*Isle of Wight Council*

# *2023 Annual Status Report*

*Bureau Veritas*

*June 2023*

*Move Forward with Confidence*

BUREAU VERITAS

# Document Control Sheet

| Identification | |
|---|---|
| **Client** | Isle of Wight Council |
| **Document Title** | 2023 Annual Status Report |
| **Bureau Veritas Ref No.** | AIR19065187 |

| Contact Details | | |
|---|---|---|
| **Company Name** | Bureau Veritas UK Limited | Isle of Wight Council |
| **Contact Name** | | Matthew Northard |
| **Position** | | Senior Environmental Health Practitioner |
| **Address** | Atlantic House<br>Atlas Business Park<br>Wythenshawe<br>Manchester<br>M22 5PR | Isle of Wight Council<br>County Hall<br>High Street<br>Newport<br>Isle of Wight<br>PO30 1UD |

| Configuration | | | | |
|---|---|---|---|---|
| **Version** | **Date** | **Author** | **Reason for Issue/Summary of Changes** | **Status** |
| v1.0 | 19/06/2023 | | Draft for comment | Draft |
| v1.1 | 28/06/2023 | | No changes - Final | Final |

| | Name | Job Title | Signature |
|---|---|---|---|
| **Prepared By** | | | |
| **Reviewed By** | | | |


# 2023 Air Quality Annual Status Report (ASR)

## In fulfilment of Part IV of the Environment Act 1995 Local Air Quality Management, as amended by the Environment Act 2021

Date: June, 2023

| Information | Isle of Wight Council Details |
|---|---|
| **Local Authority Officer** | Matthew Northard |
| **Department** | Environmental Health |
| **Address** | Isle of Wight Council<br>County Hall<br>High Street<br>Newport<br>Isle of Wight<br>PO30 1UD |
| **Telephone** | 01983 823000 |
| **E-mail** | matthew.northard@iow.gov.uk |
| **Report Reference Number** | AIR19065187 |
| **Date** | 19th June 2023 |

# Executive Summary: Air Quality in Our Area

## Air Quality in Isle of Wight District Council

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

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages[3], with a total estimated healthcare cost to the NHS and social care of £157 million in 2017[4].

The Isle of Wight is an island situated off the south coast of England, approximately 2 miles from mainland Hampshire Coastline. The island is one of Britain's longest established visitor destinations and includes holiday and caravan parks as well as the seasonal day trip influx via ferries. The island is also a popular yachting centre, focused on Cowes and Yarmouth, and seeks to encourage countryside tourism by establishing the Isle of Wight coastal footpath and seven long-distance trails.

The area occupies a key strategic position on the southern England coastline, acting as a gateway for many to mainland British Isles as well as continental Europe with over 100 ferry journeys per day between the island and mainland English ports such as Folkestone, Portsmouth, and Dover that provide onward travel. The island is approximately 147 square miles and boasts a rich variety of charming landscape. Approximately 50% of the island falls within the Isle of Wight Area of Outstanding Natural Beauty (AONB) and there are over 40 Sites of Special Scientific Interest (SSSI).

---

[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, January 2023

[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

The island is predominantly a rural environment, with approximately 140,000 people residing there. The largest urban area is the town of Newport where approximately 25,000 people live, followed by Ryde with approximately 24,000 people residing there. Other population centres across the island are Cowes, Yarmouth and Sandown.

The main source of pollution on the island is from road traffic emissions originating from the extensive road network, approximately 513 miles, with car ownership in households on the Isle of Wight higher than the national average, 75.3% compared to 73.2% respectively, as reported in the Isle of Wight Core Strategy Island Plan. It is noted that major congestion does not occur often on the island, however, the majority of the vehicles start and end their journeys on the island and are not through-flow traffic. Furthermore, the ferry port of the island is a gateway to the mainland, with summer season traffic flows on the island significantly changing with the influx of tourist-related traffic. Other pollution sources including commercial, industrial, and domestic sources also contribute to pollutant concentrations on the island.

Due to Isle of Wight Council's consistent years of no reported exceedances of the annual mean $NO_2$ AQS (Air Quality Standard) of 40µg/m$^3$, the area is considered to have good air quality. As a result of this, there are no declared Air Quality Management Areas (AQMAs) within the Council area. The Council continues to review its monitoring network, having removed 5 tubes (IOW5, IOW7, IOW8, IOW11, IOW16) in the 2022 monitoring year compared to 2021 due to consistently low concentrations reported in those locations and alternate sites located within close proximity.

During 2022, there were no reported exceedances of the annual mean $NO_2$ AQS; this continues the trend of no exceedances over the last 6 years, therefore there is no requirement to declare an AQMA. The maximum reported $NO_2$ concentration was 29.5µg/m$^3$ at passive monitoring locations IOW1, IOW2, and IOW3 (triplicate site).

A decrease in concentrations from 2021 to 2022 is highlighted within this report, including six passive monitoring sites recording a decrease, four more than the previous reporting year. Although it is noted two passive sites, IOW4 and IOW6, did not record an annual mean $NO_2$ concentration in 2022 due to insufficient data capture and only 3 months of data were captured for the monitoring period due to missing tubes and incorrect deployment procedures. The reduction in the number of increases reported compared to 2021 is likely due to the establishment of a 'new normal' in traffic volumes, with organisations remaining to facilitate 'Working From Home' (WFH) post COVID-19 pandemic restrictions relieving, thus reducing the number of vehicles comparative to pre-

pandemic periods. Despite the overall reduction in the number of sites reporting a concentration increase, there were some identified increases attributable to the 2022 monitoring year experiencing periods reflective of pre-pandemic traffic volumes, with UK COVID-19 restrictions lifting, therefore subject to increases in $NO_2$ concentrations from 2020 and 2021.

There are no diffusion tube monitoring sites where the $NO_2$ annual mean is greater than 60µg/m$^3$, therefore in accordance with Defra LAQM.TG(22) there are no sites likely to be at risk of exceeding the 1-hour mean AQS objective.

## Actions to Improve Air Quality

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

The Environmental Improvement Plan[5] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term $PM_{2.5}$ targets. The National Air Quality Strategy, due to be published in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce $PM_{2.5}$ in their areas. The Road to Zero[6] details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Within Isle of Wight Council, since the initiation of the passive monitoring network, there has been no sites that have exceeded the AQS annual mean objective of 40µg/m$^3$ for $NO_2$. As a result, there are currently no designated AQMAs therefore an Air Quality Action Plan (AQAP) is not required. Additionally, there are currently no plans to produce an Air Quality Strategy (AQS) for the island.

The air quality across the Isle of Wight is considered to be good, with air quality in 2022 displaying complete compliance with the AQS and following the same trend for the

[5] Defra. Environmental Improvement Plan 2023, January 2023

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

previous 6 years of monitoring. The Council will continue to monitor and assess the results for the coming year within the $NO_2$ diffusion tube network.

As part of the Isle of Wight Council's commitment to reduce the impacts of, and tackle climate change, the Council declared a climate emergency in July 2019 and continues to progress and aim to hit net-zero carbon emissions by 2040 across the island. In September 2021, Isle of Wight Council developed the Mission Zero Climate and Environment Strategy 2021 – 2040[7], setting out various actions with 8 core objectives in the environmental chapter, to reduce $CO_2$ emissions, of which also have shared benefits in improving air quality through reducing both $NO_2$ and PM emissions.

The Council is developing and has implemented the following measures as part of the strategy in 2022:

- Implementation of 18 on-street charge points;
- Ryde Transport Interchange project is ongoing with extensive remodelling designed to provide better travel connectivity as well as much-improved public space for residents and visitors;
- The draft Island Planning Strategy contains policies to promote sustainable and active transport across the island including:
    - Multi-user routes to help facilitate sustainable modes of transport and new cycle routes;
    - Disused rail lines to be used for sustainable travel routes;
    - Provision of new cycling routes;
    - Encourage and promote the railway route on the island; and
    - Facilitating introduction of EV charging points.
- Local Walking and Cycling Improvements in Ryde and Newport.

The Council has established a Business Engagement Programme which provides companies with an 'Isle of Wight Green Tourism Award' based on the actions they achieve to promote and encourage sustainable transport. The initiative is centred on three core themes: People, place and planet, and there are three levels of the scheme, bronze, silver, and gold, with businesses required to meet specific criteria to acquire points enabling

[7] Isle of Wight Mission Zero Climate and Environment Strategy 2021-2040 https://www.iow.gov.uk/azservices/documents/2570-Mission-Zero-Climate-and-Environment-Strategy-2021-2040-final.pdf

awards. Some examples include businesses becoming pre-emptive members of the 'Green Travel Bus Pass Scheme' (scheduled for launch in 2023) which will provide customers with free bus tokens to encourage use. The campaign is available to review: https://visitwightpro.com/iow-green-tourism-award/

The Council has established collaborative relationships with the Isle of Wight Bus and Coach Museum to host active transport events, such as 'The WightRider' which promotes the use and benefits of public transport on air quality comparative to private vehicle use. The event, hosted on 8 - 9th October 2022, included free buses that linked various attractions, not only in Ryde, but further afield across the island such as the IW Steam Railway at Wootton station. In addition, park and ride facilities were also available at the IW Donkey Sanctuary in Wroxall.

The Isle of Wight encourages active travel across the island, and subsequent reduction in vehicular usage, through its established reputation as the United Kingdom's 'Bicycle Island' and hosting the event 'Walk the Wight', which is the largest sponsored walk of its kind in Europe. Therefore, seeking to reduce vehicle emissions and contribution to air quality by promoting the area as an enabler of active travel.

Isle of Wight Council continue to progress with, alongside development and enhancement of, the PedalAid app. PedalAid is an app for encouraging cycling on the Isle of Wight and in 2021 recorded 32km of cycling routes but has since been upgraded to report 50km of cycling routes. The routes covered by PedalAid are mostly off road, including the Red Squirrel trail from Newport to Shanklin, with a circular route from Merstone, and Cowes to Newport. In addition, there are routes from Yarmouth to Freshwater and some other routes to and from Newport. Rides on the PedalAid routes are logged by the PedalAid app and these contribute towards an overall monthly challenge target. A chosen local Isle of Wight charity receives a donation if the target is reached. Therefore, promoting an inclusive community and future collaboration between the Council, local businesses, charities and people by working together to identify opportunities to improve air quality by limiting emission source(s) use whilst encouraging mortality longevity.

The Council have an established Local Cycling and Walking Infrastructure Plan (LCWIP) for 2020 to 2030 with the urban centres of Newport and Ryde being the focus of the LCWIP due to the concentration of population and trip generators that are reflective of the position that the two centres have at the top of the district's settlement hierarchy. The LCWIP provides a strategic approach to identifying cycling and walking improvements required at the local level, with 16 cycling routes outlined and 24 walking routes

established. They enable a long-term approach to developing local cycling and walking networks, ideally over a 10-year period, and form a vital part of the Government's strategy to increase the number of trips made on foot or by cycle. Isle of Wight acknowledge that they are responsible for implementing actions in the LCWIP and proactively seek funding to improve the existing network. It is noted that in January, April and June 2022 LCWIPs were created for Bembridge, Brading and St Helens, East Cowes and Whippingham, and Cowes, Northwood and Gurnard, respectively. These LCWIPs were produced by the local parish and town councils in support of the existing LCWIP for Newport and Ryde and extend until 2032. The documents are scheduled for adoption by the Isle of Wight Council in 2023.

The Council actively encourages developers at the planning stage to install electric charging points or consider suitable infrastructure to allow for future cost-efficient installations.

Isle of Wight Council confirms the collaborative relationship with Joju Solar to roll out a programme of charging points for Electrical Vehicles (EV) across the island, resulting in 6 EV charging points being implemented already in car parks with 38 EV charging points scheduled to be implemented. Furthermore, the Council is allowing free parking in car parks for vehicles that are using the charging point and is also seeking to acquire investment from the Local Electric Vehicle Infrastructure (LEVI) fund from the UK Government to further enhance its EV charging network. More information regarding the location of EV charging points can be found here: https://iwc.iow.gov.uk/Council/OtherServices/zzzElectric-Vehicle-Chargepoints/Car-Park-Chargepoints

## Conclusions and Priorities

During 2022, the passive monitoring results show that there were no exceedances of the annual mean objective of 40µg/$m^3$ for $NO_2$ within the jurisdiction of Isle of Wight Council. Thus, there is no requirement for the designation of an AQMA or AQAP to be implemented. The Council will continue to use the passive monitoring network to monitor air quality within the district and ensure compliance is maintained with the AQS.

The following actions are considered to be key priorities in ensuring the air quality conditions within Isle of Wight Council continue to comply with the AQS objectives:

- Continue to develop a public facing web-based portal to allow the public to be able to view local air quality data;
- Continue to review the current monitoring programme, exploring the need to deploy new monitoring locations in areas where monitoring has not previously been undertaken and where it is believed that there may be elevated concentrations of $NO_2$ in areas of relevant public exposure;
- Actively engage with developers at planning application stages to promote the installation of electric vehicle charging or alternatively, provide suitable infrastructure to allow for future cost-efficient installations;
- Implementation of the planned EV charging points in car parks across the island;
- Continue to provide an integrated transport network to facilitate the efficient movement of pedestrian and vehicular traffic, goods, and services across the island;
- Continue to reduce the volume of traffic on the island's roads by encouraging effective active transport methods (e.g. public transport, cycling, and walking);
- Continue to improve the existing walking and cycling network by acquiring funding for development; and
- Implement measures within the Climate and Environment strategy to further reduce concentrations of $NO_2$ and PM.

## Local Engagement and How to get Involved

Given the main source of air pollution across Isle of Wight is from transport sources, the public can support the reduction in air pollutant(s) release and improve air quality within the island by participating in active travel.

Isle of Wight Council have progressed additional public engagement work in 2022 through the below schemes, although the engagement schemes in 2021 are still active:

- The collaborative relationship with Joju Solar to roll out a programme of charging points for Electrical Vehicles (EV) across the island, resulting in 6 EV charging points being implemented already in car parks with 38 EV charging points scheduled to be implemented;
- Allowing free parking in car parks for vehicles that are using the EV charging points;
- Seeking to acquire investment from the Local Electric Vehicle Infrastructure (LEVI) fund from the UK Government to further enhance its EV charging network;

- Promotion of active transport uptake through the business initiative ‘Isle of Wight Green Tourism Award’;
- Collaboration between local businesses and charities to host events promoting active transport and the benefits, such as ‘The WightRider’;
- Investment into enhancing the existing active travel network for walking and cycling; and
- Development of the PedalAid App which enhanced mapping of the Isle of Wight’s cycling routes from 32km to 50km.

The following measures are possible alternatives to private travel and actions that everyone can complete that would contribute to improving air quality on the island:

- Use public transport where available – This reduces the number of private vehicles in operation reducing pollutant concentration through the volume of vehicles and limits congestion;
- Walk or cycle if your journey allows – From choosing to walk or cycle for your journey the number of vehicles is reduced and also there is the added health benefits through exercise;
- Car/lift sharing – Where a number of individuals are making similar journeys, such as travelling to work or to school car sharing reduces the volume of vehicles on the road and therefore the amount of emissions being released. This can be promoted via travel plans through the workplace and within schools;
- Alternative fuel / more efficient vehicles – Choosing a vehicle that meets the specific needs of the owner, fully electric, hybrid fuel and more fuel efficient cars are available, and all have different levels benefits by reducing the amount of emissions being released; and
- Asking your employer, school or college about the possibility of developing a green travel plan.

The Isle of Wight are continuously working with local businesses, charities, developers, tourism bodies, schools, local transport operators and more organisations to develop measures to improve air quality across the island.

## Local Responsibilities and Commitment

This ASR was prepared by Bureau Veritas on behalf of the Environmental Health Department of Isle of Wight Council with the support and agreement of the following officers and departments:

Matthew Northard, Senior Environmental Health Practitioner, Environmental Health

This ASR has been approved by:

Matthew Northard, Senior Environmental Health Practitioner, Environmental Health

This ASR has not been signed off by a Director of Public Health.

If you have any comments on this ASR please send them to Matthew Northard at: Isle of Wight Council, County Hall, High Street, Newport, Isle of Wight, PO30 1UD. 01983 823000 - matthew.northard@iow.gov.uk

# Table of Contents

## Figures



## Tables

# 1 Local Air Quality Management

This report provides an overview of air quality in Isle of Wight Council during 2022. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Isle of Wight 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 F.2.

# 2 Actions to Improve Air Quality

## 2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained, and provide dates by which measures will be carried out.

Isle of Wight Council does not have any declared AQMAs. A map of monitoring locations within the area is presented in Appendix D: Map(s) of Monitoring Locations and AQMAs.

## 2.2 Progress and Impact of Measures to address Air Quality in Isle of Wight Council

Defra's appraisal of last year's ASR concluded that:

*"The report is well structured, detailed, and provides the information specified in the Guidance."*

The following comments are designed to help inform future reports:

- *Trends have been presented with a robust comparison to air quality objectives. The report confirms Isle of Wight Council continues to enjoy good air quality with no exceedances of air quality objectives, and thus no requirement for an AQMA or formal AQAP;*
- *Despite not having an AQAP, the Council have outlined measures within their Mission Zero Climate and Environment Strategy 2021 – 2040 which have co-benefits for both carbon emissions and air quality, this is welcomed;*
- *The Council do not monitor for $PM_{2.5}$, however they have estimated concentrations using Defra background maps. There is also a reference to Public Health Outcomes Framework and specifically the indicator D01 - Fraction of mortality attributable to particulate air pollution, with a comparison to regional and national values;*
- *QA/QC procedures are considered to be robust, with evidence of calculations and discussion included; and*
- *Maps of monitoring locations have been provided; it would be beneficial to have an additional map showing the locations within the entire Council for context;*
    - This has been included for the 2023 ASR submission.

Isle of Wight Council continues to use its monitoring network to review air quality is at a safe level, and to ensure that all residents have access to safe levels of air quality. The review and removal of monitoring locations in areas of relevant public exposure as consequence of the Council identifying continuous low $NO_2$ concentration recordings highlights a proactive nature which ensures that the Council are frequently reviewing monitoring locations and are able to identify areas that may/may not be of potential concern at the nearest possible opportunity so that, if required, effective mitigation measures can be implemented. This ensures that compliant levels of air quality are available to all of its residents.

Isle of Wight Council are employing many additional measures to help improve and progress air quality within their respected area. The 2022 ASR outlines the schemes and partnerships that Isle of Wight Council are involved in, these measures are still active for the 2022 reporting year.

There have also been additional measures and initiatives implemented in the 2022 reporting year such as the collaborative relationships with the Isle of Wight Bus and Coach Museum to host active transport events, such as 'The WightRider' which promotes the use and benefits of public transport on air quality comparative to private vehicle use. The event, hosted on 8 - 9th October 2022, included free buses that linked various attractions, not only in Ryde, but further afield across the island such as the IW Steam Railway at Wootton station. In addition, park and ride facilities were also available at the IW Donkey Sanctuary in Wroxall.

As part of the Isle of Wight Council's commitment to reduce the impacts of, and tackle climate change, the Council declared a climate emergency in July 2019 and continues to progress and aim to hit net-zero carbon emissions by 2040 across the island. In September 2021, Isle of Wight Council developed the Mission Zero Climate and Environment Strategy 2021 – 2040[8], setting out various actions with 8 core objectives in the environmental chapter, to reduce $CO_2$ emissions, of which also have shared benefits in improving air quality through reducing both $NO_2$ and PM emissions.

The Council is developing and has implemented the following measures as part of the strategy in 2022:

- Implementation of 18 on-street charge points;
- Ryde Transport Interchange project is ongoing with extensive remodelling designed to provide better travel connectivity as well as much-improved public space for residents and visitors;
- The draft Island Planning Strategy contains policies to promote sustainable and active transport across the island including:
    - Multi-user routes to help facilitate sustainable modes of transport and new cycle routes;

[8] Isle of Wight Mission Zero Climate and Environment Strategy 2021-2040 https://www.iow.gov.uk/azservices/documents/2570-Mission-Zero-Climate-and-Environment-Strategy-2021-2040-final.pdf

    - Disused rail lines to be used for sustainable travel routes;
    - Provision of new cycling routes;
    - Encourage and promote the railway route on the island; and
    - Facilitating introduction of EV charging points.
- Local Walking and Cycling Improvements in Ryde and Newport.

The Council has established a Business Engagement Programme which provides companies with an 'Isle of Wight Green Tourism Award' based on the actions they achieve to promote and encourage sustainable transport. The initiative is centred on three core themes: People, place and planet, and there are three levels of the scheme, bronze, silver, and gold, with businesses required to meet specific criteria to acquire points enabling awards. Some examples include businesses becoming pre-emptive members of the 'Green Travel Bus Pass Scheme' (scheduled for launch in 2023) which will provide customers with free bus tokens to encourage use. The campaign is available to review: https://visitwightpro.com/iow-green-tourism-award/

The Isle of Wight encourages active travel across the island, and subsequent reduction in vehicular usage, through its established reputation as the United Kingdom's 'Bicycle Island' and hosting the event 'Walk the Wight', which is the largest sponsored walk of its kind in Europe. Therefore, seeking to reduce vehicle emissions and contribution to air quality by promoting the area as an enabler of active travel.

Isle of Wight Council continue to progress with, alongside development and enhancement of, the PedalAid app. PedalAid is an app for encouraging cycling on the Isle of Wight and in 2021 recorded 32km of cycling routes but has since been upgraded to report 50km of cycling routes. The routes covered by PedalAid are mostly off road, including the Red Squirrel trail from Newport to Shanklin, with a circular route from Merstone, and Cowes to Newport. In addition, there are routes from Yarmouth to Freshwater and some other routes to and from Newport. Rides on the PedalAid routes are logged by the PedalAid app and these contribute towards an overall monthly challenge target. A chosen local Isle of Wight charity receives a donation if the target is reached. Therefore, promoting an inclusive community and future collaboration between the Council, locals and charities by working together to identify opportunities to improve air quality by limiting emission source(s) use whilst encouraging mortality longevity.

The Council have an established Local Cycling and Walking Infrastructure Plan (LCWIP) for 2020 to 2030 with the urban centres of Newport and Ryde being the focus of the LCWIP due to the concentration of population and trip generators that are reflective of the

position that the two centres have at the top of the district's settlement hierarchy. The LCWIP provides a strategic approach to identifying cycling and walking improvements required at the local level, with 16 cycling routes outlined and 24 walking routes established. They enable a long-term approach to developing local cycling and walking networks, ideally over a 10-year period, and form a vital part of the Government's strategy to increase the number of trips made on foot or by cycle. Isle of Wight acknowledge that they are responsible for implementing actions in the LCWIP and proactively seek funding to improve the existing network. It is noted that in January, April and June 2022 LCWIPs were created for Bembridge, Brading and St Helens, East Cowes and Whippingham, and Cowes, Northwood and Gurnard, respectively. These LCWIPs were produced by the local parish and town councils in support of the existing LCWIP for Newport and Ryde and extend until 2032. The documents are scheduled for adoption by the Isle of Wight Council in 2023.

The Council actively encourages developers at the planning stage to install electric charging points or consider suitable infrastructure to allow for future cost-efficient installations.

Isle of Wight Council confirms the collaborative relationship with Joju Solar to roll out a programme of charging points for Electrical Vehicles (EV) across the island, resulting in 6 EV charging points being implemented already in car parks with 38 EV charging points scheduled to be implemented. Furthermore, the Council is allowing free parking in car parks for vehicles that are using the charging point and is also seeking to acquire investment from the Local Electric Vehicle Infrastructure (LEVI) fund from the UK Government to further enhance its EV charging network. More information regarding the location of EV charging points can be found here: https://iwc.iow.gov.uk/Council/OtherServices/zzzElectric-Vehicle-Chargepoints/Car-Park-Chargepoints

Isle of Wight Council expects the following measures to be completed over the course of the next reporting year:

- The 'Green Travel Bus Pass Scheme', a reward aspect of the Business Engagement Programme which provides companies with an 'Isle of Wight Green Tourism Award' based on the actions they achieve to promote and encourage sustainable transport. The initiative is centred on three core themes: People, place and planet, and there are three levels of the scheme, bronze, silver, and gold, with businesses required to meet specific criteria to acquire points enabling awards such

as providing customers with free bus tokens to encourage public transport adoption. Therefore, promoting an inclusive community and future collaboration between the Council, local businesses, charities and people by working together to identify opportunities to improve air quality by limiting emission source(s) use; and

- Adoption of the LCWIPs by Isle of Wight Council in 2023 for Bembridge, Brading and St Helens, East Cowes and Whippingham, and Cowes, Northwood and Gurnard. The LCWIPs were created in January, April and June 2022 respectively, and were produced by the local parish and town councils in support of the existing LCWIP for Newport and Ryde. The documents extend until 2032.

Isle of Wight Council worked to implement measures in partnership with the following stakeholders during 2022:

• Isle of Wight Bus and Coach Museum;

• Joju Solar;

• Local businesses; and

• Local parish and town councils.

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

As detailed in Policy Guidance LAQM.PG22 (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.

There is not currently any monitoring of $PM_{10}$ or $PM_{2.5}$ across the island of Isle of Wight. As such, no concentration values can be reported or estimated using the method described in Box 7.7 of LAQM.TG(22), which provides a for estimating $PM_{2.5}$ concentrations from $PM_{10}$ measurements.

The current Defra background maps for Isle of Wight (2018 reference year) show that all 2022 background concentrations of $PM_{2.5}$ are far below the recommended annual mean AQS objective for $PM_{2.5}$ of 20µg/$m^3$. The highest concentration is predicted to be 10.2µg/$m^3$ within the 1km x 1km grid square with the centroid grid reference of 449500, 95500. This is largely a residential area within Cowes and includes much of the A3020 and connecting junctions, alongside Cowes Chain Ferry Port and Cowes Harbour.

The Public Health Outcomes Framework data tool compiled by Public Heath England quantifies the mortality burden of $PM_{2.5}$ within England on a county and local authority scale. The 2021 fraction of mortality attributable to $PM_{2.5}$ pollution (indicator D01) within Isle of Wight is 4.90%. This is lower than the regional average for the South East (5.40%) and for England as a whole (5.50%).

Isle of Wight Council is taking the following measures to address $PM_{2.5}$:

- Actively encouraging developers at the planning stage to install EV charging points or the consideration of suitable infrastructure to allow for future cost efficient installations;
- Implementation of an EV charging programme alongside Joju Solar, with 6 charging points active currently in car parks and 38 scheduled for implementation to encourage cleaner vehicle adoption;
- Allowing free parking in car parks for vehicles that are using the EV charging points;
- Seeking to acquire investment from the Local Electric Vehicle Infrastructure (LEVI) fund from the UK Government to further enhance its EV charging network;

- Collaboration between local businesses and charities to host events promoting active transport and the benefits, such as 'The WightRider'; and
- Implementation of the Climate and Environment Strategy to assist achievement of net-zero carbon emissions across the island by 2040 with many of the measures addressing local air quality including $PM_{2.5}$.

The Council acknowledge that the move to electric vehicles is not the only solution for air quality and associated heath concerns due to particulate matter, including $PM_{2.5}$, being sourced from break and tyre wear. As such, the Council have also implemented alternate initiatives with active travel at the forefront:

- Promotion of active transport uptake through the business initiative 'Isle of Wight Green Tourism Award';
- Investment into enhancing the existing active travel network for walking and cycling, promoting active travel and supporting the reduction in vehicle volume and associated emission releases;
- Development of the draft Island Planning Strategy which contains policies to promote sustainable and active transport across the island;
- Progression of the Ryde Transport Interchange project with extensive remodelling designed to provide better travel connectivity as well as much-improved public space for residents and visitors;
- Continual implementation of the Local Cycling and Walking Infrastructure Plan (LCWIP) to reduce the number of vehicle trips generated by Newport and Ryde areas and subsequent pollutant emission release, due to the high population concentrations and hierarchical positions in the district's settlements;
- Support in the production of LCWIPs for Bembridge, Brading and St Helens, East Cowes and Whippingham, and Cowes, Northwood and Gurnard, respectively, by local parish and town councils with scheduled adoption by the Isle of Wight Council in 2023; and
- Development of the PedalAid App which enhanced mapping of the Isle of Wight's cycling routes from 32km to 50km thus continuing to promote alternative forms of travel and reduce emissions.

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

This section sets out the monitoring undertaken within 2022 by Isle of Wight Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

## 3.1 Summary of Monitoring Undertaken

### 3.1.1 Automatic Monitoring Sites

Isle of Wight Council did not undertake automatic (continuous) monitoring during 2022.

### 3.1.2 Non-Automatic Monitoring Sites

Isle of Wight Council undertook non- automatic (i.e. passive) monitoring of $NO_2$ at 11 sites during 2022. Table A.1 in Appendix A presents the details of the non-automatic sites.

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

## 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 ($NO_2$)

**Error! Reference source not found.** and Table A. 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 2022 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. Additionally, the National Bias Adjustment Factor assumes monitoring is undertaken in accordance with the Defra calendar dates. It is noted that the monitoring dates do not coincide with the Defra calendar dates for April, May and December during the survey period. As such, there is a degree of uncertainty surrounding the monitoring results provided.

All monitoring sites across the Isle of Wight continue to report annual mean $NO_2$ concentrations below the AQS objective, therefore all passive monitoring sites are compliant and not expected to exceed or be an area of concern. Due to the low monitored concentrations, fall-off with distance correction was not required. Following bias adjustment and annualisation where necessary, the maximum reported concentration in 2022 is 29.5µg/$m^3$ at triplicate diffusion tube monitoring location IOW1, IOW2 and IOW3, a kerbside site, located along Fairlee Road (A3054) in Newport. This location also reported the maximum concentration (33.1µg/m3) in the 2022 report.

Figure A.1 presents the 2022 annual mean $NO_2$ concentrations across Isle of Wight Council's monitoring sites. Concentrations at sites IOW1, IOW2, IOW3, IOW9, IOW12, IOW13, IO14 and IOW15 all decreased slightly during 2022 in comparison to 2021. Site IOW10 was the only location to record an increase in concentrations reported between 2021 and 2022, with an increase of 8.8 µg/$m^3$. It is noted that monitoring locations IOW4 and IOW6 did not report an annual mean $NO_2$ concentration for 2022 due to insufficient data capture at these sites.

The overall decrease in concentrations is most likely attributable to a new norm being established, after the return to business as usual following the COVID-19 pandemic, where Government advice was given to stay at home where possible. This resulted in decreased levels of traffic observed across the UK, and as such, reduced $NO_2$ concentrations recorded during 2020.

Furthermore, Isle of Wight Council acquired 5 months of monitoring data in 2022, January to March and October to November, however October and November were excluded from calculations due to significantly low concentrations and confirmation from the laboratory that the diffusion tube caps had been left on during the deployment periods. Thus, providing erroneous results. As such, the exclusion of these two months of data and

overall limited data capture for 2022 may be indicative of the decrease in concentrations yielded in 2022.

It is possible to infer the risk of exceedances of the 1-hour mean $NO_2$ AQS objective at diffusion tube monitoring sites. LAQM.TG(22) provides an empirical relationship that states exceedances of the 1-hour objective are unlikely when the annual mean concentration is below 60µg/$m^3$. Given that the highest recorded annual mean concentration at any of the diffusion tube monitoring sites is 29.5µg/$m^3$ in 2022, and 38.1µg/$m^3$ since 2018, it is possible to conclude that there have been no exceedances of the hourly mean $NO_2$ objective at all monitoring locations in the last five years.

### 3.2.2 Particulate Matter ($PM_{10}$)

Particulate Matter ($PM_{10}$) is not monitored on the Isle of Wight.

### 3.2.3 Particulate Matter ($PM_{2.5}$)

Particulate Matter ($PM_{2.5}$) is not monitored on the Isle of Wight.

### 3.2.4 Sulphur Dioxide ($SO_2$)

Sulphur Dioxide ($SO_2$) is not monitored on the Isle of Wight.

# Appendix A: Monitoring Results

## Table A.1 – 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| IOW1 | Newport 49 Fairlee | Kerbside | 450377 | 89557 | $NO_2$ | N | 11.0 | 0.5 | No | 3.0 |
| IOW2 | Newport 49 Fairlee | Kerbside | 450377 | 89557 | $NO_2$ | N | 11.0 | 0.5 | No | 3.0 |
| IOW3 | Newport 49 Fairlee | Kerbside | 450377 | 89557 | $NO_2$ | N | 11.0 | 0.5 | No | 3.0 |
| IOW4 | Brading 22 High Street | Roadside | 460613 | 87197 | $NO_2$ | N | 0.0 | 3.0 | No | 3.0 |
| IOW6 | Ryde St Johns Road (Traffic Lights) | Kerbside | 459193 | 92154 | $NO_2$ | N | 3.0 | 1.0 | No | 3.0 |
| IOW9 | Lake Tesco Express (Traffic Island) | Roadside | 459008 | 83715 | $NO_2$ | N | 23.0 | 2.0 | No | 3.0 |
| IOW10 | Newport Coppins Bridge (Barton Road Crossing) | Kerbside | 450297 | 89227 | $NO_2$ | N | 0.0 | 1.0 | No | 3.0 |
| IOW12 | East Cowes Waitrose Well Road | Kerbside | 450277 | 95678 | $NO_2$ | N | 0.0 | 0.5 | No | 3.0 |
| IOW13 | Wooton 120 Crossway High Street | Roadside | 453959 | 91937 | $NO_2$ | N | 13.0 | 4.0 | No | 3.0 |
| IOW14 | Wooten 119 High Street | Kerbside | 454098 | 91982 | $NO_2$ | N | 0.0 | 1.0 | No | 3.0 |
| IOW15 | Newport 30 Fairlee | Roadside | 450419 | 89646 | $NO_2$ | N | 0.0 | 5.0 | No | 3.0 |

**Notes:**

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

## Table A.2 – 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 2022 (%) (2) | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|
| IOW1<br>IOW2<br>IOW3 | 450377 | 89557 | Kerbside | 99.5 | 24.0 | 38.1 | 36.5 | 29.0 | 33.1 | 29.5 |
| IOW4 | 460613 | 87197 | Roadside | 99.5 | 15.7 | 20.1 | 20.2 | 15.7 | 17.5 | - |
| IOW6 | 459193 | 92154 | Kerbside | 99.5 | 7.7 | - | 21.9 | 18.2 | 20.8 | - |
| IOW9 | 459008 | 83715 | Roadside | 99.5 | 24.0 | 22.0 | 20.7 | 19.9 | 24.8 | 16.9 |
| IOW10 | 450297 | 89227 | Kerbside | 91.9 | 24.0 | 34.2 | 33.2 | 21.5 | 19.0 | 27.8 |
| IOW12 | 450277 | 95678 | Kerbside | 88.1 | 24.0 | 18.6 | 22.3 | 18.0 | 21.5 | 17.5 |
| IOW13 | 453959 | 91937 | Roadside | 99.5 | 24.0 | 29.5 | 30.9 | 29.0 | 31.3 | 29.1 |
| IOW14 | 454098 | 91982 | Kerbside | 99.5 | 24.0 | 29.8 | 33.2 | 31.8 | 29.4 | 28.3 |
| IOW15 | 450419 | 89646 | Roadside | 99.5 | 24.0 | - | - | 24.3 | 27.7 | 25.4 |

☒ **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**.

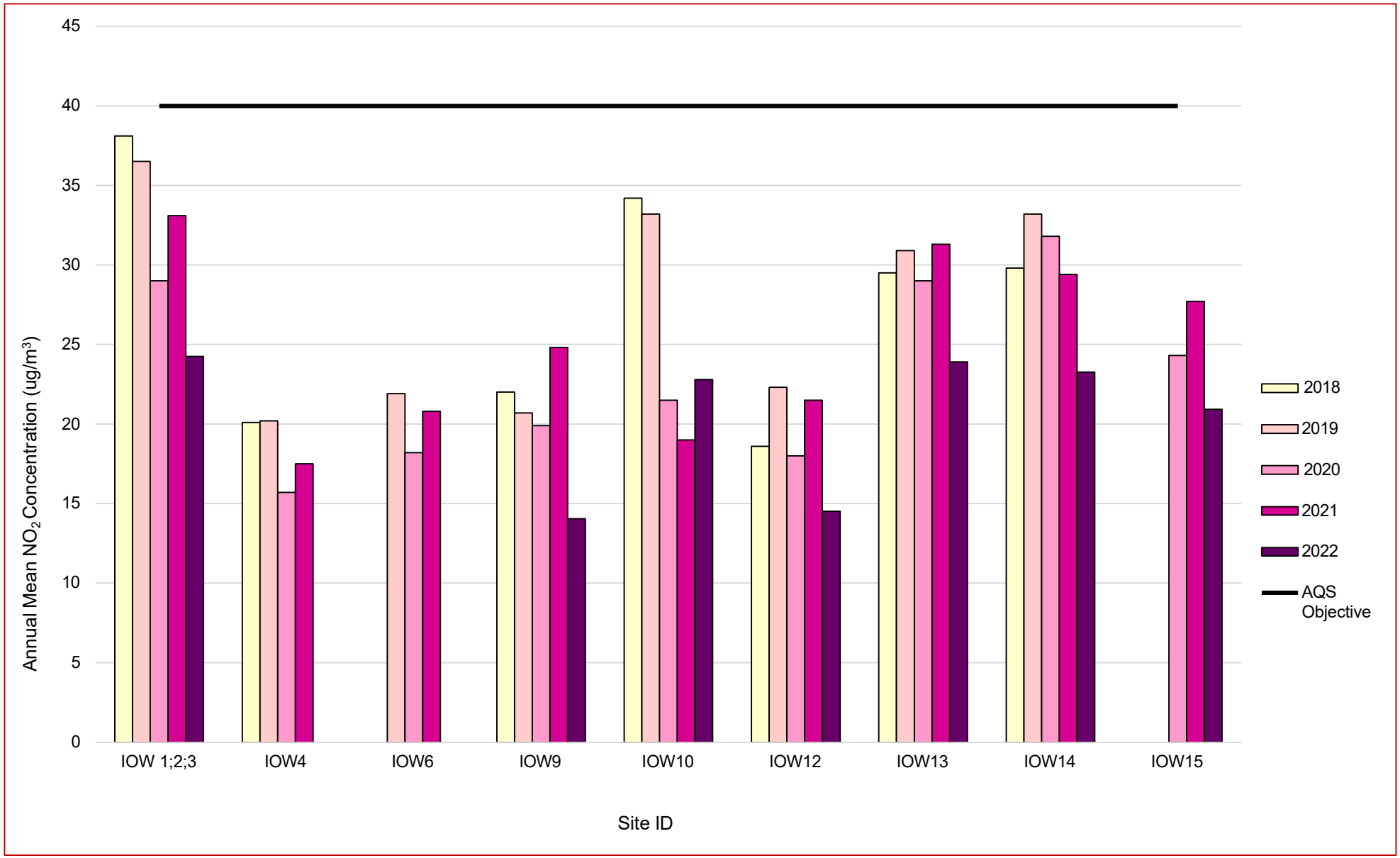
Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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**



# Appendix B: Full Monthly Diffusion Tube Results for 2022

## Table B.1 – $NO_2$ 2022 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 0.76 | Annual Mean: Distance Corrected to Nearest Exposure | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IOW1 | 450377 | 89557 | 61.0 | 45.7 | 42.5 | - | - | - | - | - | - | - | - | - | - | - | - | Triplicate Site with IOW1, IOW2 and IOW3 - Annual data provided for IOW3 only |
| IOW2 | 450377 | 89557 | 63.2 | 43.6 | 47.5 | - | - | - | - | - | - | - | - | - | - | - | - | Triplicate Site with IOW1, IOW2 and IOW3 - Annual data provided for IOW3 only |
| IOW3 | 450377 | 89557 | 56.8 | - | 50.0 | - | - | - | - | - | - | - | - | - | 50.4 | 29.5 | - | Triplicate Site with IOW1, IOW2 and IOW3 - Annual data provided for IOW3 only |
| IOW4 | 460613 | 87197 | 28.9 | - | 27.0 | - | - | - | - | - | - | - | - | - | - | - | - | |
| IOW6 | 459193 | 92154 | 49.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| IOW9 | 459008 | 83715 | 30.8 | 30.0 | 25.6 | - | - | - | - | - | - | - | - | - | 28.8 | 16.9 | - | |
| IOW10 | 450297 | 89227 | 51.5 | 39.7 | 51.4 | - | - | - | - | - | - | - | - | - | 47.4 | 27.8 | - | |
| IOW12 | 450277 | 95678 | 31.7 | 22.8 | 35.4 | - | - | - | - | - | - | - | - | - | 29.9 | 17.5 | - | |
| IOW13 | 453959 | 91937 | 53.9 | 42.3 | 53.2 | - | - | - | - | - | - | - | - | - | 49.7 | 29.1 | - | |
| IOW14 | 454098 | 91982 | 53.6 | 45.3 | 46.1 | - | - | - | - | - | - | - | - | - | 48.2 | 28.3 | - | |
| IOW15 | 450419 | 89646 | 47.4 | 32.5 | 50.5 | - | - | - | - | - | - | - | - | - | 43.3 | 25.4 | - | |

☒ **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.**

☒ **Isle of Wight Council confirm that all 2022 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 Isle of Wight During 2022

Isle of Wight Council has identified at least 24 potential new sources relating to air quality within the reporting year of 2022. A summary of these proposed and planned developments has been provided in Appendix E. Further investigation has identified 4 applications with planning permission approved, detailed below in Table C.1, with associated Air Quality Assessments (AQAs) undertaken outlining that they are not expected to significantly impact the air quality objectives within the island.

**Table C.1 – 2022 Approved Planned Developments in Isle of Wight**

| Application Number | Location | Proposal | Status |
|---|---|---|---|
| 22/00733/FUL | Land At Scotland Farm West Street Godshill Isle Of Wight | Demolition of Agricultural Building; Proposed Residential Development of 107 Dwellings or 102 Residential Dwellings and Doctors Surgery/Medical Centre; Proposed Means of Access from Yarborough Close and from West Street/Whitwell Road, Associated Highway Network Improvements, Public Rights of Way Improvements, Public Open Space, Associated Landscaping and Ancillary Infrastructure. | Approved |
| 22/00291/FUL | The West Bay Club Halletts Shute Yarmouth Isle Of Wight PO41 0RJ | Creation of four units of holiday accommodation on existing bases, creation of new car parking spaces and areas, demolition of part of existing sports hall, provision of new internal roads, creation of single-storey residential unit, erection of two-storey residential unit for managers accommodation, provision of new grounds maintenance area, construction of two-storey building containing 4no. residential apartments, construction of 22no. residential units with associated car parking. | Approved |
| 22/00209/FUL | Four Lakes Country Park Staplers Road Newport Isle Of Wight | Proposed holiday accommodation to include 6x lodges; 2x safari tents & associated facilities including a building for bathrooms, laundry room, | Approved |

| Application Number | Location | Proposal | Status |
|---|---|---|---|
| | | honesty shop, office and store (for site guests only), parking & associated external works/landscaping (revised plans)(readvertised application). | |
| 22/00032/FUL | Land Adjacent Former Newport Football Grounds And To The West Of Pan Lane And North Of Godric Road Newport Isle Of Wight | Proposed builders yard with B8 (storage and distribution), ancillary building(s) and associated landscaping(revised location)(revised description)(readvertised application). | Approved |

## Additional Air Quality Works Undertaken by Isle of Wight During 2022

Isle of Wight Council has not completed any additional works within the reporting year of 2022.

## QA/QC of Diffusion Tube Monitoring

Isle of Wight Council's diffusion tubes in 2022 were supplied and analysed by SOCOTEC Didcot, using the 50% Triethanolamine (TEA) in acetone preparation method. SOCOTEC's laboratory is UKAS accredited, participating in the AIR-PT Scheme for $NO_2$ tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring $NO_2$ concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC currently holds the highest rank of a 'Satisfactory' laboratory.

Local authority co-location studies which use tubes supplied by SOCOTEC with the 50% TEA in acetone preparation method in 2022, with 26 studio rated as 'good', as shown by the precision summary results. This precision reflects the laboratory's performance and consistency in preparing and analysing the tubes, as well as the subsequent handling of the tubes in the field. Tubes are considered to have a "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more monitoring periods during a year is less than 20%.

It is noted that the Isle of Wight Council previously had diffusion tubes supplied by Gradko International Ltd, until 2021, using the method of preparation: 50% TEA v/v in Acetone and the Analytical Method: U.V. Spectrophotometry.

Monitoring in 2022 was completed in accordance with the 2022 Diffusion Tube Monitoring Calendar to small extent, whereby all changeovers conducted between January to March and October were completed within ±2 days of the specified date. November is an exception with tubes deployed for shorter than the recommended period (-4 days). All remaining months, April to September and December, were not conducted in line with the 2022 Diffusion Tube Monitoring Calendar and no data has been acquired for these months. Furthermore, tubes deployed in October and November 2022 were not conducted with procedural accuracy, with diffusion tube caps left on during respective exposure periods, thus this data is erroneous affirmed by the laboratory and has been excluded from analysis.

### Diffusion Tube Annualisation

The LAQM.TG22 states that annualisation is required for any site which has a data capture of less than 75%, but greater than 25%, or has 3 months of data collected for the monitoring year in line with the Diffusion Tube Monitoring Calendar. Diffusion tube sites IOW1, IOW2, IOW3, IOW9, IOW10, IOW12, IOW13, IOW14, and IOW15 required annualisation due to insufficient data capture in 2022. All sites reported data capture of 24.00% which is below the percentage annualisation threshold, however all sites recorded 3 months of data during the 2022 monitoring period in line with the Diffusion Tube Montioring Calendar therefore enabling annualisation. Monitoring sites IOW4 and IOW6 were unable to be annualised due to insufficient data capture in 2022, 15.7% and 7.7% respectively, and less than 3 months of data for the monitoring year 2022.

Annualisation was completed using version 3.0 of the ‘Diffusion Tube Data Processing Tool’. Due to there being insufficient continuous monitoring data, the two nearest AURN monitoring stations selected to annualise the data are:

- Brighton Preston Park; and

- Chilbolton Observatory.

The continuous background monitoring sites were applicable to use as they all had >85% data capture and therefore could be used for annualisation. Table C.2 presents the annualisation summary, taken from the ‘Diffusion Tube Data Processing Tool’.

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

| Site ID | Annualisation Factor Brighton Preston Park | Annualisation Factor Chilbolton Observatory | Average Annualisation Factor | Raw Data Annual Mean | Annualised Annual Mean | Comments |
|---|---|---|---|---|---|---|
| IOW1 | 0.7653 | 0.7768 | 0.7711 | - | - | Triplicate Site with IOW1, IOW2 and IOW3 - Annual data provided for IOW3 only |
| IOW2 | 0.7653 | 0.7768 | 0.7711 | - | - | Triplicate Site with IOW1, IOW2 and IOW3 - Annual data provided for IOW3 only |
| IOW3 | 0.7653 | 0.7768 | 0.7711 | 50.4 | 38.8 | Triplicate Site with IOW1, IOW2 and IOW3 - Annual data provided for IOW3 only |
| IOW9 | 0.7653 | 0.7768 | 0.7711 | 28.8 | 22.2 | - |
| IOW10 | 0.7653 | 0.7768 | 0.7711 | 47.4 | 36.5 | - |
| IOW12 | 0.7653 | 0.7768 | 0.7711 | 29.9 | 23.0 | - |
| IOW13 | 0.7653 | 0.7768 | 0.7711 | 49.7 | 38.3 | - |
| IOW14 | 0.7653 | 0.7768 | 0.7711 | 48.2 | 37.2 | - |
| IOW15 | 0.7653 | 0.7768 | 0.7711 | 43.3 | 33.4 | - |

## Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 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.

Isle of Wight Council have applied a national bias adjustment factor of 0.76 to the 2022 monitoring data. It is noted that the Isle of Wight Council previously had diffusion tubes supplied by Gradko International Ltd, until 2021, using the method of preparation: 50% TEA v/v in Acetone and the Analytical Method: U.V. Spectrophotometry.

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

No co-location studies are carried out by Isle of Wight Council therefore only a national factor can be applied. The national factor for SOCOTEC Didcot 50% TEA in acetone, as presented in the Diffusion Tube Bias Factors Spreadsheet v03_23, was 0.76 based on 26 studies. The National Bias Adjustment Spreadsheet is presented in Figure C.1.

### Table C.3 – Bias Adjustment Factor

| Monitoring Year | Local or National | If National, Version of National Spreadsheet | Adjustment Factor |
|---|---|---|---|
| **2022** | National | 03/23 | 0.76 |
| **2021** | National | 04/22 | 0.83 |
| **2020** | National | 04/22 | 0.84 |
| **2019** | National | 09/20 | 0.87 |
| **2018** | National | 06/19 | 0.89 |

### $NO_2$ 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 Isle of Wight Council required distance correction during 2022.

## Figure C.1 – National Bias Adjustment Factor Spreadsheet (03/23)

**National Diffusion Tube Bias Adjustment Factor Spreadsheet** — Spreadsheet Version Number: 03/23

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 June 2023

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

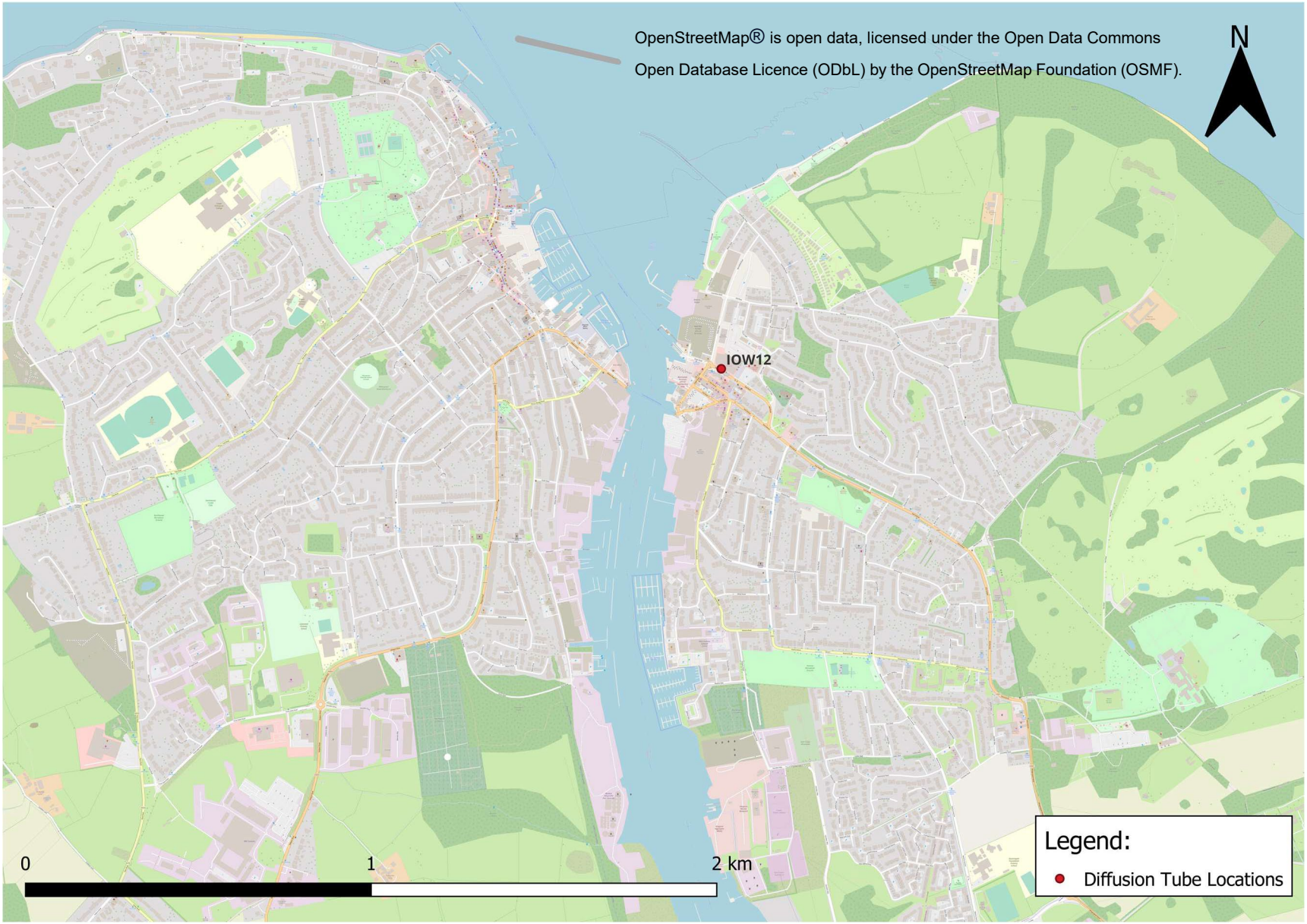
| Analysed By[1] | Method (To make your selection, choose (All) from the pop-up list) | Year[5] (To make your selection, choose (All) from the pop-up list) | Site Type | Local Authority | Length of Study (months) | Diffusion Tube Mean Conc. (Dm) (µg/m³) | Automatic Monitor Mean Conc. (Cm) (µg/m³) | Bias (B) | Tube Precision[6] | Bias Adjustment Factor (A) (Cm/Dm) |
|---|---|---|---|---|---|---|---|---|---|---|
| Socotec Didcot | 50% TEA in acetone | 2022 | UB | Torfaen County Borough Council | 13 | 13 | 10 | 33.4% | G | **0.75** |
| Socotec Didcot | 50% TEA in acetone | 2022 | R | Bridgend Council | 12 | 37 | 27 | 40.6% | G | **0.71** |
| Socotec Didcot | 50% TEA in Acetone | 2022 | R | Cardiff Council / Shared Regulatory Services | 11 | 42 | 33 | 27.3% | G | **0.79** |
| Socotec Didcot | 50% TEA in Acetone | 2022 | R | Dacorum Borough Council | 12 | 24 | 18 | 30.8% | G | **0.76** |
| Socotec Didcot | 50% TEA in Acetone | 2022 | UB | Gravesham Borough Council | 11 | 22 | 18 | 19.6% | G | **0.84** |
| Socotec Didcot | 50% TEA in Acetone | 2022 | UB | Gravesham Borough Council | 11 | 26 | 22 | 17.0% | G | **0.85** |
| Socotec Didcot | 50% TEA in acetone | 2022 | R | Kingston Upon Hull City Council | 12 | 30 | 23 | 27.3% | G | **0.78** |
| Socotec Didcot | 50% TEA in acetone | 2022 | UB | Kingston Upon Hull City Council | 12 | 24 | 18 | 35.0% | G | **0.74** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | UB | City Of York Council | 12 | 16 | 13 | 31.6% | G | **0.76** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | City Of York Council | 12 | 25 | 19 | 28.7% | G | **0.78** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | City Of York Council | 11 | 23 | 17 | 37.2% | G | **0.73** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | City Of York Council | 11 | 37 | 27 | 37.6% | G | **0.73** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | East Suffolk Council | 11 | 32 | 23 | 38.6% | G | **0.72** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | Ipswich Borough Council | 11 | 42 | 28 | 50.4% | G | **0.66** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | KS | Marylebone Road Intercomparison | 12 | 60 | 42 | 40.7% | G | **0.71** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | North East Lincolnshire Council | 10 | 46 | 31 | 49.4% | G | **0.67** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | North East Lincolnshire Council | 10 | 28 | 27 | 3.7% | G | **0.96** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | Wrexham County Borough Council | 12 | 16 | 14 | 15.5% | G | **0.87** |
| SOCOTEC Didcot | 50% TEA in Acetone | 2022 | R | Horsham District Council | 11 | 25 | 22 | 14.4% | G | **0.87** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | Leeds City Council | 12 | 40 | 29 | 37.8% | G | **0.73** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | KS | Leeds City Council | 11 | 33 | 23 | 44.6% | G | **0.69** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | Leeds City Council | 12 | 43 | 34 | 26.0% | G | **0.79** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | Leeds City Council | 11 | 41 | 30 | 34.2% | G | **0.75** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | R | Leeds City Council | 12 | 30 | 22 | 36.3% | G | **0.73** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | UC | Leeds City Council | 12 | 30 | 22 | 34.1% | G | **0.75** |
| SOCOTEC Didcot | 50% TEA in Acetone | 2022 | R | Thanet District Council | 12 | 23 | 17 | 29.1% | G | **0.77** |
| SOCOTEC Didcot | 50% TEA in acetone | 2022 | | **Overall Factor[3] (26 studies)** | | | | Use | | **0.76** |

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

## Figure D.1 – Map of All Non-Automatic Monitoring Sites across Isle of Wight Council

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

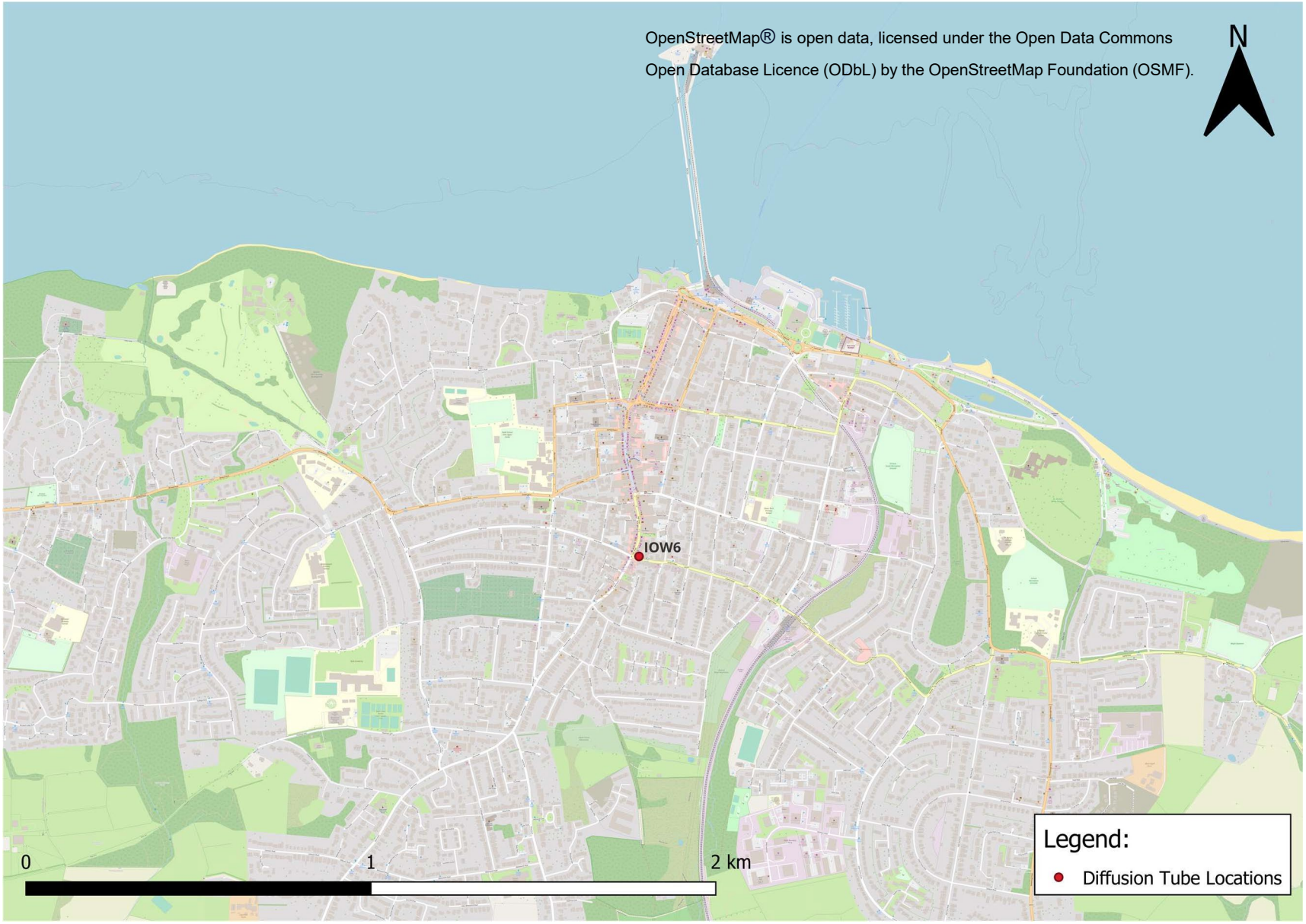
## Figure D.3 – Map of Non-Automatic Monitoring Sites – East Cowes



## Figure D.4 – Map of Non-Automatic Monitoring Sites - Wooton

## Figure D.5 – Map of Non-Automatic Monitoring Sites - Brading

## Figure D.6 – Map of Non-Automatic Monitoring Sites - Ryde



## Figure D.7 – Map of Non-Automatic Monitoring Sites - Lake

# Appendix E: 2022 Summary of Planned Developments

## Table E.1 – 2022 Summary of Planned Developments

| Application Number | Location | Proposal | Status |
|---|---|---|---|
| 22/00733/FUL | Land At Scotland Farm West Street Godshill Isle Of Wight | Demolition of Agricultural Building; Proposed Residential Development of 107 Dwellings or 102 Residential Dwellings and Doctors Surgery/Medical Centre; Proposed Means of Access from Yarborough Close and from West Street/Whitwell Road, Associated Highway Network Improvements, Public Rights of Way Improvements, Public Open Space, Associated Landscaping and Ancillary Infrastructure. | Approved |
| 22/00291/FUL | The West Bay Club Halletts Shute Yarmouth Isle Of Wight PO41 0RJ | Creation of four units of holiday accommodation on existing bases, creation of new car parking spaces and areas, demolition of part of existing sports hall, provision of new internal roads, creation of single-storey residential unit, erection of two-storey residential unit for managers accommodation, provision of new grounds maintenance area, construction of two-storey building containing 4no. residential apartments, construction of 22no. residential units with associated car parking. | Approved |
| 22/00209/FUL | Four Lakes Country Park Staplers Road Newport Isle Of Wight | Proposed holiday accommodation to include 6x lodges; 2x safari tents & associated facilities including a building for bathrooms, laundry room, honesty shop, office and store (for site guests only), parking & associated external works/landscaping (revised plans)(readvertised application). | Approved |
| 22/00032/FUL | Land Adjacent Former Newport Football Grounds And To The West Of Pan Lane And North Of Godric Road Newport Isle Of Wight | Proposed builders yard with B8 (storage and distribution), ancillary building(s) and associated landscaping(revised location)(revised description)(readvertised application). | Approved |
| 22/00654/FUL | Land At Palmers Farm Brocks Copse Road Wootton Ryde Isle Of Wight PO33 4NP | "Proposed extraction of sand and gravel and restoration to agriculture | Registered |
| 22/00660/FUL | The Esplanade Hotel 40 - 44 High Street Sandown Isle Of Wight PO36 8AE | Proposed conversion of hotel into 14 residential apartments and 6 holiday apartments | Registered |
| 22/00629/OUT | Land West Of 40 - 48 & 37 To 47 Broadwood Lane 17 & 24 Forest Hills 2-20 & 28 - | Outline for residential development comprising 113 dwellings, access from Arthur Moody Drive and Ash | Registered |

| Application Number | Location | Proposal | Status |
|---|---|---|---|
| | 36 Arthur Moody Drive Carisbrooke Isle Of Wight | Lane, roads, footways, landscaping, open space and upgrading of footpath N151 to allow shared pedestrian/cycle use (revised scheme) | |
| 22/00672/FUL | Broadfields Farm Chapel Lane Merstone Arreton Newport Isle Of Wight PO30 3DA | Full planning consent for: Retrospective infilling of a redundant farm irrigation pond; proposed development of two industrial buildings (one B8 (Storage or distribution) use, one B2 (General industrial) and B8 use); and proposed hardstanding and parking (readvertised application) | Registered |
| 22/00713/FUL | Land At Lucketts Farm And Woodland South Of Main Road Yarmouth Isle Of Wight | Proposed Woodlands tourism and leisure project consisting of Proposed Means of Access (and bus stop improvements), Car Park, Reception, Cafe, Restaurant, Wellbeing Buildings (spa/treatment room and sauna pods), Staff Welfare Barn, 15 treehouses, 8 safari lodges, 8 tiny homes, associated infrastructure, amphitheatre landscaped zone and wider site landscaping. | Registered |
| 22/00631/FUL | Land West Of 40 - 48 & 37 To 47 Broadwood Lane 17 & 24 Forest Hills 2-20 & 28 - 36 Arthur Moody Drive Carisbrooke Isle Of Wight | Proposed 2 detached house with garage; 17 pairs of semi detached houses (36 Dwellings in total); with access from Forest Hills, Arthur Moody Drive and Ash Lane; associated roads, footways, landscaping, open space and 2 dry ponds (Phase 1)(revised scheme) | Registered |
| 22/00918/FUL | Polars Residential Home Staplers Road Newport Isle Of Wight PO30 2DE | Demolition of care home and outbuilding; Proposed redevelopment comprising 20 units (24 person) of specialised supported living units including a 2/3 storey block of 12 self-contained apartments, 2 shared apartments and six self-contained bungalows (Use Class C3(b)); 24 open market residential dwellings; formation of new access, roadways and landscaping (further ecological information)(re-advertised application). | Awaiting Decision |
| 22/00989/FUL | Land Adjacent Warlands Lane Off Burt Close Shalfleet Isle Of Wight PO30 | Redevelopment of Site to provide 70 residential dwellings including 27 affordable units to include associated roads, landscaping (Revised plans relating to the layout of housing, design of housing, and location of balancing pond) (Updated supporting information)(readvertised application). | Registered |
| 22/01405/RVC | Land Between Nettlestone Hill And Seaview Lane Nettlestone Isle Of Wight | Variation of condition 15 on P/00496/18 to allow use of 20 parking spaces for school and general community. | Awaiting Decision |

| Application Number | Location | Proposal | Status |
|---|---|---|---|
| 22/01362/RVC | Isle Of Wight Self Catering Ltd Salterns Road Seaview Isle Of Wight PO34 5AS | Variation of condition 2 on TCP/5981/C to allow 19 of the 41 units on site to have a 12 month trading period. | Registered |
| 22/01369/ARM | Rosemary Vineyard Smallbrook Lane Ryde Isle Of Wight PO33 4BE | Approval of Reserved Matters on P/01218/16 relating to appearance, landscaping, layout and scale for development of 140 dwellings; formation of vehicular access. | Registered |
| 22/01307/FUL | Land To The Rear Of The Heritage To Shepards Hay Tuttons Hill And Fronting Place Road Cowes Isle Of Wight | Proposed development of 37 dwellings, garages with associated landscaping and formation of new access road. | Registered |
| 22/01720/OUT | Land South Of Somerton Industrial Park Newport Road Cowes Isle Of Wight | Outline for a mix of residential and employment related development including two access points onto Newport Road. | Registered |
| 22/01931/FUL | Tapnell Farm Newport Road Freshwater Isle Of Wight PO41 0YJ | 32 tourism pods & associated landscaping. | Awaiting Decision |
| 22/02032/OUT | Land Adjacent Hill Top Dairy Long Lane Access Off Buckbury Lane Newport Isle Of Wight | Outline for residential development and means of access. | Registered |
| 22/02149/RVC | Newport (IW) Football Club St Georges Way Newport Isle Of Wight PO30 2QH | Variation of condition 2 on 21/00682/FUL to allow re-organised internal arrangement with associated external window/door re-positioning for drive-through restaurant (Unit 4) and minor changes to site layout. | Registered |
| 22/02279/FUL | Gurnard Pines Country Club Gurnard Pines Cockleton Lane Gurnard Cowes Isle Of Wight PO31 8QE | Proposed construction of 36 zero-carbon holiday lodges with associated parking and access roads, a multi-function event barn, a visitor reception building that comprises a cafe/restaurant and a 2 bedroom apartment for the site manager, a workshop and a natural swimming pond; cycle and electric car hire facilities. | Registered |
| 22/02293/OUT | Land Adjacent Osborne Works, Whippingham Technology Park Whippingham Road East Cowes Isle Of Wight | Outline for B8 Distribution Building. | Registered |
| 22/02249/FUL | The East Dene Centre Bonchurch Village Road Ventnor Isle Of Wight PO38 1RQ | Proposed restoration of East Dene as boutique hotel including partial demolition of glazed link; proposed single storey spa pavilion; 16 eco holiday lodges and parking. | Registered |
| 22/02272/FUL | Land At And Adjacent Whitecroft Park (former Whitecroft Hospital) Sandy Lane Newport Isle Of Wight PO30 | Proposed development of 10 houses with parking. | Registered |

# Appendix F: Summary of Air Quality Objectives in England

## Table F.2 – Air Quality Objectives in England[9]

| 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 |

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

# Glossary of Terms

| Abbreviation | Description |
|---|---|
| AONB | Area of Outstanding Natural Beauty |
| 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 |
| AQS | Air Quality Standard |
| ASR | Annual Status Report |
| Defra | Department for Environment, Food and Rural Affairs |
| DMRB | Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways |
| EV | Electrical Vehicle |
| IOW | Isle of Wight |
| LAQM | Local Air Quality Management |
| LCWIP | Local Cycling and Walking Infrastructure Plan |
| LEVI | Local Electric Vehicle Infrastructure |
| $NO_2$ | Nitrogen Dioxide |
| $NO_x$ | Nitrogen Oxides |
| $PM_{10}$ | Airborne particulate matter with an aerodynamic diameter of 10µm or less |
| $PM_{2.5}$ | Airborne particulate matter with an aerodynamic diameter of 2.5µm or less |
| QA/QC | Quality Assurance and Quality Control |
| $SO_2$ | Sulphur Dioxide |
| SSSI | Site of Special Scientific Interest |
| TEA | Triethanolamine |
| WFH | Working From Home |

# References


- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Isle of Wight 2022 ASR Appraisal Letter (ASR22-1305) (July 2022)
- Isle of Wight 2022 ASR
- National Diffusion Tube Bias Adjustment Factor Spreadsheet, published March 2023.
- Diffusion Tube Data Processing Tool version 3.0, published March 2023, Defra