW 8	654660	292571	25.5	22.6	25.2	29.7	22.6	17.9	24.0	18.4	27.2	19.4	28.8	27.4	24.1	18.8	
LOW 9	654723	292914	35.5	35.0	32.0	26.7	29.5	29.5	29.8	12.9		35.9	37.5	36.1	30.9	24.1	
LOW 10	653917	292414	26.9	25.3	22.4	22.2	24.5								24.3	17.0	Annualised
LOW 11	652552	290427	31.0	27.9	26.1	25.4	32.1	35.4	32.0	23.9	32.8	26.4	29.6	28.6	29.3	22.8	
LOW 12	654200	294039	19.7	19.6	14.8	13.4	15.4	16.1	17.2	10.9	19.3	21.8	19.7	18.3	17.2	13.4	
LOW 13	654049	292963	28.2	28.0	20.4	21.2	22.9	17.5	24.2	12.1	25.8	21.9	29.0	23.5	22.9	17.9	
LOW 14	653228	293811	23.1	23.9	17.2	13.2	18.5	16.8	16.3	13.1	26.0	22.3	20.5	25.3	19.7	15.4	
OBR 1	652046	292503	32.6	33.9	23.1	29.4	29.8	32.0	29.6	11.5	35.3	31.8	30.6	34.0	29.5	23.0	
OBR 2	652304	293021	25.3	26.1	26.3	32.1	22.1	27.2	25.6	22.1	29.7	22.2	24.1	26.3	25.8	20.1	
OBR 4	651869	292127	26.3	27.2	24.9	24.5	25.9	23.3	26.3	17.8	20.0	23.2	22.9	27.2	24.1	18.8	
OBR 5	652554	293282	26.1	20.2	21.6	18.8	17.2	18.5	18.3	15.8	24.8	18.5	25.5	22.8	20.7	16.1	
BEC 1	642615	289909	26.9	27.1	21.5	20.7	20.8	22.3	33.5	14.0		26.4	28.3	27.6	24.5	19.1	
BEC 3	642553	289922	24.9	30.9	30.6	31.8	16.2	31.7	30.6	27.0	42.6	38.2	50.0	40.6	32.9	25.7	
BEC 4	642564	289922	26.1	24.6	22.0	28.4	23.5	24.4	22.3	18.2	24.5	21.2	28.6	24.1	24.0	18.7	
BEC 5a, BEC 5b, BEC 5c	642592	289916	30.5	29.5	31.5	42.0	33.8	35.8	32.5	28.5	43.0	26.0	37.0	31.0	33.4	26.1	Triplicate Site
BEC 6	642158	290574	22.6	21.7	18.7	14.8	12.8	17.6	16.3	12.0	22.1	20.5	22.7	21.9	18.6	14.5	
BEC 7	644220	290213	23.0	22.6	16.0	17.3	15.6	16.7	15.5	14.4	21.5	18.0	24.3	22.4	18.9	14.8	
BUN 1	633670	289817	34.3	20.4	27.2	35.2	28.7	27.9	27.2	17.9	32.7	25.0	33.7	30.9	28.4	22.2	
BUN 2	633827	289480	42.6	38.7	36.2	28.7	38.7	36.8	34.2		46.8	40.6	47.6	42.0	39.4	30.7	
BLY 1	645183	275218	26.8	29.5	24.7	30.5	30.8	30.3	39.5	23.7	42.8	22.1	28.4	29.5	29.9	23.3	
BRAM 1	639967	273904	18.4	20.8	14.7	16.3	14.5	16.9	16.8	11.6		15.5	17.9	18.8	16.6	12.9	
HLW 1	638587	277112	17.9	17.0	13.0	16.6	14.2	13.5	12.4	9.7	17.8	12.2	16.2	16.2	14.7	11.5	
FLX 12	630363	234890	32.1	25.5	31.5	15.4	21.8	25.3	19.0	21.4	27.8	28.7	35.3		25.8	20.1	
FLX 14	628604	232847	41.1	24.4	37.4	13.1	23.0	21.5	19.6	24.2	27.1	30.0	43.1	33.5	28.2	22.0	
FLX 17	628817	236323	27.7	24.7	25.9	19.6	19.9	23.3	20.6	17.1	22.8	23.8	23.2	24.9	22.8	17.8	
FLX 20	628669	233979	38.1	30.2	37.6	15.9	25.7	19.5	12.4	22.8	27.6	38.9	31.5	39.9	28.3	22.1	
FLX 21	629253	234431	30.3	19.0	26.9	13.0	19.9	17.3	14.5	17.6	24.0	23.1	30.8	30.3	22.2	17.3	
FLX 22	629172	233446	33.4	21.8	27.0	13.6	20.3	18.6	11.6	15.3	24.3	22.9	34.9		22.2	17.3	
FLX 23	628542	236592	26.2	33.2	31.8	33.5	27.6	21.2	33.6	23.4	37.6	23.1	26.0	19.3	28.0	21.9	
FLX 24	628358	234634	35.2	27.2	35.5	18.6	20.6	24.3	20.5	14.1	26.6	28.8	38.0	28.3	26.5	20.7	
FLX 26a, FLX 26b, FLX 26c	627959	234246	49.4	41.5	47.6	27.9	38.4	36.2	29.2	27.1	43.1	40.4	43.2	38.4	38.5	30.1	Triplicate Site
FLX 39	628760	236071	27.8	30.0	26.7	20.0	20.5	18.5	19.4	16.8	30.5	26.7	25.1	26.9	24.1	18.8	
TRM 3	627618	237092	28.8	28.2	26.0	21.8	22.8	24.6	20.4	17.7	30.1	26.6	29.7	27.7	25.4	19.8	
TRM 4	627613	237080	31.1	26.8	33.3	16.5	22.9	24.7	22.8	18.9	31.1	26.9	33.9	33.3	26.9	20.9	
TRM 5	627629	237078	22.0	31.0	28.3	20.8	23.6	27.3	22.8	18.1	31.2	23.7	26.4	26.9	25.2	19.6	
TRM 8	628270	236266	36.4	35.2	33.2	21.1	28.8	26.5	16.9	20.1	35.2	37.0	40.0	33.1	30.3	23.6	
TRM 10	629340	235737	36.7	31.0	34.5	16.6	26.0	23.2	21.3	17.9	30.8	29.5	36.9	37.3	28.5	22.2	

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 (1)	Comment
TRM 12	629641	235529	34.4	21.9	32.7	17.1	24.6	24.6	19.7	17.8	29.8	29.5	34.5	34.3	26.7	20.9	
KSG 9	621680	245796	27.8	29.0	32.8	16.4	27.7	25.8	25.4	17.6	36.7	34.3	38.8	29.0	28.4	22.2	
KSG 10a, KSG 10b, KSG 10c	621815	245785	34.6	35.3	34.2	28.2	36.3	36.3	31.6	21.9	43.1	34.4	38.7	33.1	34.0	26.5	Triplicate Site
KSG 13	621809	245778	25.8	27.8	24.9	21.3	22.4	22.1	23.5	15.9	30.6	23.6	27.0	25.7	24.2	18.9	
MEL 5	628145	250417	32.3	22.3	29.2	21.0	23.4	21.9	20.9	17.0	29.7	26.1	34.6	28.3	25.6	19.9	
MEL 7	628177	250478	28.5	26.1	26.6	16.3	19.6	22.6	23.9	15.2	29.8	28.8	28.8	29.3	24.6	19.2	
MRT 1a, MRT 1b, MRT 1c	624633	245447	29.6	22.7	26.8	21.8	24.1	24.3	23.6	20.9	27.9	25.5	25.1	27.2	25.0	19.5	
MRT 6	625200	247100	22.2	19.9	20.7	15.8	19.2	19.6	16.8	16.3	23.0	22.0	22.3	21.3	19.9	15.5	
MRT 7	625009	246730	22.2	17.3	18.0	8.7	10.4	10.5	9.8	6.2	14.3	17.0	20.2	20.1	14.6	11.4	
MRT 8	625290	247385	20.5	20.5	21.2	15.6	13.2	17.0	16.0	11.3	21.1	21.7	21.2	21.7	18.4	14.4	
LGM 2	634051	258315	18.7	21.4	23.2	13.4	19.4	13.8	16.1	16.7	10.9	20.5	22.8	18.5	18.0	14.0	
FAR 1	636273	260134	24.3	22.7	18.7	27.2	20.1	26.8	22.2	15.7	23.9	21.5	27.6	22.9	22.8	17.8	
FAR 2a, FAR 2b, FAR 2c	636274	260120	25.4	25.3	28.6	21.6	24.5	27.8	23.3	22.9	31.7	26.7	28.6	26.2	26.1	20.3	Triplicate Site
STA 1a, STA 1b, STA 1c	635753	260002	31.5	34.6	32.9	27.1	32.3	34.6	32.8	28.1	41.8	36.3	33.3	34.2	33.3	26.0	Triplicate Site
STA 2	635732	259995	21.7	23.8	21.1	10.3	18.9	18.9	19.8	17.7	26.5	22.1	19.8	23.1	20.3	15.8	
STA 6	635794	260042	21.8	21.0	19.7	19.5	21.9	25.1	21.8	18.5	27.1	21.9	21.0	19.8	21.6	16.8	
STA 7	635736	259984	28.3	24.7	29.2	28.8	25.3	34.7	31.1	21.0	35.9	29.8	31.3	28.0	29.0	22.6	
STA 8a , STA 8b , STA 8c	635743	259992	32.8	40.1	31.9	27.9	36.9	40.0	35.1	30.5	49.1	38.0	35.3	37.2	36.2	28.3	Triplicate Site
THEB 1	643797	265815	22.8	17.9	24.5	18.2	17.4	21.6	18.1	17.6	23.3	17.9	25.1	23.9	20.7	16.1	
MID 1	641611	267791	13.5	13.8	11.3	6.4	10.3	12.5	8.6	7.8	13.2	9.8	11.5	10.0	10.7	8.4	
YOX 1	639647	268740	21.7	19.8	19.8	9.5	11.3	19.0	15.4	15.7		19.3	20.4	19.9	17.4	13.6	
SAX 1	638683	263014	31.3	29.3	33.3	32.3	25.2	34.4	31.6	30.3	34.5	30.0	39.6	33.8	32.1	25.1	
LEI 2	644557	262464	28.2	24.8	28.7	20.1	25.2	27.8	24.9	17.5	28.9	27.8	29.9		25.8	20.1	
LEI 3	644325	262634	23.9	25.2	24.7	23.8	23.1		20.8	21.4	32.2	26.2	25.2	26.3	24.8	19.3	
TUN 1	636110	255114	20.4	16.6	16.1	14.9	16.5	17.7	14.6	14.8	17.1	17.5	21.8	19.2	17.3	13.5	
LTB 1	624194	247362	24.5	22.8	23.0	13.5	18.3	17.6	14.7	16.4	25.2	27.9	23.4	25.4	21.1	16.4	
MLS 1	632734	257733	23.3	22.3	26.8	21.9	19.6	28.7	25.4	21.0	29.6	27.9	29.5	26.3	25.2	19.6	
WKM 1	630180	255718	19.9	20.0	19.5	13.5	15.3	17.2	15.1	14.0	18.1	18.6	19.6	20.7	17.6	13.7	
WKM 2	630164	255904	28.3	20.5	24.2	13.7	21.6	25.3	19.7	20.6	27.5	24.6	32.3	27.8	23.8	18.6	
WBG 1a, WBG 1b, WBG 1c	627596	249261	32.7	28.8	34.0	24.6	29.9	27.5	26.3	24.2	33.5	33.7	39.1	30.5	30.4	24.3	Triplicate Site
WBG 3	626997	248488	15.5	16.3	14.5	7.5	10.2	10.2	7.6	6.7	12.7	13.1	15.7	13.5	12.0	9.6	
WBG 5	627604	249243	21.4	21.4	20.1	18.4	17.6	20.3	18.7	13.0	24.0	18.7	22.0	22.7	19.9	15.9	
WBG 8	627601	249283	33.4	26.3	32.8	24.9	30.5	27.8	26.3	25.8	30.0	28.7	36.6	34.3	29.8	23.8	
WBG 10	627570	249240	23.0	22.3	21.7	19.2	19.8	22.9	20.3	13.0	25.1	19.3	22.2	21.5	20.9	16.7	
WBG 12	627664	249203	23.3	19.6	16.9	11.8	17.5	16.7	14.2	13.7	18.1	22.7	25.2	22.4	18.5	14.8	
WBG 13	627585	249239	27.7	26.3	29.0	20.3	23.5	24.7	22.6	21.0	28.9	24.7	31.0	28.9	25.7	20.6	
WBG 18	627627	249339	17.2	32.7	26.2	26.2	23.7	25.7	28.2	19.5	34.1	26.6	27.8	26.5	26.2	21.0	
WBG 20	627604	249295	29.0	27.0	32.5	18.6	25.2	24.9	24.5	26.0	32.5	34.4	34.1	24.3	27.8	22.2	
WBG 24	626026	249631	26.4	38.0	26.7	20.8	29.8	22.0	26.6	12.9	36.1	27.7	19.8	28.5	26.3	21.0	
WBG 25	626038	249389	26.5	23.5	25.9	14.8	20.3	20.5	16.7	19.6	24.9	26.5	30.2	24.3	22.8	18.2	

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

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

☒ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **East Suffolk Council confirm that all 2021 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 East Suffolk Council During 2021

ESC has not identified any new sources relating to air quality within the reporting year of 2021.

Additional Air Quality Works Undertaken by East Suffolk Council During 2021

ESC has not completed any additional works within the reporting year of 2021.

QA/QC of Diffusion Tube Monitoring

Diffusion tubes are used widely by ESC. Diffusion tubes were deployed, and analysed, as set out in the Technical Guidance LAQM.TG22 paragraphs 7.197-7.234, and in accordance with the "NO_2 Diffusion Tubes for LAQM: Guidance Note for Local Authorities".

The analytical laboratory used for supply and analysis of NO_2 diffusion tubes for ESC is SOCOTEC based in Didcot. The monitoring is undertaken using Palmes passive diffusion tubes exposed on a monthly basis. The tubes are prepared by spiking acetone:triethanloamine (TEA) (50:50) onto the grids prior to the tubes being assembled. The tubes are then desorbed with distilled water and the extract analysed using a segmented flow auto-analyser with ultraviolet detection. The laboratory is formally accredited under UKAS.

The samples were analysed in accordance with SOCOTEC standard operating procedure ANU/SOP/1015 issue 1, which meets the guidelines set out in Defra's 'Diffusion Tubes For Ambient NO_2 Monitoring practical Guidance'. The results were initially calculated assuming an ambient temperature of 11^{o}C, and the reported values adjusted to 20^{o}C to allow for direct comparison with EU limits.

SOCOTEC participates in the Defra promoted independent analytical proficiency testing (PT) scheme AIR-PT7. to check analytical performance. This is operated by LGC Standards and supported by the Health and Safety Laboratory. AIR-PT started in 2014 and combines two long running proficiency testing schemes: LGC Standards STACKS PT scheme and HSL Workplace Analysis Scheme for Proficiency (WASP) PT scheme. For NO_2 diffusion tubes, the test sample types used are called AIR NO_2 and these are distributed to participating laboratories on a quarterly basis.

With consent from participating laboratories, LGC Standards provides a summary of the proficiency testing data to the LAQM Helpdesk updated on a quarterly basis following completion of each AIR-PT round. This information is hosted on their webpages at http://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html .

In the most recent AIR NO_2 PT rounds AR040, 42, 43, 45, 46, 49, 50 (September 2020-June 2022) SOCOTEC Didcot achieved 100.0% satisfactory scores for all rounds with the exception of AR045 (July-August 2021), where they achieved 87.5%

At the end of the monitoring period any erroneous data was deleted, and the annual average then calculated for each site. For any sites with data capture less than 75% (9 months) the results were then annualised. As diffusion tubes tend to under or over read this can result in low accuracy and it is necessary to bias correct the results based upon local or national collocation studies with chemiluminescent analysers. Bias correction was undertaken after annualisation of the data. Following this, distance correction was not required with all concentrations below 36µg/m^3 at all relevant receptors. Further details of all stages are outlined in the following text.

Diffusion Tube Annualisation

One diffusion tube monitoring location within ESC recorded data capture of <75%: LOW 10, which was removed for health and safety reasons as the site became inaccessible in mid-2021. For this site, the mean of the 2021 data has been “annualised” using the procedure set out in LAQM.TG22 Box 7.10. The annualisation was carried out within the Defra Diffusion Tube Data Processing Tool. The method is as follows:

- Identify 2-4 nearby, long term, continuous monitoring sites, ideally those forming part of the national network. These should be background sites (Urban background, Suburban or Rural) to avoid any very local effects that may occur at Urban Centre, Roadside or Kerbside sites, and should wherever possible lie within a radius of about 50 miles. Three sites have been used here; Wicken Fen (Rural Background), St. Osyth (Rural

Background) and Norwich Lakenfields (Urban background). These sites are part of the UK Automatic Urban and Rural Network (AURN) and are the closest sites to us with sufficient data capture for the year in question;

- Obtain the unadjusted (not corrected for bias) annual mean (Am) for the calendar year for these sites;
- Work out the period mean (Pm) for the period of interest with diffusion tube results at each of the comparison sites separately;
- Calculate the ratio of the annual mean to the period mean (Am:Pm) for each period at each location;
- Calculate the average of these ratios (Ra). This is the adjustment factor;
- Multiply the measured period mean (M) for the short-term monitoring location by the adjustment factor (Ra) to give the estimate of the annual mean for 2021; and
- Data used for the calculations are set out in Table C.2.

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.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Historically, the local bias adjustment factor obtained from the Woodbridge co-location study has been used to adjust annual mean NO_2 concentrations from diffusion tube sites within the Woodbridge area only. This location is unusual, being a street canyon: it is considered representative of the other diffusion tube monitoring sites within Woodbridge, but not necessarily of diffusion tube locations elsewhere within the district. The national bias adjustment factor is then used for all other locations in the district. This has also been applied during 2021 – the local bias adjustment factor for Woodbridge (0.80) has been used to adjust sites in Woodbridge only and all other sites within the district have been adjusted using the national bias adjustment factor (0.78). Table C.3 presents the calculation of the Woodbridge area local bias adjustment factor. Version 06/21 of the

national diffusion tube bias adjustment factor spreadsheet was used. A copy of the output from the spreadsheet can be seen in Figure C.1.

Figure C.1 – National Bias Adjustment Factor Calculation (Version 06/22) for ESC 2021

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 06/22

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 spreadhseet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of September 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: Select the Laboratory that Analyses Your Tubes from the Drop-Down List
If a laboratory is not shown, we have no data for this laboratory.

Step 2: Select a Preparation Method from the Drop-Down List
If a preparation method is not shown, we have no data for this method at this laboratory.

Step 3: Select a Year from the Drop-Down List
If a year is not shown, we have no data [2]

Step 4:
Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.
If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953

Analysed By[1]	Method (To undo your selection, choose (All) from the pop-up list)	Year[2] (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision [4]	Bias Adjustment Factor (A) (Cm/Dm)
Socotec Didcot	50% TEA in acetone	2021	UB	Kingston upon Hull City Council	11	24	17	39.7%	G	**0.72**
Socotec Didcot	50% TEA in acetone	2021	R	Kingston upon Hull City Council	12	30	25	22.9%	G	**0.81**
SOCOTEC Didcot	50% TEA in acetone	2021	UB	City of York Council	11	17	13	38.2%	G	**0.72**
SOCOTEC Didcot	50% TEA in acetone	2021	R	City of York Council	12	25	20	27.0%	G	**0.79**
SOCOTEC Didcot	50% TEA in acetone	2021	R	City of York Council	12	22	17	29.0%	G	**0.77**
SOCOTEC Didcot	50% TEA in acetone	2021	R	City of York Council	12	37	25	45.5%	G	**0.69**
SOCOTEC Didcot	50% TEA in acetone	2021	UI	North Lincolnshire Council	12	17	14	19.9%	G	**0.83**
Socotec Didcot	50% TEA in acetone	2021	R	Bridgend Borough County Council / Shared R	12	36	25	42.9%	G	**0.70**
Socotec Didcot	50% TEA in acetone	2021	UB	Derry City and Strabane District Council	12	11	9	28.4%	G	**0.78**
Socotec Didcot	50% TEA in acetone	2021	R	Derry City and Strabane District Council	12	30	30	2.4%	G	**0.98**
Socotec Didcot	50% TEA in acetone	2021	R	East Suffolk Council	11	30	25	22.3%	P	**0.82**
Socotec Didcot	50% TEA in acetone	2021	KS	Marylebone Road Intercomparison	10	56	42	32.9%	P	**0.75**
Socotec Didcot	50% TEA in acetone	2021	R	North East Lincolnshire Council	10	27	29	-7.6%	G	**1.08**
Socotec Didcot	50% TEA in acetone	2021	R	North East Lincolnshire Council	9	45	33	34.5%	P	**0.74**
Socotec Didcot	50% TEA in acetone	2021	R	Leeds City Council	13	40	29	35.5%	G	**0.74**
Socotec Didcot	50% TEA in acetone	2021	KS	Leeds City Council	12	34	25	37.9%	G	**0.73**
Socotec Didcot	50% TEA in acetone	2021	R	Leeds City Council	9	43	31	40.8%	G	**0.71**
Socotec Didcot	50% TEA in acetone	2021	UC	Leeds City Council	12	31	23	37.4%	G	**0.73**
Socotec Didcot	50% TEA in acetone	2021	R	Cambridge City Council	12	32	21	48.5%	G	**0.67**
Socotec Didcot	50% TEA in acetone	2021	UB	Torfaen County Borough Council	9	12	9	35.0%	G	**0.74**
SOCOTEC Didcot	50% TEA in acetone	2021		**Overall Factor[3] (25 studies)**				**Use**		**0.78**

Table C.1 – Bias Adjustment Factor

	Woodbridge Area		All Other Areas		
Monitoring Year	Local or National	Adjustment Factor	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	Local	0.80	National	06/22	0.78
2020	Local	0.84	National	06/21	0.76
2019	Local	0.84	National	03/20	0.75
2018	Local	0.76	National	03/19	0.76
2017	-	-	-	-	-

Diffusion Tube NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure

has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website.

No diffusion tube NO_2 monitoring locations within East Suffolk Council required distance correction during 2021.

QA/QC of Automatic Monitoring

NO_2 concentrations were monitored by a chemiluminescence analyser in Woodbridge in ESC. Quality assurance of the data from the continuous monitoring station was carried out by Ricardo-AEA following the same procedures used for sites within the Government's Automatic Urban and Rural Network (AURN). Calibrations were undertaken every 3-4 weeks by a Council Officer. The procedures adopted for the calibrations were modelled on those developed by AEA Energy & Environment for use in the national monitoring networks.

The calibrations were undertaken using certified calibration gas provided by BOC with traceability to National Metrology Standards obtained via regular the United Kingdom Accreditation Scheme (UKAS) Quality Control Audits carried out by Ricardo Energy & Environment . The audits provide a range of information that is utilised within the data management process for the data sets.

Audit tests are undertaken once a year by Ricardo Energy & Environment. They include accredited audit zero and span calibrations, linearity, NOx converter efficiency, flow and leak checks as well as checks of the instruments sampling system. Data presented in this report have been fully ratified by Ricardo Energy & Environment.

The data set was screened, scaled and validated using all available routine site calibrations, audit results and service engineer records. A final process of data ratification ensures that the data provide the most accurate record of the pollution concentrations across the measurement period. The data management process adopted is that evolved and implemented by Ricardo Energy & Environment within the data management programme of the AURN UK national monitoring network. This process is expected to deliver data sets that meet the EU Data Quality Objective of a measurement uncertainty of better than 15%.

Automatic Monitoring Annualisation

The automatic monitoring location recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data.

Automatic NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the 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 ESC required distance correction during 2021.

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

Site ID	Annualisation Factor St Osyth	Annualisation Factor Norwich Lakenfields	Annualisation Factor Wicken Fen	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean (pre bias adjustment)	Comments
LOW 10	0.8946	0.9507	0.8515	0.8989	24.3	21.8	-

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1
Periods used to calculate bias	8
Bias Factor A	0.8 (0.76 - 0.85)
Bias Factor B	24% (17% - 32%)
Diffusion Tube Mean (µg/m^3)	31.1
Mean CV (Precision)	3.3%
Automatic Mean (µg/m^3)	25.0
Data Capture	99%
Adjusted Tube Mean (µg/m^3)	25.0

Notes:

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

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

Figure D.1 – Felixstowe Map 1

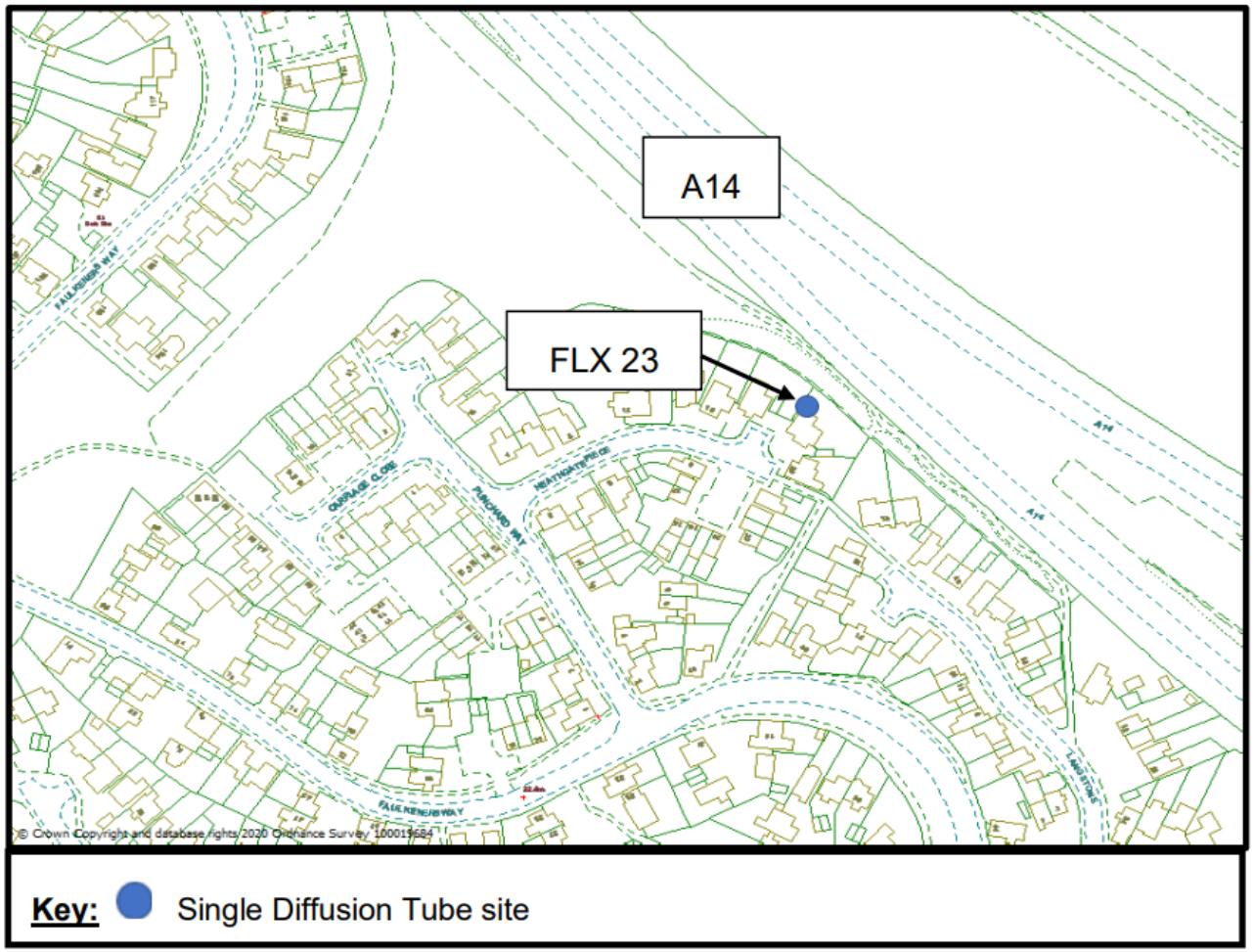


Figure D.2 – Felixstowe Map 2

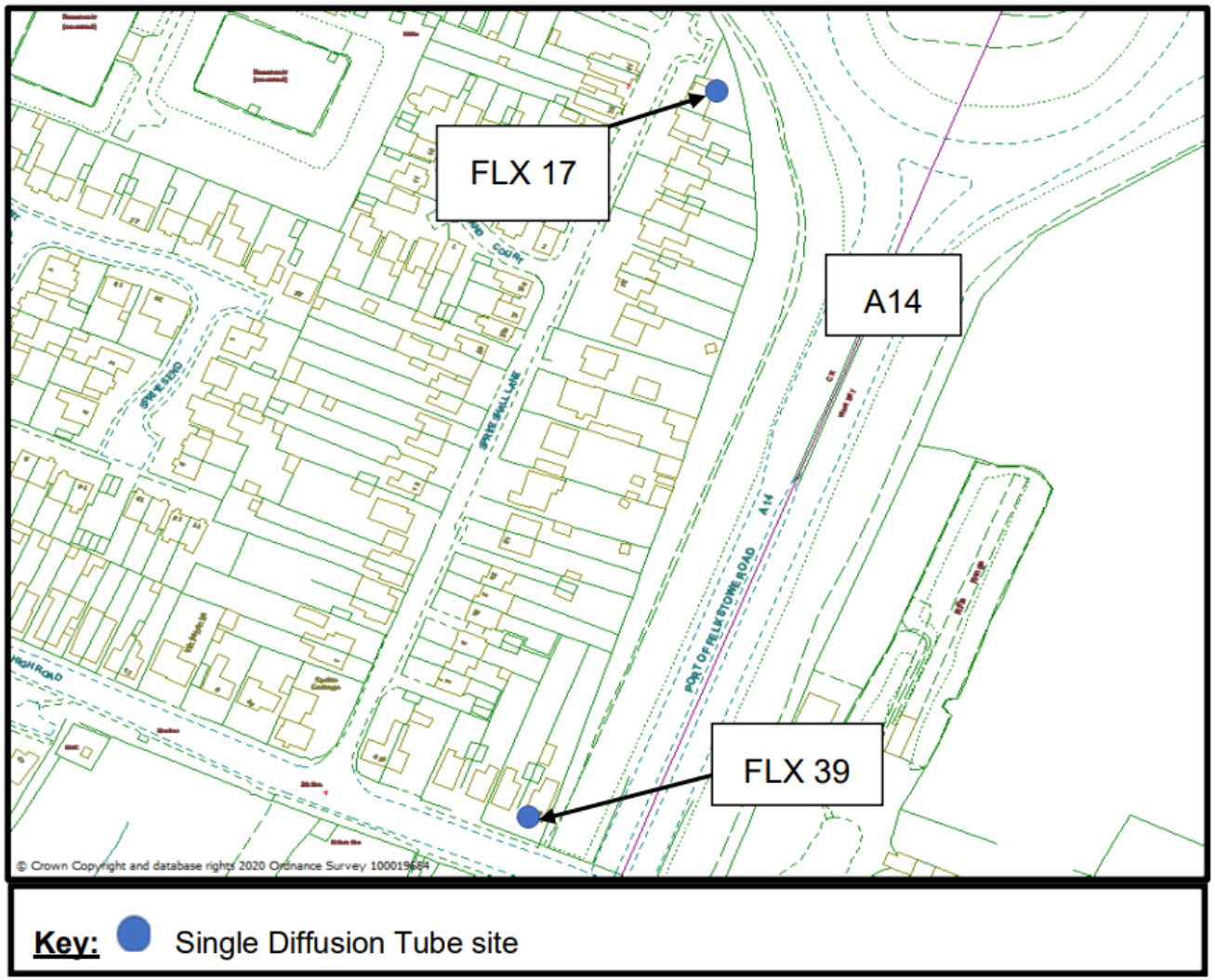


Figure D.3 Felixstowe Map 3

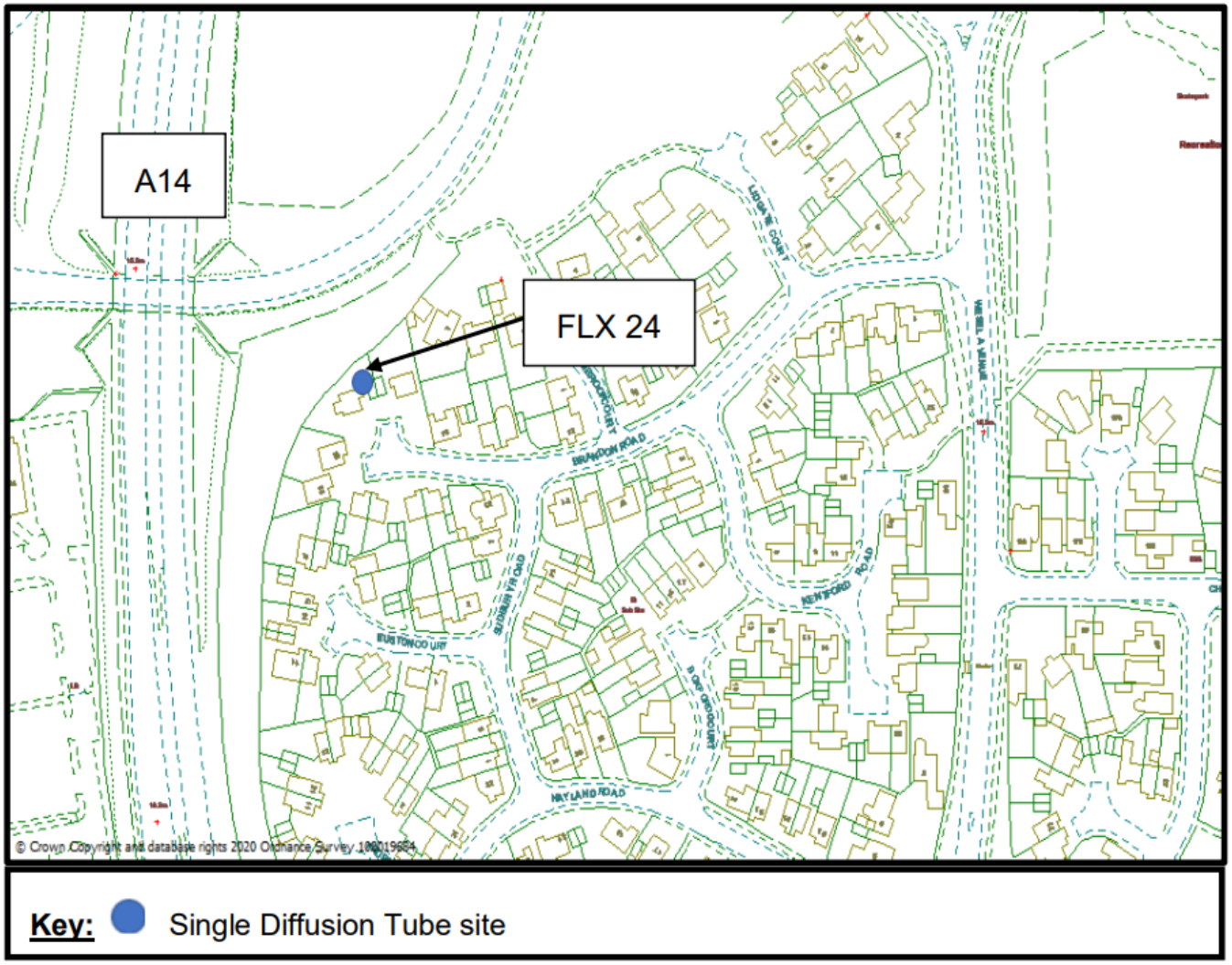


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Figure D.4 Felixstowe Map 4

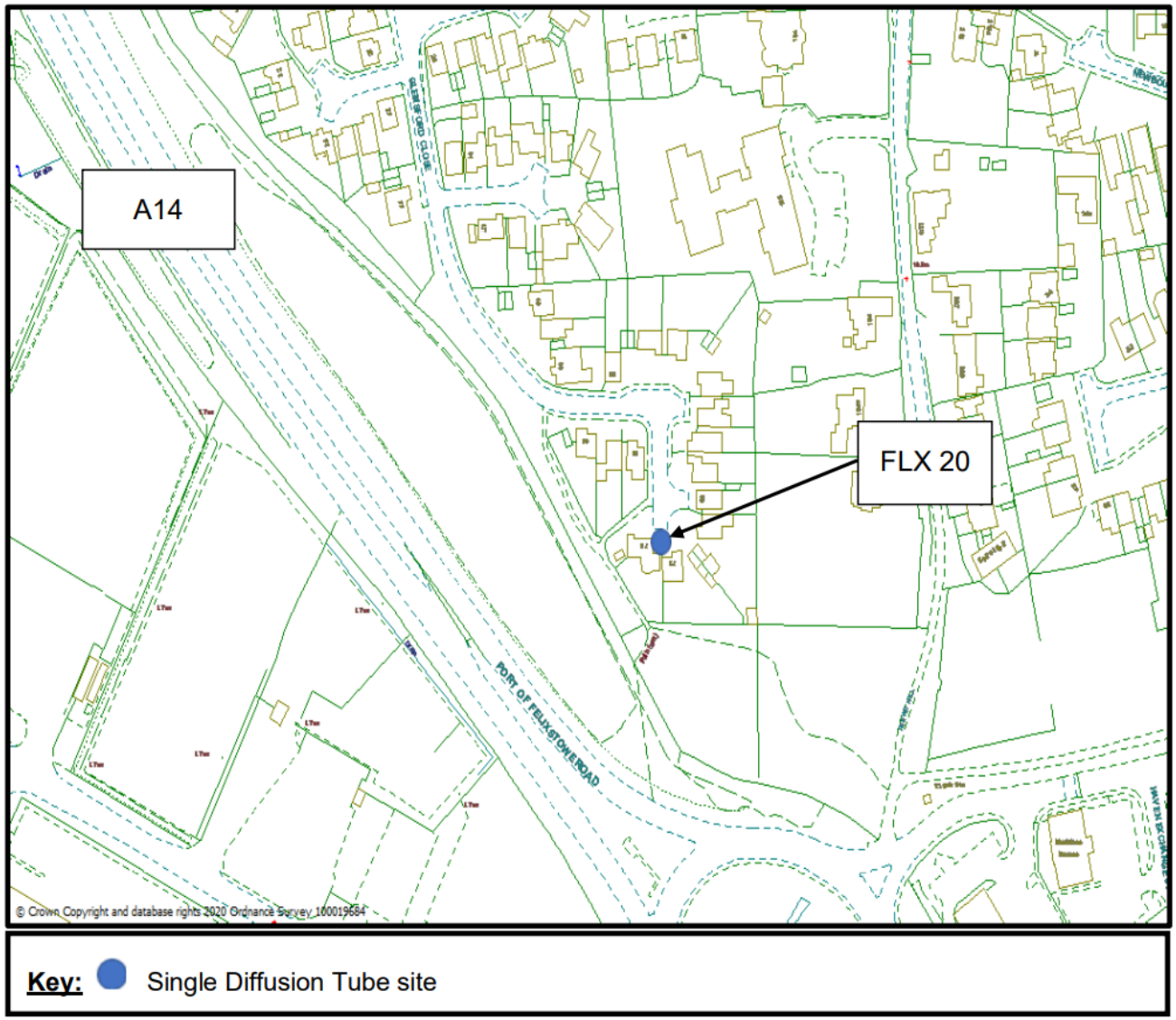


Figure D.5 Felixstowe Map 5

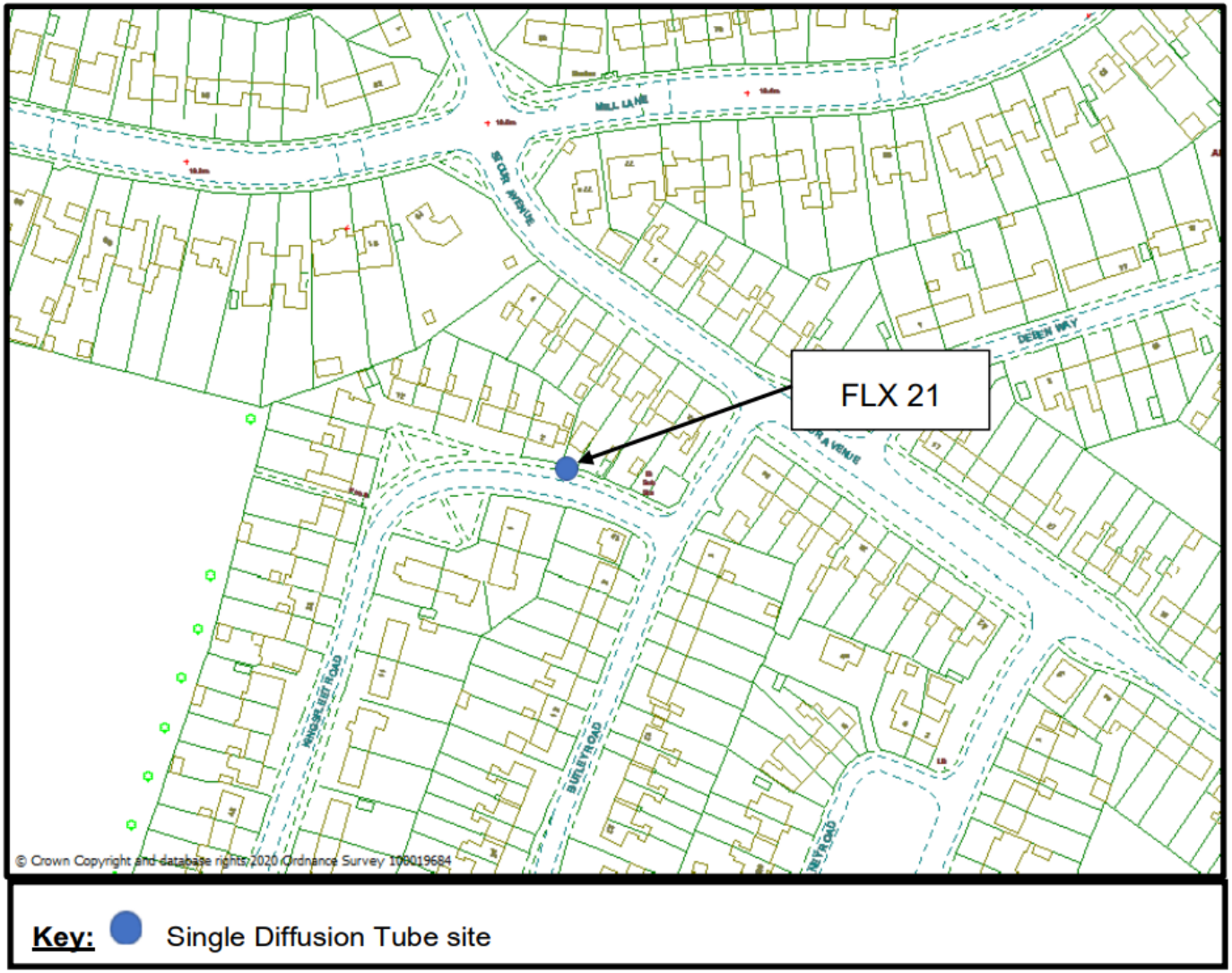


Figure D.6 Felixstowe Map 6

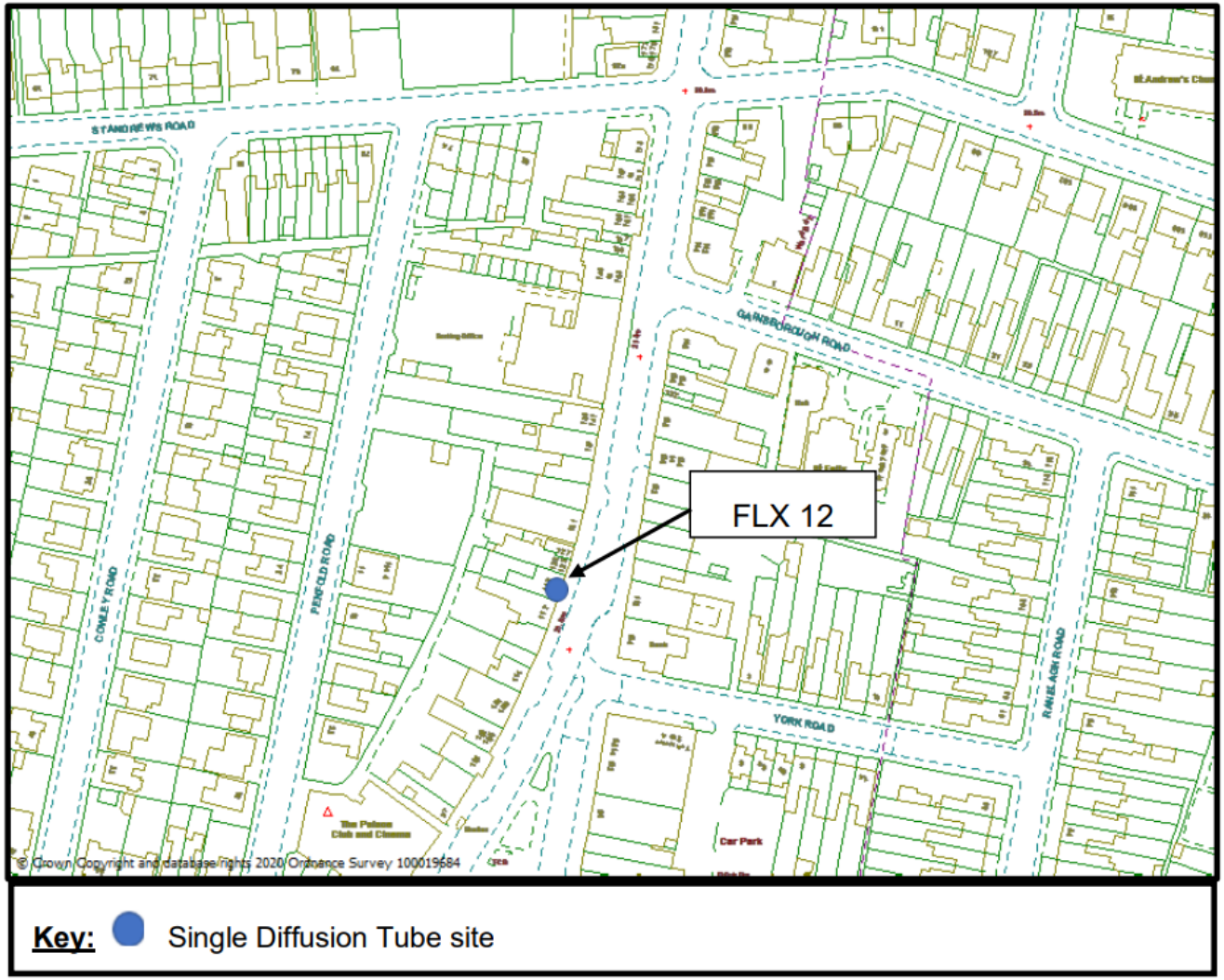


Figure D. 7 Felixstowe Map 7

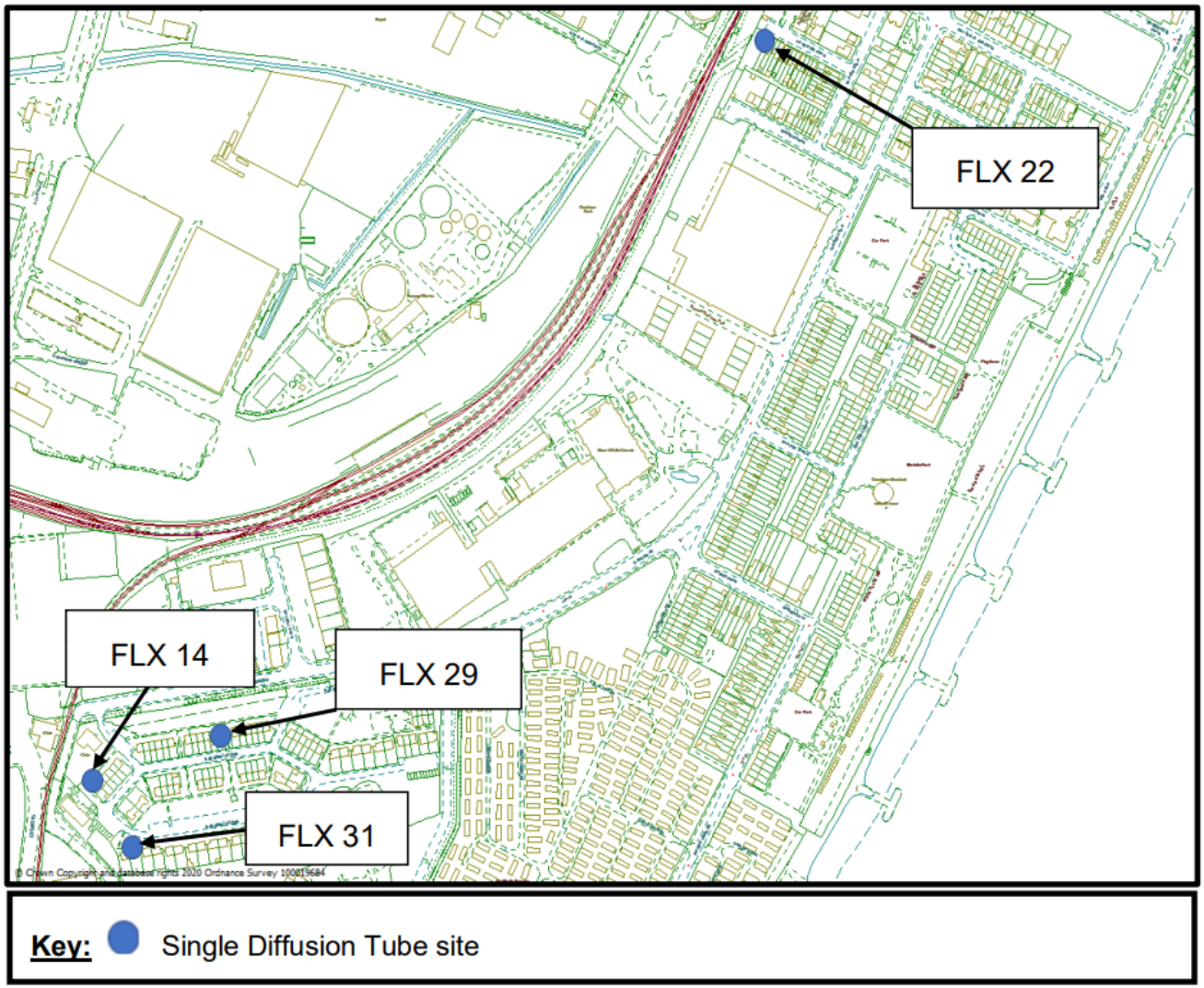


Figure D.8 Felixstowe Map 8

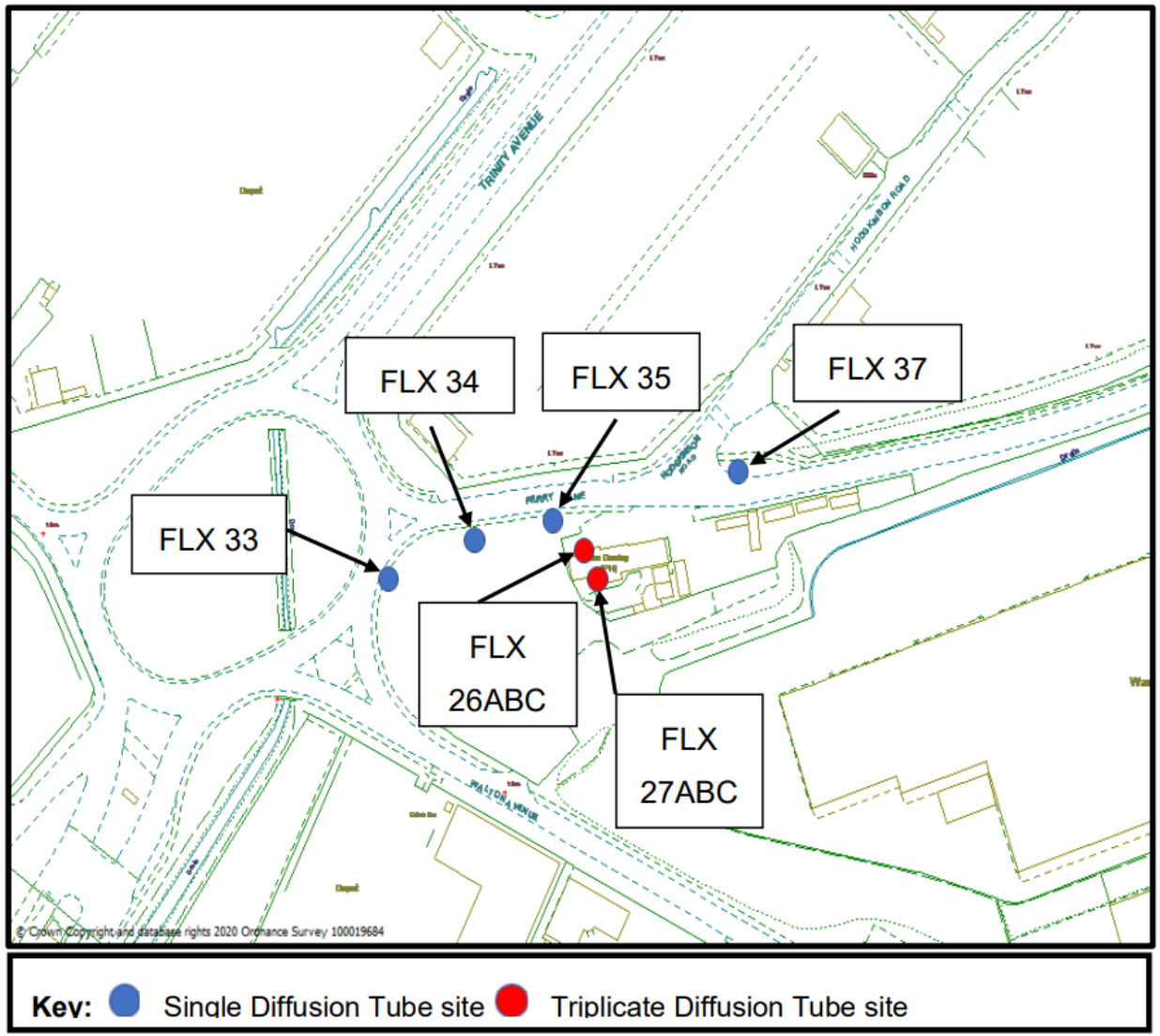


Figure D.9 Beccles Map 1

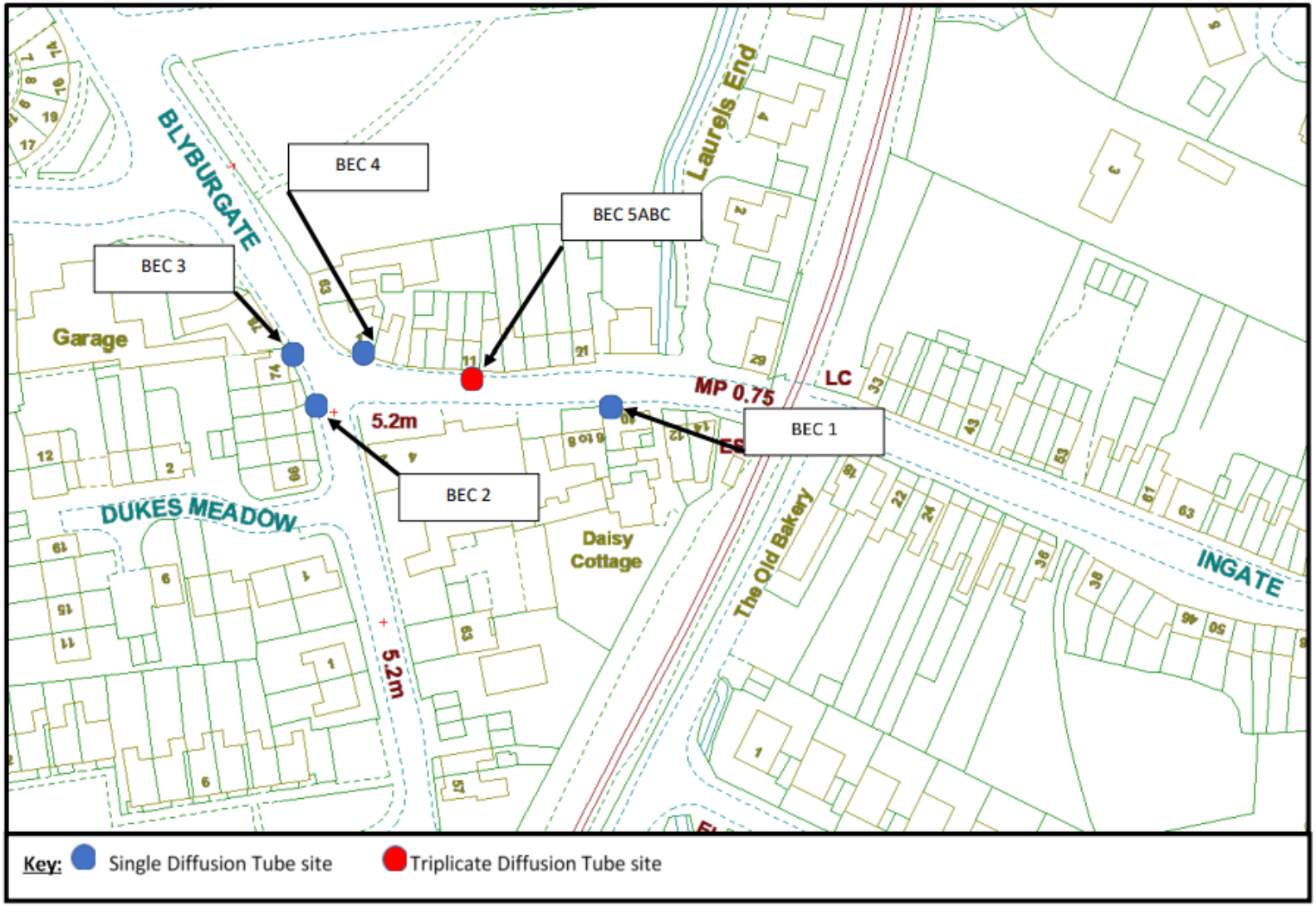


Figure D.10 Blythburgh Map

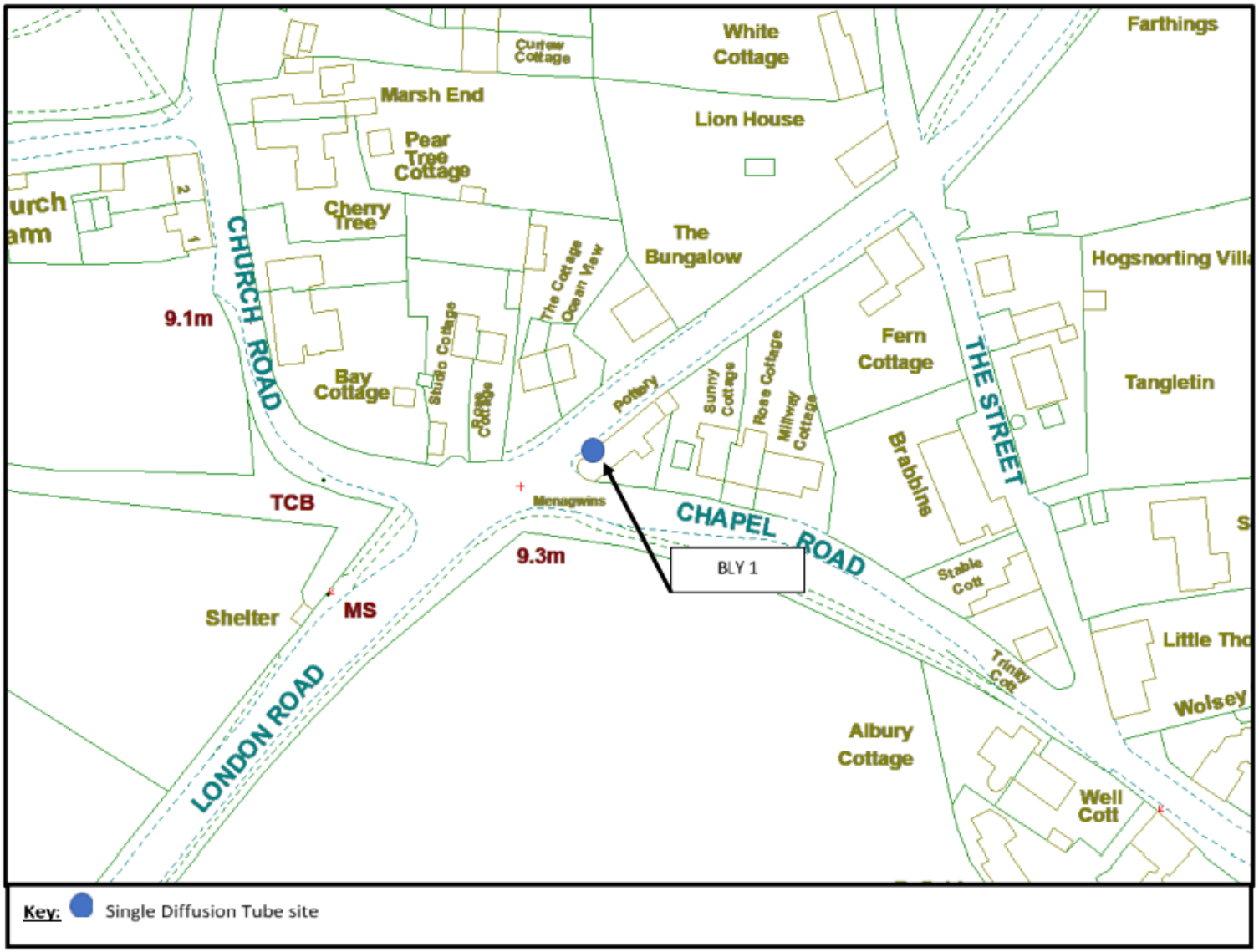


Figure D.11 Bungay Map

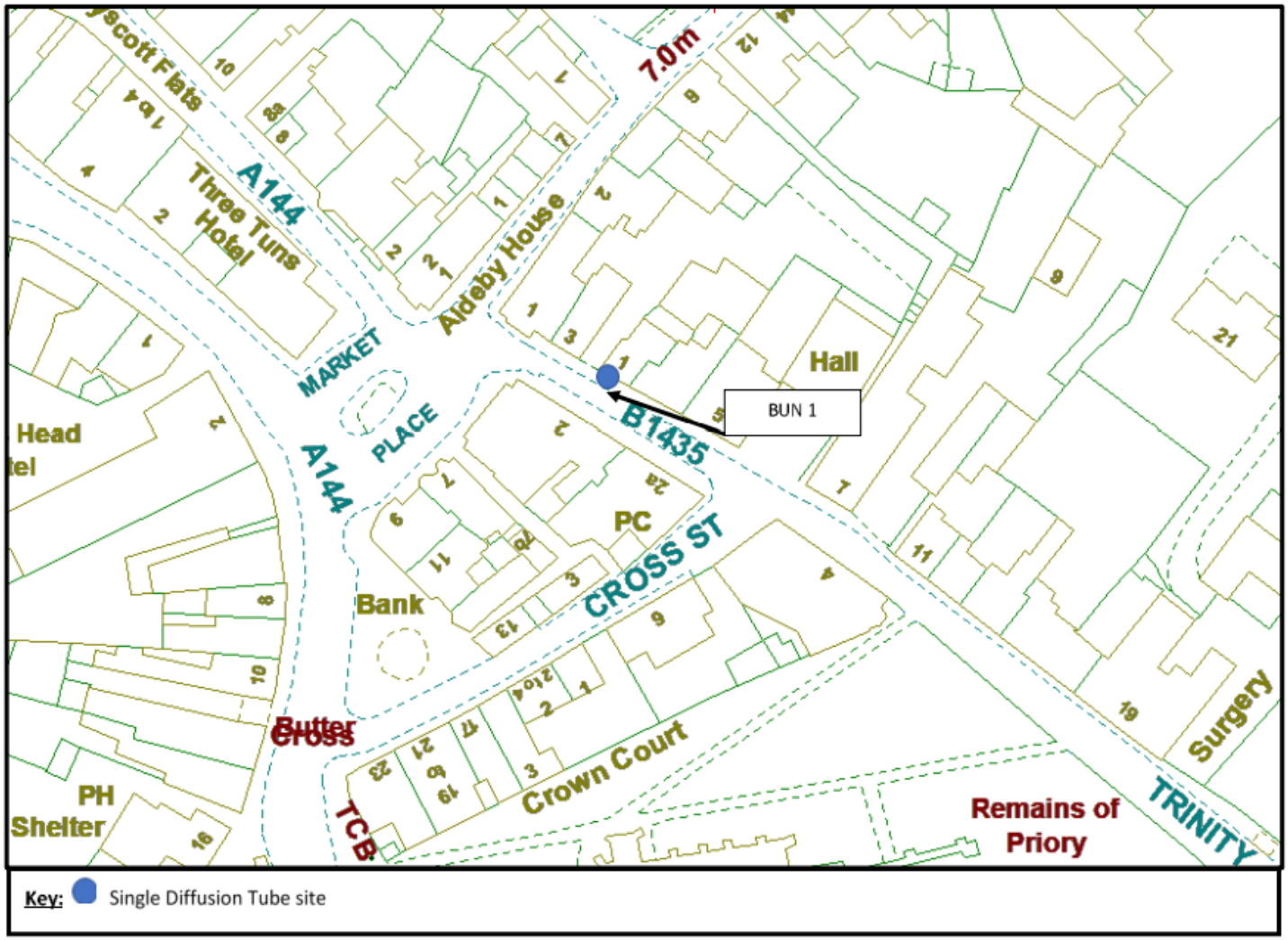


Figure D.12 Beccles Map 2

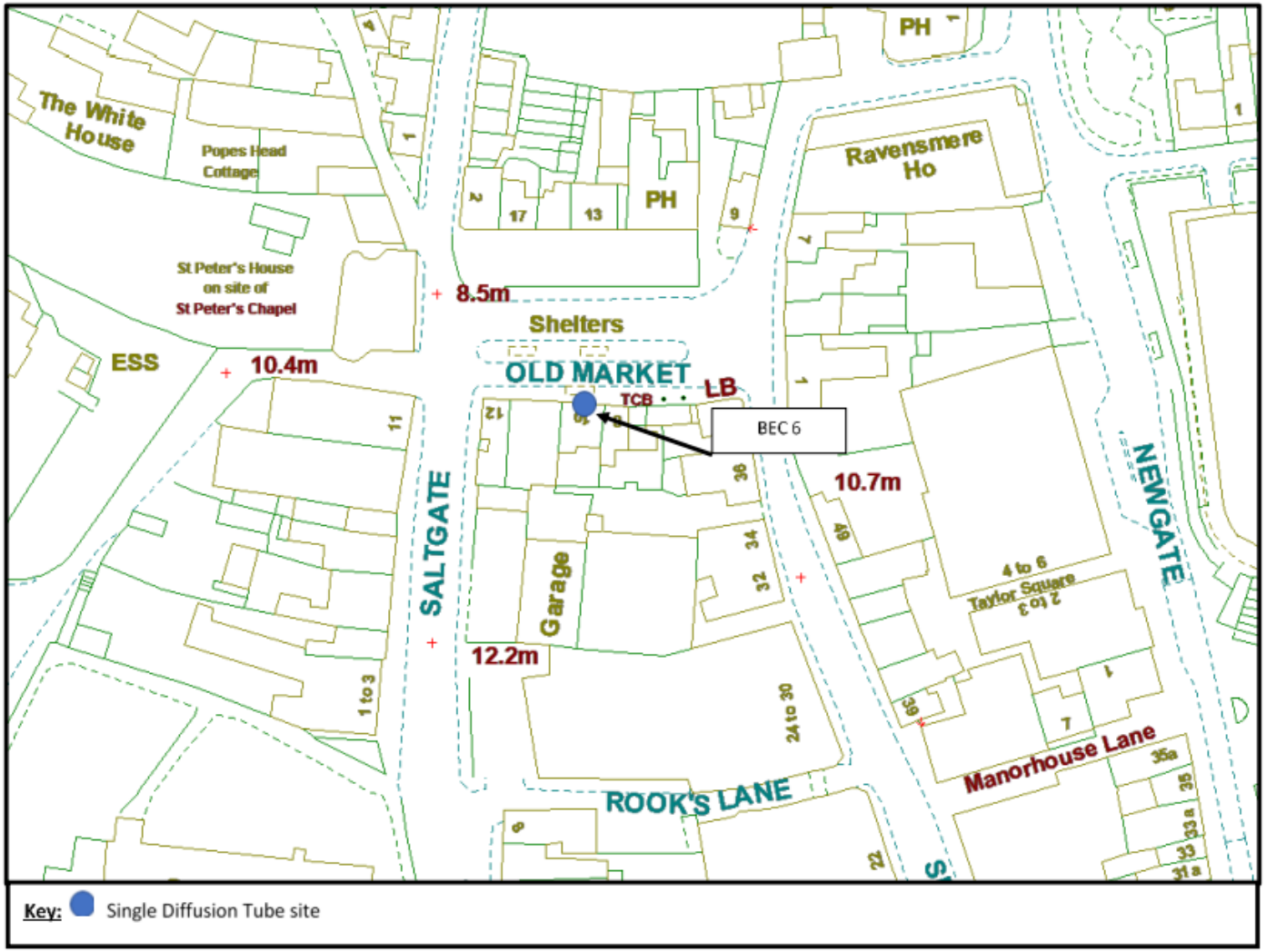


Figure D.13 Kesgrave Map

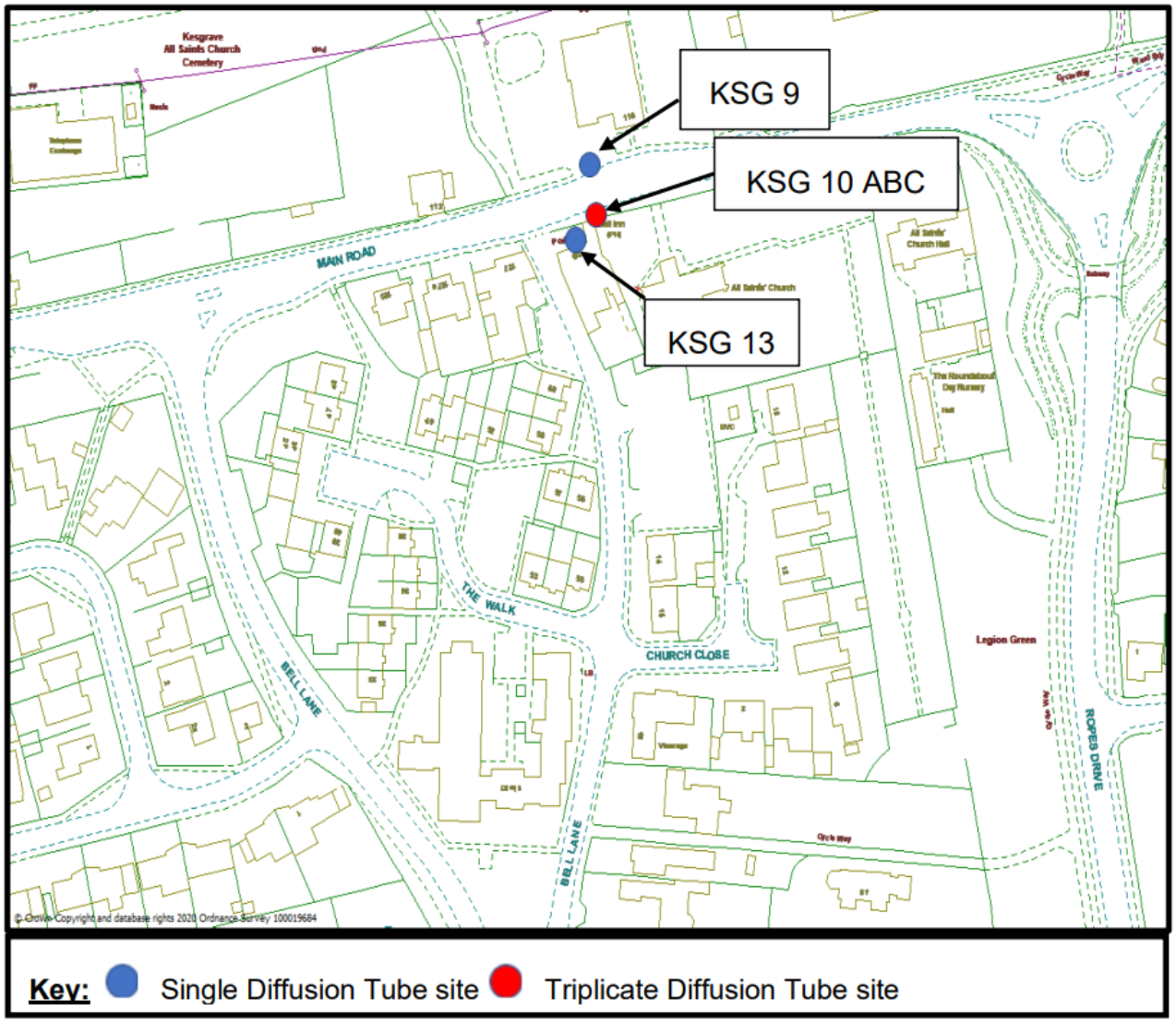


Figure D.14 Leiston Map

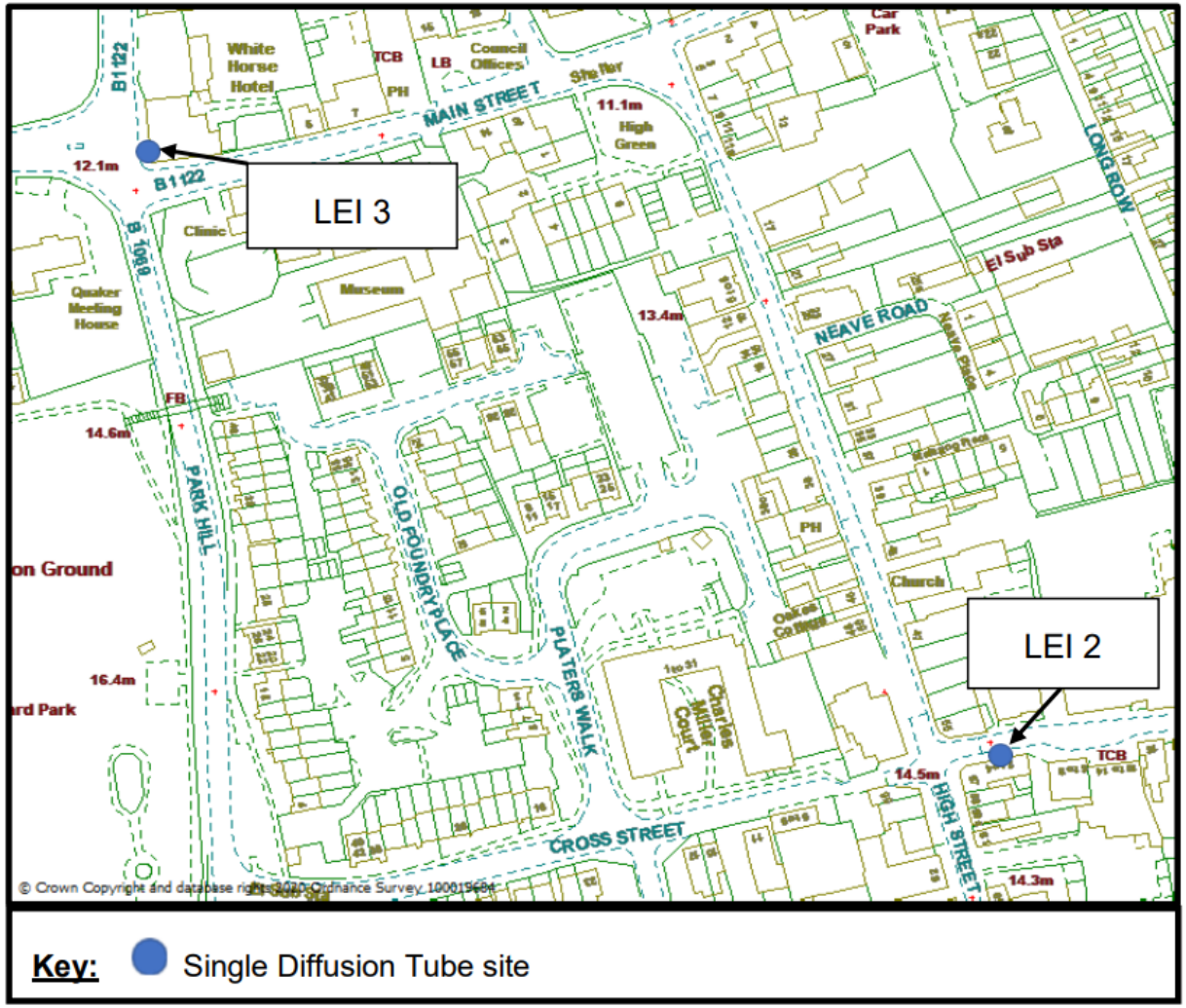


Figure D.15 Little Glemham Map

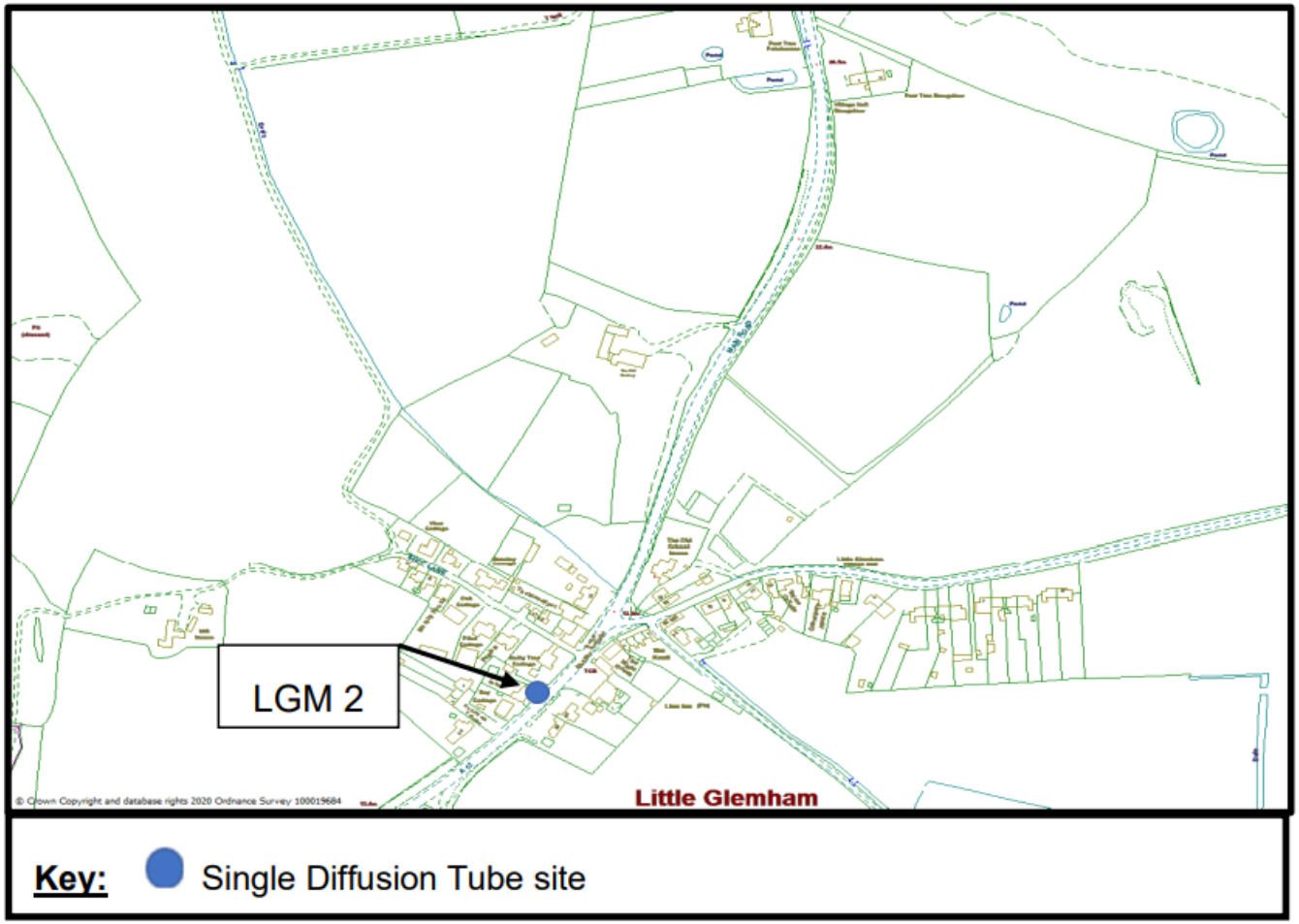


Figure D.16 Lowestoft Map 1

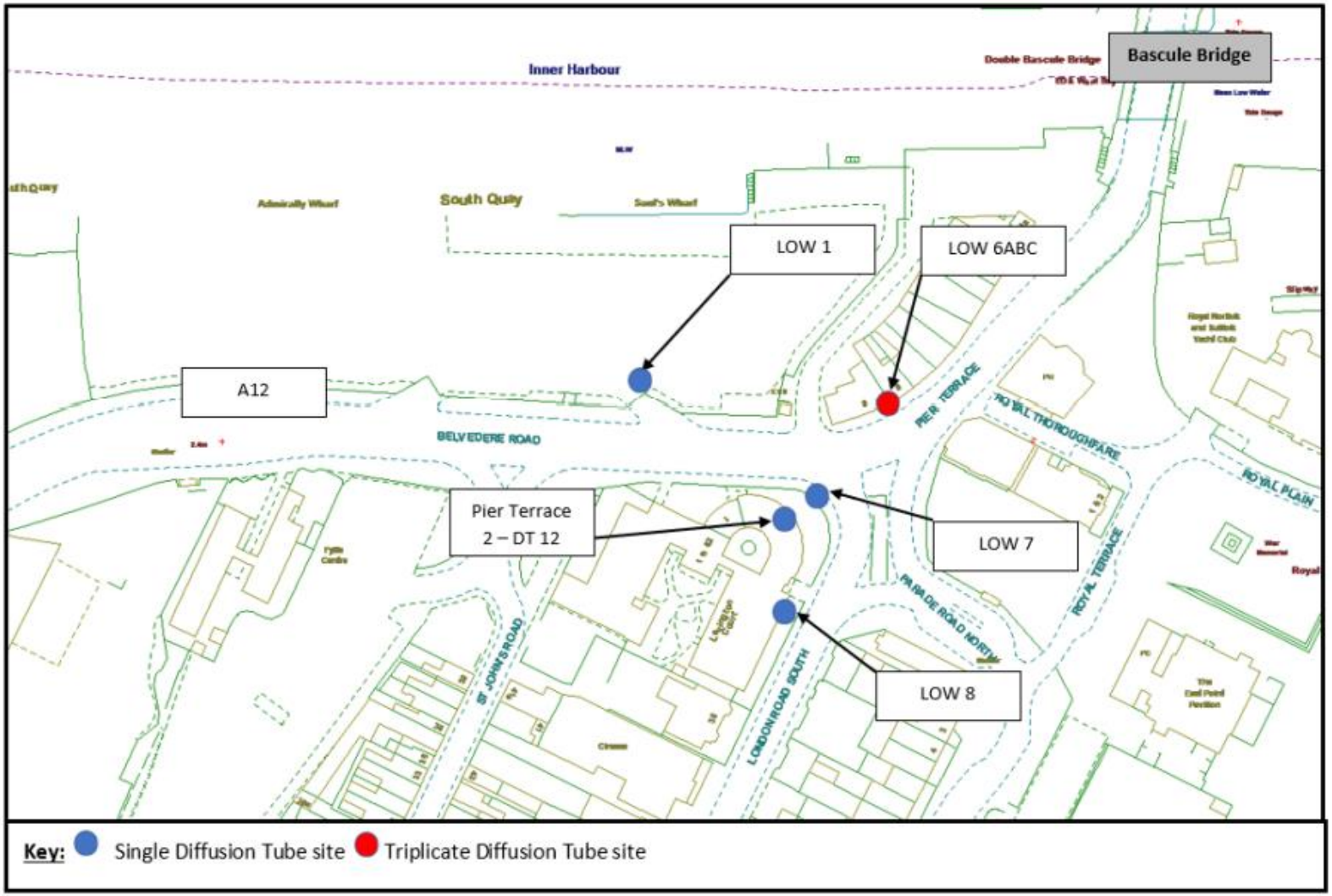


Figure D.17 Lowestoft Map 2

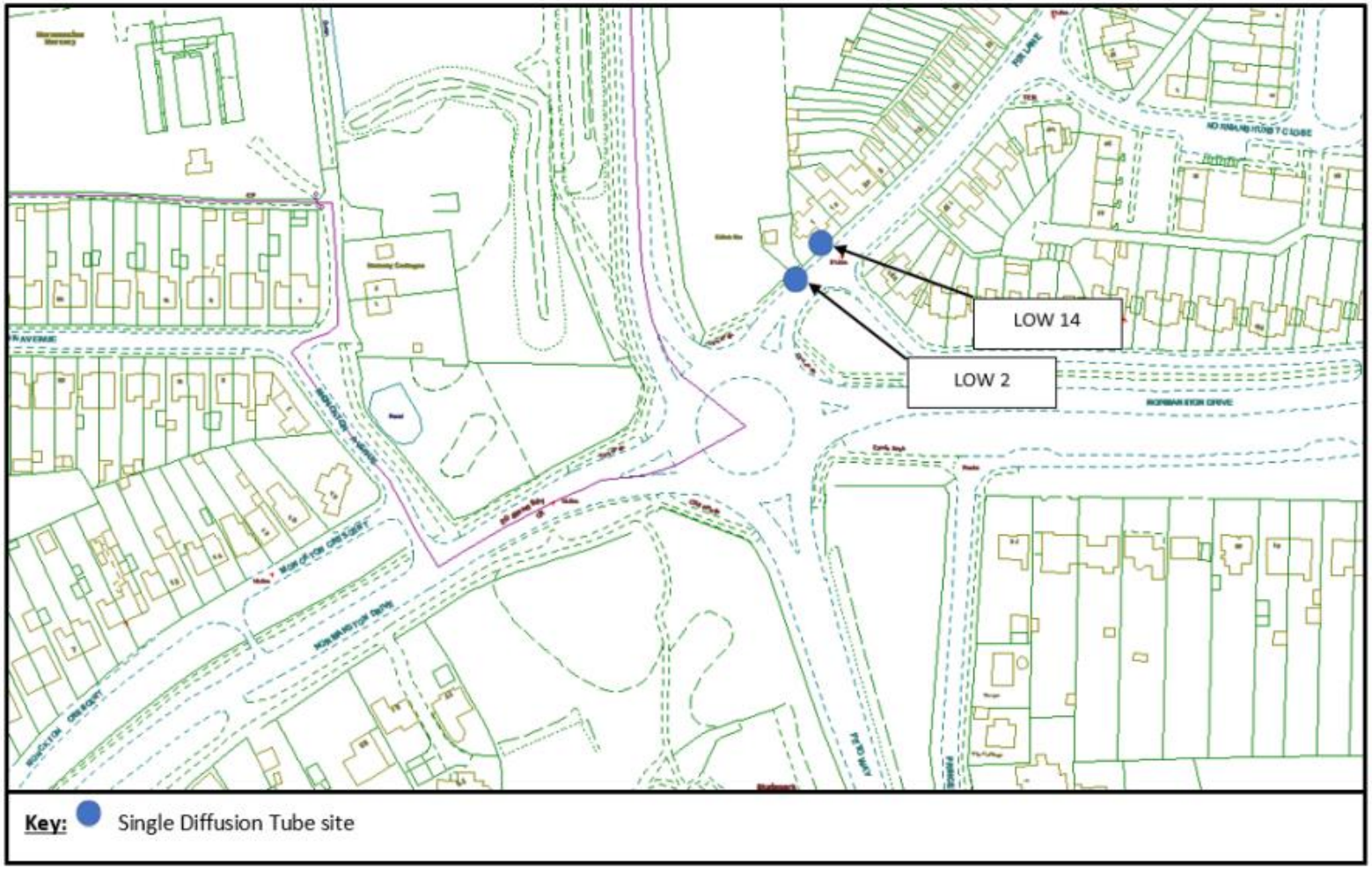


Figure D.18 Lowestoft Map 3

Figure D.19 Lowestoft Map 4

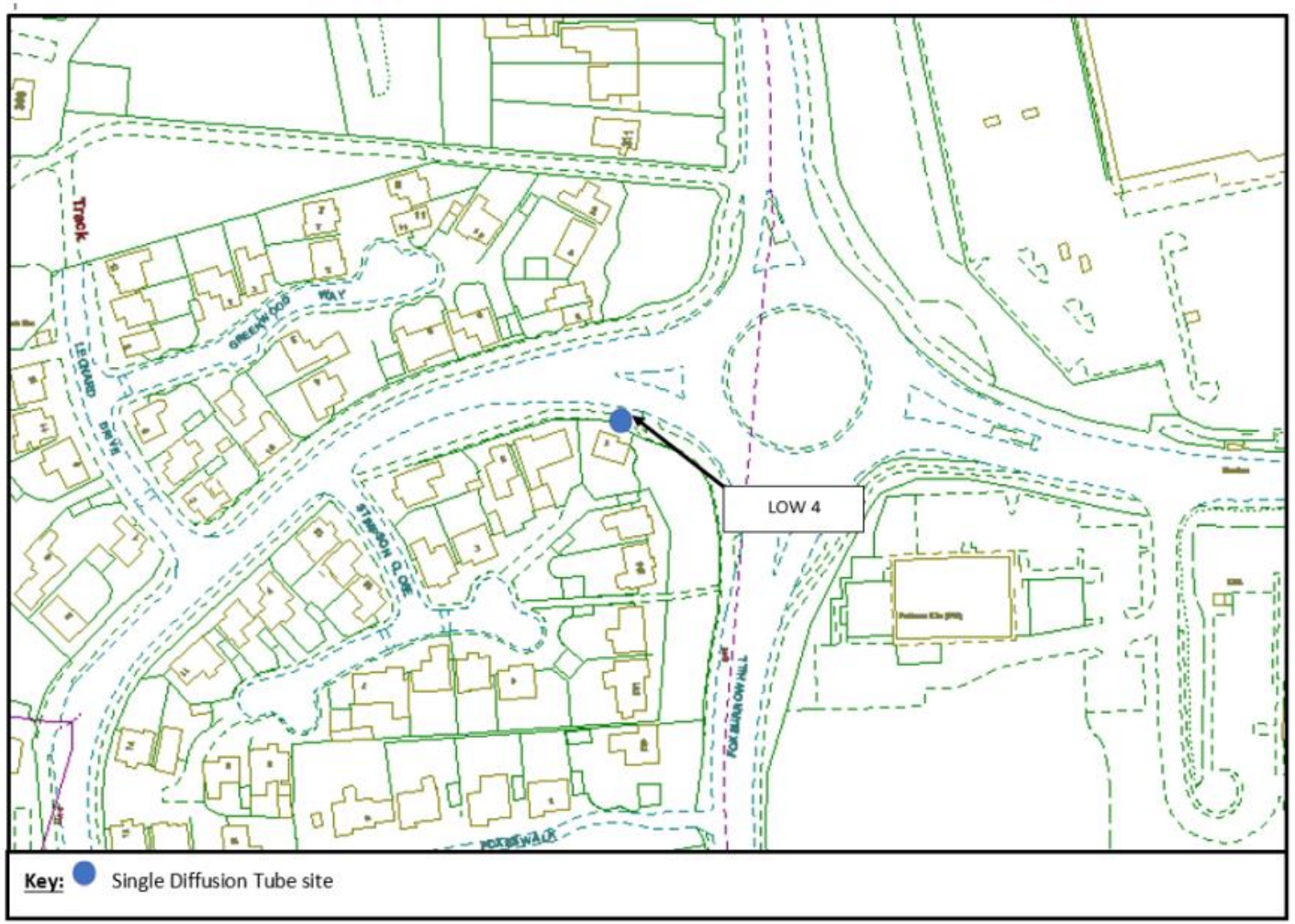


Figure D.20 Lowestoft Map 5

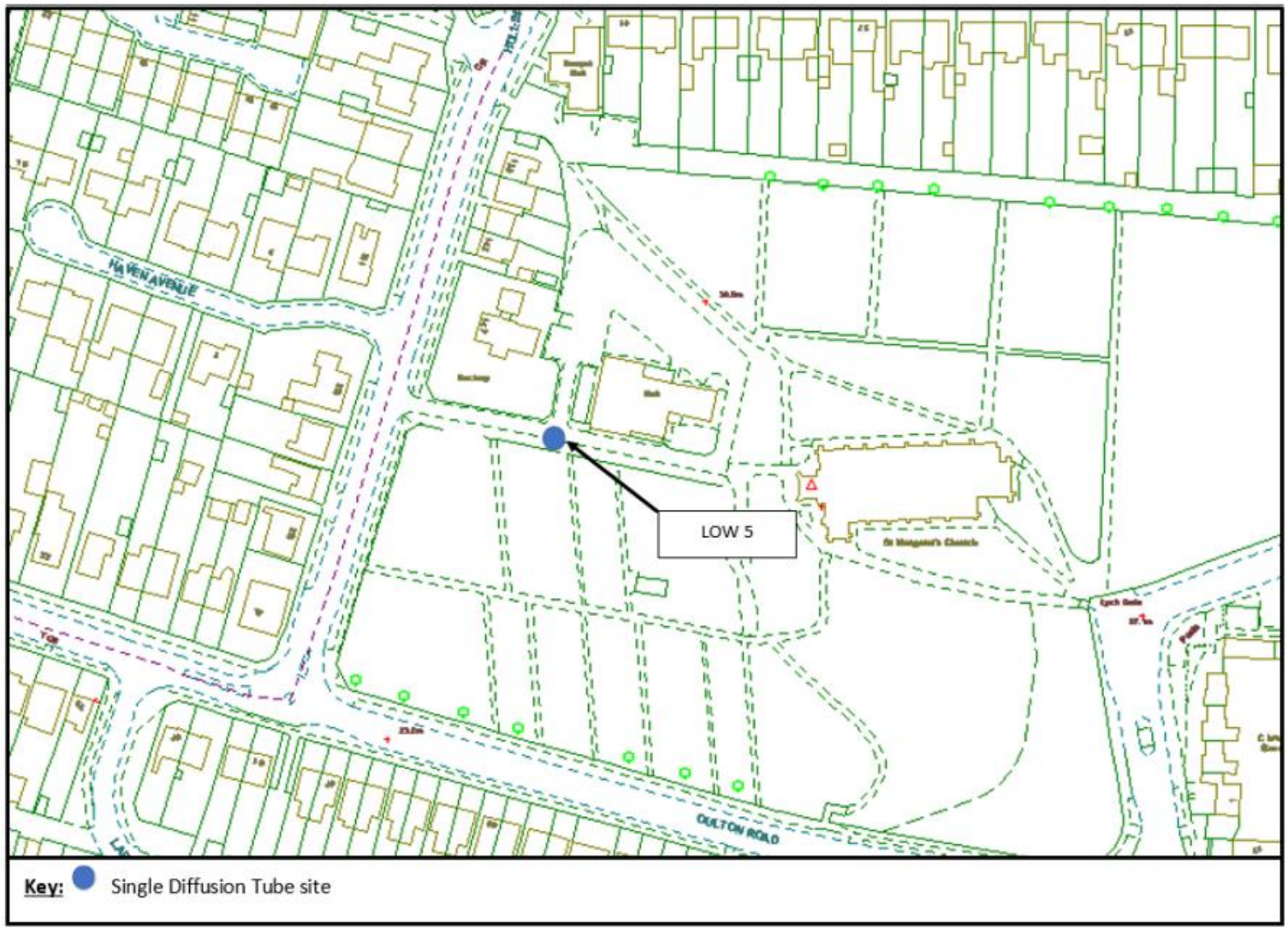
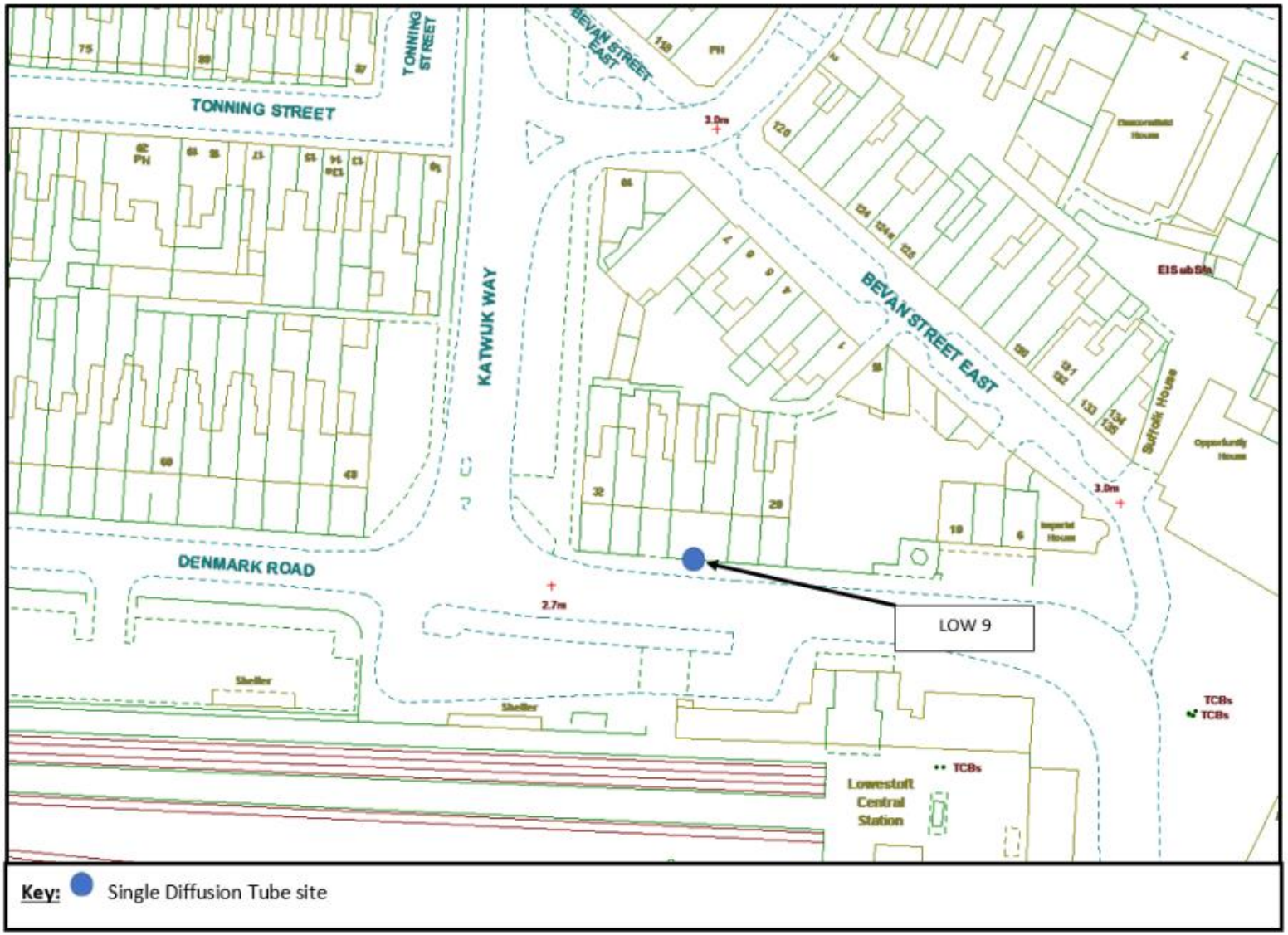


Figure D.21 Lowestoft Map 6



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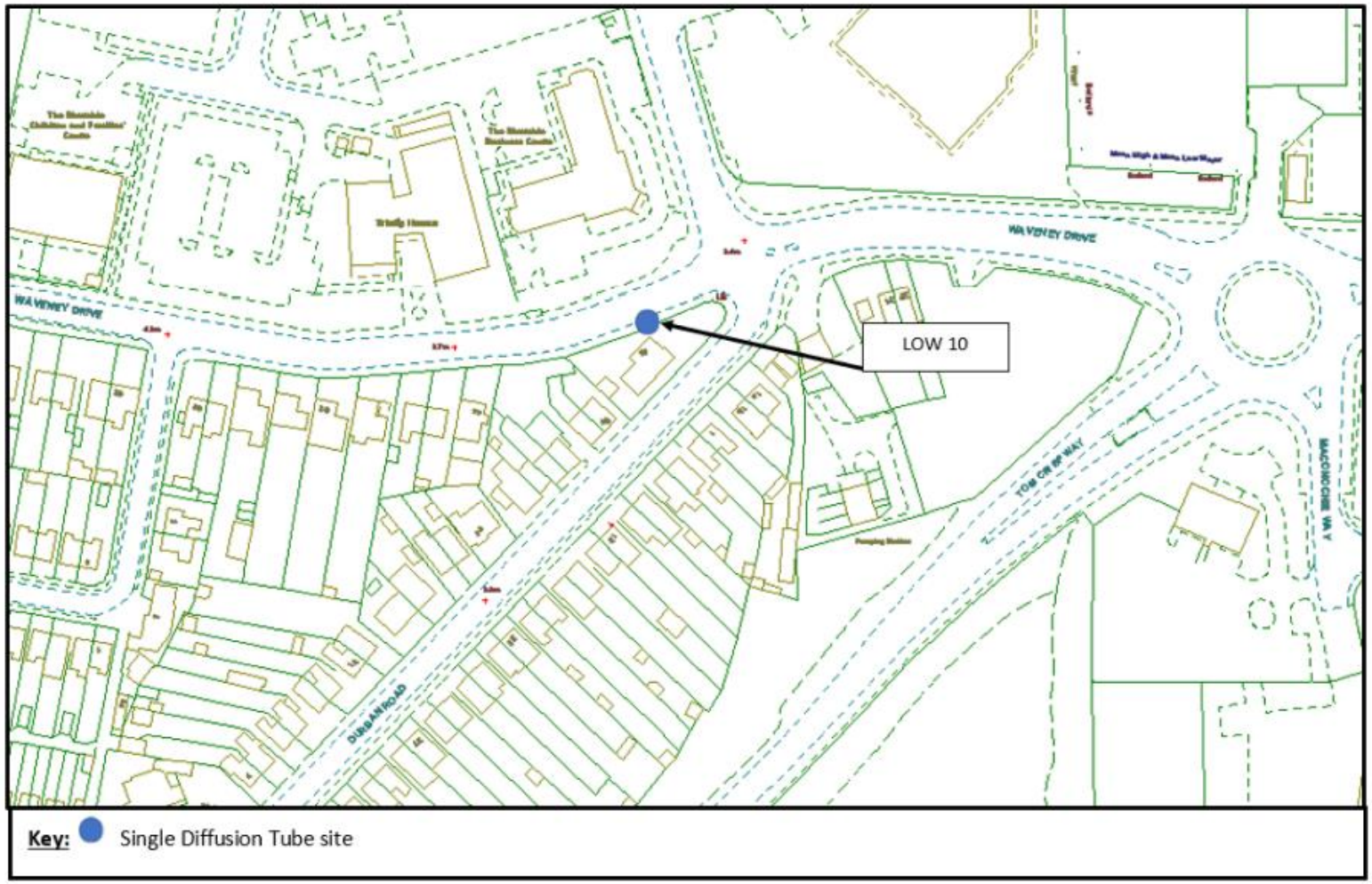


Figure D.23 Lowestoft Map 8

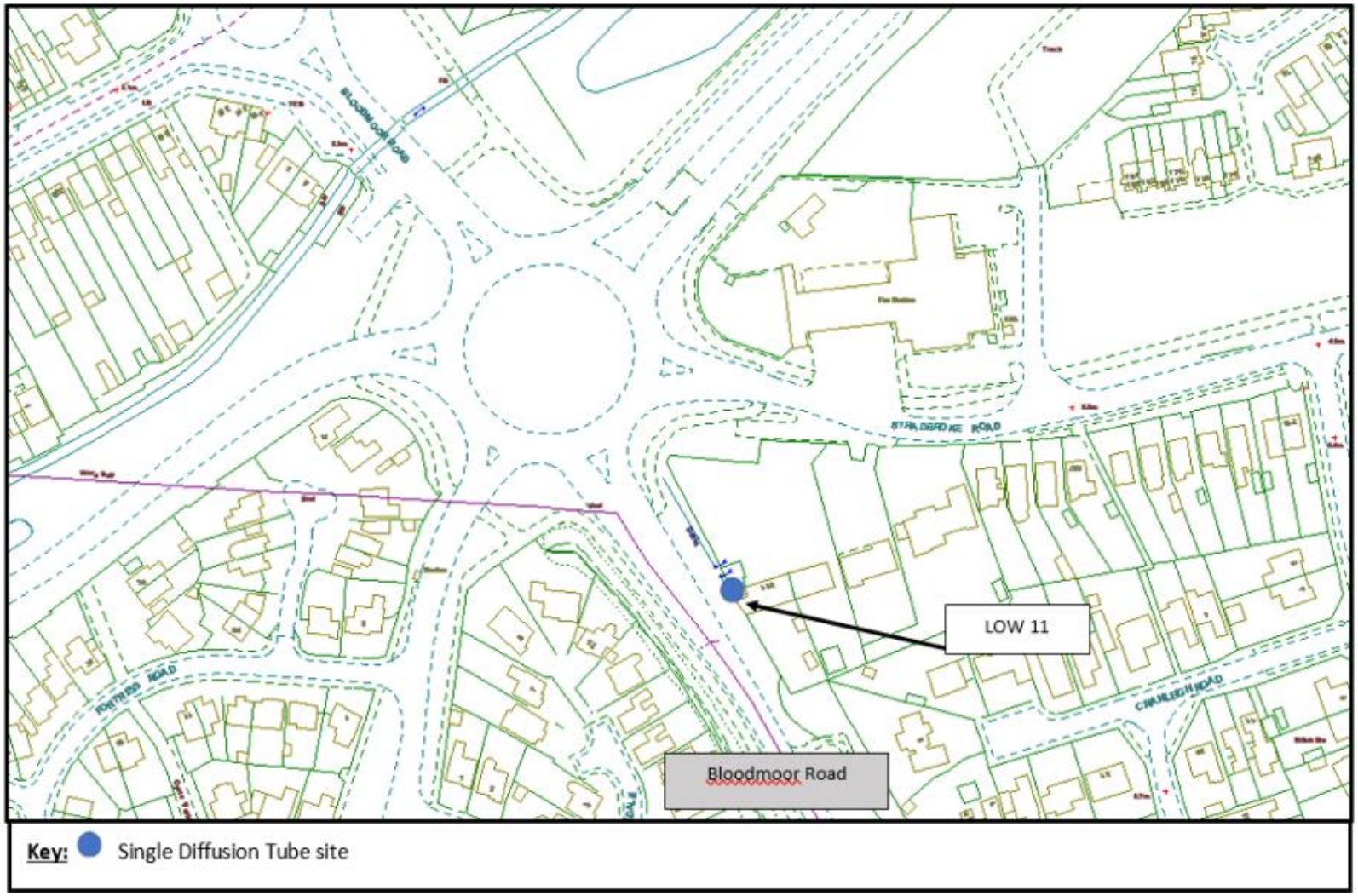


Figure D.24 Martlesham Map 1

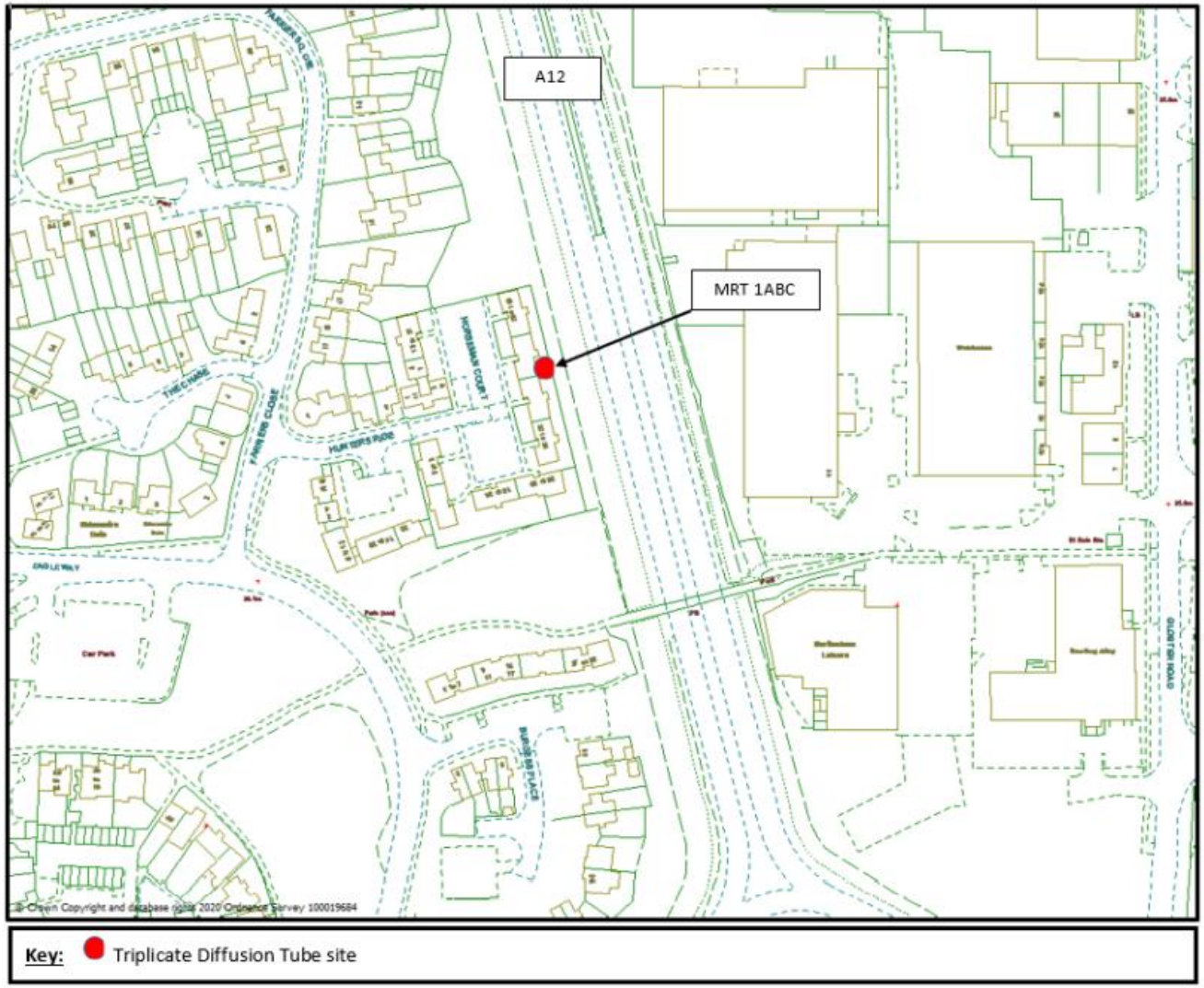


Figure D.25 Melton Map

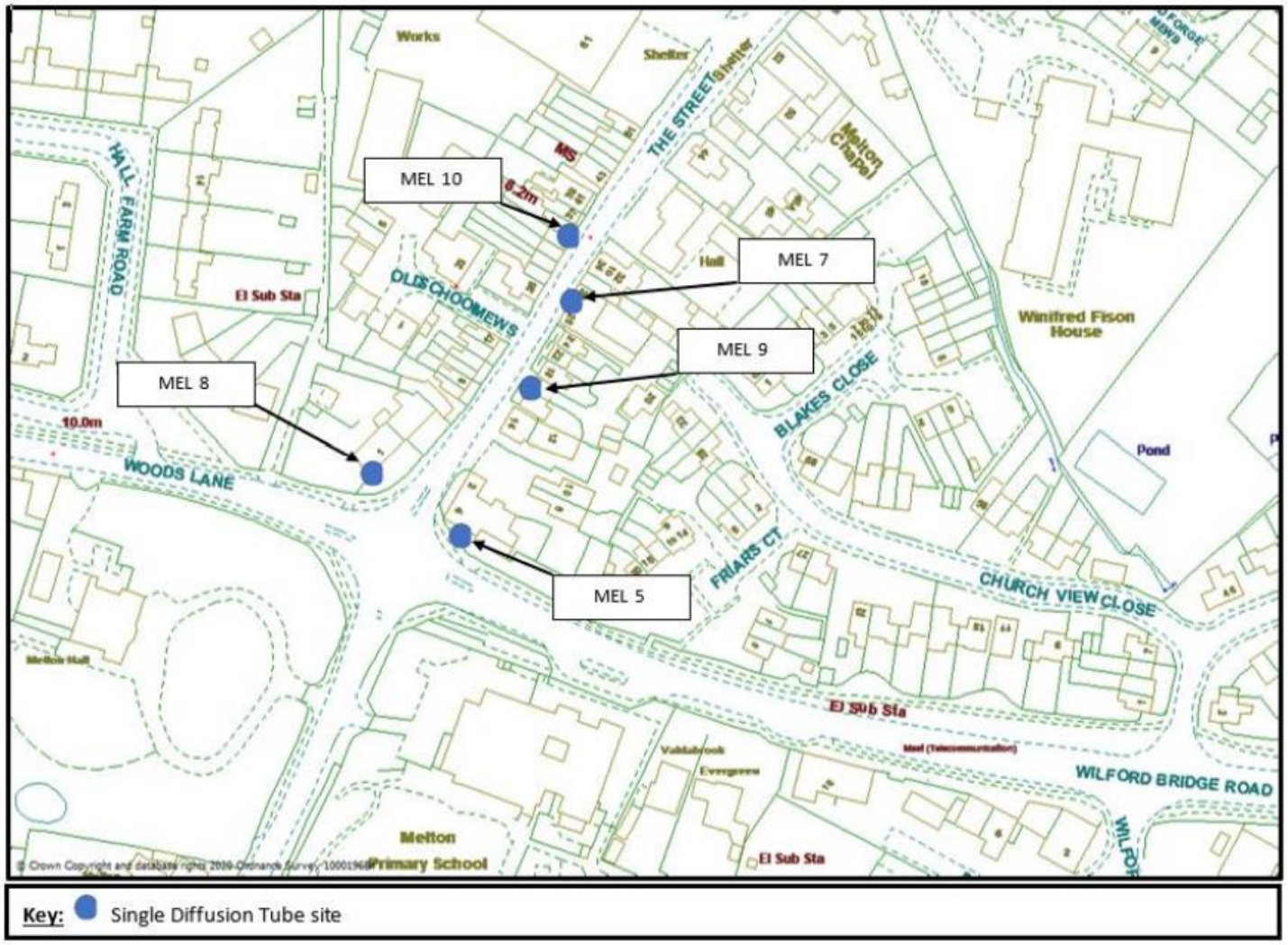


Figure D.26 Oulton Broad Map 1

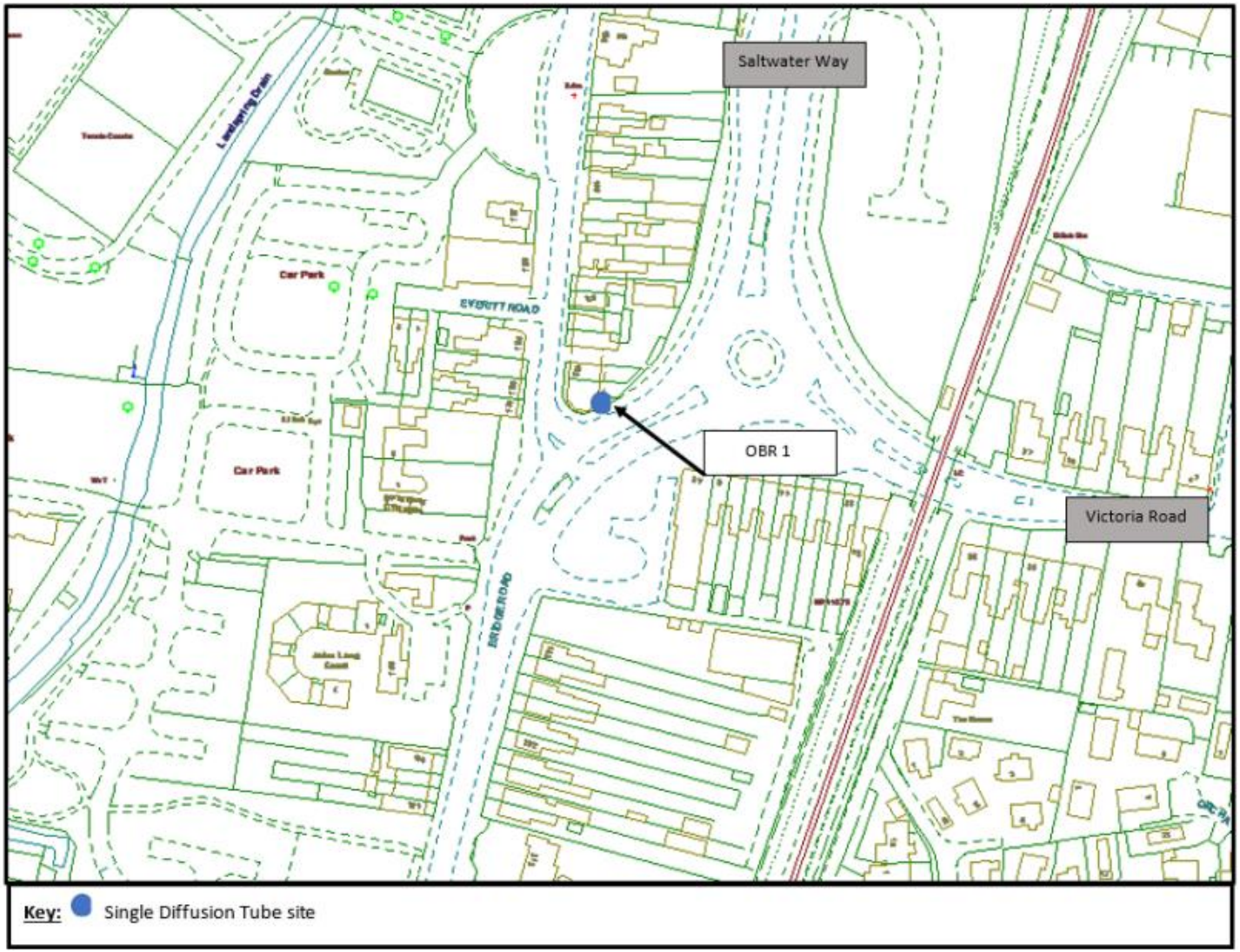


Figure D.27 Oulton Broad Map 2

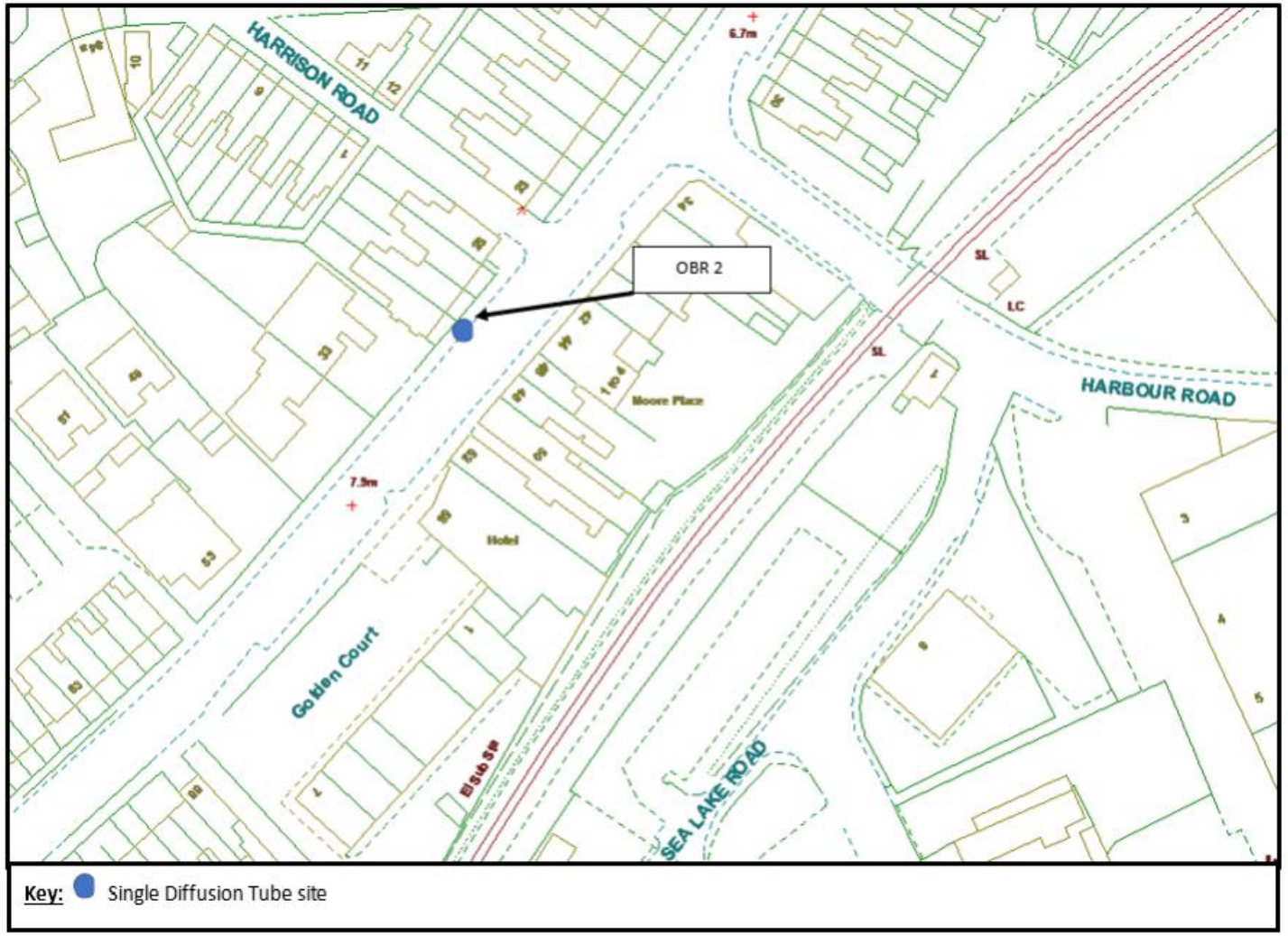


Figure D.28 Oulton Broad Map 3

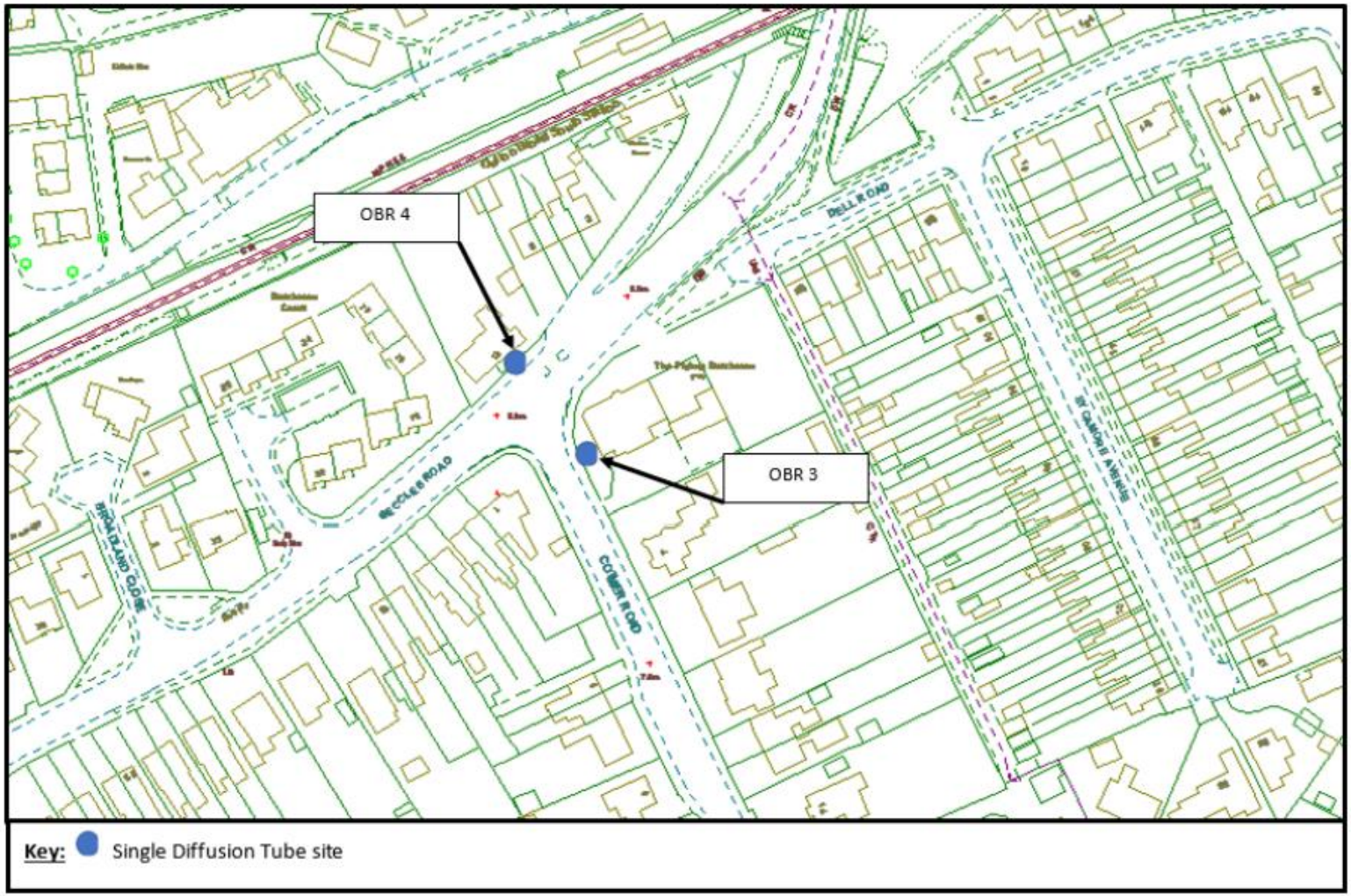


Figure D.29 Oulton Broad Map 4

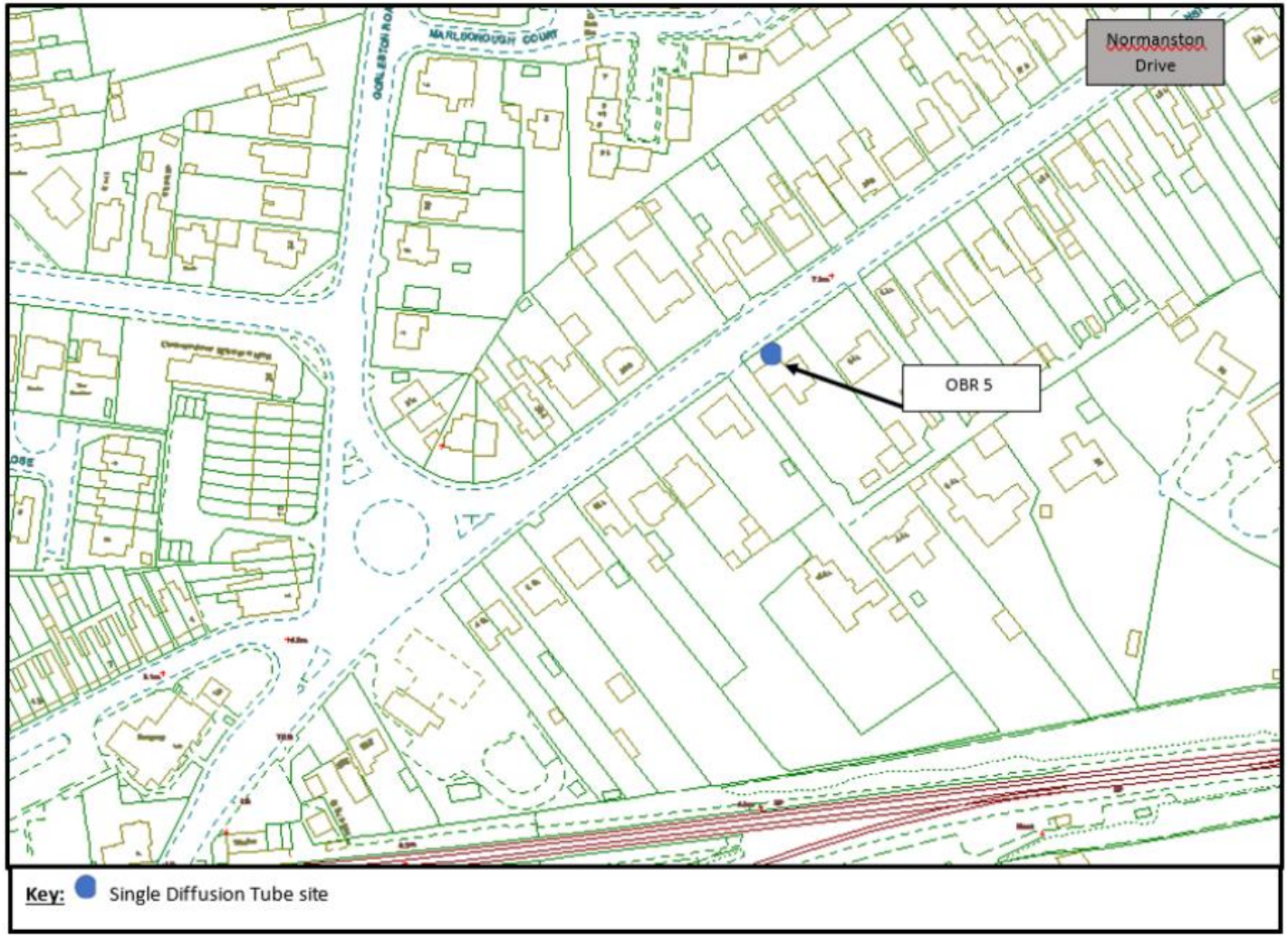


Figure D.30 Saxmundham Map

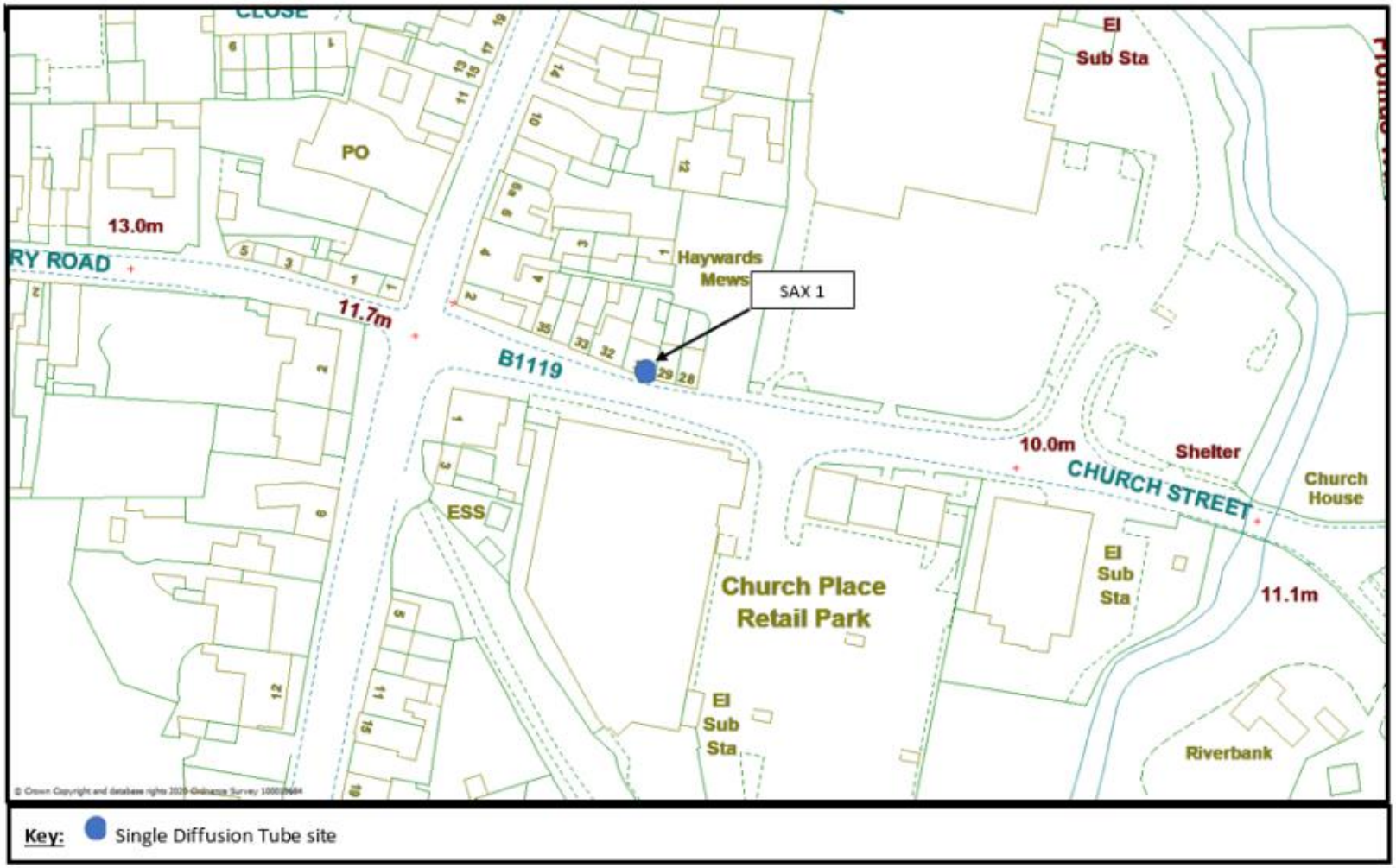


Figure D.31 Stratford and Farnham Map

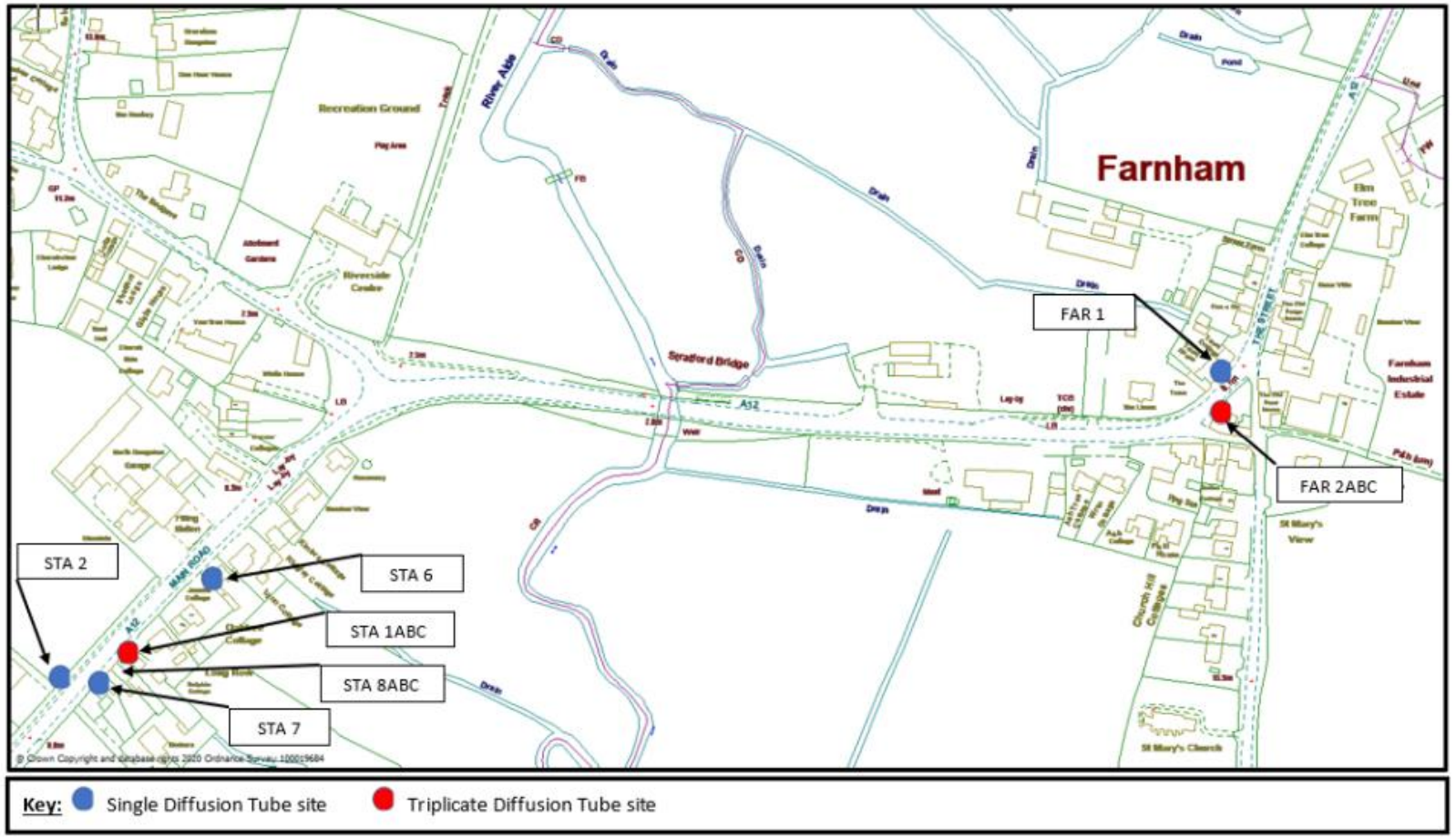
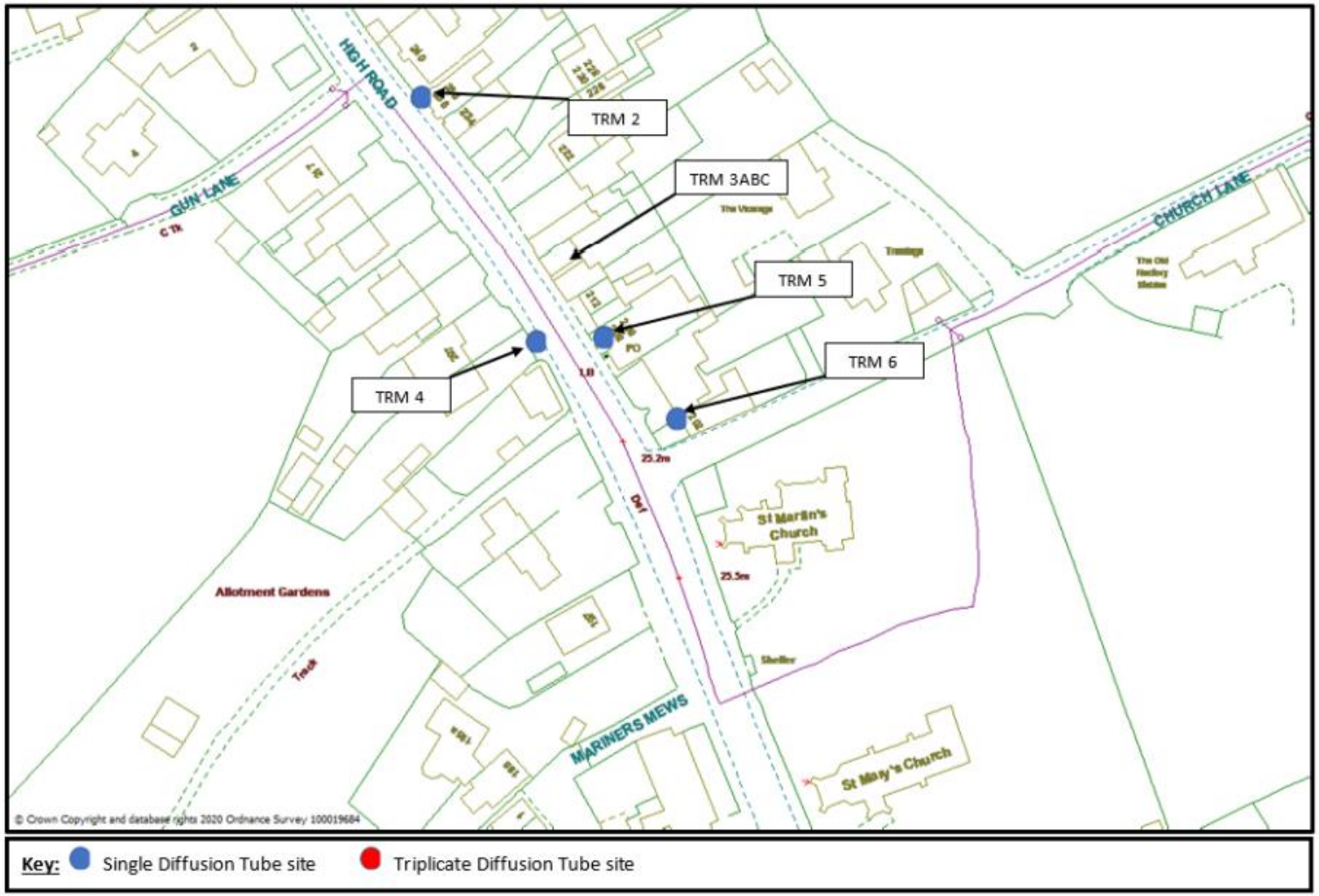


Figure D.32 Trimley Map 2



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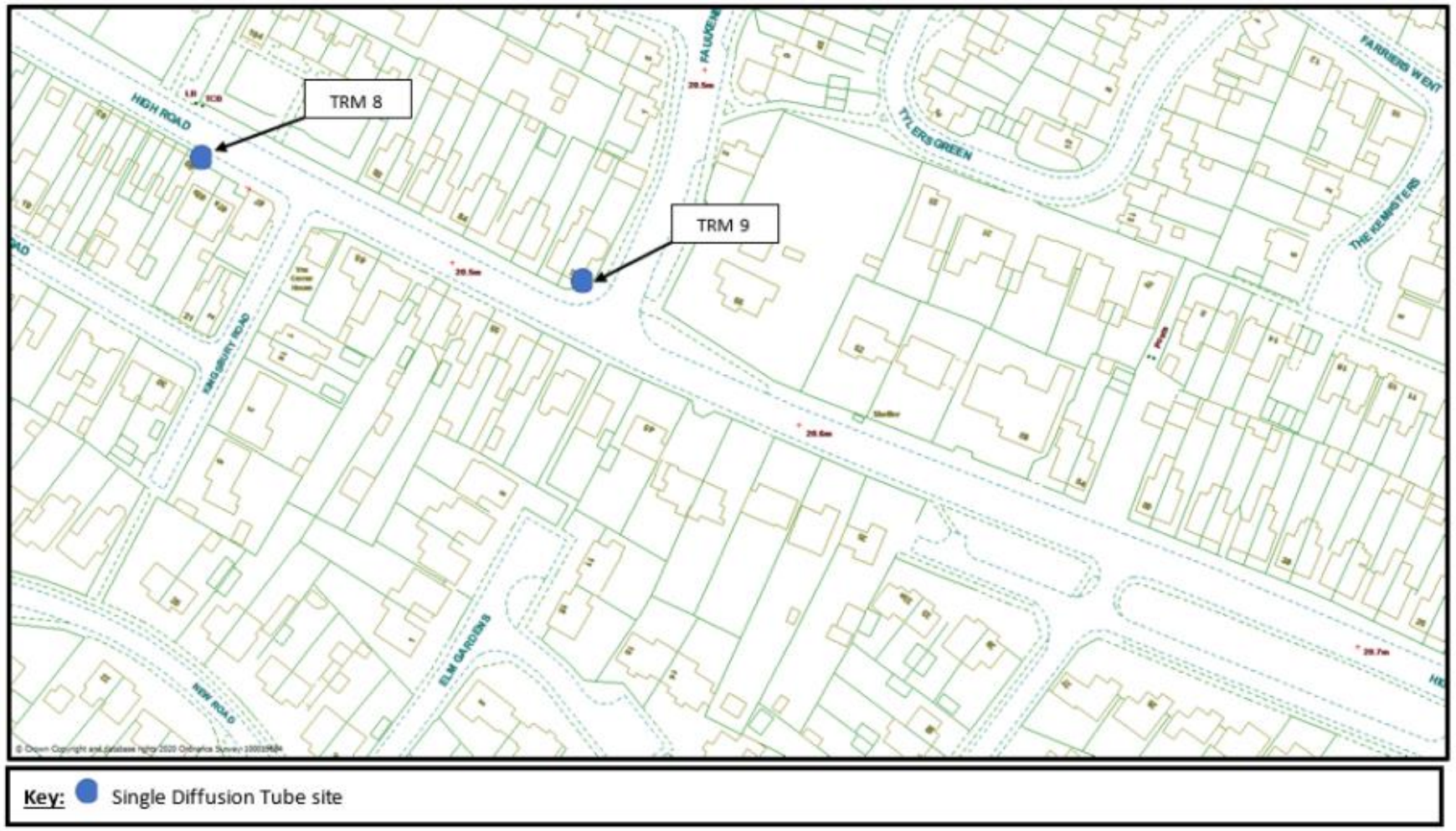


Figure D.34 Trimley Map 4

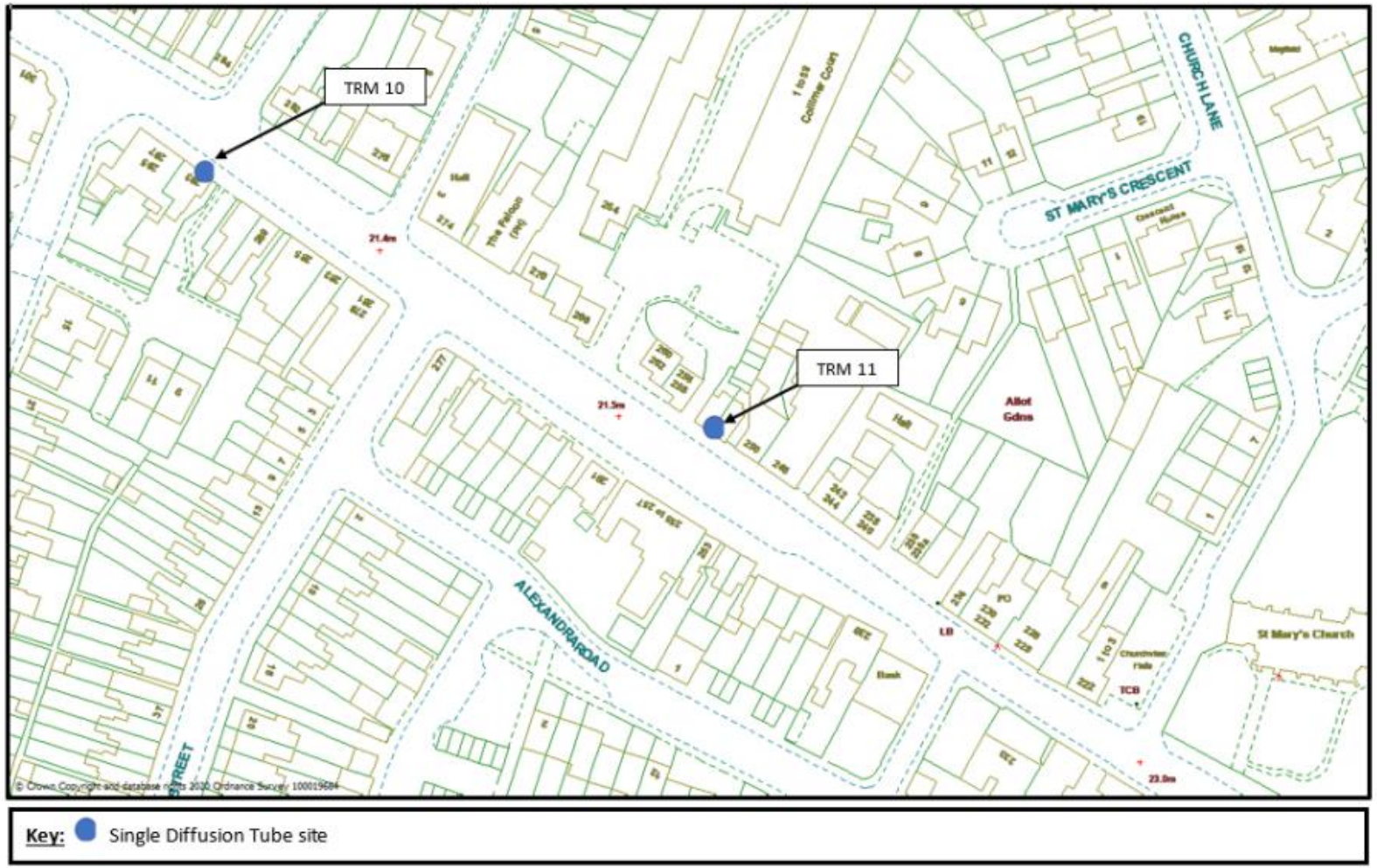


Figure D.35 Trimley Map 5

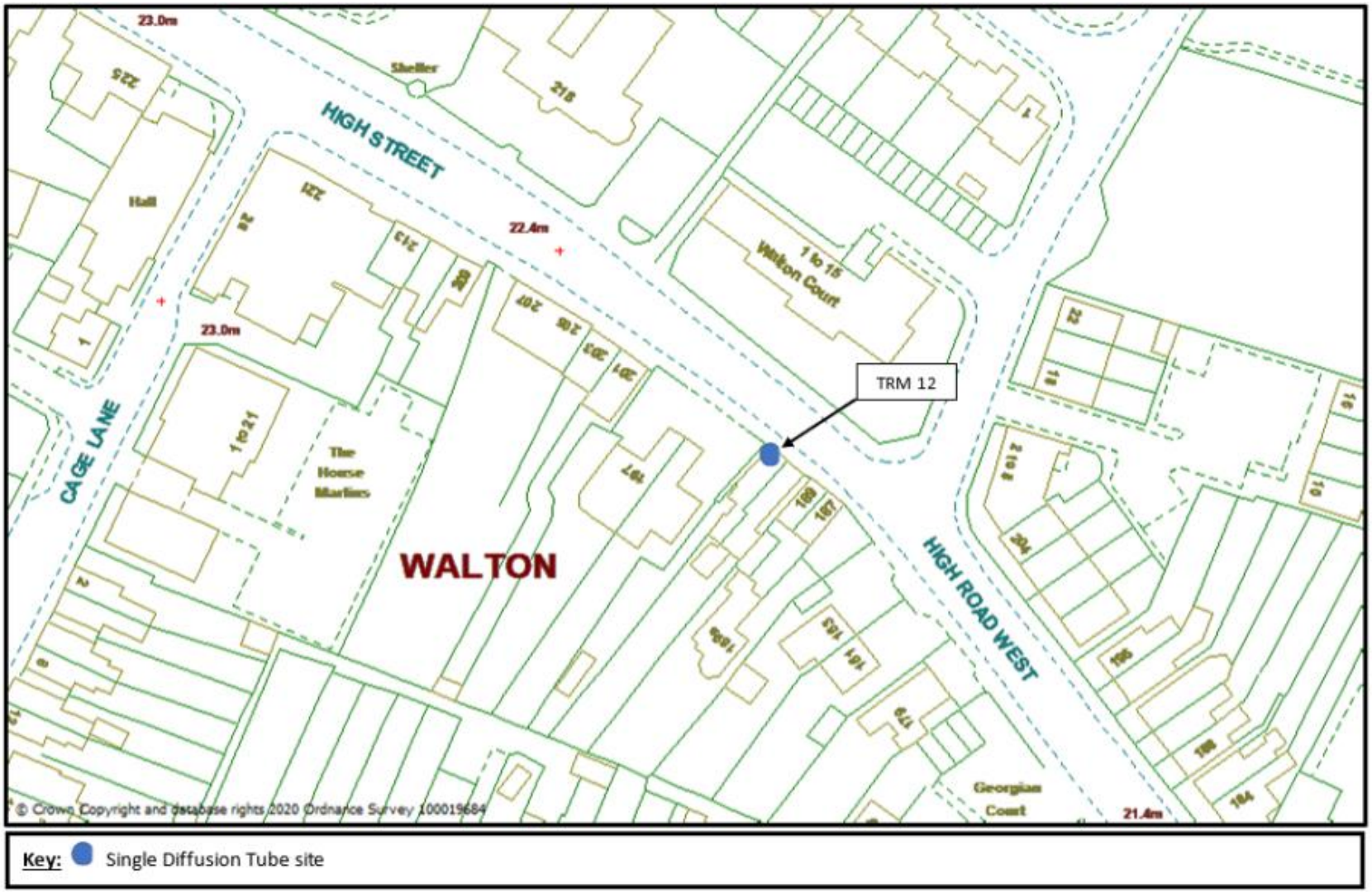


Figure D.36 Woodbridge Map 1

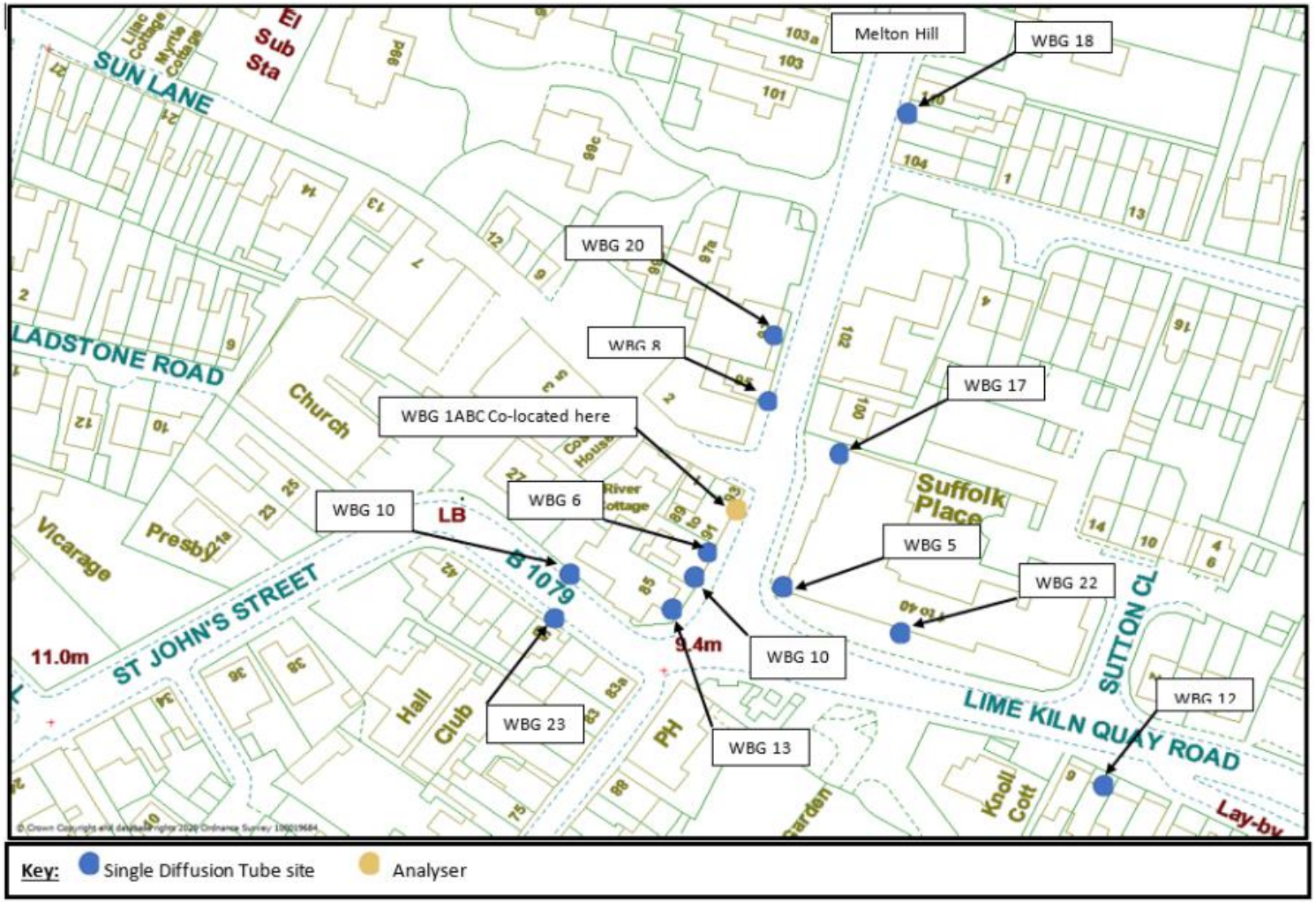


Figure D.37 Woodbridge Map 2

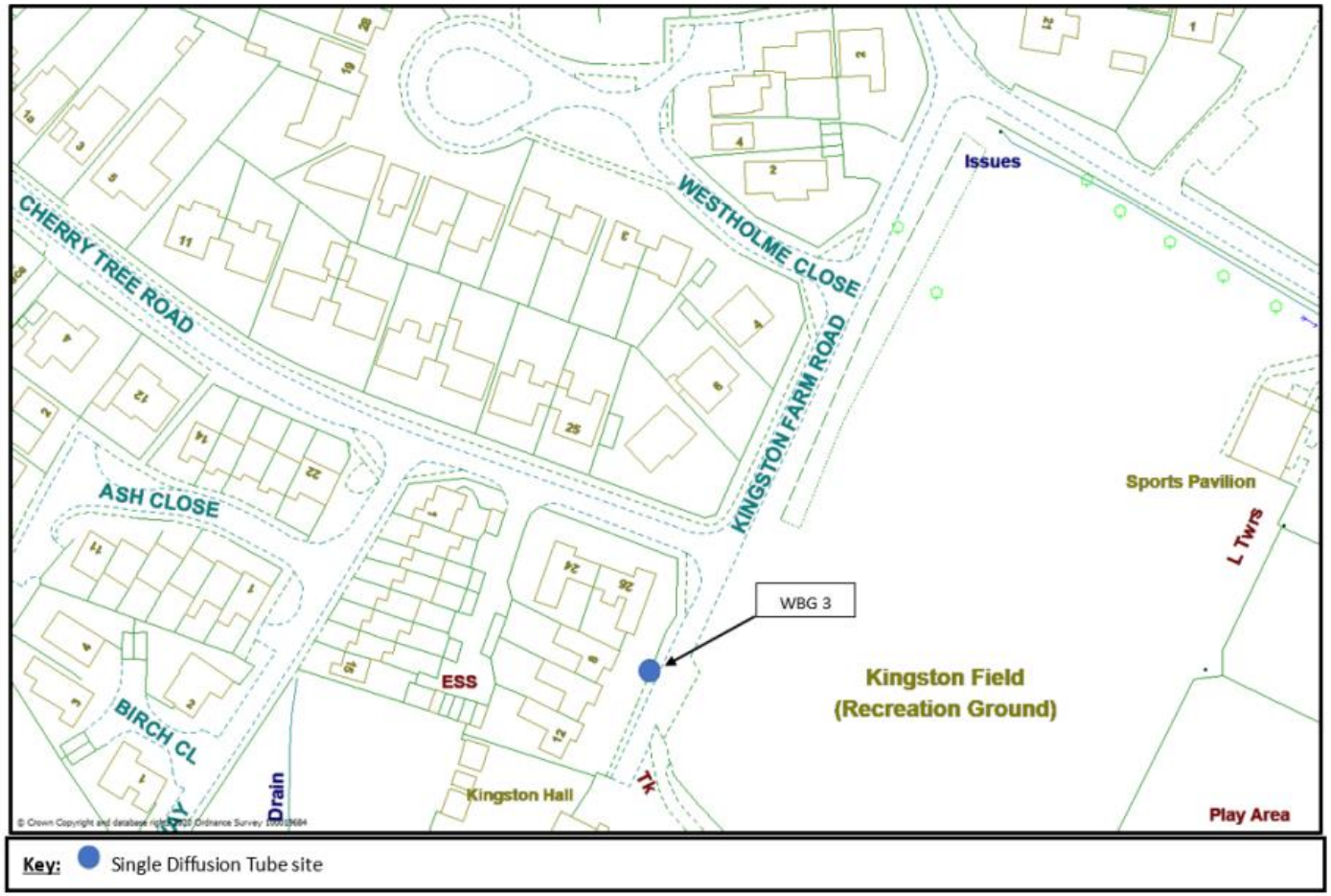


Figure D.38 Wrentham Map 2

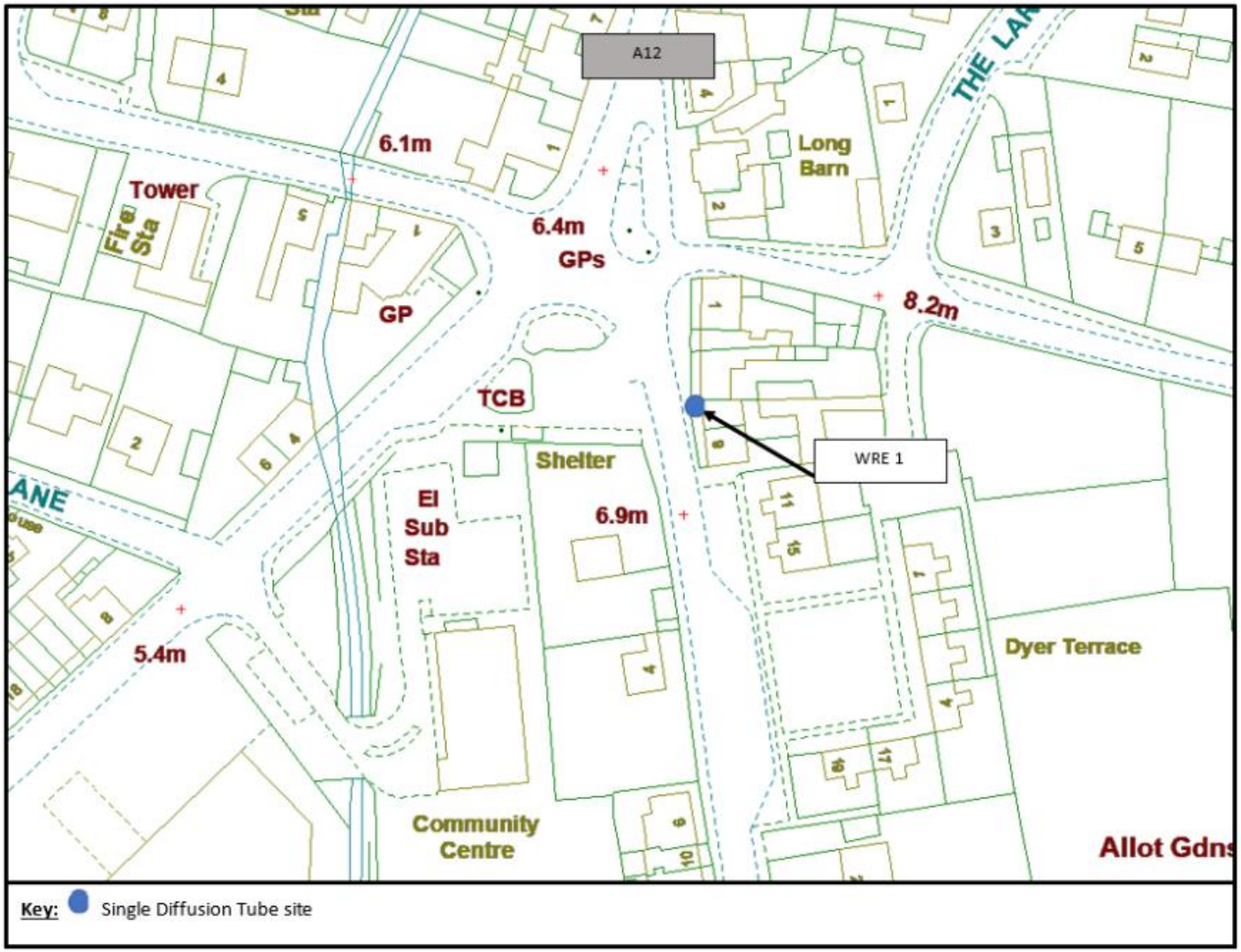
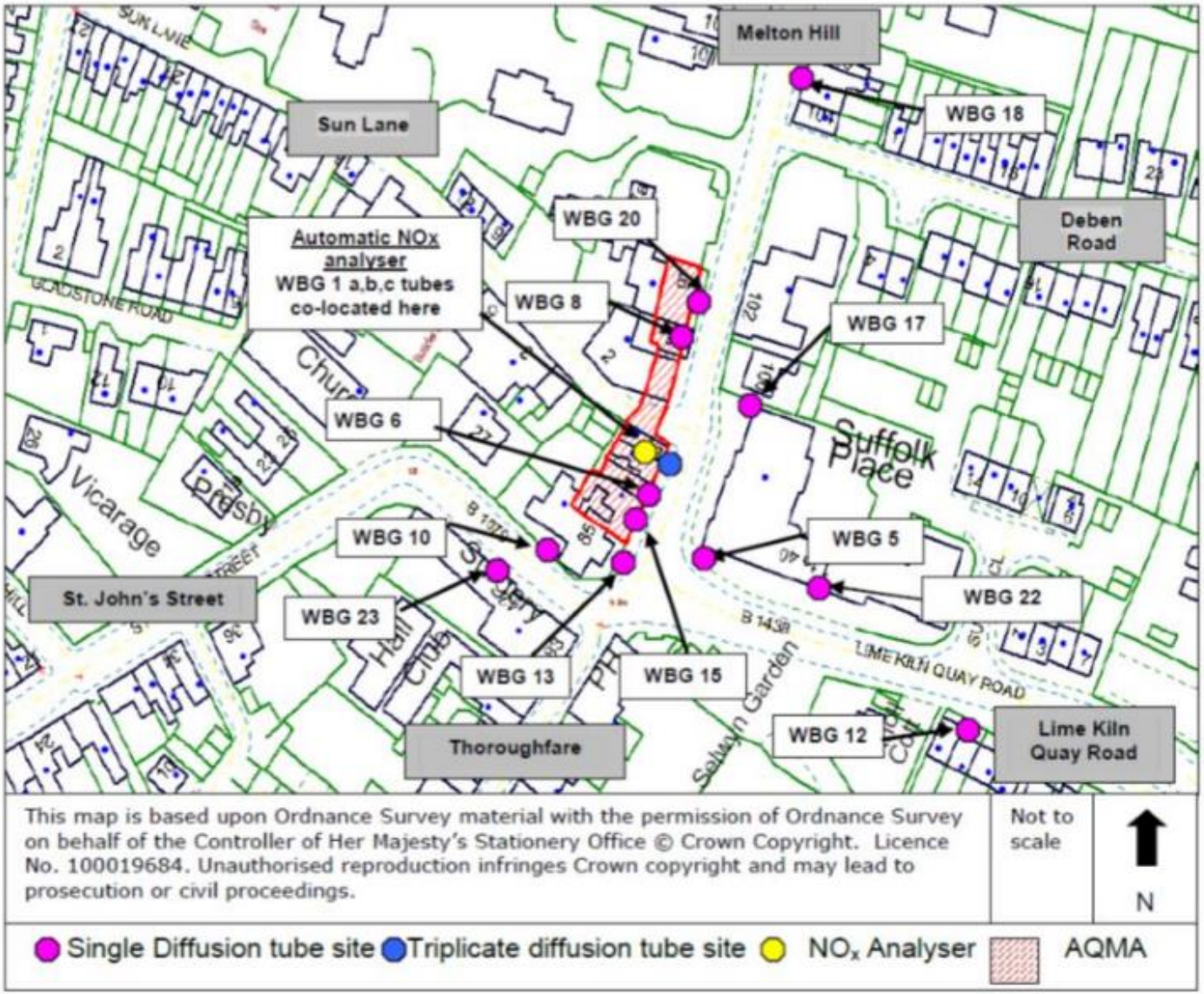


Figure D.39 Woodbridge AQMA



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).

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
AURN	Automatic Urban and Rural Network
CoCP	Code of Construction Practice
DCO	Development Consent Orders
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
DMMP	Dust Monitoring and Mitigation Plans
ESC	East Suffolk Council
EU	European Union
FDMS	Filter Dynamics Measurement System
HVO	Hydrotreated Vegetable Oil Diesel
JSNA	Joint Strategic Needs Assessment
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NRMM	Non-Road Mobile Machinery
ODMP	Outline Dust Management Plan
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
PHOF	The Public Health Outcomes Framework
QA/QC	Quality Assurance and Quality Control
RCV	Refuse Collection Vehicles

Abbreviation	Description
RTG	Rubber-Tyred Gantry Cranes
SCC	Suffolk County Council
SO_2	Sulphur Dioxide
TRG	Transport Review Group
UKAS	United Kingdom Accreditation Scheme

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