2021 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date: June, 2021

Information	Dorset Council Details
Local Authority Officer	Ben Jones
Department	Environmental Protection
Address	Dorset Council County Hall Dorchester Dorset DT1 1XJ
Telephone	01305 251010
E-mail	envhealthteamb@dorsetcouncil.gov.uk
Report Reference Number	DC_ASR_2021
Date	June 2021

Executive Summary: Air Quality in Our Area

Air Quality in Dorset

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].

Air quality throughout Dorset Council has been assessed and has been found to be broadly very good, due to the predominantly rural environment. However, in certain locations – parts of Chideock and Weymouth, air quality has been found to be close to, or exceeding the objective level for nitrogen dioxide (NO_2), the main source of pollution being from road traffic. This is due to vehicle emissions and other factors including type and number of vehicles, their speed, congestion and local topographical circumstances. As a result of this, an Air Quality management Area was declared in Chideock in 2007, and High East Street, Dorchester in 2009. (https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2007-chideock.pdf https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2009-dorchester.pdf)

In February 2018, Government approved plans to create two new unitary councils in Dorset. On 1st April 2019, the former borough, county and district councils ceased to exist and were replaced by two unitary authorities. One covers Bournemouth, Christchurch and

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

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

[3] Defra. Air quality appraisal: damage cost guidance, July 2020

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

Poole and is called Bournemouth, Christchurch and Poole Council, the other covers the rest of Dorset and is called Dorset Council.

Actions to Improve Air Quality

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

The 2019 Clean Air Strategy[5] sets out the case for action, with goals even more ambitious than EU requirements to reduce exposure to harmful pollutants. The Road to Zero[6] sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Primary actions taken to improve air quality in Dorset principally revolve around the new Air Quality Action Plan for Chideock, (the Draft due out for consultation at the time this ASR has been submitted), and the harmonisation and streamlining of air quality monitoring practices between teams following reorganisation of the Environmental Protection department. Highways England, who hold responsibility for actions regarding the A35 trunk road passing through Dorset – the principal source of NO_2 emissions in the AQMA in Chideock – have seen success also with the extension of the 30mph speed limit. Dorset Council continue to work with our colleagues at Highways England, as well as our own Highways Department, Public Health Dorset and elected members and Parish councils.

Conclusions and Priorities

Monitoring throughout 2020 has shown that no sites have exceeded the annual objective for nitrogen dioxide in Dorset. This, however must be viewed via the context of Coronavirus restrictions affecting road traffic throughout 2020. Whilst a welcome improvement to levels is seen in 2020 data, it is unlikely that this will continue into 2021 as

[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

can be seen by monthly data presented in table B.1 – Appendix B. It would therefore be unwise to make any significant strategic decision on the basis of 2020 results.

Sites within Dorchester AQMA demonstrate a continuing downward trend for air pollution in the area. Monitoring will continue into 2021 with a view to revoke the AQMA should air quality remain at least 10% below the minimum objective.

Areas for concern in Bridport East Road and Boot Hill in Weymouth show improved air quality. Monitoring will continue into 2021.

Air Quality in both former East Dorset and Purbeck districts remains very good, with no identified AQMAs or areas for concern. Proactive monitoring continues to take place, with careful consideration given to sites near significant developments and those guided by public and member requests.

No exceedances of the PM_{10} annual mean objective were detected across four sites in Dorset, with two of these having 24-hour means over 50µg/m^3 within the 35 times per year threshold.

Annual mean $PM_{2.5}$ levels have fallen across three monitoring sites in Dorset, with a third increasing. $PM_{2.5}$ monitoring has only been carried out for three years in Dorset, and therefore this should be borne in mind when drawing conclusions.

The council is working proactively with Development Control, the Environment Agency and local businesses by way of the permitting regime to ensure that air quality is continually reviewed. In addition, Public Health Dorset's pan-Dorset $PM_{2.5}$ project continues.

Local Engagement and How to get Involved

Our Local Plan states "Everyone has a role to play in tackling climate change and in adapting to its impacts. Community based initiatives such as local car share schemes, village hall investments, biofuel utilisation, community emergency support and renewable energy part ownership will be supported by the Council. Neighbourhood plans may address the adaptation and mitigation of climate change at the community level as recognition that all neighbourhoods can contribute towards tackling climate change in a way which is appropriate to their local area."

The Dorset Council website https://www.dorsetcouncil.gov.uk/travel/travel.aspx includes measures the public can actively use to improve air quality within the area, these include matters such as interactive cycle maps, adult cycle training and walking routes and trails.

Table of Contents

Figures

Tables

1 Local Air Quality Management

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

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Dorset 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 Dorset Council can be found in Table 2.1. The table presents a description of the two AQMAs that are currently designated within Dorset 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;

We propose to review Dorchester AQMA with a view to revoke in 2022 due to low levels of NO_2 now present on site. The maximum annual mean has not been exceeded at nearby sites in the last five years, and levels are falling below 10% below the maximum annual allowance.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
AQMA Chideock	Declared May 2007, Amended March 2012	NO_2 Annual Mean	Properties along the A35 in Chideock. The AQMA was amended in 2012	YES	45.5	44.1	Chideock Air Quality Action Plan (Dec 08 - 2020 version under consultation)	dorsetcouncil.gov.uk/environmental-health/documents/air-quality-action-plan-2008-chideock.pdf
AQMA Dorchester	Declared May 2009	NO_2 Annual Mean	Residential properties along High East Street, Dorchester	NO	43	29.2	Air Quality Action Plan Dorchester (Apr 11)	dorsetcouncil.gov.uk/environmental-health/documents/air-quality-action-plan-2011-dorchester.pdf

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

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

2.2 Progress and Impact of Measures to address Air Quality in Dorset

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

> *"Automatic monitoring of NO_2 and PM_{10} was undertaken at one roadside site during 2019. The Council state within their report that there were issues with data ratification for the hourly NO_2 data, and therefore this has been omitted from the report.*
>
> *$PM_{2.5}$ was monitored at 4 sites during 2019, as part of the Public Health Dorset's $PM_{2.5}$ Project. A maximum $PM_{2.5}$ concentration of 12.88 was recorded at the Beaminster AQMesh monitor. Concentrations have declined slightly at all sites compared to 2018 results.*
>
> *Non-automatic monitoring of NO_2 was undertaken via a network of 84 diffusion tubes distributed across 82 sites. A maximum annual mean NO_2 concentration of 80.2 was recorded at N14, Chideock (Hill House). This site is located within the Chideock AQMA. A further exceedance of the annual mean objective was recorded at site 727, also located within the Chideock AQMA. No other exceedances of any objective have been identified.*
>
> *QA/QC is considered to be insufficient. Whilst bias adjustment has been discussed, and a justification of choice of factor provided, supporting evidence has not been included. It is also noted that the Council have used an out of date version of the spreadsheet to derive their bias adjustment factors, based on the submission date of their ASR.*
>
> *Distance correction has been applied, however the screen capture included is illegible. It s important that the Council ensure that any screen captures included within the report are clear, and the relevant information able to be determined. It is also important to note that distance-corrected concentrations should not be recorded within Table A.3; Table A.3 should have bias adjusted concentrations (and annualised, where appropriate), only.*
>
> *The Council have stated their intention to update the Chideock AQAP; this action should be priorities is practicable as the plan has not been reviewed since its creation in 2008*."

Dorset Council has taken forward a number of direct measures during the current reporting year of 2020 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 24 measures are included within Table 2.2, with the type of measure and the progress Dorset Council have made during the reporting year of 2020 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

Low Carbon Dorset Programme

The programme is run by the council and the Dorset Area of Outstanding Natural Beauty (AONB). It aims to help improve energy efficiency, increase the use of renewable energy, and aid the development of new low carbon products. Dorset based businesses, public sector and community organisations can access free support and a fund pot of over £2.15m to help improve energy efficiency and develop renewable energy projects. https://www.lowcarbondorset.org.uk/

Climate Strategy and Ecological Action Plan

Dorset Council declared a Climate and Ecological Emergency in 2019 and established an Executive Advisory Panel to strategically guide the Councils response. A draft Climate and Ecological Emergency Strategy was produced in July 2020 which presented 8 key areas for action to ensure that Dorset Council becomes Carbon Neutral by 2040 and the Dorset Council Area by 2050 https://www.dorsetcouncil.gov.uk/climate- -emergency

Measures within the Action Plan will positively affect air quality throughout the Dorset Council area, and include:

- Ensure access to sustainable transport is considered in planning applications
- Indirect Investigate potential for small scale park & ride hubs with electric vehicle charging point availability
- Encourage decarbonisation of road transport through development of public EV charging network & promotion of ultra low emissions vehicles
- Expand cycle training and independent travel training programmes, and
- Explore introduction of a bike share scheme in larger settlements

Dorset Council Local Plan

Currently, Dorset Council are working on the Local Plan to shape society, economy and the environment over a 15 year period. Consultation on it commences early 2021, in readiness for its adoption in 2023.

The plan will:

- Protect and enhance Dorset's natural environment and biodiversity
- Deliver suitable housing to Dorset's needs
- Work to provide residents with a good quality of life with high quality and well designed developments
- Provide cycle ways and access to the countryside

Information can be found via www.dorsetcouncil.gov.ukuk/dorset-local-plan

Planning Applications

The Environmental Protection Team review all validated planning applications for their air quality impact. Relevant guidance is followed when reviewing these applications, i.e. Land-Use Planning and Development Control: Planning for Air Quality, January 2017 (EPUK and IAQM). Where there is a potential adverse impact, or the development introduces new sensitive receptors within an AQMA, an air quality impact assessment is required. Where this identifies a significant adverse impact on air quality or human health then mitigation measures are required.

Local Transport Plan 3 2011 – 2026

The Local Transport Plan 3 (LTP3) is a statutory document which sets out a strategy for the management, maintenance and development of the County's transport system. It sets out a way forward to deliver transport needs through short, medium and long term transport solutions and how transport can improve safety and health, support the local economy, protect the environment and reduce carbon emissions and pollution. The LTP3 came into effect in April 2011 and has been produced for the whole of Bournemouth, Poole and Dorset. It covers the period from 2011 to 2026 and is based on a longer term strategy (2011 – 2026) and shorter term implementation plan(s) (3 years). Further information can be found at https://www.dorsetcouncil.gov.uk/roads-highways-maintenance/transport-planning/local-transport-plan/local-transport-plan-3.aspx

Travel choice

This is a County-wide initiative to raise awareness about the impacts of travel behaviour and to encourage people to make informed decisions about journeys they make. For example information is provided on interactive cycle maps, adult cycle training and walking routes and trails. This initiative also promotes Car Share Dorset, an online tool to encourage and facilitate car sharing by matching journeys, run jointly by Dorset Council and Bournemouth, Chrischurch and Poole (BCP) Council. More information can be found https://www.dorsetcouncil.gov.uk/travel/travel.aspx and https://liftshare.com/uk/community/dorset

Industrial Installations

Certain industrial processes and activities which have the potential to cause pollution are required to have an Environmental Permit to operate. The Environmental Permitting (England and Wales) Regulations 2016 were made under the Pollution Prevention and Control Act 1999 and prescribe those processes and activities which require a permit. These processes are split into three categories: Part A (1), Part A(2) and Part B and are regulated by the Environment Agency and local authorities.

A list of Permitted Processes in the Dorset Council area is provided in Appendix C.

Details of all measures completed, in progress or planned are set out in **Error! Reference s ource not found.**.

Whilst the measures in **Error! Reference source not found.** will help to contribute towards c ompliance, Dorset Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Chideock AQMA.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	**Funding Source**	**Defra AQ Grant Funding**	Funding Status	**Estimated Cost of Measure**	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Dorset Highways asset management plan (HAMP)	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	Oct-18		DC	Capital	NO	Fully funded					HAMP	
2	Efficiency saving	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes			DC	Capital	NO	Fully funded						
3	Encourage take up of School Travel Plans	Promoting Travel Alternatives	School Travel Plans	2011		DC	Capital	NO	Fully funded						
4	Cycling Strategy	Promoting Travel Alternatives	Promotion of cycling	2011		DC/BCP	Capital	NO	Fully funded						
5	Health Strategy	Promoting Travel Alternatives	Other	2011		DC /BCP	Capital	NO	Fully funded						
6	Low Carbon Travel Strategy	Promoting Low Emission Transport	Other	2011	2026	DC/BCP	Capital	NO	Fully funded						2026
7	Promote and, as appropriate, implement road network improvements as identified through the Local Transport Plan and other related processes e.g. links to/from South West/Bristol/M4 e.g. A350/C13, road & rail links to/from Port of Poole and Weymouth/Portland Port, links to/from Bournemouth Airport.	Freight and Delivery Management	Route Management Plans/ Strategic routing strategy for HGV's	2017		DC/BCP, DLEP, FQP, FTA, RHA, Highways England	Capital	NO	Fully funded						
8	Sustainable Energy accross the Common Space (SEACS)	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2011		Devon County Council Wiltshire Council 2 Local Uthority Partners from Brittany	INTERREG IV	NO	Fully funded					Completed	
9	Dorset Solar Farm Community Benefits	Other	Other	2014		Community Energy Team	Capital	NO	Fully funded						
10	Expand EV Charging Points & other ultra-low emission fule alternatives	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low	ongoing		DC	Capital	NO	Fully funded					Ongoing & looking for input form resdients on future locations	

			Emission Vehicles, EV recharging, Gas fuel recharging												
11	Improve cycle infrastructure	Promoting Travel Alternatives	Promotion of cycling	2020		DC / BCP	Transforming Cities Fund	NO	Fully funded						
12	Highways Maintenance	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane				Capital	NO	Fully funded						
13	Lobby Govt for rail improvements	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019		DC	Capital	NO	Fully funded						
14	Respond to government calls and submit high quality grant applications	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019		DC	Capital	NO	Fully funded						
15	Redirect investment from strategic road schemes to low carbon transport	Promoting Low Emission Transport	Other	2019		DC with STB & LEP	Capital	NO	Fully funded						
16	Reinforce low carbon transport policies through statutory planning documents including refreshed LTP and new Local Plan	Promoting Low Emission Transport	Other	2019		DC	Capital	NO	Fully funded						
17	Ensure access to sustainable transport is considered in planning applications	Alternatives to private vehicle use	Other	2019		DC	Capital	NO	Fully funded						
18	Investigate potential for small scale park & ride hubs with electric vehicle charging point availability	Alternatives to private vehicle use	Bus based Park & Ride	2019		DC	Capital	NO	Fully funded						
19	Encourage decarbonisation of road transport through development of public EV charging network & promotion of ultra	Freight and Delivery Management	Delivery and Service plans	2019	2023	DC	Capital	NO	Fully funded						2023

	low emissions vehicles, and including on-going management														
20	Encourage use of ultra low emission public transport vehicles (including taxis) – particularly smaller buses	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019	2023+	DC	Capital	NO	Fully funded						2023+
21	Working closely with Dorset Business Travel Network and Digital Dorset to promote the use of ICT to individuals and businesses to avoid travel / encourage working from home	Promoting Travel Alternatives	Encourage / Facilitate home-working	2019	2021	DC / Dorset Business Travel Network / Digital Dorset	Capital	NO	Fully funded						2021
22	Review & amend procurement procedures to prioritise carbon reduction for Transport Purchases & Leasing	Freight and Delivery Management	Freight Partnerships for city centre deliveries	2019		DC	Capital	NO	Fully funded						
23	To green the Council fleet	Vehicle Fleet Efficiency		2019	2025/26	DC	Capital	NO	Fully funded						2025/26
24	Reduce the need for staff to travel to and for work through remote working and the use of digital	Promoting Travel Alternatives	Workplace Travel Planning	2019	2021	DC	Capital	NO	Fully funded						2021

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

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

Dorset Council continued supporting the Public Health Dorset's $PM_{2.5}$ Project by maintaining the 4 AQMesh within the network, (there are 2 more AQMesh, which sit within Bournemouth, Christchurch and Poole Council). This looks to establish what steps can be taken across the study area to reduce the impact of exposure to particulate matter on the population. To achieve this, the project is focussed on understanding population exposure to background levels of air pollution. The study area includes both rural and urban sites to provide broad geographical coverage and include vulnerable populations.

Monitoring locations can be found at https://public.tableau.com/profile/public.health.dorset#!/vizhome/ARUNandPHDnetwork/ARUNandPHDnetowrk

Defra's background modelling for the entire Dorset Council area provide annual means of a minimum of 2.4µg/m^3 and maximum of 14.8µg/m^3 for 2019.

Monitoring sites operated by Dorset Council and Public Health Dorset demonstrate a general decrease in $PM_{2.5}$ concentrations, with the exception of Sandford. Beaminster continues to have the highest rates of $PM_{2.5}$ amongst the monitored sites, with the greatest decrease achieved in Blandford.

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

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how it compares with objectives.

Dorset Council resolved to undertake automatic (continuous) monitoring at one site during 2020. **Error! Reference source not found.** in Appendix A shows the details of the sites. T he data was ratified and scaled for Dorset Council by Air Monitors Ltd, but the equipment was found to be faulty, and difficulties in sourcing repairs and replacement parts, in addition to a maintenance contract, have resulted in no data being available for 2020. The NO_2 data has therefore been discounted for the 2020 report.

Additionally, Dorset Council has difficulties in accessing and manipulating the data due to concerns of possible security breaches occurring should the ports be opened to enable that data to be read. We continue during 2021 to overcome this problem, and may look to decommission the site. Had this information been seen prior to asking Air Monitoring to help with the data, this may have been cleaned up, not as much data lost, and a local bias adjustment factor created for the ‘WPBC’ data.

Maps showing the location of the monitoring sites are provided in Appendix D.

3.1.2 Non-Automatic Monitoring Sites

Dorset Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 82 sites during 2020. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including

bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

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 33%), and distance correction (for values greater the 36µg/m^3). Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Error! Reference source not found. and Table A.3 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2020 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.4 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.

Figure A.1 in Appendix A provides full graphing of areas within Dorset Council. Graphs are grouped as described below.

2020 again saw an improvement in Dorset's air quality, with the average NO_2 mean falling. This must be viewed through the context of Coronavirus restrictions significantly reducing sources of pollution over spring-summer, and therefore it would be unwise to draw significant strategic conclusions using 2020 data alone.

Only one annual mean exceedance was measured within bias adjusted means – Chideock Hill House – which falls inside the Chideock AQMA. This was the only exceedance within the AQMA which regularly has several. This reduced to below 10% below the objective when distance corrected to nearest exposure.

Location	2016	2017	2018	2019	2020
Hope Cottage (722/W32)	19.7	23.0	19.9	17.2	10.4
Greenhill (738/W33)	20.5	17.9	18.4	19.0	10.4
Duck St (724/W34)	**47.7**	**41.9**	**38.0**	**36.4**	20.2
George Inn (725/W35)	25.5	28.2	24.2	19.5	12.9
Village Hall (726/W36)	**47.8**	**40.9**	**39.2**	**38.7**	21.8
Whitecroft (727/W37)	**58.9**	**56.5**	**57.2**	**52.5**	30
Warren House (728/W38)	27.0	26.7	24.8	23.8	13.7
Chideock Hill House (N14/W39)			**97.7**	**80.2**	35.1

Figure 1: Annual Mean concentration of NO_2 within Chideock AQMA

The new Air Quality Action Plan for Chideock AQMA due for consultation with stakeholders, and is due to be published in the coming weeks. Whilst not available at time of writing, the Plan outlines the actions that Dorset Council will deliver between 2021 and 2026 in order the reduce concentrations of pollution and exposure to pollution, therefore positively impacting on the health and quality of life of residents and visitors to Chideock and the wider Dorset Council area. Monitoring of all sites continues into 2021.

There are no other areas of former West Dorset District Council that exceed the annual objective for nitrogen dioxide.

There has never been an AQMA declared in Bridport. Following a Detailed Assessment of nitrogen dioxide in Bridport in 2011, the then West Dorset District Council Members resolved not to declare an AQMA but continue monitoring to check future levels of NO_2 here. Annual mean concentrations of NO_2 are decreasing, the monitoring within Bridport area will continue for 2020:

Location	2016	2017	2018	2019	2020
49 East Road (717/W27)	**47.6**	**44.2**	**42.7**	**37.6**	25.2

45 East Road (730/W28)	**51.5**	**46.4**	**40.52**	**39.8**	26.3
East Road Rbt Sign (731/W29)	31.5	28.8	26.44	23.8	16
Askers Mead (732/W30)	34	32	30.69	26.1	16.2
East Road Bus Stop (734/W31)	32.3	27.9	29.13	28.3	17

Figure 2: Annual Mean concentration of NO_2 in Bridport

Results for 2020 in Dorchester show the annual mean for NO_2 was met at all monitoring locations both within and outside of the AQMA. The air quality objectives are now outside 10% of the annual mean objective of 40µg/m^3 which indicate that the AQMA could be revoked, however it is likely 2020 will be somewhat anomalous. Signs from the data throughout the year, however, are positive. Monitoring will continue during 2021 with the view to revoke the AQMA provided continuing improvements in air quality.

Location	2016	2017	2018	2019	2020
High East Street 2 (713/W17)	33.5	31.4	27.64	24.8	17.2
High East Street 1 (714/W18)	**37.9**	37	35.48	**36.4**	23.6
Tom Browns (741/W26)		**38.87**	**36.26**	34.3	21.1

Figure 3: Annual Mean concentration of NO_2 within Dorchester AQMA

The Boot Hill area of Weymouth has previously been an area with cause for concern, and has co-located diffusion tubes, an automatic analyser (which due to technical issues has been largely out of operation for 2020) and several NO_2 monitoring tubes. Again, 2020 has overall demonstrated an improvement for air quality on this site, with passive monitoring as a minimum set to continue into 2021.

Location	2016	2017	2018	2019	2020
Rodwell Road (10/W3)	**37.6**	27.9	**37.9**	31.0	25.9

15 Rodwell Road (30/W4)	27.7	20.7	24.9	23.9	16
Co-location I (31/W5)	**37.1**	**38.5**	31.7	35.9	24
Portmore Gardens (32/W6)	35.4	**38.4**	28.1	33.2	22.9
Co-location II (49/W7)	**38.4**	31.4	34.2	**39.2**	23.6
Co-location III (50/W8)	**38.6**	30.9	34.5	29.5	23.7
Rodwell Inn (51/W9)	**40.0**	32.3	**36.3**	27.3	24.2
16 Rodwell Road (52/W10)	**46.4**	**36.0**	**38.6**	32.8	26.3

Figure 4: Annual Mean concentration of NO_2 within Boot Hill area of Weymouth

There were no exceedances of the annual NO_2 air quality objective in the former Purbeck District Council area. Whilst some increases were observed on the 2019 data, all were below the 2018 data meaning no obvious change in trend is observable yet. No new locations were chosen for the Purbeck area, and four tubes ceased monitoring:

- P11 Bere Regis, West Street
- P12 Swanage, Queens Road
- P13 Sandford, Sandford Road
- P14 Swanage, Queens Road II

There were no exceedances of the annual air quality objective in former East Dorset. Again, there were instances of 2020 data exceeding 2019 levels, but none exceed 2018 levels again demonstrating a continuation of a downward trend. New sites E2, E3 and E8 all demonstrate levels of NO_2 way below the AQO, and E12 and E13 continue in their second year to provide low levels of air pollution. Several sites in East Dorset ceased monitoring:

- 2 Avon Park, Ashley Heath
- 3 Hurn Road, Ashley Heath
- 5 Castlewood, Ashley Heath
- 8 Fernlea Close, Ferndown

- 9 Melbury Close, Ferndown
- 11 Sandy Lane, Ashley Heath
- 12 Russel Gardens, Ashley Heath
- 13 St. Ives Wood, Ashley Heath

No exceedances of the AQO annual mean were detected in the former Weymouth and Portland Borough Council area tubes. Occasional exceedances of 2019 levels in 2020 data were seen, but again few exceedances of the earlier data indicated a continuing improvement trend. The new site of W11 shows some of the lowest levels of pollution of analysed sites. Tubes 59 – Old Portland Road, Wyke Regis; and 60 – High Street, Wyke Regis; ceased monitoring. The decision to cease these locations were made prior to Coronavirus and were based on historic data up to 2019.

Monitoring sites located in and around Dorchester continue to demonstrate a universal downwards trajectory in NO_2, with no exceedances of the AQO and no sites within 10% of the objective. Dorchester AQMA will continue to be monitored into 2021, however it is with a view to revoke it.

Sites in North Dorset continue to demonstrate NO_2 levels lower than previously measured, albeit with some sites seeing higher levels than 2019. There is insufficient data for these sites to accurately comment on patterns, however all sites have NO_2 concentrations well below the Air Quality objective.

Changes to Dorset Council monitoring locations continue, with further sites being added and removed in response to new developments as appropriate. In addition, known continuing developments are monitored as they progress for slow increases in air pollution due to their effect.

3.2.2 Particulate Matter (PM_{10})

Table A.5 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the air quality objective of 40µg/m^3.

Table A.6 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

Using our AQMesh Pods in partnership with Public Health Dorset, PM_{10} has been measured at four school-based sites across Dorset: Blandford Forum, Beaminster, Ferndown and Sandford. None of the sites have annual means exceeding the objective, and whilst two sites (Beaminster and Blandford Forum) demonstrate daily means above 50µg/m^3, neither have exceeded this greater than 35 times in 2020.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.7 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years.

$PM_{2.5}$ concentrations typically fell over Dorset Council over 2020, however as previously stated, in the absence of more data it would not be advisable to draw conclusions on a continuing trend. Sandford is an exception to this, as the levels have increased significantly on both 2018 and 2019 levels. Careful attention is to be paid to this site over the coming years to identify a trend and potential solutions.

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)
Boot Hill	Boot Hill	Roadside	367541	78471	NO_2	NO	Chemiluminescent	N/A	3.5	2
Boot Hill	Boot Hill	Roadside	367541	78471	PM_{10}	NO	TEOM FDMS	N/A	3.5	2

Notes:

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

(2) N/A if not applicable

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
P1	Wool, Dorchester Road	Roadside	384430	86880	NO_2	No	30	2.0	No	2.3
P2	Corfe Castle, East Street	Roadside	396276	81699	NO_2	No	1	1.0	No	2.2
P3	Swanage, Gilbert Road	Urban Background	402790	78950	NO_2	No	7	1.0	No	2.3
P4	Swanage, Kings Rd.	Roadside	402860	78830	NO_2	No	14	1.0	No	2.1
P5	Upton, Blandford Road North	Roadside	397910	93425	NO_2	No	19	2.0	No	2.2
P6	Upton, Blandford Rd.	Roadside	398421	92644	NO_2	No	16	1.0	No	2.2
P7	Upton, Poole Road (opp Dacombe Drive)	Roadside	398330	93137	NO_2	No	11.5	6.0	No	2.0
P8	Upton, Poole Road (adj Palmerston Road)	Roadside	398572	93137	NO_2	No	10	3.0	No	2.0
P9	Sandford, Sandford Road	Roadside	393334	90089	NO_2	No	20	1.0	No	2.3
P10	Wareham, Wogret Road	Kerbside	391790	87190	NO_2	No	13	1.0	No	2.3

P11	Bere Regis, West Street	Roadside	383901	95100	NO_2	No	12	1.0	No	2.2
P12	Swanage Queens Rd	Urban Background	402970	78410	NO_2	No	17	1.0	No	2.3
P13	Sandford, Sandford Road	Roadside	393223	89947	NO_2	No	10	2.0	No	2.2
P14	Swanage, Queens Rd	Roadside	402965	78408	NO_2	No	5	2.0	No	2.3
1/E1	Horton Road, Ashley Heath	Roadside	413298	104528	NO_2	No	0	40.0	No	3.0
E2	Ham Lane (19 Glissons, Longham)	Roadside	406362	98711	NO_2	No	0	1.0	No	3.0
E3	Leigh Road (byetheway) Wimborne	Roadside	402880	99961	NO_2	No	0	2.0	No	3.0
4/E4	45 Davids Lane, Ashley Heath	Urban Background	413425	104429	NO_2	No	7	0.5	No	3.0
E5	2 Julians Road, Wimborne	Roadside	400677	99998	NO_2	No	0	1.0	No	3.0
6/E6	392 Ringwood Road, Ferndown	Roadside	407785	100135	NO_2	No	4	1.3	No	3.0
7/E7	opp. 85 Dudsbury Avenue, Ferndown	Other	407668	99889	NO_2	No	10	1.4	No	3.0
E8	7/9 Wimborne Road, Wimborne	Roadside	401003	100736	NO_2	No	0	1.5	No	3.0

10/E9	A31 24 Ringwood Road, Ashley Heath	Roadside	412782	104118	NO_2	No	26	1.3	No	3.0
14/E10	235 Christchurch Road, West Parley	Roadside	408384	97986	NO_2	No	8	1.0	No	3.0
15/E11	opp. 233 Christchurch Road, West Parley	Roadside	408468	98002	NO_2	No	4	1.0	No	3.0
16/E12	28a West Street, Wimborne	Roadside	400833	100042	NO_2	No	0	1.2	No	3.0
17/E13	7 West Borough, Wimborne	Roadside	400901	100149	NO_2	No	0	3.6	No	3.0
2	22 Avon Park, Ashley Heath	Roadside	413488	104543	NO_2	No	0	50.0	No	3.0
3	1 Hurn Road, Ashley Heath	Other	413686	104709	NO_2	No	0	60.0	No	3.0
5	9 Castlewood, Ashley Heath	Urban Background	413521	104368	NO_2	No	2	0.9	No	3.0
8	11 Fernlea Close, Ferndown	Urban Background	407804	100016	NO_2	No	9	0.9	No	3.0
9	6 Melbury Close, Ferndown	Urban Background	407650	99763	NO_2	No	12	0.4	No	3.0
11	6 Sandy Lane, Ashley Heath	Other	412747	104117	NO_2	No	13	30.0	No	3.0

12	Russell Gardens, Ashley Heath	Urban Background	412749	104262	NO_2	No	20	0.8	No	3.0
13	13 St.Ives Wood, Ashley Heath	Roadside	412978	104339	NO_2	No	14	1.4	No	3.0
4/W1	St Georges Est, Portland	Urban Background	368779	71706	NO_2	No	0	2.0	No	2.5
8/W2	King St, Weymouth	Roadside	368003	79527	NO_2	No	0	2.0	No	2.5
10/W3	Rodwell Rd, Weymouth	Roadside	367542	78548	NO_2	No	2.5	2.5	No	3.0
30/W4	15 Rodwell Road, Weymouth	Roadside	367545	78550	NO_2	No	0	6.0	No	2.5
31/W5	Co-location i	Roadside	367540	78471	NO_2	No	0	3.5	No	3.0
32/W6	Portmore Gardens, Weymouth	Roadside	367528	78554	NO_2	No	0	2.0	No	3.0
49/W7	Co-location ii	Roadside	367540	78471	NO_2	No	0	3.5	No	3.0
50/W8	Co-location iii	Roadside	367540	78471	NO_2	No	0	3.5	No	3.0
51/W9	Rodwell Inn, Weymouth	Roadside	367550	78485	NO_2	No	0	2.0	No	3.0
52/W10	16 Rodwell Road, Weymouth	Roadside	367533	78531	NO_2	No	0	2.0	No	3.0
W11	Mulberry Ave, Portland	Roadside	368337	74204	NO_2	No	0	1.0	No	3.0
45/W12	Upwey St, Weymouth	Roadside	367879	78567	NO_2	No	0	1.5	No	3.0
46/W13	Dominoes, Weymouth	Roadside	367995	79528	NO_2	No	0	2.5	No	3.0

58/W14	Fortuneswell, Portland	Roadside	368540	73593	NO_2	No	0.9	1.5	No	2.5
59	Old Portland Road, Wyke Regis	Roadside	366268	77709	NO_2	No	0	2.0	No	2.5
60	High Street, Wyke Regis	Roadside	366091	77551	NO_2	No	0	2.0	No	2.5
711/W15	Stratton House, Dorchester	Roadside	369121	90739	NO_2	No	0	2.0	No	2.5
712/W16	Trinity Street, Dorchester	Roadside	369171	90711	NO_2	No	0	2.0	No	2.5
713/W17	High East St (Majestic Wines)	Roadside	369484	90759	NO_2	Yes, Dorchester AQMA	0	2.0	No	2.5
714/W18	High East St (Church House)	Roadside	369387	90742	NO_2	Yes, Dorchester AQMA	0	2.0	No	2.5
715/W19	The Grove, Dorchester	Roadside	368907	90739	NO_2	No	0	2.0	No	2.5
716/W20	Maumbry Road, Dorchester	Roadside	368948	90089	NO_2	No	0	2.0	No	2.5
733/W21	Great Western Rd, Dorchester	Roadside	369002	90275	NO_2	No	0	2.0	No	2.5
718/W22	Church St, Dorchester	Roadside	369381	90698	NO_2	No	0	2.0	No	2.5
719/W23	Bridport Road, Dorchester	Roadside	368815	90636	NO_2	No	0	2.0	No	2.5
720/W24	Borough Gardens, Dorchester	Urban Background	368982	90453	NO_2	No	5	2.0	No	2.5

721/W25	High West St (Homechester Hse)	Roadside	368982	90706	NO_2	No	0	3.0	No	2.5
741/W26	High East St (Tom Browns) Dorchester	Roadside	369468	90756	NO_2	No	0	2.5	No	2.5
717/W27	49 East Rd (Lampost 12) Bridport	Roadside	347557	93023	NO_2	No	0	2.0	No	2.5
730/W28	45 East Rd (Lampost 10) Bridport	Roadside	347612	93050	NO_2	No	0	2.0	No	2.0
731/W29	East Rd (Rdbt sign) Bridport	Roadside	347277	92867	NO_2	No	0	4.0	No	2.5
732/W30	3 East Rd (Askers Mead) Bridport	Roadside	347262	92873	NO_2	No	0	2.0	No	2.5
734/W31	East Rd (Bus stop) Bridport	Roadside	347489	92989	NO_2	No	0	2.0	No	2.0
722/W32	Hope Cottage, Chideock	Roadside	342364	92814	NO_2	Yes, Chideock AQMA	0	1.5	No	2.0
738/W33	Greenhill, Chideock	Roadside	342151	92869	NO_2	Yes, Chideock AQMA	0	11.5	No	2.5
724/W34	Duck St, Chideock	Roadside	342190	92840	NO_2	Yes, Chideock AQMA	0	1.0	No	2.0
725/W35	George Inn, Chideock	Roadside	342486	92791	NO_2	Yes, Chideock AQMA	0	0.0	No	2.0
726/W36	Village Hall, Chideock	Roadside	342015	92887	NO_2	Yes, Chideock AQMA	0	2.0	No	2.5

727/W37	Whitecroft, Chideock	Roadside	341946	92908	NO_2	Yes, Chideock AQMA	0	1.0	No	2.0
728/W38	Warren House, Chideock	Roadside	342025	92894	NO_2	Yes, Chideock AQMA	0	1.5	No	2.0
N14/W39	Chideock Hill Cottage, Chideock	Roadside	341320	93138	NO_2	Yes, Chideock AQMA	3.5	1.0	No	2.5
N1/W40	Lawrence Cotts, Gillingham	Roadside	381302	126181	NO_2	No	4.1	1.5	No	2.5
N2/W41	Wyke St, Gillingham	Roadside	380511	126490	NO_2	No	9.8	1.7	No	2.5
N4/W42	The Barbers, Sturminster Newton	Kerbside	378606	114009	NO_2	No	0	1.3	No	2.5
N7/W43	Spinney Cott, Melbury Abbas	Roadside	388206	120321	NO_2	No	0	0.7	No	2.5
N15/W44	Cerne Ave, Gillingham	Urban Background	382041	125887	NO_2	No	1.5	1.7	No	2.5
N16/W45	New Road, Gillingham	Roadside	381083	125868	NO_2	No	4.2	2.3	No	2.5

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: Non-Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
P1	384430	86880	**Roadside**	100	100	21.9	24.1	22.8	11.0	12.8
P2	396276	81699	**Roadside**	100	100	21.7	19.9	17.1	14.0	9.9
P3	402790	78950	**Urban Background**	91.7	91.7	15.1	16.2	17.7	11.0	8.5
P4	402860	78830	**Roadside**	100	100	18.0	17.4	15.8	10.0	9.2
P5	397910	93425	**Roadside**	100	100	25.5	28.7	28.1	15.0	16.3
P6	398421	92644	**Roadside**	100	100	22.5	25.9	24.9	14.0	13.8
P7	398330	93137	**Roadside**	100	100			24.7	19.0	13.2
P8	398572	93137	**Roadside**	100	100			28.9	17.6	14.8
P9	393334	90089	**Roadside**	100	100	21.9	20.9	24.6	12.0	13.4
P10	391790	87190	**Kerbside**	100	100	15.2	15.5	15.4	9.0	8.2
P11	383901	95100	**Roadside**	100	8.3	13.0	14.3	13.9	9.0	17.7
P12	402970	78410	**Urban Background**	100	8.3	12.5	10.2	10.6	8.0	8.5
P13	393223	89947	**Roadside**	100	8.3				16.0	18.5
P14	402965	78408	**Roadside**	100	8.3				9.0	21.6
1/E1	413298	104528	**Roadside**	100	100	22.0	22.0	23.0	20.4	14.7
E2	406362	98711	**Roadside**	100	75					14.8
E3	402880	99961	**Roadside**	100	75					12.1
4/E4	413425	104429	**Urban Background**	100	100	17.0	17.0	18.0	11.0	11.6
E5	400677	99998	**Roadside**	100	75					17.8
6/E6	407785	100135	**Roadside**	100	100	32.0	29.0	29.0	21.0	19.1
7/E7	407668	99889	**Other**	91.7	91.7	19.0	18.0	19.0	16.1	12.5
E8	401003	100736	**Roadside**	100	75					10.4
10/E9	412782	104118	**Roadside**	100	100	31.0	32.0	33.0	16.0	23.8
14/E10	408384	97986	**Roadside**	100	100	26.0	25.0	27.0	16.0	20.2
15/E11	408468	98002	**Roadside**	100	100	30.0	31.0	30.0	20.0	18.8
16/E12	400833	100042	**Roadside**	100	100				17.3	12.6
17/E13	400901	100149	**Roadside**	100	100				19.4	14
2	413488	104543	**Roadside**	100	25	22.0	21.0	21.0	18.5	12.8
3	413686	104709	**Other**	100	25	22.0	25.0	23.0	18.5	15.8
5	413521	104368	**Urban Background**	100	25	15.0	16.0	15.0	13.2	11.3

8	407804	100016	**Urban Background**	100	25	14.0	12.0	15.0	11.5	8.9
9	407650	99763	**Urban Background**	100	25	13.0	12.0	13.0	11.4	9.6
11	412747	104117	**Other**	100	25	17.0	17.0	18.0	16.2	12.3
12	412749	104262	**Urban Background**	100	25	11.0	11.0	13.0	10.4	7.9
13	412978	104339	**Roadside**	0	0	13.0	12.0	14.0	11.7	**NA**
4/W1	368779	71706	**Urban Background**	100	100	8.5	6.1	8.2	7.4	6.6
8/W2	368003	79527	**Roadside**	100	100	34.9	27.1	28.0	28.4	19.7
10/W3	367542	78548	**Roadside**	100	100	37.6	27.9	37.9	31.0	25.9
30/W4	367545	78550	**Roadside**	100	100	27.7	20.7	24.9	23.9	16
31/W5	367540	78471	**Roadside**	100	100	37.1	38.5	31.7	35.9	24
32/W6	367528	78554	**Roadside**	100	100	35.4	38.4	28.1	33.2	22.9
49/W7	367540	78471	**Roadside**	100	100	38.4	31.4	34.2	39.2	23.6
50/W8	367540	78471	**Roadside**	100	100	38.6	30.9	34.5	29.5	23.7
51/W9	367550	78485	**Roadside**	83.3	83.3	**40.0**	32.3	36.3	27.3	24.2
52/W10	367533	78531	**Roadside**	100	100	**46.4**	36.0	38.6	32.8	26.3
W11	368337	74204	**Roadside**	88.9	66.7					12.8
45/W12	367879	78567	**Roadside**	100	100	37.2	30.8	30.8	35.1	21.9
46/W13	367995	79528	**Roadside**	100	100	38.3	31.1	32.5	39.1	22.1
58/W14	368540	73593	**Roadside**	100	100	34.2	36.6	36.8	33.0	24
59	366268	77709	**Roadside**	100	25	29.3	30.7	27.5	19.0	15.7
60	366091	77551	**Roadside**	100	25	33.5	31.4	27.6	11.2	8.2
711/W15	369121	90739	**Roadside**	100	100	34.2	36.6	36.8	33.0	21.5
712/W16	369171	90711	**Roadside**	100	100	29.3	30.7	27.5	24.4	15.6
713/W17	369484	90759	**Roadside**	100	100	33.5	31.4	27.6	24.8	17.2
714/W18	369387	90742	**Roadside**	100	100	37.9	37.0	35.5	36.4	23.6
715/W19	368907	90739	**Roadside**	100	100	33.9	32.8	32.2	30.2	20.8
716/W20	368948	90089	**Roadside**	100	100	29.0	27.5	27.4	25.1	17.1
733/W21	369002	90275	**Roadside**	91.7	91.7	28.2	23.8	25.8	24.1	15.3
718/W22	369381	90698	**Roadside**	100	100	20.5	19.3	20.1	18.2	11.8
719/W23	368815	90636	**Roadside**	100	100	25.6	22.0	24.2	28.8	14.7
720/W24	368982	90453	**Urban Background**	91.7	91.7	11.4	14.6	11.2	10.1	7.4
721/W25	368982	90706	**Roadside**	91.7	91.7	30.7	29.0	29.8	27.0	18.8
741/W26	369468	90756	**Roadside**	91.7	91.7		38.9	36.3	34.3	21.1

717/W27	347557	93023	**Roadside**	100	100	**47.6**	**44.2**	**42.7**	37.6	25.2
730/W28	347612	93050	**Roadside**	100	100	**51.5**	**46.4**	**40.5**	39.8	26.3
731/W29	347277	92867	**Roadside**	100	100	31.5	28.8	26.4	17.0	16
732/W30	347262	92873	**Roadside**	100	100	34.0	32.0	30.1	26.1	16.2
734/W31	347489	92989	**Roadside**	83.3	83.3	32.3	27.9	29.1	28.3	17
722/W32	342364	92814	**Roadside**	91.7	91.7	19.7	23.0	19.9	17.2	10.4
738/W33	342151	92869	**Roadside**	91.7	91.7	20.5	17.9	18.4	19.0	10.4
724/W34	342190	92840	**Roadside**	91.7	91.7	**47.7**	**41.9**	38.0	36.4	20.2
725/W35	342486	92791	**Roadside**	100	100	25.5	28.2	24.2	19.5	12.9
726/W36	342015	92887	**Roadside**	100	100	**47.8**	**40.9**	39.2	38.7	21.8
727/W37	341946	92908	**Roadside**	100	100	**58.9**	**56.5**	**57.2**	**52.5**	30
728/W38	342025	92894	**Roadside**	100	100	27.0	26.7	24.8	23.8	13.7
N14/W39	341320	93138	**Roadside**	100	100			**97.7**	**80.2**	**45.1**
N1/W40	381302	126181	**Roadside**	100	100			32.9	27.0	22.8
N2/W41	380511	126490	**Roadside**	100	100			25.8	16.3	13.6
N4/W42	378606	114009	**Kerbside**	91.7	91.7			37.0	31.4	19.7
N7/W43	388206	120321	**Roadside**	100	100			28.0	16.4	12.3
N15/W44	382041	125887	**Urban Background**	100	100				7.0	5.4
N16/W45	381083	125868	**Roadside**	50	50				19.3	9.5
44	367830	78595	**Roadside**	0	0	30.3	24.1	25.7	36.2	
N8	387052	122740	**Roadside**	0	0			23.6	17.4	
N9	391849	101888	**Roadside**	0	0			20.9	20.0	
N10	391114	102648	**Roadside**	0	0			28.1	28.9	
N11	388524	106542	**Roadside**	0	0			27.4	23.9	
N12	388760	106383	**Roadside**	0	0			30.2	29.2	
N13	386673	117063	**Rural**	0	0			10.6	9.2	

☒ **Annualisation has been conducted where data capture is <75% and >33% in line with LAQM.TG16.**

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

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

Notes:

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

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

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

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

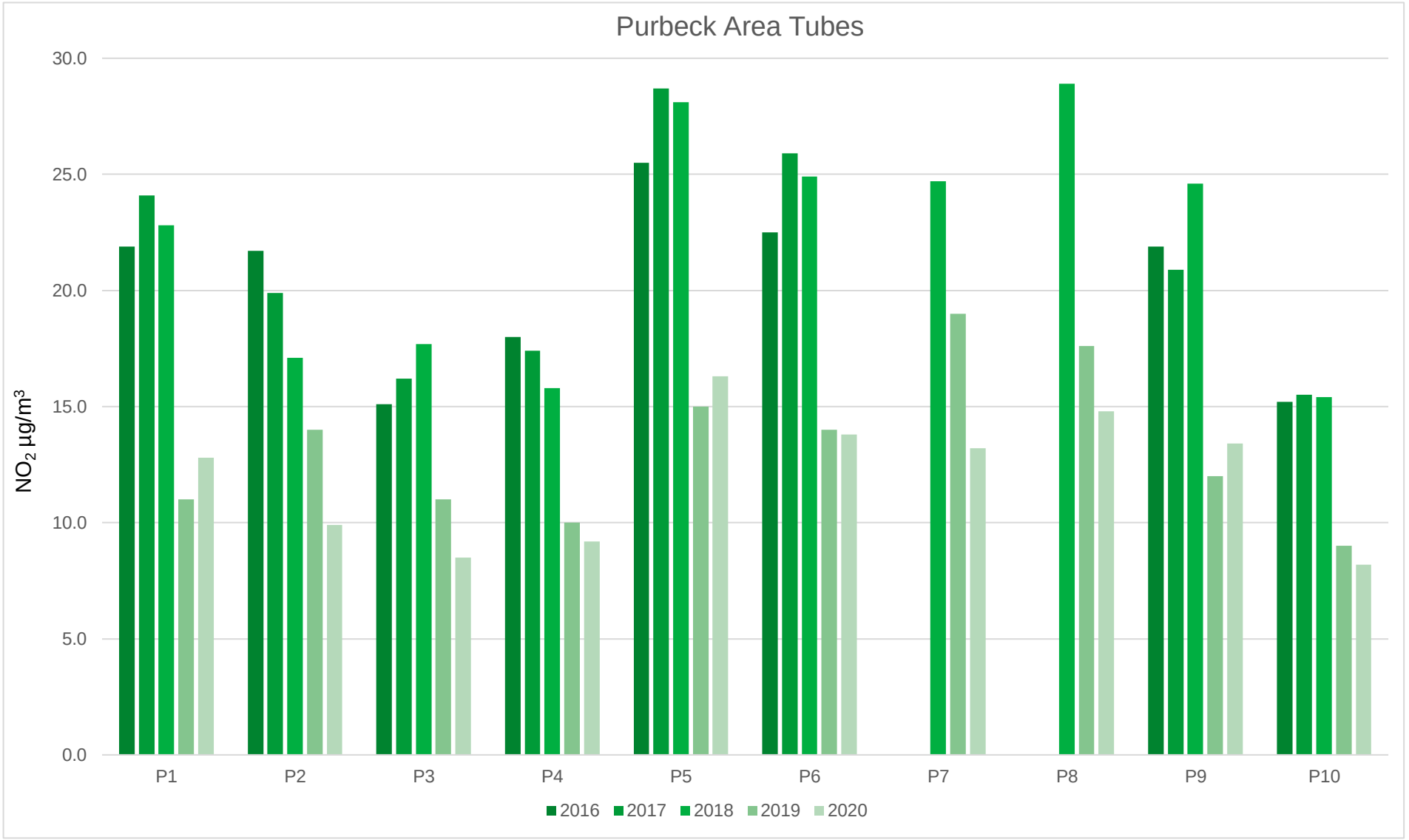


Figure 5: Former Purbeck District Council area annual mean NO_2 results, 2016-2020

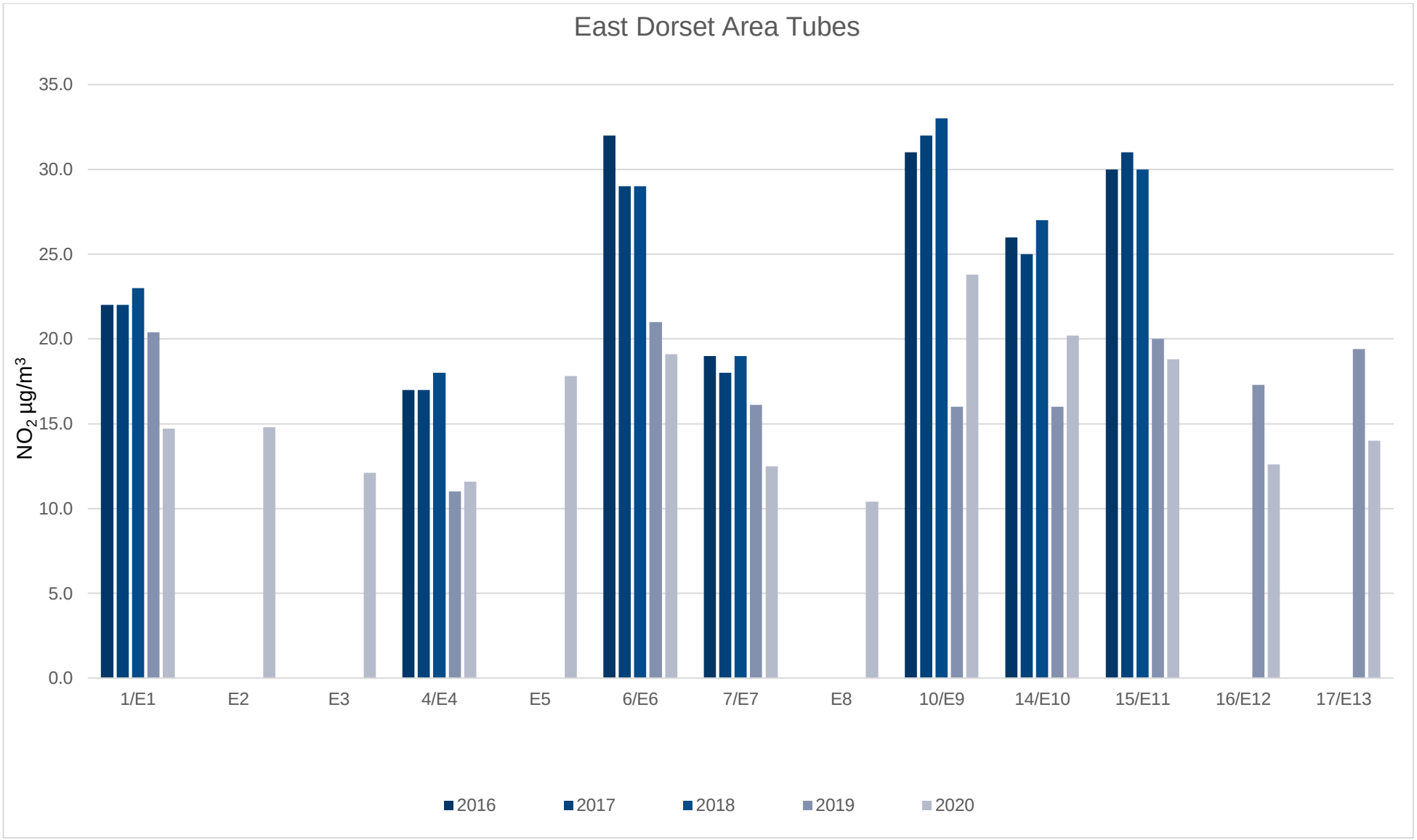


Figure 6: Former East Dorset District Council area annual mean NO_2 results, 2016-2020

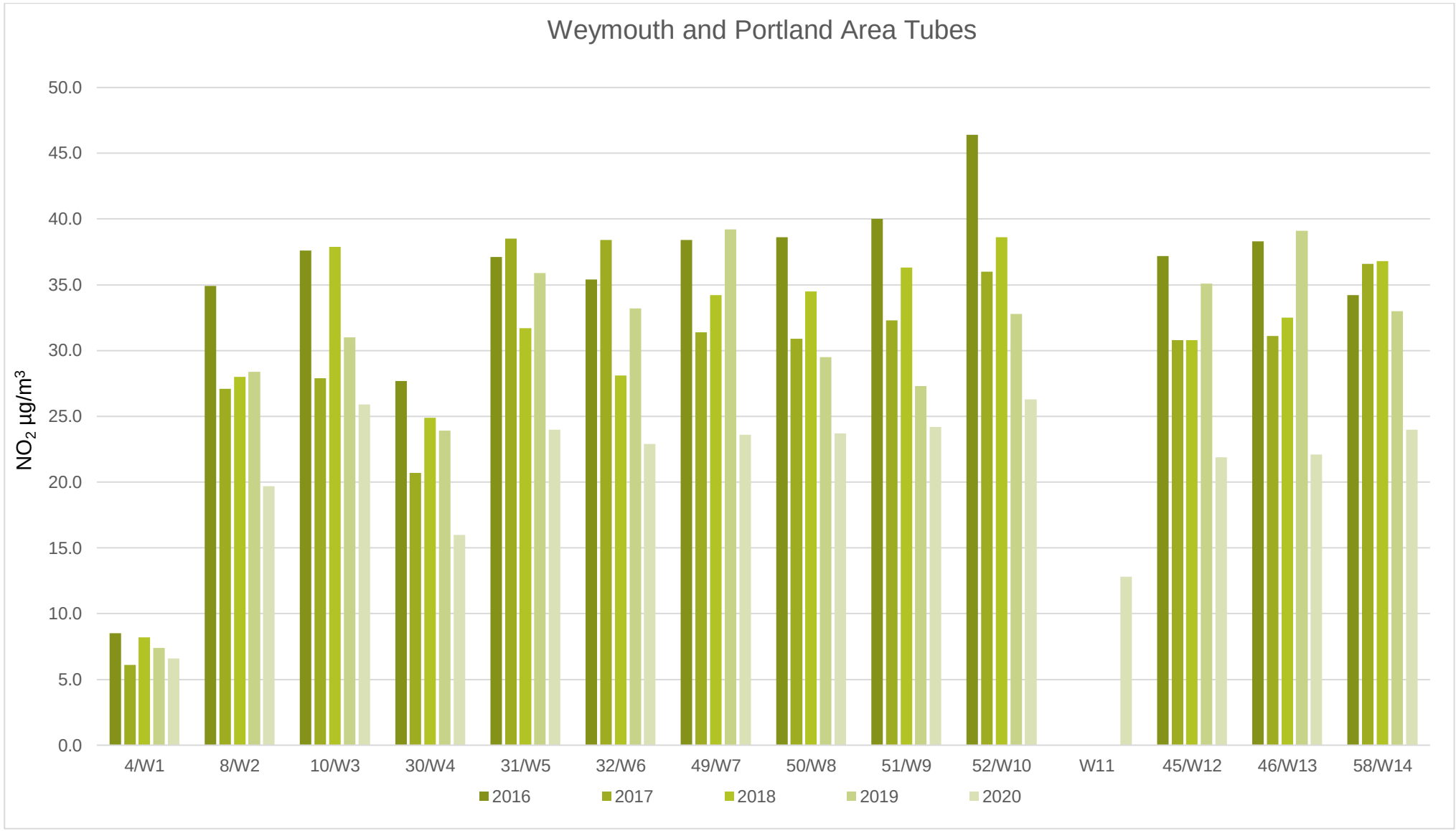


Figure 7: Former Weymouth and Portland Borough Council area annual mean NO_2 results, 2016-2020. N.B. Tubes 10/W3 – 52/W10 in Boot Hill area for concern.

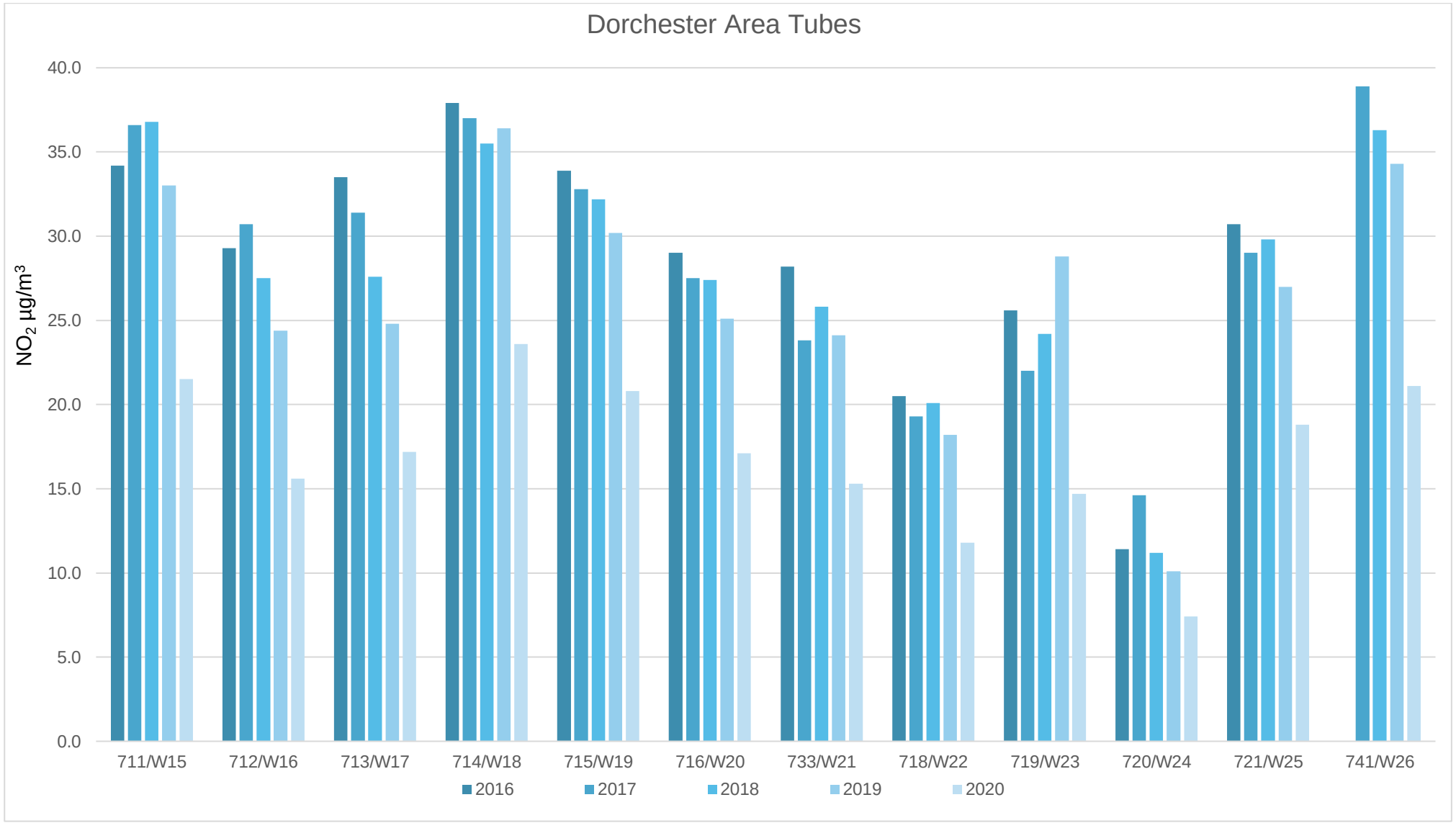


Figure 8: Dorchester (former West Dorset District Council) area annual mean NO_2 results, 2016-2020. N.B. Tubes 713/W17, 714/W18 and 741/W26 within Dorchester High East Street AQMA

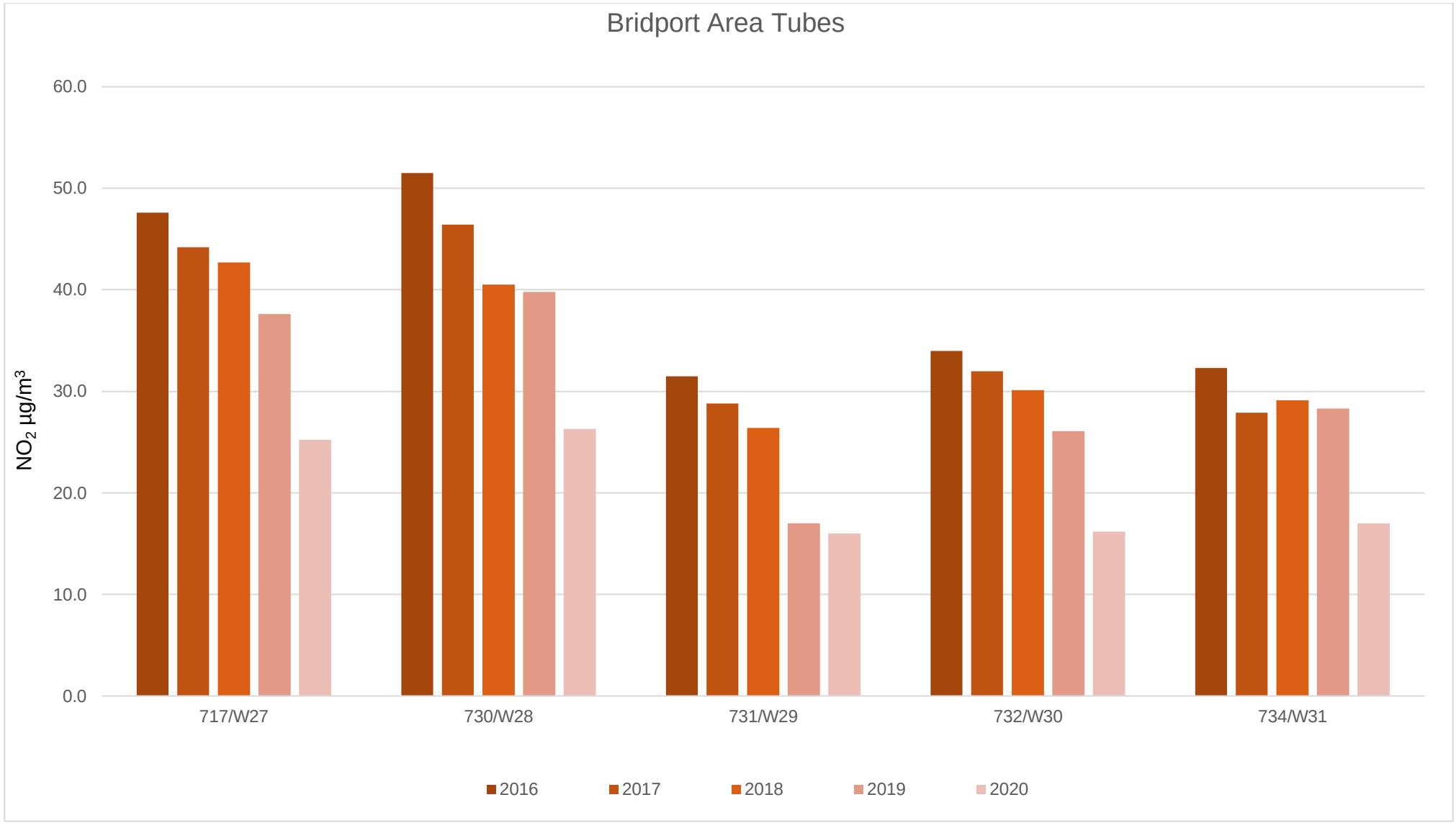


Figure 9: Bridport (former West Dorset District Council) area annual mean NO_2 results, 2016-2020). N.B. All tubes within East Road area for concern

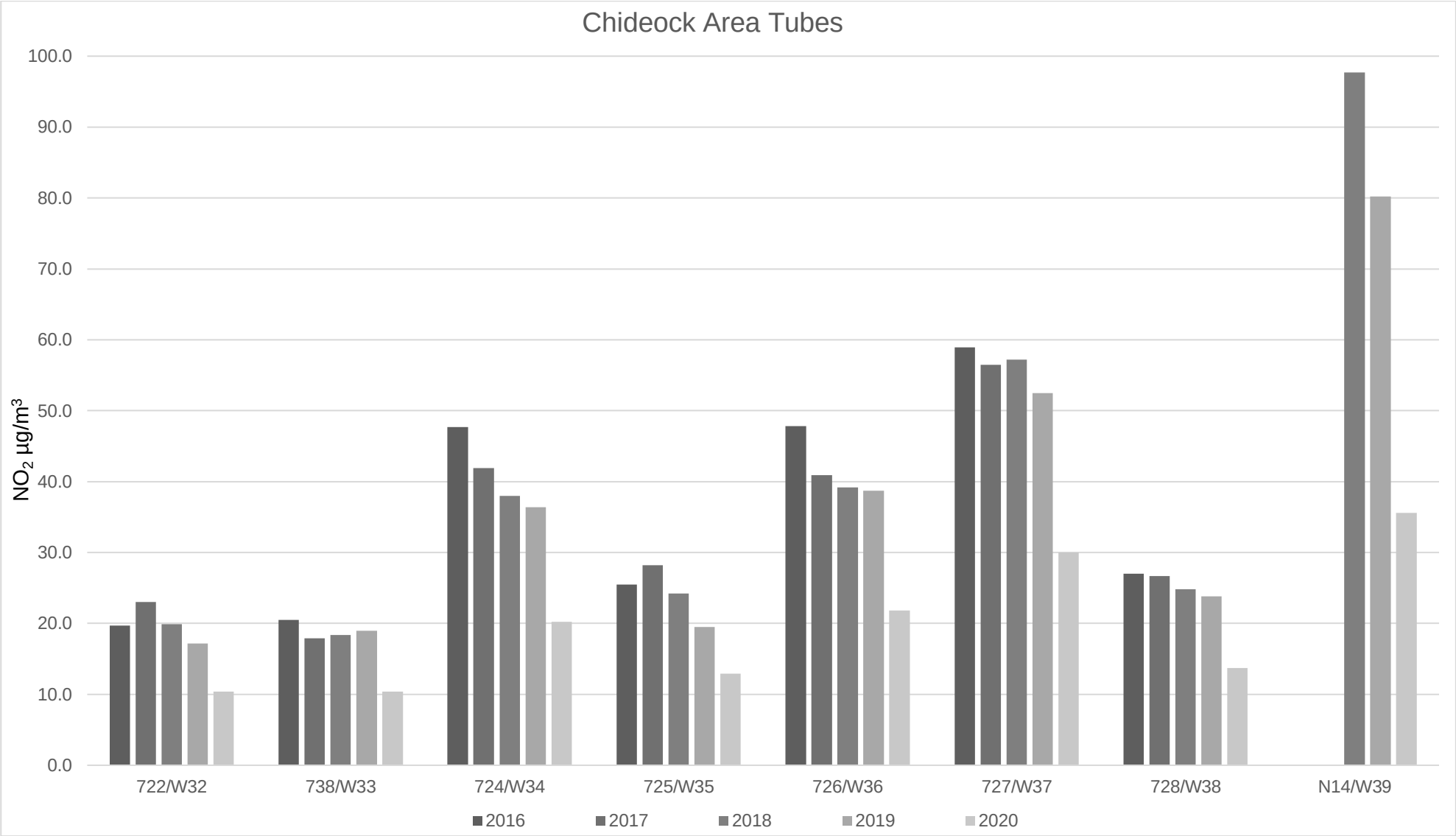


Figure 10: Chideock (former West Dorset District Council) area annual mean NO_2 results, 2016-2020. N.B. All tubes within Chideock AQMA

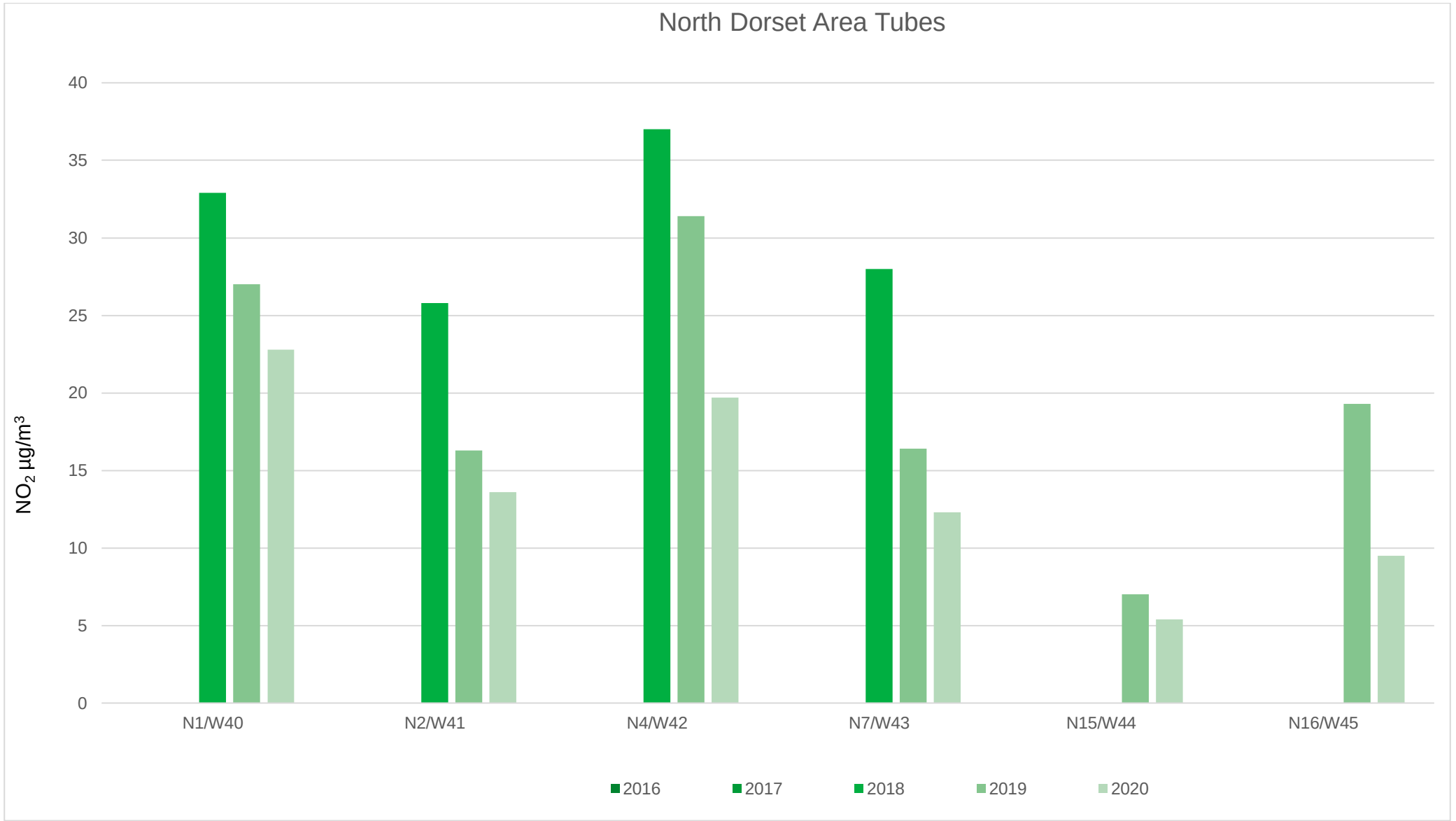


Figure 11: Former North Dorset District Council area annual mean NO_2 results, 2016-2020

Table A.4 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
Boot Hill	367541	78471	Roadside	0	0	0	0	0		

Notes:

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

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

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

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

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

Figure A.2 – Trends in Number of NO_2 1-Hour Means > 200µg/m^3

Table A.5 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2020 (%) [2]	2016	2017	2018	2019	2020
Boot Hill	367541	78471	Roadside	0	0	18.87	17.41	21.17	19.76	
Beaminster	347967	101967	Rural	90.70%	71.00%		26.82	**38.51**	26.8	21.77
Blandford	387965	106833	Rural	85.53%	62.46%		20.96	**45.61**	21.4	17.51
Ferndown	408440	99391	Suburban		86.85%		20.19	18.51	12.52	8.7
Sandford	393245	90156	Suburban		90.68%		16.71	10.15	8.74	6.89

☒ **Annualisation has been conducted where data capture is <75% and >33% in line with LAQM.TG16.**

Notes:

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

Exceedances of the PM_{10} annual mean objective of 40$\mu g/m^3$ are shown in **bold**.

All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

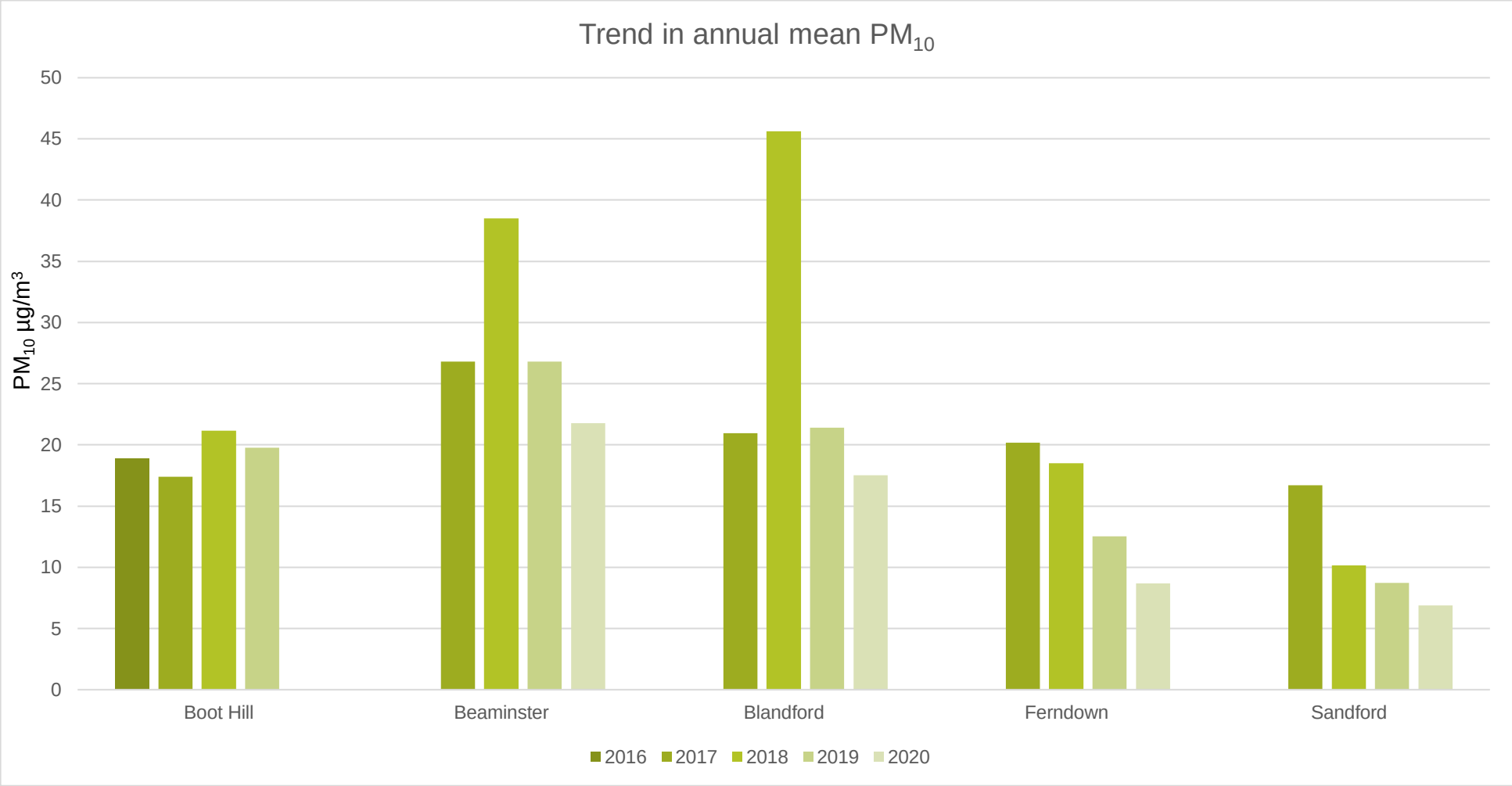


Figure 12: Annual mean PM_{10} concentration for Dorset Council 2016-2020

Table A.6 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
Boot Hill	367541	78471	Roadside	0	0	0	0	0	0	
Beaminster	347967	101967	Rural	90.7	71.00%		22	**68**	35	16
Blandford	387965	106833	Rural		90.70%		11	**86**	17	6
Ferndown	408440	99391	Suburban		87.40%		10	20	7	0
Sandford	393245	90156	Suburban	100	65.50%		3	0	3	0

Notes:

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

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

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

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

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

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

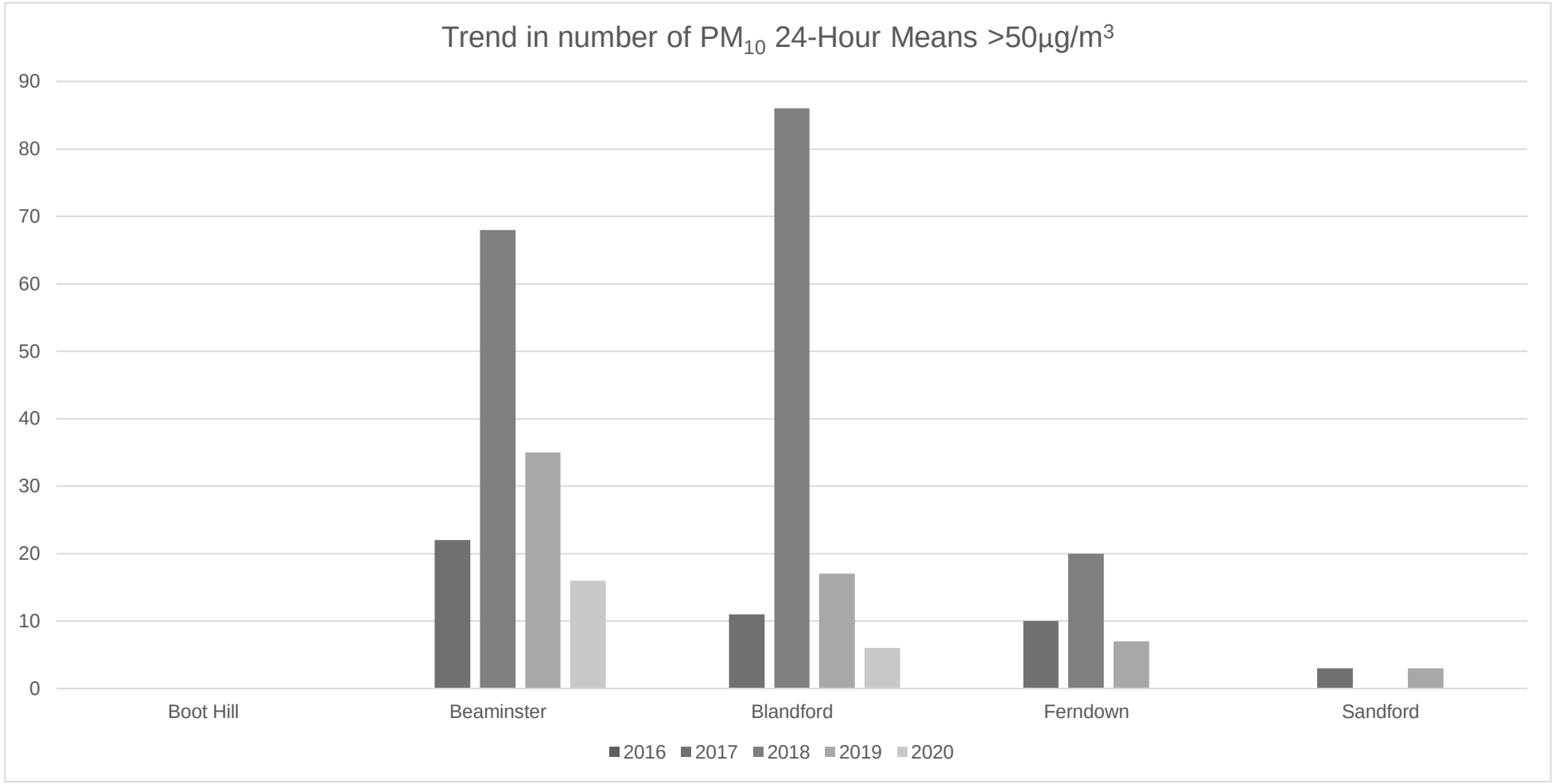


Figure 13: Trend in number of PM_{10} 24-hour means >50µg/m^3

Table A.7 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2020 (%) [2]	2016	2017	2018	2019	2020
Beaminster	347967	101967	Rural	90.7	71.00%			13.85	12.88	9.56
Blandford	387965	106833	Rural		90.70%			12.08	12.06	3.05
Ferndown	408440	99391	Suburban		87.40%			6.52	5.29	3.6
Sandford	393245	90156	Suburban	100	65.50%			4.54	4.16	8.93

☒ **Annualisation has been conducted where data capture is <75% and >33% in line with LAQM.TG16**

Notes:

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

All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(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.5 – Trends in Annual Mean $PM_{2.5}$ Concentrations

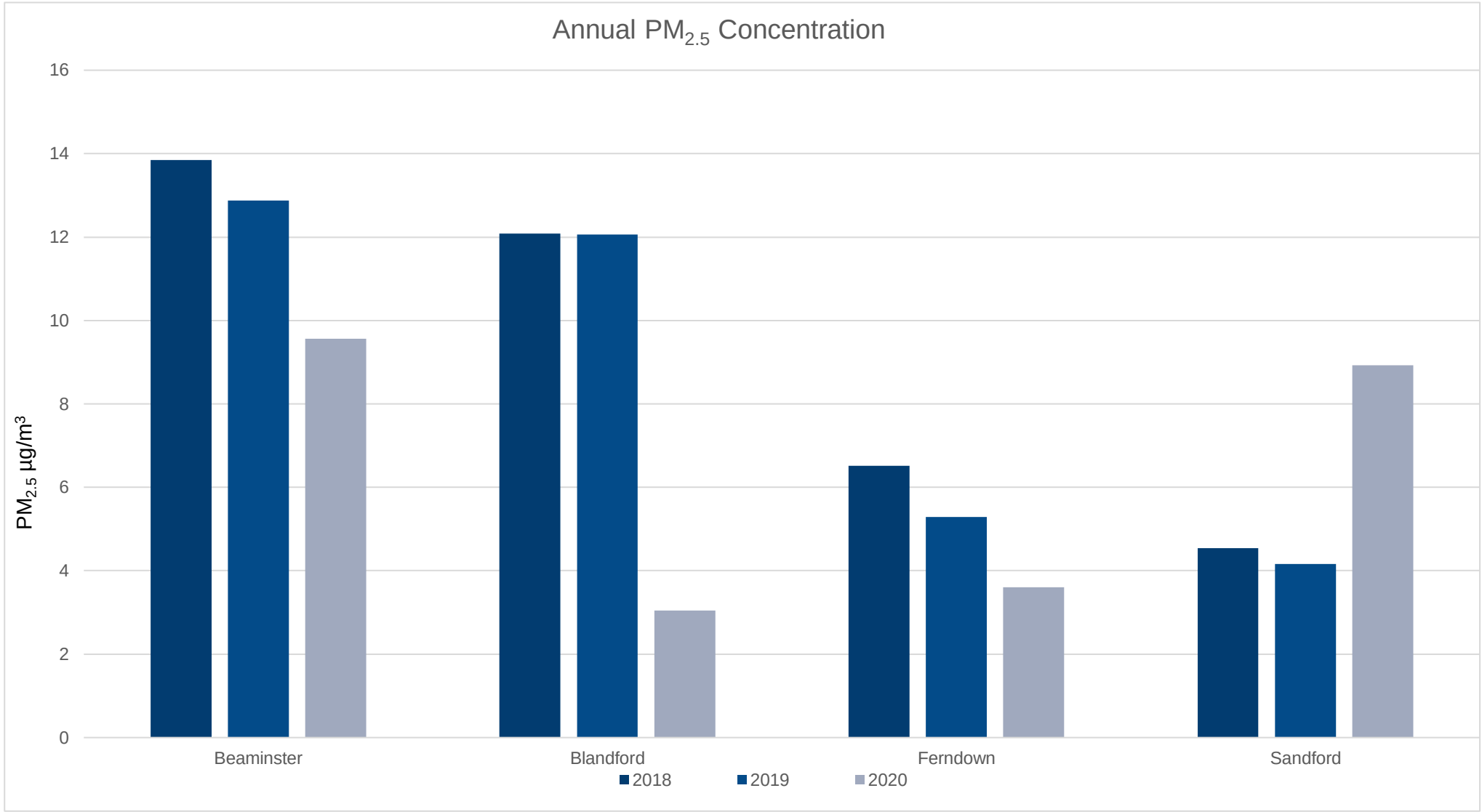


Figure 14: Annual mean $PM_{2.5}$ concentration for Dorset Council 2018-2020

Appendix B: Full Monthly Diffusion Tube Results for 2020

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

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.82J-M, 0.77A-D)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
P1	384430	86880	14.0	13.0	15.0	13.0	13	15.00	16.0	19	21.00	18.0	22.0	18.0	16.4167	12.8		
P2	396276	81699	15.0	9.0	12.0	11.0	8	12.00	6.0	15	13.00	21.0	18.0	16.0	13	9.9		
P3	402790	78950	17.0	8.0	11.0	12.0	6	8.00	8.0	13	10.00	NR	19.0	15.0	11.5455	8.5		
P4	402860	78830	9.0	13.0	14.0	13.0	9	10.00	8.0	13	11.00	10.0	17.0	13.0	11.6667	9.2		
P5	397910	93425	28.0	21.0	19.0	19.0	15	20.00	17.0	22	24.00	23.0	27.0	26.0	21.75	16.3		
P6	398421	92644	20.0	17.0	16.0	16.0	10	16.00	15.0	20	19.00	20.0	25.0	23.0	18.0833	13.8		
P7	398330	93137	13.0	14.0	18.0	18.0	13	13.00	12.0	17	18.00	18.0	26.0	22.0	16.8333	13.2		
P8	398572	93137	26.0	20.0	17.0	17.0	13	16.00	15.0	20	23.00	21.0	27.0	23.0	19.8333	14.8		
P9	393334	90089	13.0	11.0	17.0	19.0	17	19.00	11.0	23	16.00	15.0	24.0	19.0	17	13.4		
P10	391790	87190	21.0	10.0	10.0	10.0	6	9.00	9.0	11	12.00	11.0	16.0	13.0	11.5	8.2		
P11	383901	95100	23.0												23	17.7		
P12	402970	78410	11.0												11	8.5		
P13	393223	89947	24.0												24	18.5		
P14	402965	78408	28.0												28	21.6		
1/E1	413298	104528	26.0	18.0	19.0	7.0	16	25.00	13.0	22	19.00	17.0	20.0	23.0	18.75	14.7		
E2	406362	98711				18.0	15	20.00	16.0	19	19.00	19.0	24.0	23.0	19.2222	14.8		
E3	402880	99961				13.0	11	15.00	10.0	18	18.00	16.0	19.0	21.0	15.6667	12.1		
4/E4	413425	104429	20.0	16.0	15.0	13.0	9	11.00	11.0	15	16.00	16.0	18.0	18.0	14.8333	11.6		
E5	400677	99998				17.0	15	20.00	21.0	25	31.00	23.0	28.0	28.0	23.1111	17.8		
6/E6	407785	100135	32.0	21.0	24.0	25.0	20	23.00	15.0	25	26.00	23.0	29.0	30.0	24.4167	19.1		
7/E7	407668	99889	23.0	NR	16.0	14.0	8	11.00	11.0	14	16.00	16.0	23.0	20.0	15.6364	12.5		
E8	401003	100736				12.0	9	11.00	10.0	9	14.00	16.0	22.0	19.0	13.5556	10.4		
10/E9	412782	104118	41.0	31.0	29.0	24.0	17	32.00	23.0	31	33.00	33.0	36.0	34.0	30.3333	23.8		
14/E10	408384	97986	27.0	19.0	23.0	23.0	22	29.00	21.0	24	30.00	27.0	32.0	33.0	25.8333	20.2		
15/E11	408468	98002	34.0	28.0	24.0	22.0	20	20.00	16.0	21	28.00	20.0	28.0	26.0	23.9167	18.8		
16/E12	400833	100042	23.0	17.0	17.0	14.0	9	11.00	12.0	16	17.00	15.0	19.0	22.0	16	12.6		
17/E13	400901	100149	26.0	19.0	18.0	14.0	8	14.00	11.0	17	22.00	19.0	23.0	23.0	17.8333	14		
2	413488	104543	14.0	19.0	19.0										17.3333	12.8		
3	413686	104709	24.0	21.0	19.0										21.3333	15.8		
5	413521	104368	18.0	13.0	15.0										15.3333	11.3		
8	407804	100016	15.0	9.0	12.0										12	8.9		
9	407650	99763	18.0	9.0	12.0										13	9.6		
11	412747	104117	22.0	12.0	16.0										16.6667	12.3		
12	412749	104262	15.0	7.0	10.0										10.6667	7.9		

13	412978	104339	NR	NR	NR											**NA**	
4/W1	368779	71706	9.2	4.5	7.3	11.0	7	5.00	6.0	9	8.00	9.0	14.0	11.0	8.41667	6.6	
8/W2	368003	79527	31.6	25.6	22.5	21.0	18	20.00	22.0	35	30.00	25.0	26.0	25.0	25.1417	19.7	
10/W3	367542	78548	36.2	28.7	33.6	36.0	26	36.00	24.0	46	36.00	29.0	35.0	31.0	33.125	25.9	
30/W4	367545	78550	23.0	17.6	19.0	16.0	15	15.00	18.0	29	25.00	22.0	21.0	25.0	20.4667	16	
31/W5	367540	78471	37.8	30.5	30.7	23.0	22	30.00	29.0	36	33.00	34.0	29.0	32.0	30.5833	24	
32/W6	367528	78554	37.8	30.0	26.6	23.0	24	31.00	28.0	33	30.00	27.0	28.0	32.0	29.2	22.9	
49/W7	367540	78471	37.2	30.3	29.3	23.0	23	29.00	27.0	36	35.00	28.0	31.0	33.0	30.15	23.6	
50/W8	367540	78471	35.2	31.6	29.6	23.0	22	31.00	25.0	37	31.00	31.0	33.0	33.0	30.2	23.7	
51/W9	367550	78485	NR	NR	30.9	31.0	29	33.00	23.0	38	35.00	29.0	33.0	27.0	30.89	24.2	
52/W10	367533	78531	37.1	43.3	34.5	23.0	22	30.00	33.0	35	37.00	36.0	33.0	39.0	33.575	26.3	
W11	368337	74204				22.0	17	24.00	9.0	12	13.00	12.0	16.0	NR	15.625	12.8	
45/W12	367879	78567	34.6	27.9	26.6	23.0	19	28.00	29.0	37	31.00	24.0	29.0	27.0	28.0083	21.9	
46/W13	367995	79528	33.9	28.6	27.3	22.0	20	28.00	26.0	38	31.00	28.0	28.0	28.0	28.2333	22.1	
58/W14	368540	73593	36.7	27.7	31.8	27.0	22	28.00	30.0	39	34.00	28.0	35.0	28.0	30.6	24	
59	366268	77709	20.0	20.2	19.8										20	15.7	
60	366091	77551	14.1	6.3	10.7										10.3667	8.2	
711/W15	369121	90739	42.7	35.0	16.8	23.0	22	21.00	19.0	28	32.00	32.0	27.0	30.0	27.375	21.5	
712/W16	369171	90711	31.4	26.4	11.6	15.0	16	18.00	16.0	21	12.00	22.0	27.0	22.0	19.8692	15.6	
713/W17	369484	90759	32.8	29.4	12.3	17.0	15	19.00	17.0	22	25.00	24.0	25.0	25.0	21.9525	17.2	
714/W18	369387	90742	54.1	46.9	16.3	21.0	18	27.00	25.0	29	28.00	33.0	35.0	27.0	30.0225	23.6	
715/W19	368907	90739	35.5	26.9	11.5	20.0	20	24.00	25.0	33	34.00	27.0	34.0	28.0	26.5692	20.8	
716/W20	368948	90089	33.1	22.0	11.2	16.0	15	18.00	18.0	25	24.00	27.0	27.0	26.0	21.8525	17.1	
733/W21	369002	90275	26.1	22.4	10.4	17.0	16	17.00	15.0	24	22.00	NR	22.0	23.0	19.5309	15.3	
718/W22	369381	90698	23.4	15.9	8.8	16.0	12	11.00	11.0	17	16.00	15.0	18.0	17.0	15.0858	11.8	
719/W23	368815	90636	25.6	17.7	10.7	17.0	14	19.00	13.0	19	23.00	19.0	25.0	23.0	18.8283	14.7	
720/W24	368982	90453	16.2	10.0	5.5	10.0	6	9.00	5.0	10	7.00	12.0	NR	14.0	9.51091	7.4	
721/W25	368982	90706	34.7	27.3	13.6	20.0	18	20.00	NR	23	29.00	25.0	28.0	26.0	24.0536	18.8	
741/W26	369468	90756	29.4	26.1	NR	20.0	16	24.00	22.0	30	34.00	32.0	33.0	30.0	26.9509	21.1	

717/ W27	347557	93023	38.2	34.6	18.5	24.0	24	31.00	29.0	37	41.00	37.0	36.0	36.0	32.1883	25.2	
730/ W28	347612	93050	41.8	39.3	17.5	22.0	26	36.00	35.0	42	42.00	42.0	28.0	32.0	33.6242	26.3	
731/ W29	347277	92867	25.1	25.7	11.4	14.0	17	10.00	21.0	29	27.00	22.0	20.0	23.0	20.4358	16	
732/ W30	347262	92873	28.3	25.3	11.9	15.0	12	19.00	20.0	26	27.00	23.0	22.0	18.0	20.6267	16.2	
734/ W31	347489	92989	NR	31.0	13.5	15.0	NR	14.00	20.0	26	27.00	25.0	22.0	24.0	21.749	17	
722/ W32	342364	92814	15.5	NR	5.4	11.0	9	10.00	13.0	20	19.00	16.0	15.0	16.0	13.6218	10.4	
738/ W33	342151	92869	18.8	15.0	7.8	NR	10	9.00	10.0	15	16.00	16.0	15.0	14.0	13.3227	10.4	
724/ W34	342190	92840	34.7	NR	14.2	18.0	19	24.00	29.0	37	32.00	28.0	24.0	25.0	25.9	20.2	
725/ W35	342486	92791	25.3	18.1	9.0	10.0	11	14.00	15.0	21	20.00	13.0	20.0	21.0	16.4483	12.9	
726/ W36	342015	92887	35.3	34.4	14.5	19.0	22	27.00	37.0	36	35.00	25.0	26.0	23.0	27.845	21.8	
727/ W37	341946	92908	54.3	43.7	18.3	24.0	26	35.00	49.0	48	51.00	36.0	37.0	37.0	38.2683	30	
728/ W38	342025	92894	22.5	16.7	9.8	14.0	12	15.00	20.0	24	23.00	18.0	17.0	19.0	17.5833	13.7	
N14/ W39	341320	93138	67.1	62.1	30.1	36.0	47	53.00	71.0	84	75.00	50.0	53.0	55.0	56.9433	**45.1**	35.1
N1/ W40	381302	126181	39.7	34.6	13.8	19.0	20	23.00	25.0	27	36.00	33.0	37.0	41.0	29.0858	22.8	
N2/ W41	380511	126490	27.0	18.7	11.1	14.0	15	16.00	12.0	15	21.00	18.0	18.0	22.0	17.3125	13.6	
N4/ W42	378606	114009	37.1	NR	16.1	18.0	17	22.00	24.0	27	33.00	27.0	26.0	28.0	25.0173	19.7	
N7/ W43	388206	120321	13.8	11.1	8.1	11.0	14	20.00	16.0	24	21.00	18.0	16.0	17.0	15.8292	12.3	
N15/ W44	382041	125887	11.2	8.6	3.5	6.0	3	4.00	5.0	6	7.00	10.0	11.0	7.0	6.865	5.4	
N16/ W45	381083	125868	NR	NR	8.3	14.0	NR	NR	NR	11	NR	13.0	19.0	18.0	13.88	9.5	

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

☒ **Annualisation has been conducted where data capture is <75% and >33% in line with LAQM.TG16**

☐ **Local bias adjustment factor used**

☒ **National bias adjustment factor use**

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

☒ **Dorset Council confirm that all 2020 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

NR denotes No Result

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

New or Changed Sources Identified Dorset Council During 2020

Dorset Council has not identified any new sources relating to air quality within the reporting year of 2020

Additional Air Quality Works Undertaken by Dorset Council During 2020

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

QA/QC of Diffusion Tube Monitoring

2020 diffusion tubes were sourced from two different companies, South Yorkshire Air Quality Samplers and Gradko International. Both labs provided a preparation method is 50% TEA in acetone. All of the data presented in this report has been bias adjusted using the national adjustment databased available on the LAQM Support website. The data has been adjusted using version 03/21 of the spreadsheet giving a factor of 0.77 for South Yorkshire Air Quality Samplers and 0.82 for Gradko supplied tubes. The data presented in this report has been fully bias adjusted, annualised where necessary and distance from road calculated.

Gradko tubes were used for former North, West and East District, and Weymouth and Portland Borough councils from January 2020 until March 2020. All other areas and months covered used SYAQS tubes.

Dorset Council now operate one Chemiluminescent Analyser, to apply the local bias adjustment factor to all the diffusion tunes within its area was considered not truly representative.

Internal issues with accessing the analyser's data with respect to IT security concerns means that the data is not able to be manipulated and therefore we have heavily relied upon

Air Monitors to kindly provide a service to scale and ratify data. This access has not been solved during 2020 either.

QA/QC of Monitoring Data

AIR PT is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, and offers a number of test samples designed to test the proficiency of laboratories undertaking analysis of chemical pollutants in ambient indoor, stack and workplace air. One such sample is the AIR NO2 test sample type that is distributed to participants in a quarterly basis. AIR NO2 PT forms an integral part of the UK NO2 Networks QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to local authorities for use in the context of Local Air Quality Management (LAQM). Both labs used by Dorset Council in 2020 take part in the AIR PT scheme. The results of the AIR PT scheme for 2020 are provided in Figure 12 below and are determined as satisfactory.

AIR PT round	AIR PT AR030	AIR PT AR031	AIR PT AR033	AIR PT AR034	AIR PT AR036	AIR PT AR037	AIR PT AR039	AIR PT AR040
Period	Jan – Feb 2019	Apr – May 2019	Jul – Aug 2019	Sept – Nov 2019	Jan – Feb 2020	May – June 2020	Jul – Aug 2020	Sept – Oct 2020
South Yorkshire Air Quality Samplers	100%	100%	100%	75%	100%	NR	NR	100%
Gradko International	75%	100%	100%	100%	75%	NR	NR	75%

Figure 15: Results of Air PT Rounds: Gradko and South Yorkshire Air Quality Samplers

NR – 2020/2021 Round was cancelled due to pandemic

Source: WASP – Annual Performance Criteria for NO2 Diffusion Tubes (defra.gov.uk)

Diffusion Tube Annualisation

The following sites required annualisation:

- 2 - Avon Park, Ashley Heath
- 3 – Hurn Road, Ashley Heath
- 5 - Castlewood, Ashley Heath
- 8 – Fernlea Close, Ferndown
- 9 – Melbury Close, Ferndown

- 11 – Sandy Lane, Ashley Heath
- 12 – Russell Gardens, Ashley Heath
- W11 – Mulberry Avenue, Portland
- 59 – Old Portland Road, Wyke Regis
- 60 – High Street, Wyke Regis
- N16/W45 – New Road, Gillingham

Details of the calculation method undertaken is provided in Table C.2. Annualisation is required for any site with data capture less than 75% but greater than 33%.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2020 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Dorset Council have applied a national bias adjustment factors of 0.82 for Gradko diffusion tubes (between January and March in former West, North and East Dorset District Councils, and Weymouth and Portland Borough Councils) and 0.77 for SYAQS diffusion tubes (all other months and former Purbeck District Council) to the 2020 monitoring data. A summary of bias adjustment factors used by Dorset Council over the past five years is presented in Table C.1.

A national factor has been used, as per Table C.1 – version 03/21. Gradko bias adjustment had 14 studies attributed to it, and SYAQS had 1 study.

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2020	National	03/21	Gradko: 0.82 SYAQS: 0.77
2019	National	03/20	Gradko: 0.89 SYAQS: 1.01

Figure 16: Bias adjustment factors used by Dorset Council in 2019 and 2020 for Gradko and SYAQS diffusion tubes.

NO_2 Fall-off with Distance from the Road

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

N14/W39 Chideock Hill House was the only site corrected for distance. An excerpt is shown in Table C.4.

QA/QC of Automatic Monitoring

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

Dorset Council utilises ACOEM AQMesh Pods. The data is operated and managed by ACOEM UK.

The data provided to the ASR is ratified, and live and historic data is available through airmonitors.net

The type of PM_{10}/$PM_{2.5}$ monitor(s) utilised within Dorset Council do not required the application of a correction factor.

Automatic Monitoring Annualisation

All automatic monitoring locations within Dorset Council recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 33% do not require annualisation.

NO_2 Fall-off with Distance from the Road

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

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

Site ID	Annualisation Factor Davids Lane, Ashley Heath	Annualisation Factor St Georges Est, Portland	Annualisation Factor Cerne Ave. Gillingham	Annualisation Factor Gilbert Road, Swanage	Annualisation Factor Borough Gardens, Dorchester	**Average Annualisation Factor**	**Raw Data Annual Mean**	**Annualised Annual Mean**	Comments
2	0.87	1.20	0.88	0.96	0.90	0.96	17.3	16.6	
3	0.87	1.20	0.88	0.96	0.90	0.96	21.3	20.5	
5	0.87	1.20	0.88	0.96	0.90	0.96	15.3	14.7	
8	0.87	1.20	0.88	0.96	0.90	0.96	12.0	11.5	
9	0.87	1.20	0.88	0.96	0.90	0.96	13.0	12.5	
11	0.87	1.20	0.88	0.96	0.90	0.96	16.7	16.0	
12	0.87	1.20	0.88	0.96	0.90	0.96	10.7	10.2	
W11	1.09	0.98	1.06	1.06	1.13	1.06	15.6	16.6	
59	0.87	1.20	0.88	0.96	0.90	0.96	20.0	19.2	
60	0.87	1.20	0.88	0.96	0.90	0.96	10.4	10.0	
N16/ W45	0.94	0.82	0.95	0.82	0.92	0.89	13.9	12.4	

Table C.3 – Local Bias Adjustment Calculation

Table C.4 – NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

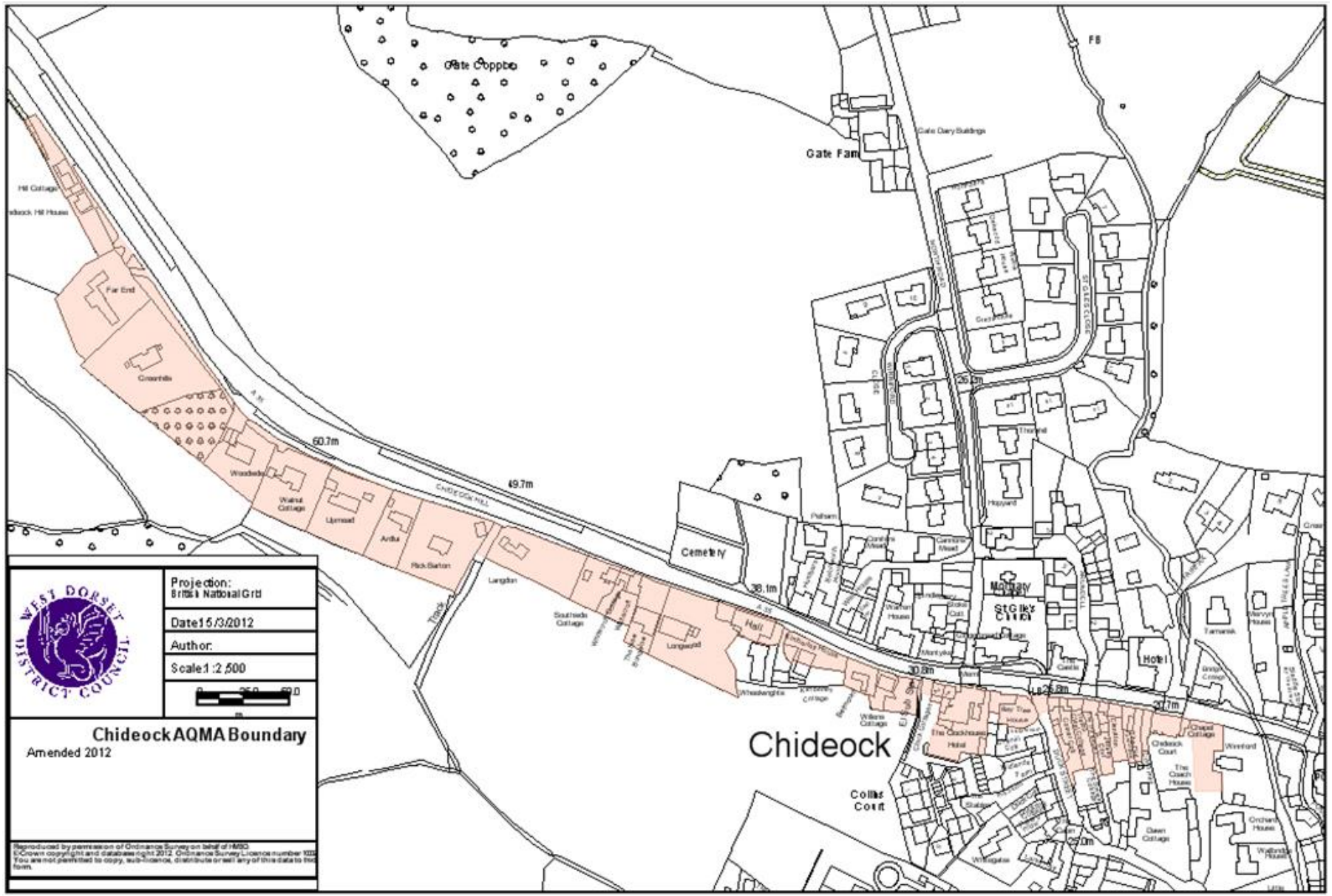
Site Name/ID	Distance (m)		NO_2 Annual Mean Concentration (µg/m^3)		
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor
W39	1.0	3.5	7.4	44.5	35.1

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

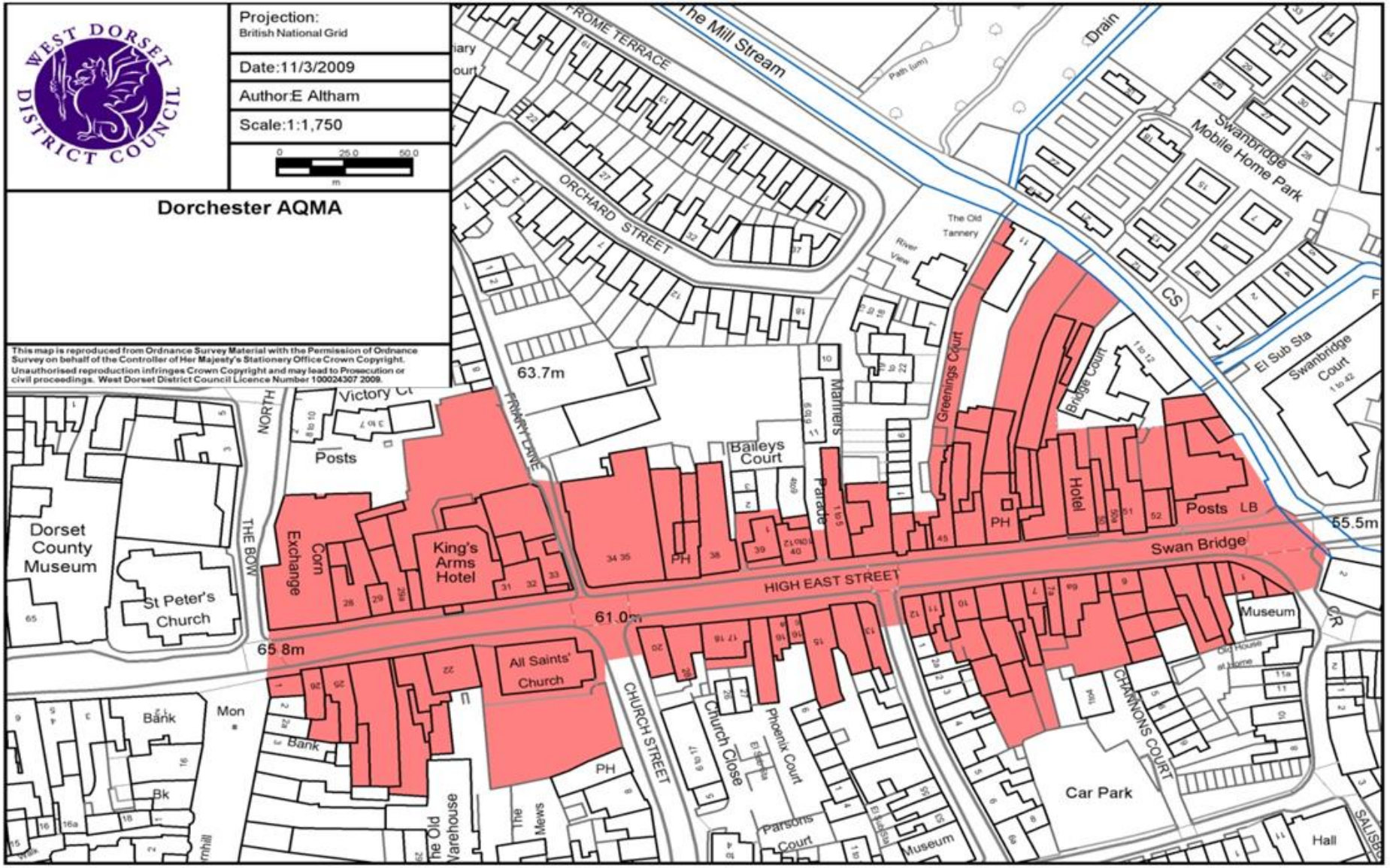
Figure D.1 – Map of Non-Automatic Monitoring Site

AQMA Chideock 2007 Boundary

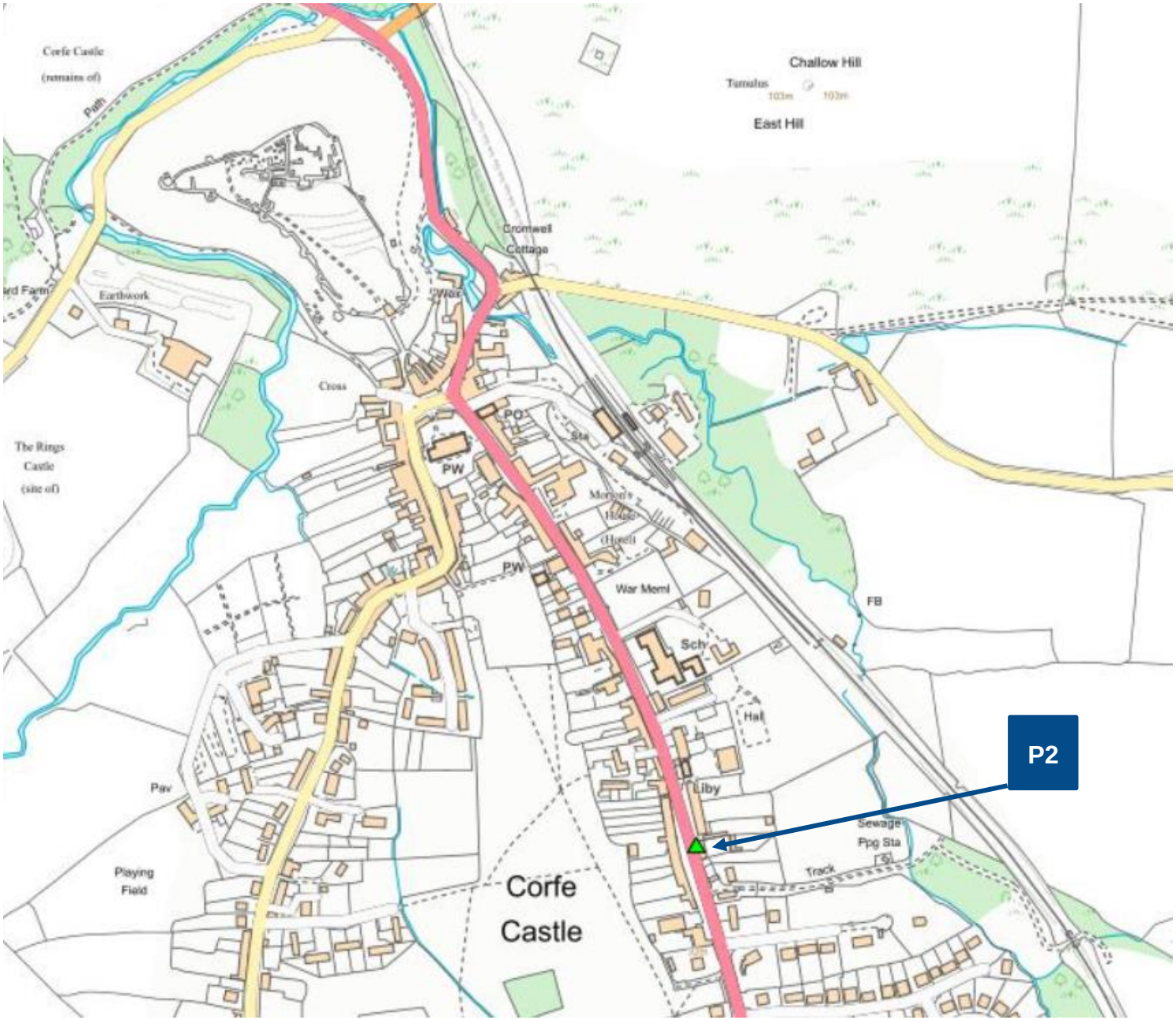
AQMA Chideock 2012 Amended Boundary

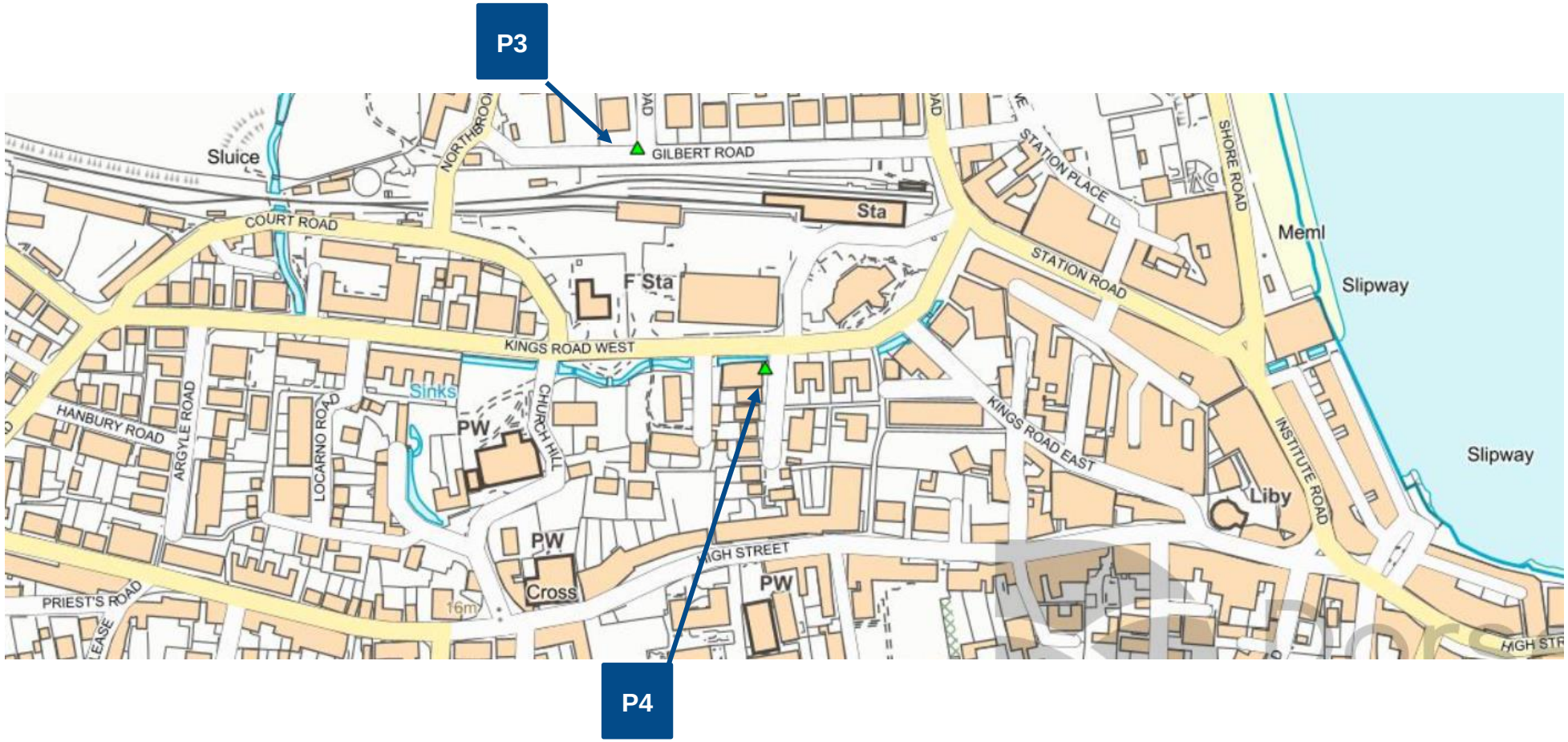


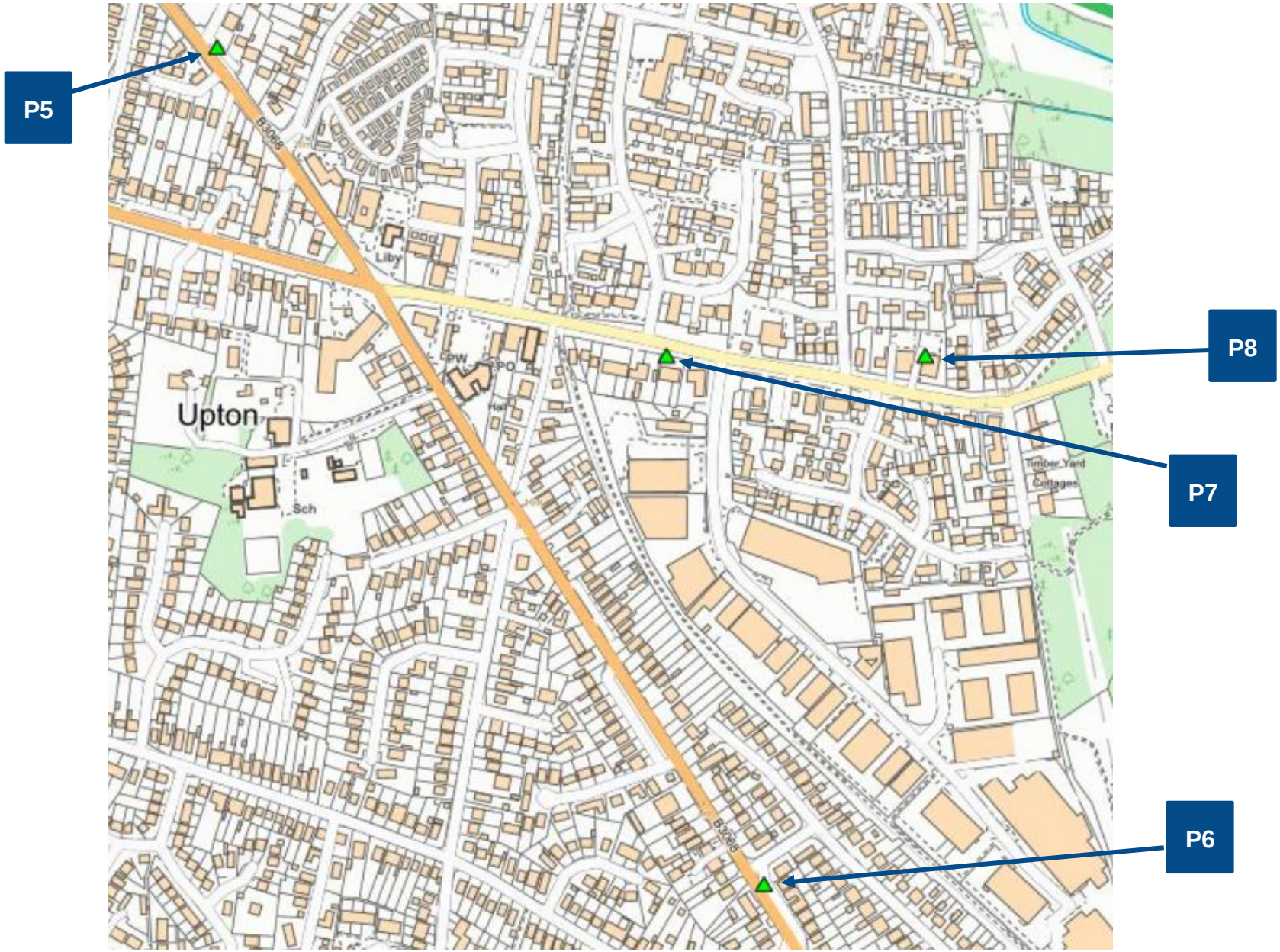
AQMA Dorchester 2009

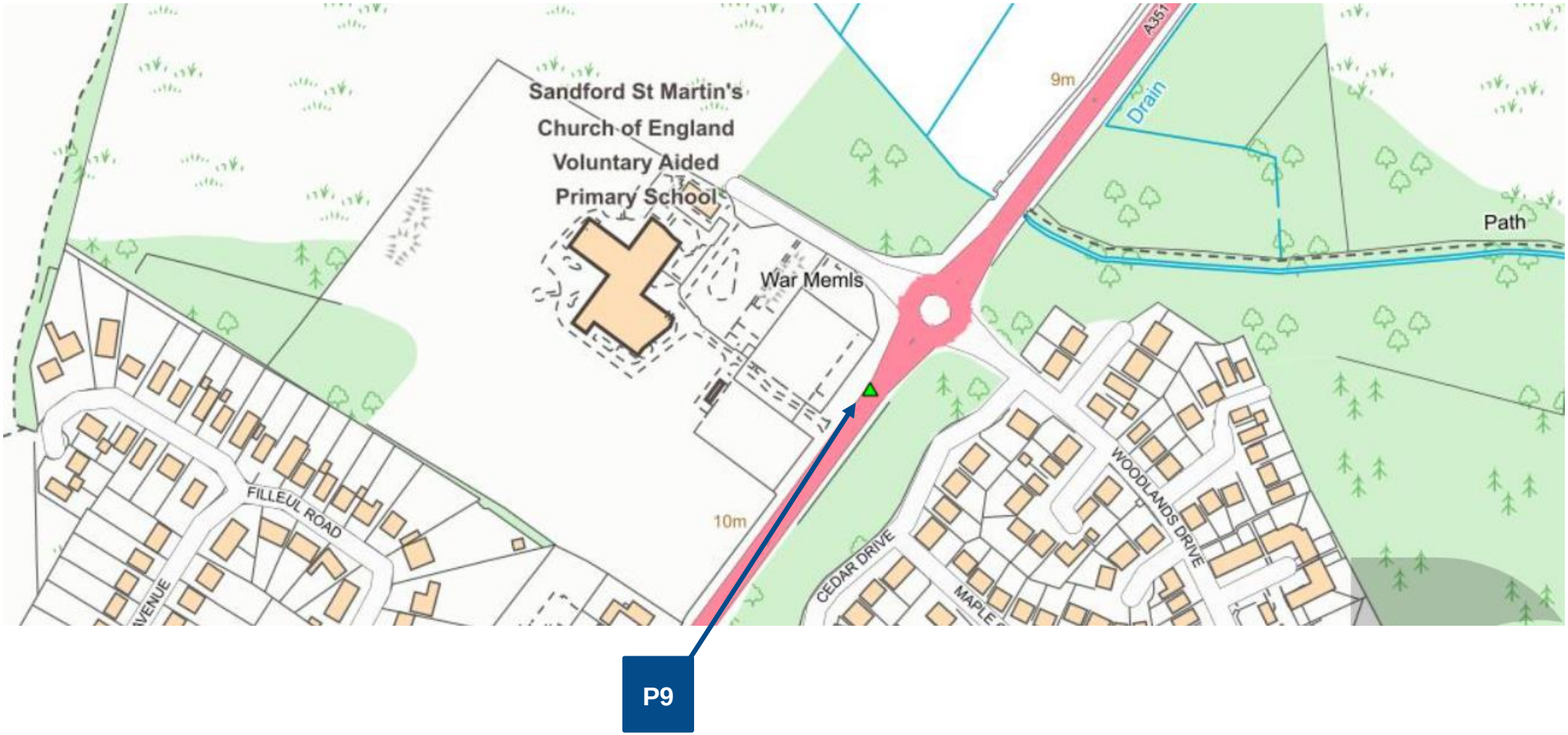


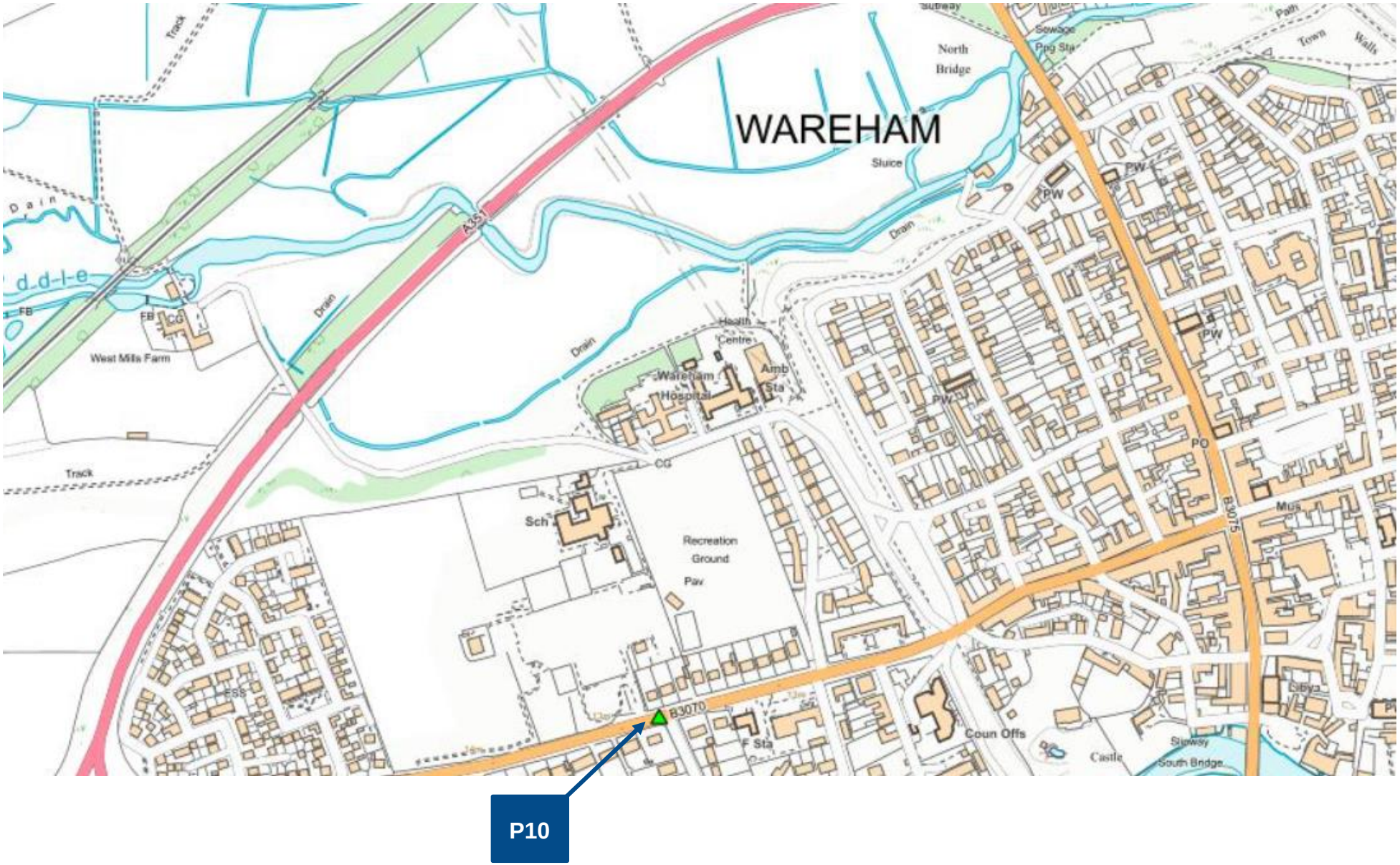
Former Purbeck District Council area monitoring locations


Corfe Castle
(remains of)
Path
Challow Hill
Tumulus
East Hill
Cromwell
Cottage
Earthwork
Cross
PO
PW
PW
The Rings
Castle
(site of)
War Meml
FB
Sch
Hall
Liby
Sewage
Ppg Sta
Track
Pav
Playing
Field
Corfe
Castle
P2

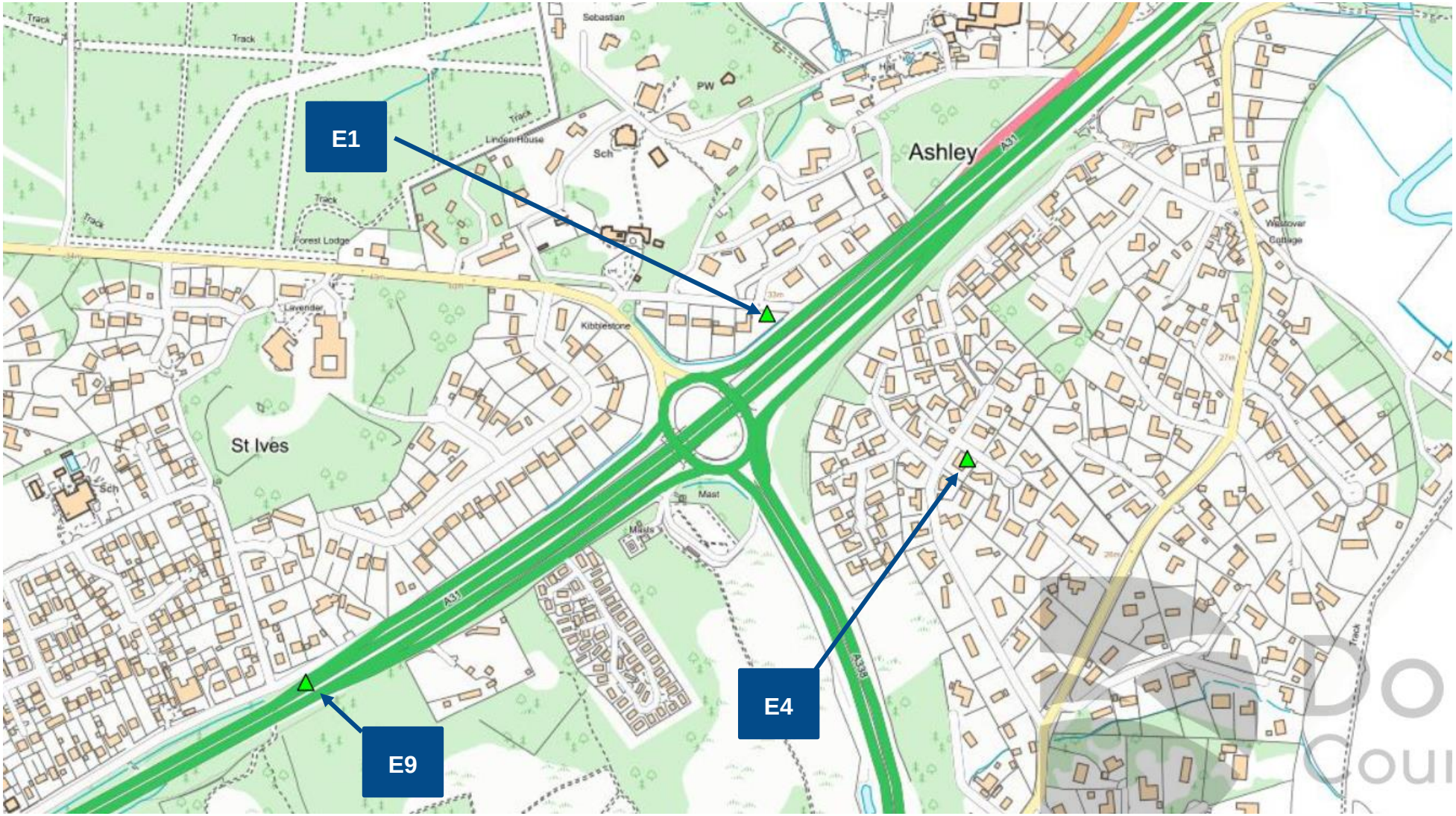

P3
P4
Sluice
NORTHROOD
GILBERT ROAD
COURT ROAD
Sta
F Sta
STATION PLACE
SHORE ROAD
Meml
Slipway
STATION ROAD
KINGS ROAD WEST
Sinks
HANBURY ROAD
ARGYLE ROAD
LOCARNO ROAD
CHURCH HILL
PW
KINGS ROAD EAST
INSTITUTE ROAD
Liby
Slipway
PW
Cross
HIGH STREET
PW
PRIEST'S ROAD
16m

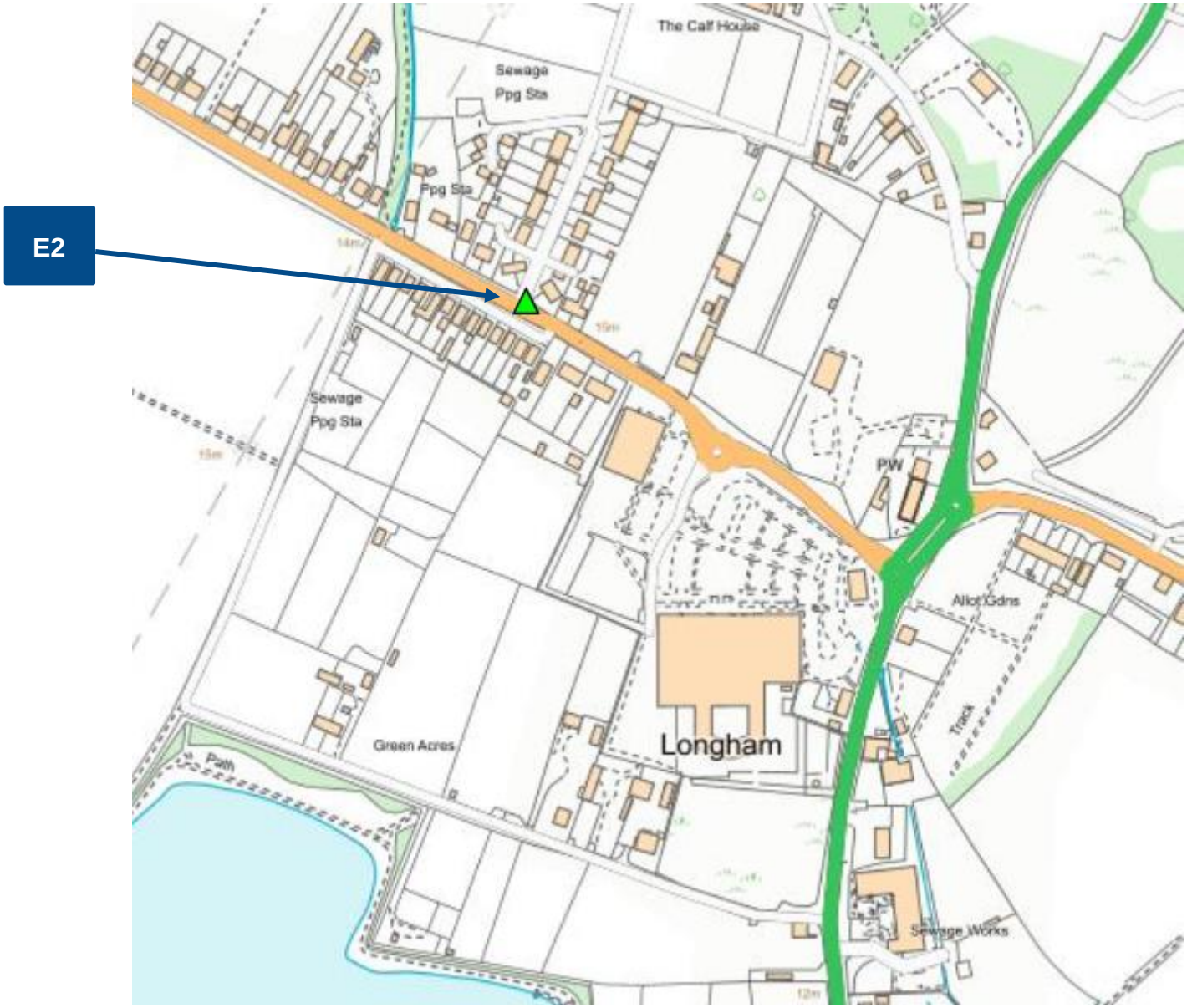

P5
P8
P7
P6
Upton
B3068
Sch
Timber Yard Cottages

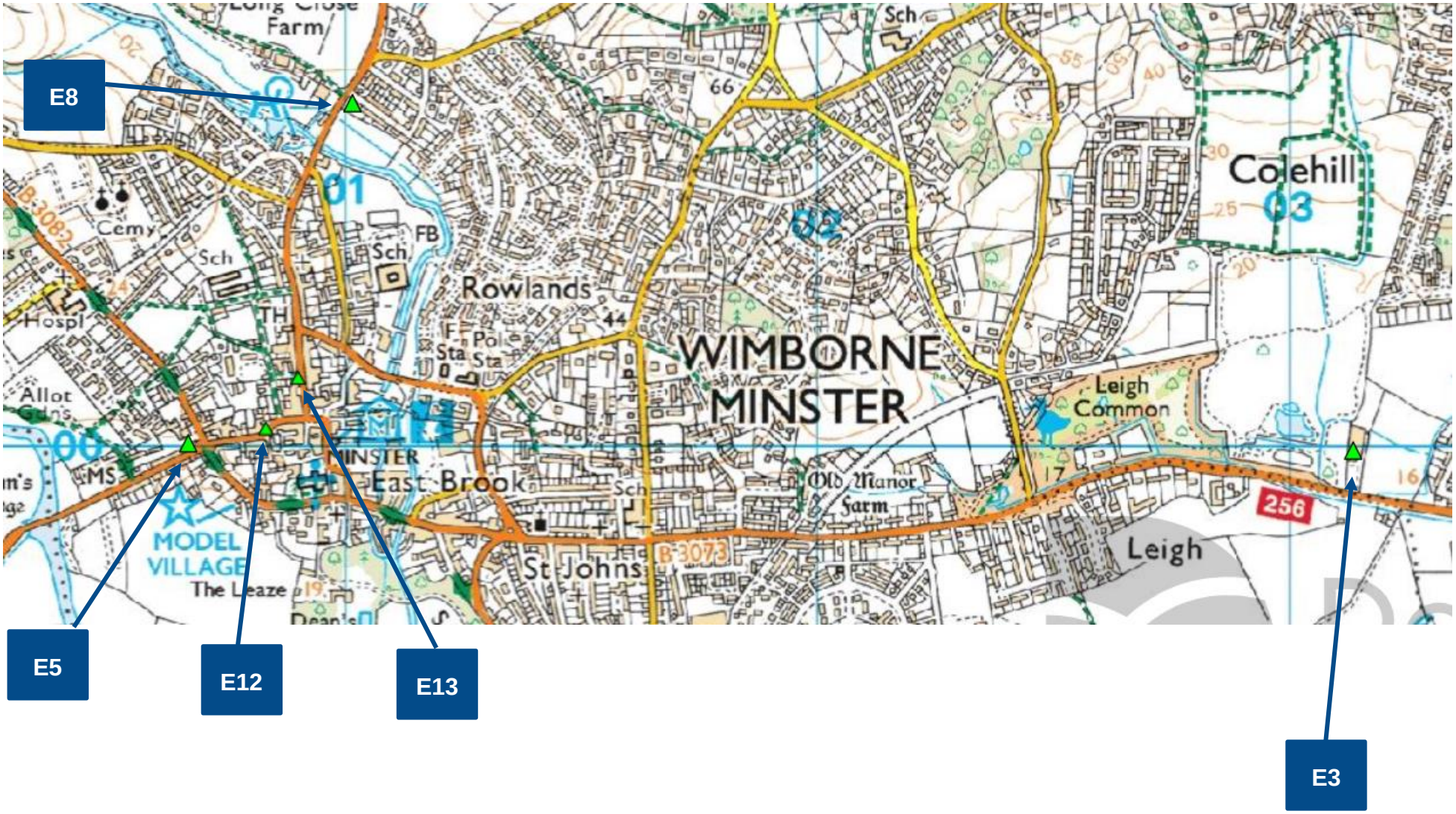

Sandford St Martin's
Church of England
Voluntary Aided
Primary School
War Memls
9m
Drain
Path
A351
10m
FILLEUL ROAD
CEDAR DRIVE
WOODLANDS DRIVE
P9

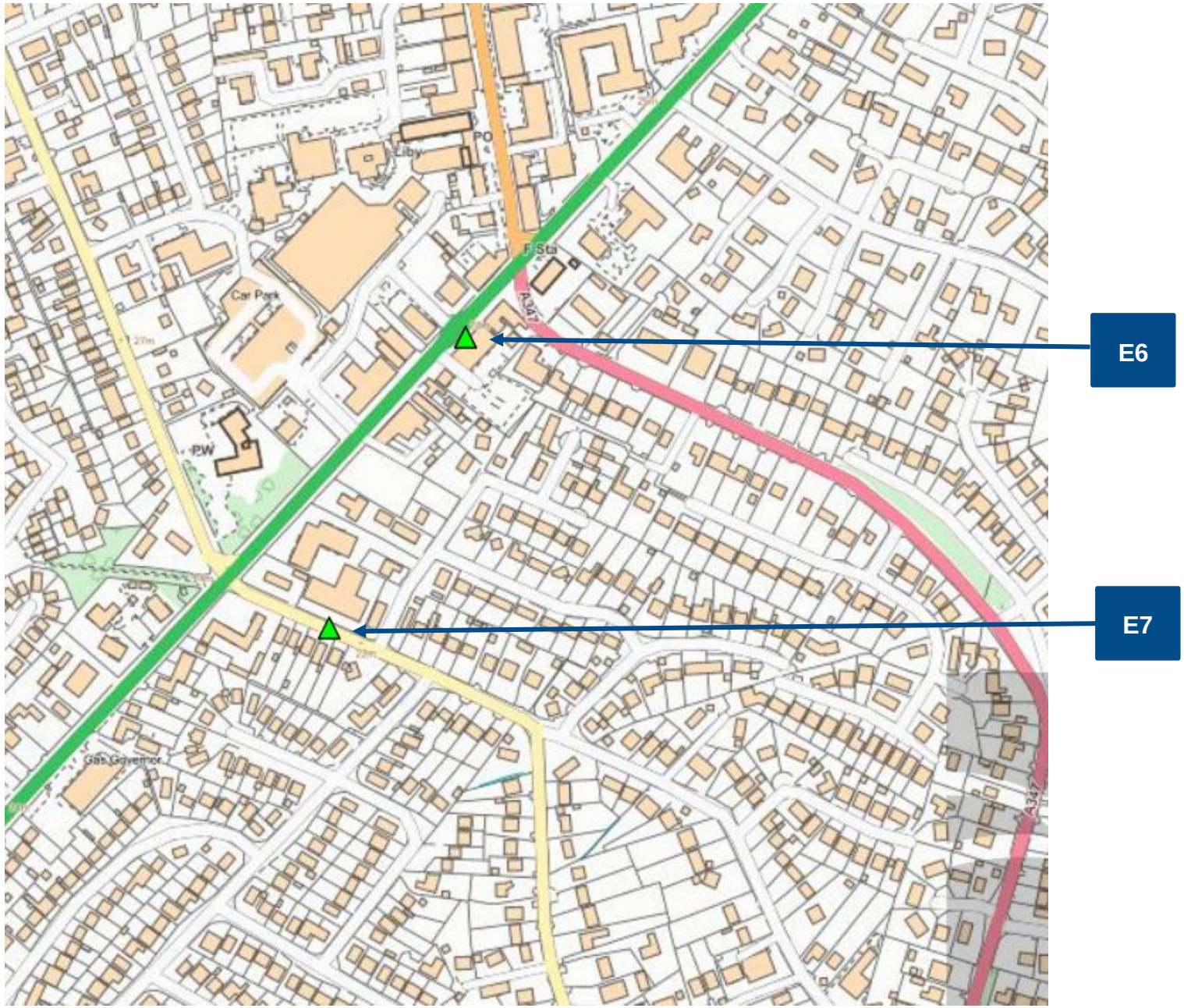

WAREHAM
North Bridge
Sewage Pmg Sta
Subway
Path
Town Walls
Track
A351
Drain
Sluice
PW
FB
CG
West Mills Farm
Health Centre
Wareham Hospital
Amb Sta
PO
Track
Sch
Recreation Ground
Pav
B3075
Mus
B3070
F Sta
Coun Offs
Castle
Sigway
South Bridge
Library
FSS
P10

Former East Dorset District Council area monitoring locations



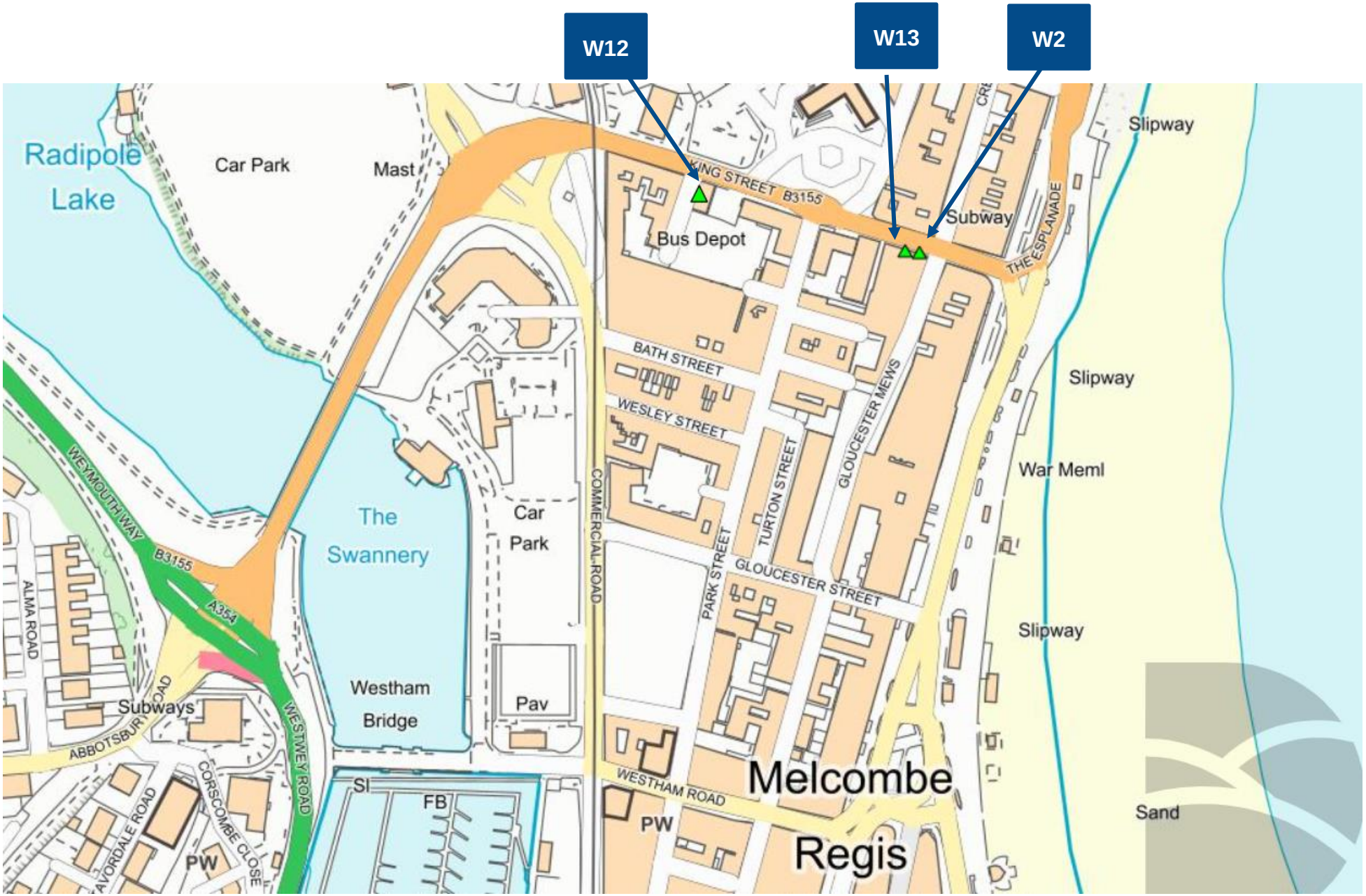

E2
The Calf House
Sewage
Ppg Sta
Ppg Sta
Sewage
Ppg Sta
PW
Allot Gdns
Track
Green Acres
Path
Longham
Sewage Works

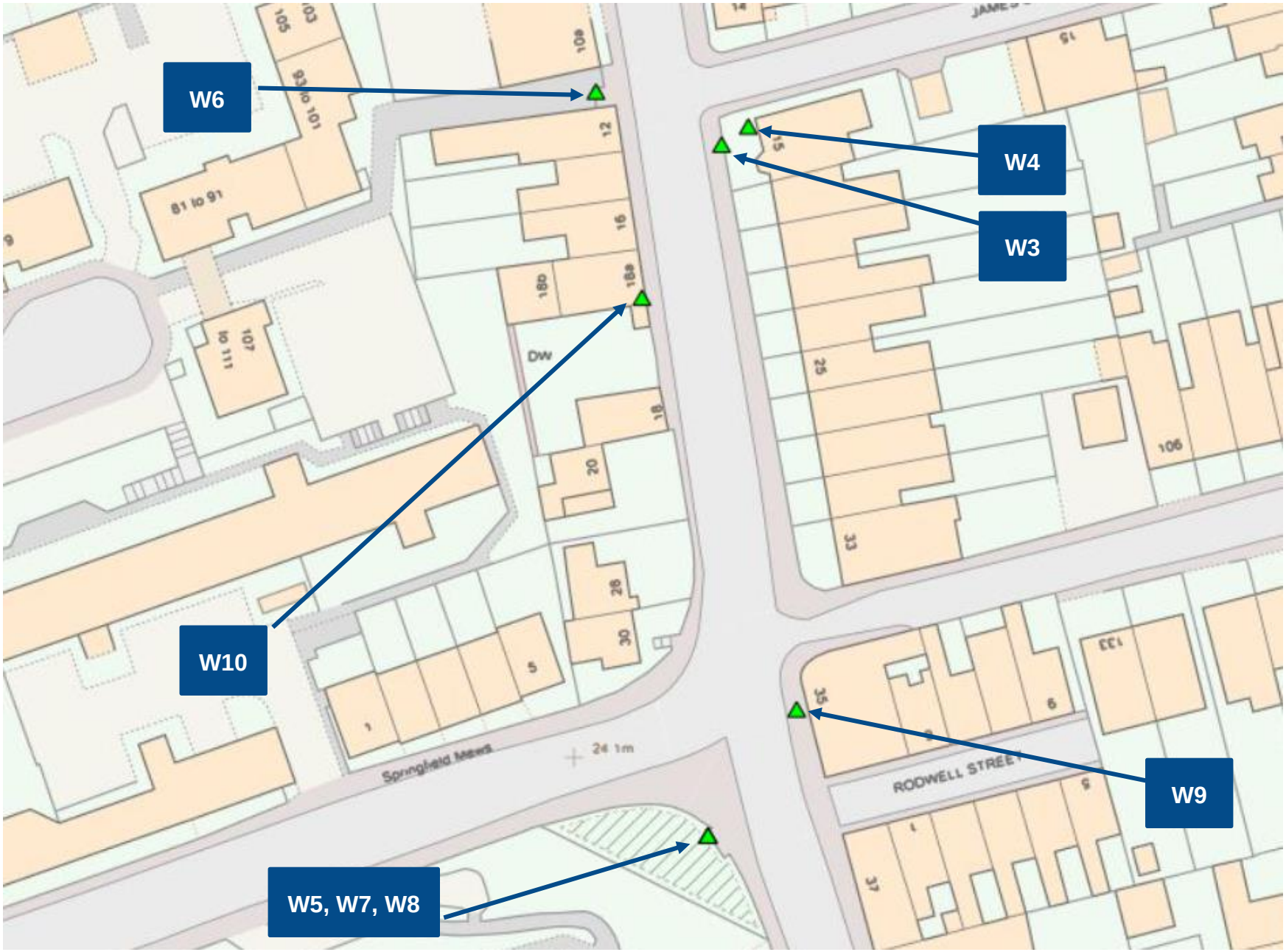

E8
E5
E12
E13
E3
WIMBORNE
MINSTER
Colehill
Rowlands
East Brook
St Johns
Leigh
Leigh Common
Old Manor Farm
MODEL VILLAGE
256
B3073


E6
E7
Car Park
PW
A347
Gas Governor


West Parley
Recreation Ground
CH
Hall
Dudsbury
B3073
E11
E10

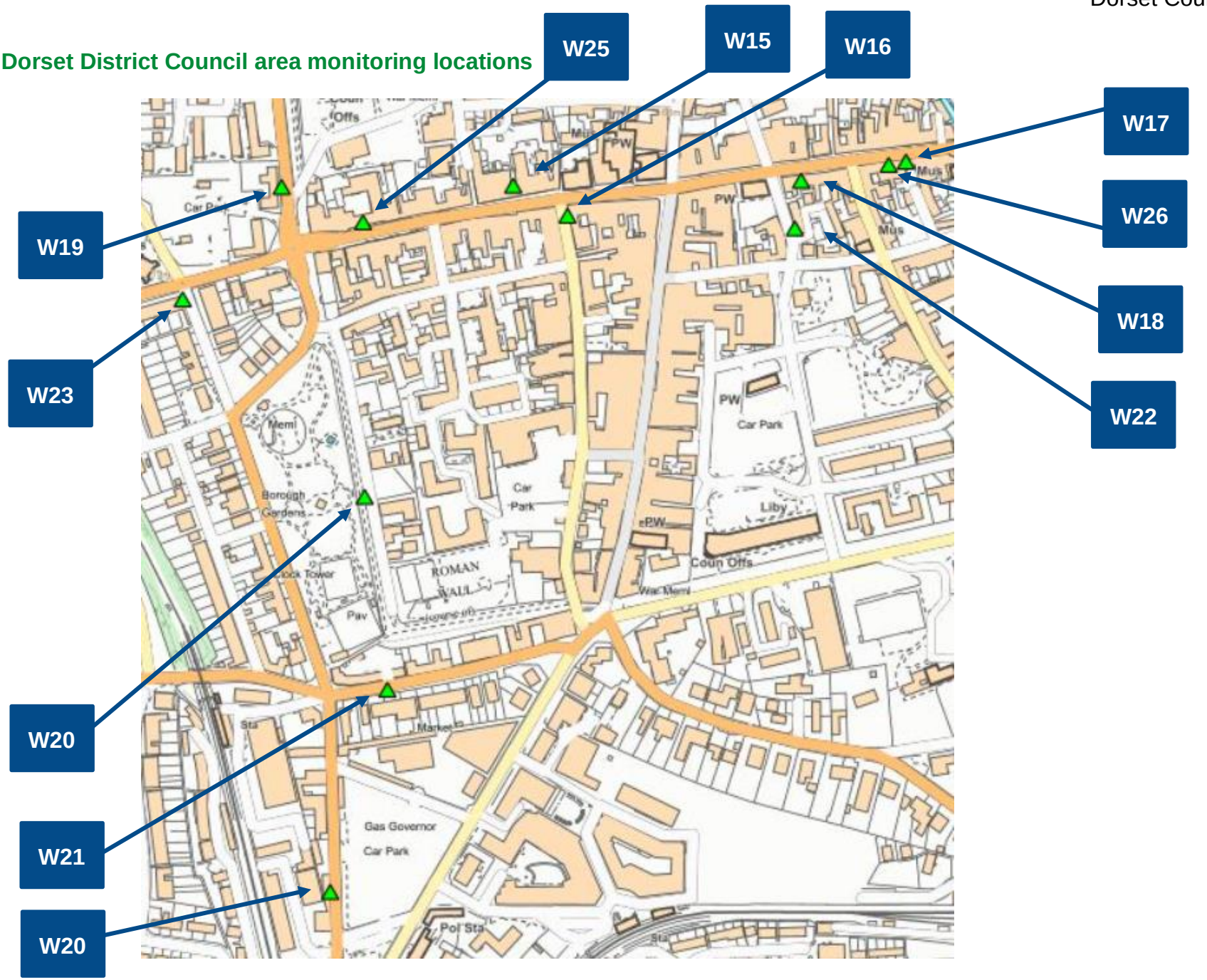
Former Weymouth and Portland Borough Council area monitoring locations

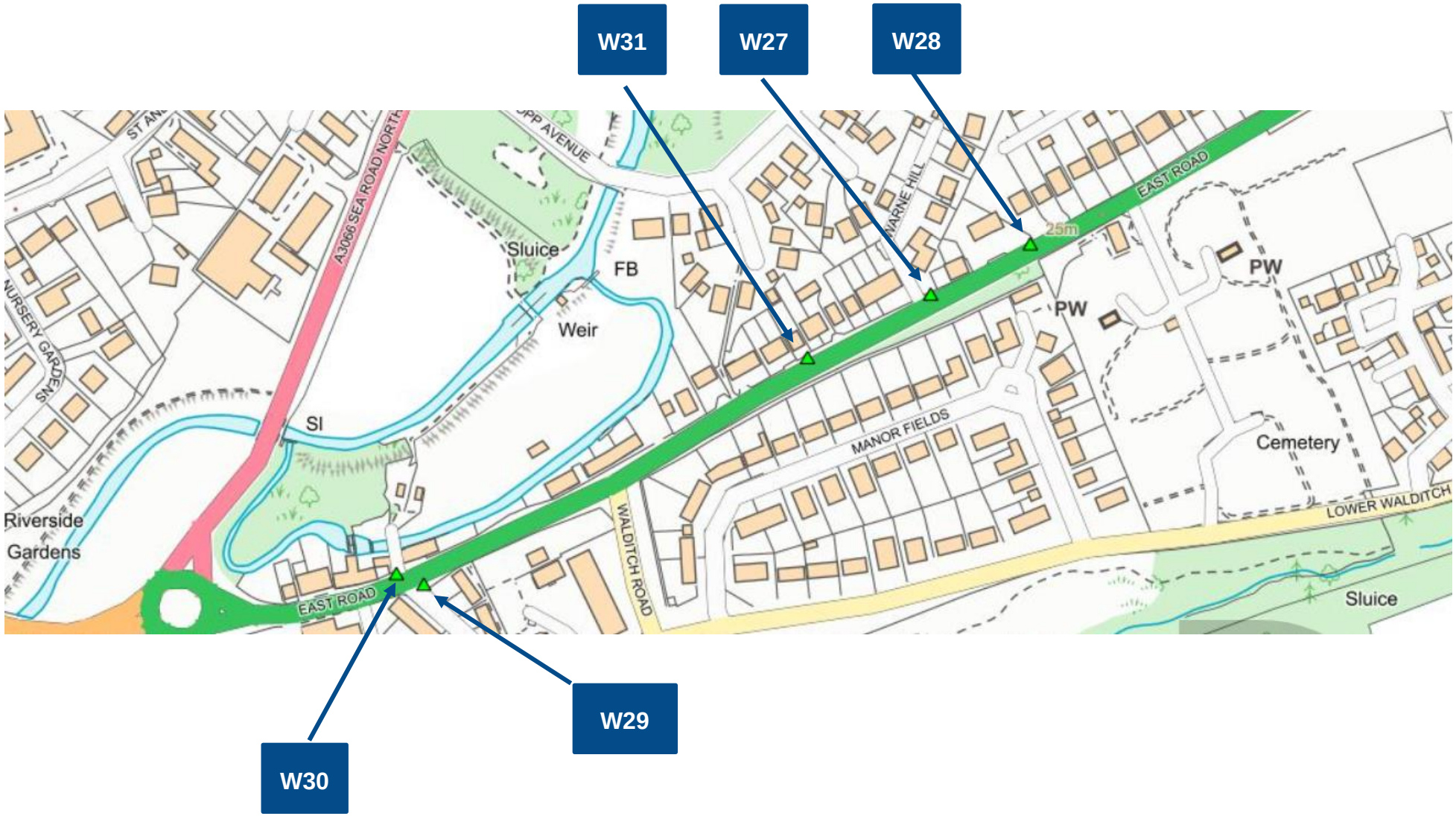

W12
W13
W2
Radipole Lake
Car Park
Mast
KING STREET B3155
Bus Depot
Subway
THE ESPLANADE
Slipway
BATH STREET
WESLEY STREET
GLOUCESTER MEWS
TURTON STREET
War Meml
Slipway
The Swannery
Car Park
COMMERCIAL ROAD
PARK STREET
GLOUCESTER STREET
WEYMOUTH WAY
B3155
A354
ALMA ROAD
Slipway
Westham Bridge
Subways
Pav
ABBOTSBURY ROAD
WESTWEY ROAD
WESTHAM ROAD
Melcombe Regis
SI
FB
PW
CORSCOMBE CLOSE
AVORDALE ROAD
PW
Sand


W6
W4
W3
W10
W9
W5, W7, W8
Springfield Mews
ROOKWELL STREET
Dw


59
60
Reservoir (cov)
Mast
PW
B3156
All Saints' Church Of England School
Liby
Health Centre
Wyke Regis Infant School And Nursery
Sch
PW
PO
Wyke Regis

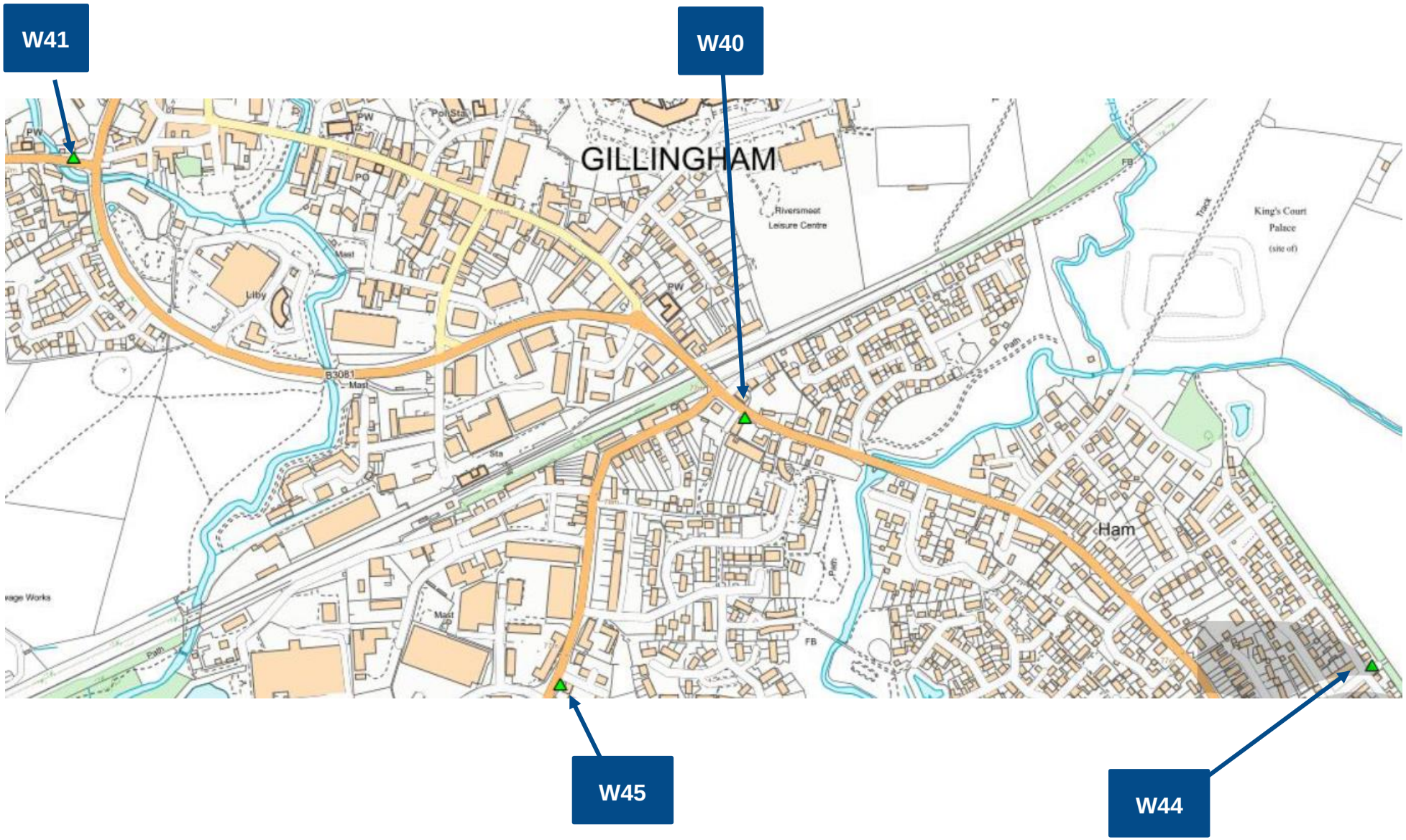
Former West Dorset District Council area monitoring locations



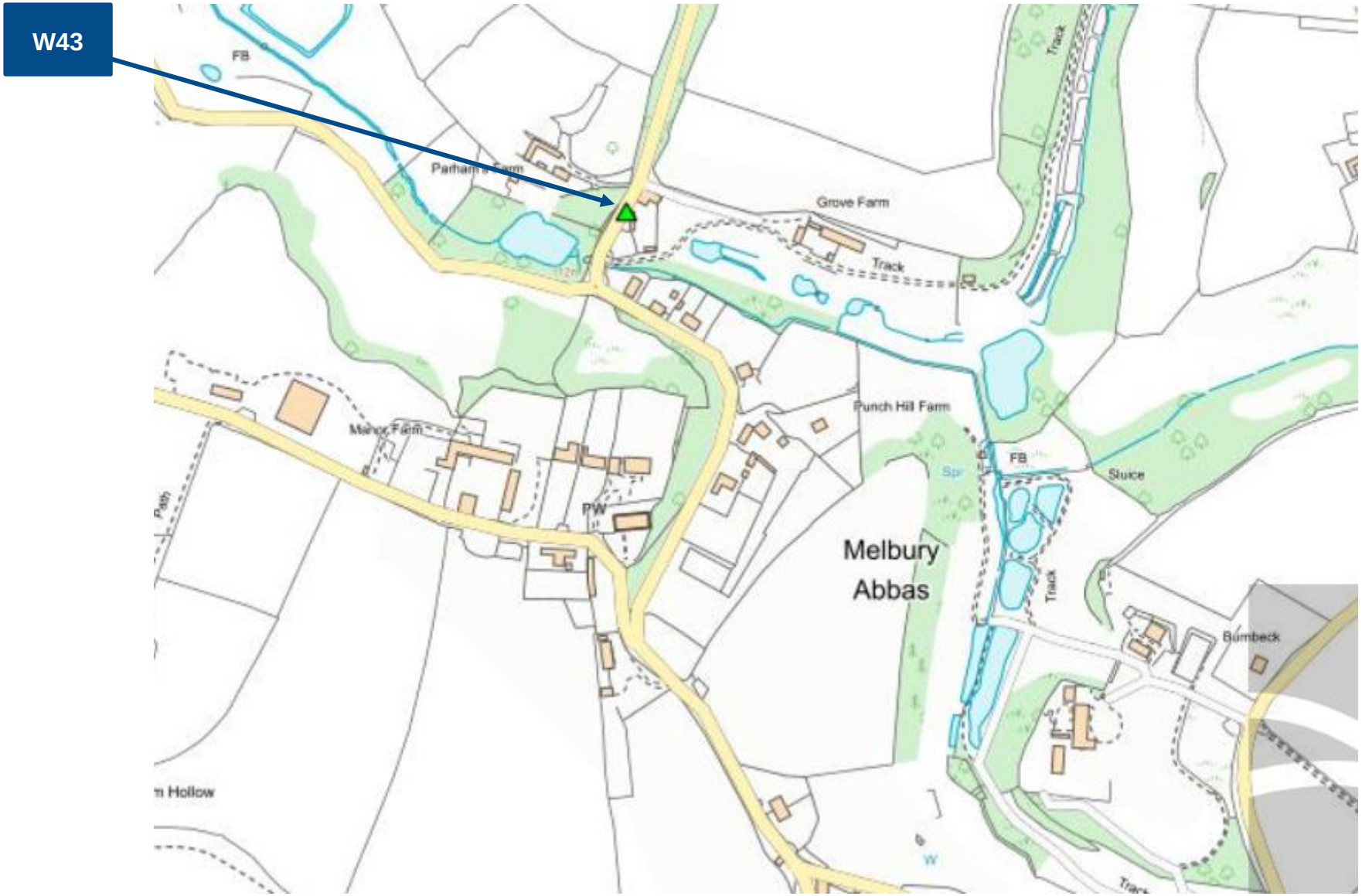

W31
W27
W28
W29
W30
A3066 SEA ROAD NORTH
Sluice
FB
Weir
SI
EAST ROAD
25m
PW
PW
MANOR FIELDS
Cemetery
LOWER WALDITCH
WALDITCH ROAD
Riverside
Gardens
NURSERY GARDENS
Sluice


W39
W37
W38
W33
W32
W36
W34
W35
Chideock Hill
Cottage
CHIDEOCK HILL
A35
Hall
Wheelwrights
NORTH ROAD
WINNIFORD CLOSE
ST GILES CLOSE
26m
PW
PW
ARUNDELL
FAIRFAX
Castle
(site of)
Meml
Greenways
Honeysuckle
Lodge
APPLE TREES LANE
RUINS LANE
DUCK STREET
A35 MAIN STREET
PO
FOSS ORCHARD

Former North Dorset District Council area monitoring locations




W42
FB
Pol
Liby
Sta
Mem
B3062
PO
Bathing Island
Gotts Corner
Recreation
Ground
PW
PW
Sch
Track
Sewage


W43
FB
Grove Farm
Track
Punch Hill Farm
Manor Farm
PW
FB
Sluice
Melbury
Abbas
Track
Bumbeck

Appendix E: Summary of Air Quality Objectives in England

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

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

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

Appendix F: Impact of COVID-19 upon LAQM

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

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

Despite the challenges that the pandemic has given rise to, the events of 2020 have also provided Local Authorities with an opportunity to quantify the air quality impacts associated with wide-scale and extreme intervention, most notably in relation to emissions of air pollutants arising from road traffic. The vast majority (>95%) of AQMAs declared within the UK are related to road traffic emissions, where attainment of the annual mean objective for nitrogen dioxide (NO_2) is considered unlikely. On 23rd March 2020, the UK Government released official guidance advising all members of public to stay at home, with work-related travel only permitted when absolutely necessary. During this initial national lockdown (and to a lesser extent other national and regional lockdowns that followed), marked reductions in vehicle traffic were observed; Department for Transport (DfT) data[8] suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

This reduction in travel in turn gave rise to a change of air pollutant emissions associated with road traffic, i.e. nitrous oxides (NO_x), and exhaust and non-exhaust particulates (PM). The Air Quality Expert Group (AQEG)[9] has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK reductions in NO_2 annual mean concentrations were between 20 and 30% relative to pre-pandemic levels, which

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

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

represents an absolute reduction of between 10 to 20µg/m^3 if expressed relative to annual mean averages. During this period, changes in $PM_{2.5}$ concentrations were less marked than those of NO_2. $PM_{2.5}$ concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. Through analysis of AURN monitoring data for 2018-2020, AQEG have detailed that $PM_{2.5}$ concentrations during the initial lockdown period are of the order 2 to 5µg/m^3 lower relative to those that would be expected under business-as-usual conditions.

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

Impacts of COVID-19 on Air Quality within Dorset Council

Whilst in no way comprehensive, this brief analysis serves to provide an indication of the effect of the Covid-19 restrictions – also known as lockdown - upon air quality at a number of sites within Dorset. It is important to note that the pollution described here comes from a number of sources, and their individual contributions are very difficult to determine. As a general headline, it can be safely assumed from this data that air quality has greatly improved since the introduction of the restrictions. Every diffusion tube analysed demonstrated a significant reduction in NO_2, each tube recording a reduction of at least 25% in March or April. Graphs for $PM_{2.5}$ and PM_{10} in sites near schools across Dorset demonstrated a reduction in particulates, although this is more difficult to quantify.

Multiple diffusion tubes were analysed for the purposes of this exercise. The tubes were as follows:

- 46/W13 – King Street Weymouth “Dominos”
- 52/W10 – 16 Rodwell Road, Weymouth
- 714/W18 – High East Street 1, Dorchester
- 730/W28 – East Road 2, Bridport
- 727/W37 – Whitecroft, Chideock
- N1/W40 – Lawrence Cottage, Gillingham
- E6 – 392 Ringwood Road, Ferndown
- P5 – Blandford Road North, Upton

These tubes were selected for their wealth of data (all except Gillingham had data since 2015 – Gillingham monitoring started in April 2018); higher readings for their area; and at least one tube was selected for each former Dorset district with areas of concern prioritised. The analysis involved creating a five-year average from diffusion tube data submitted as part of the Annual Status Reports for each year, and graphing this alongside

the 2019 and 2020 results. A percentage reduction was calculated of 2020 against the five-year average.

It is firstly noteworthy that 2019 in this context seems to be a generally “bad year” – for thirteen of the twenty-four monthly periods analysed, the 2019 data was above that of the five-year average. 2020, on the other hand, appears to have been starting out on a good setting, as the February measurements for seven of the eight sites were lower than the five-year average. Despite this, every site bar one had lower readings for March and April than for February, and ALL March and April readings were lower than the five-year average, with varying but not-insignificant reductions seen across the board. The single smallest reduction was for Ferndown with 11.3% in April, however it had already reduced by 25.5% in March. The most reduced site was Chideock in March with a massive 67% decrease against the five-year average, and a 61.1% reduction in April. Gillingham, Bridport, Dorchester all had months with a reading over 55% lower than the five-year average, and all sites improved at least by 25% on one month, with an average improvement over the three months analysed of 33.8%. This is especially impressive, considering that Dorchester’s February was 13% higher than its five-year average.

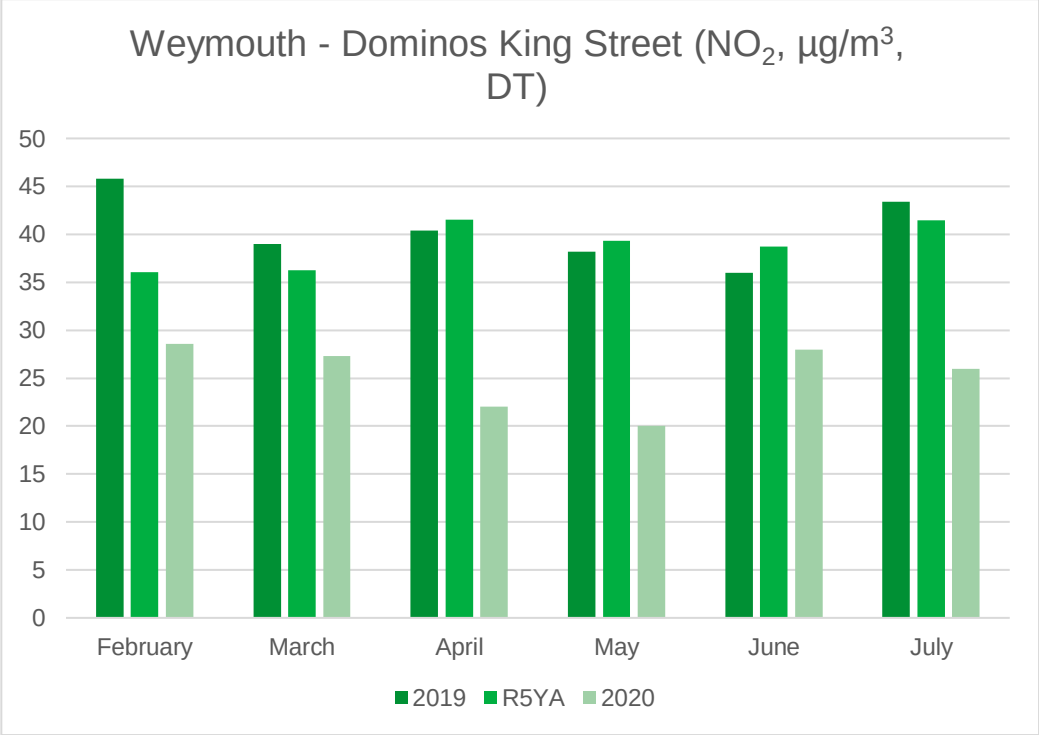


Figure 17: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube W13

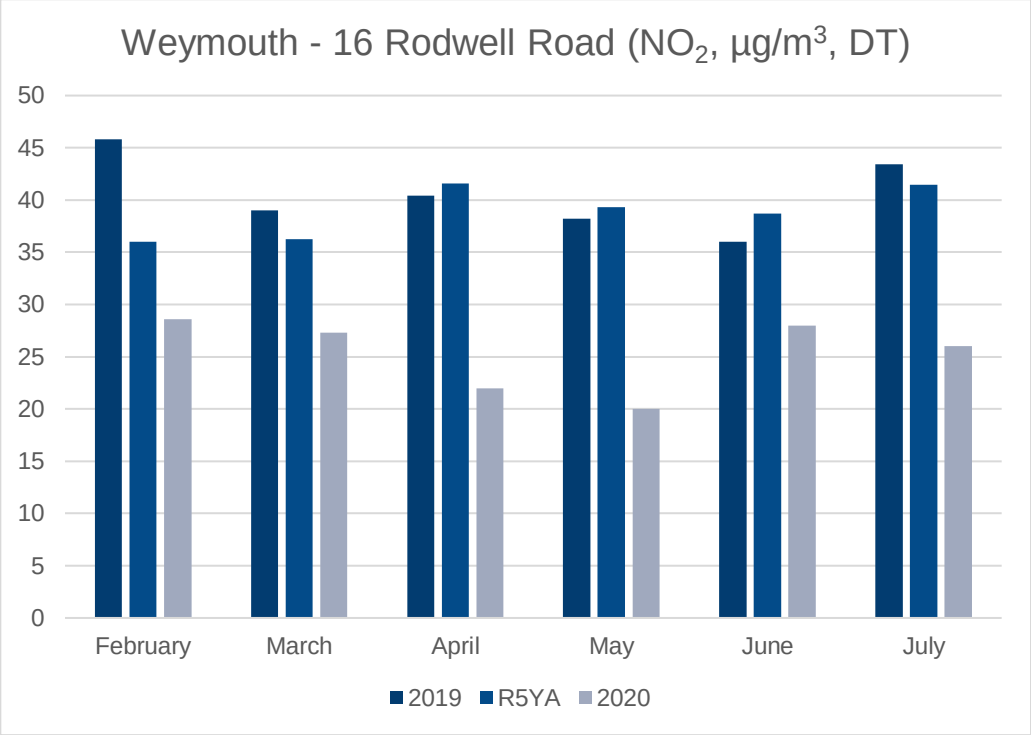


Figure 18: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube W10

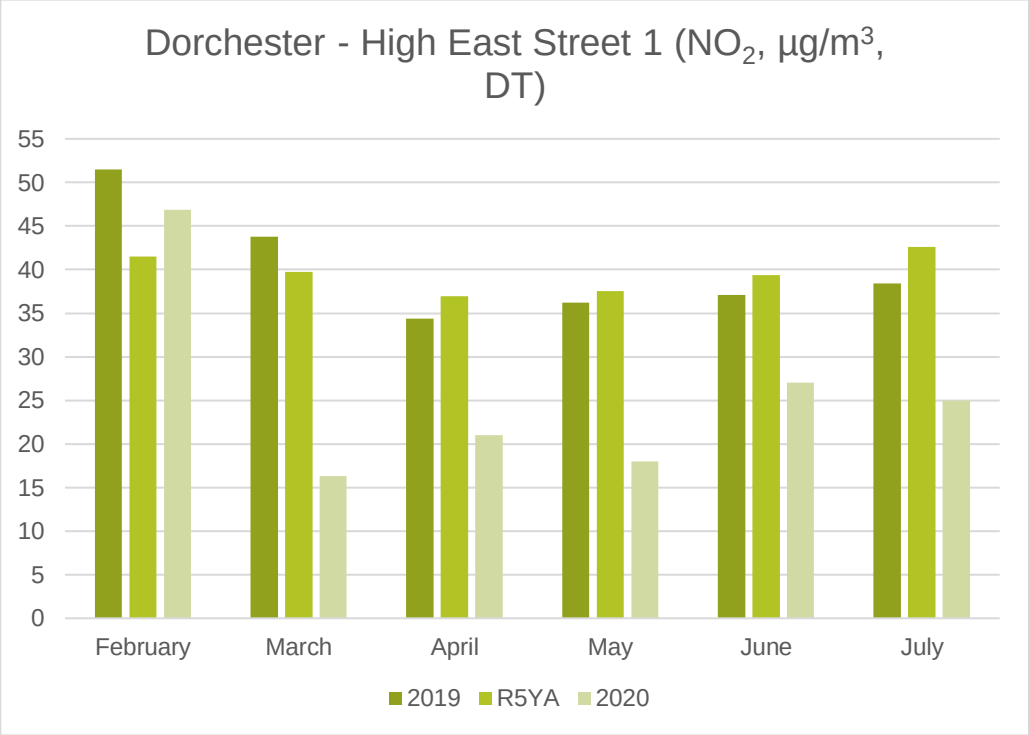


Figure 19: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube W18

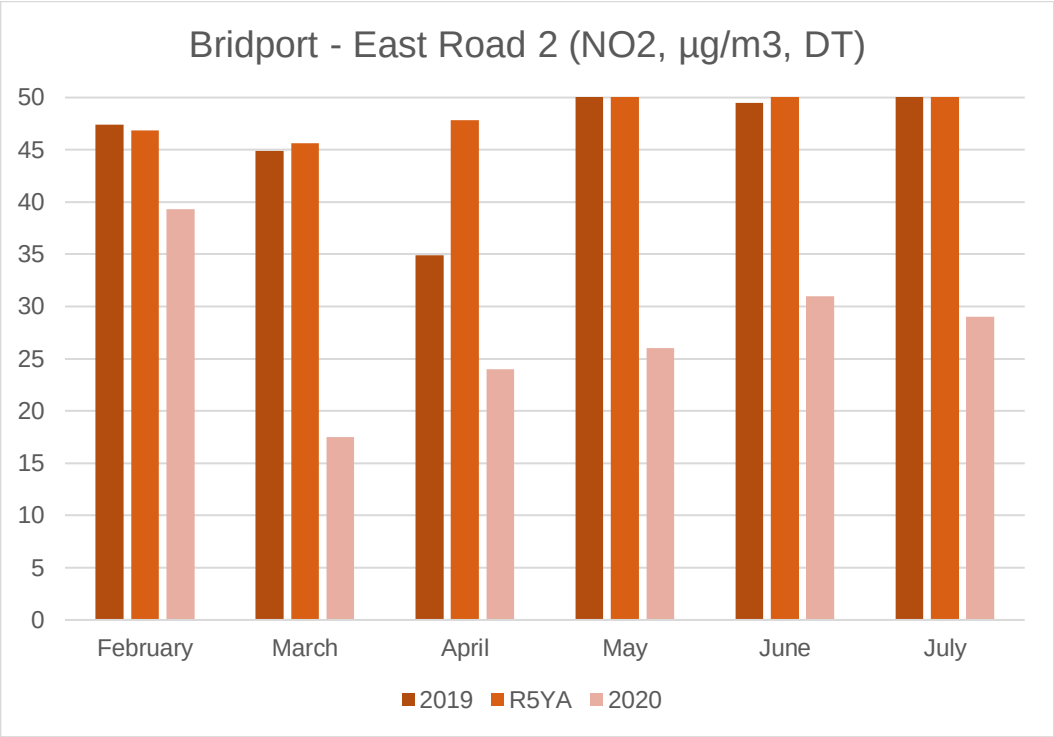


Figure 20: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube W28

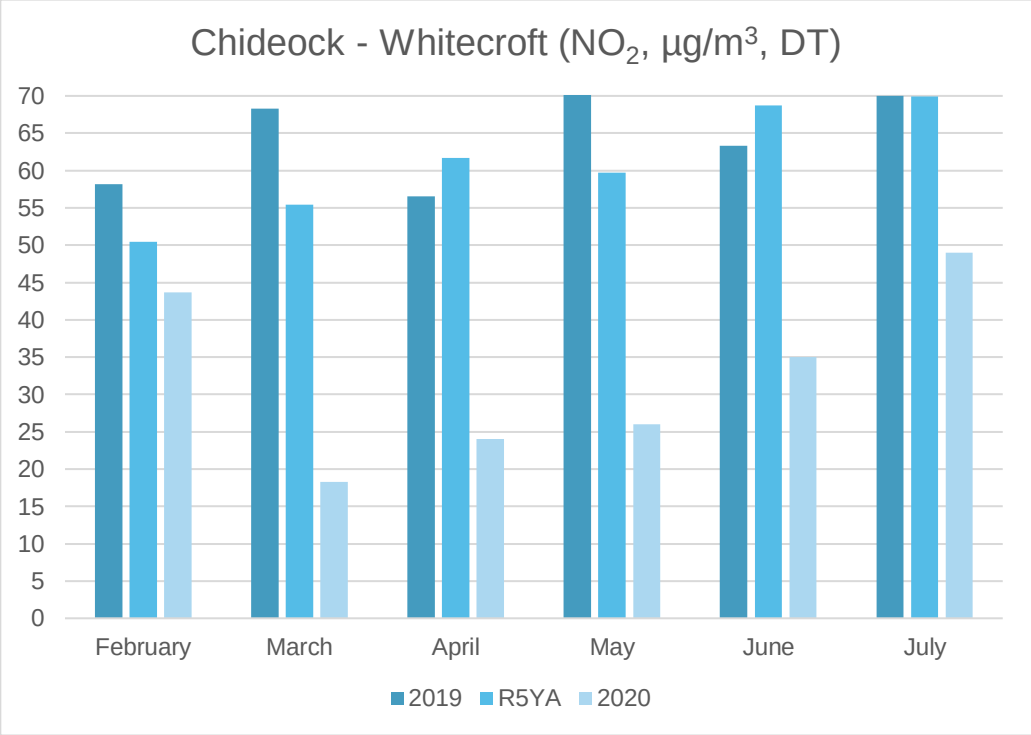


Figure 21: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube W37

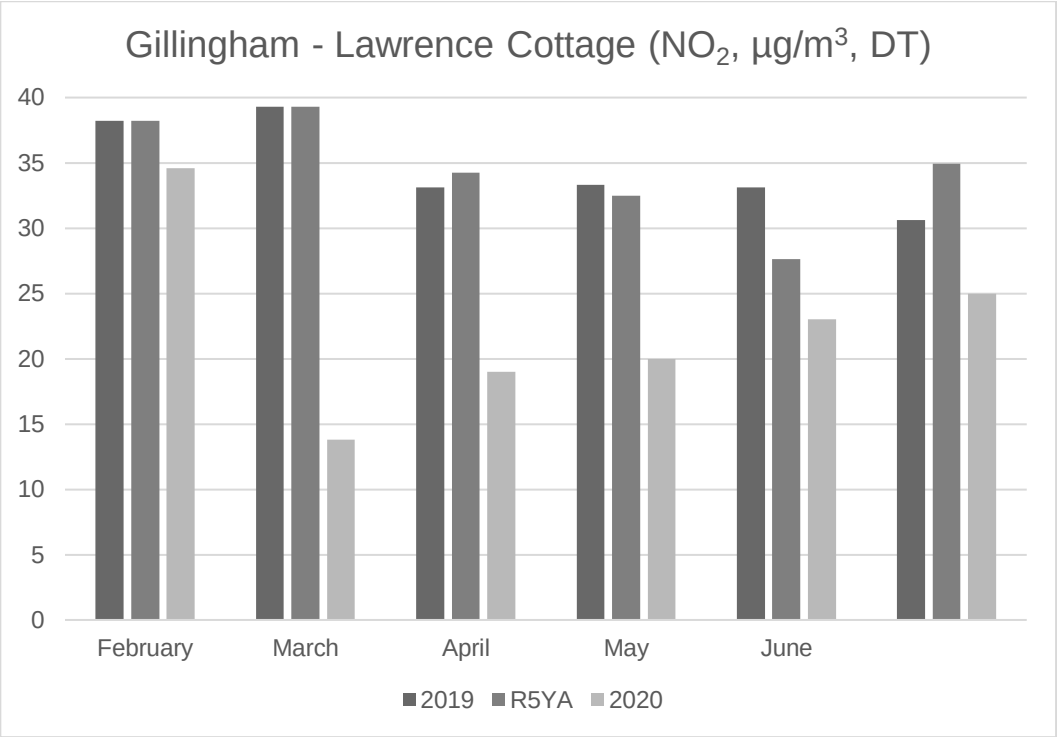


Figure 22: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube W40

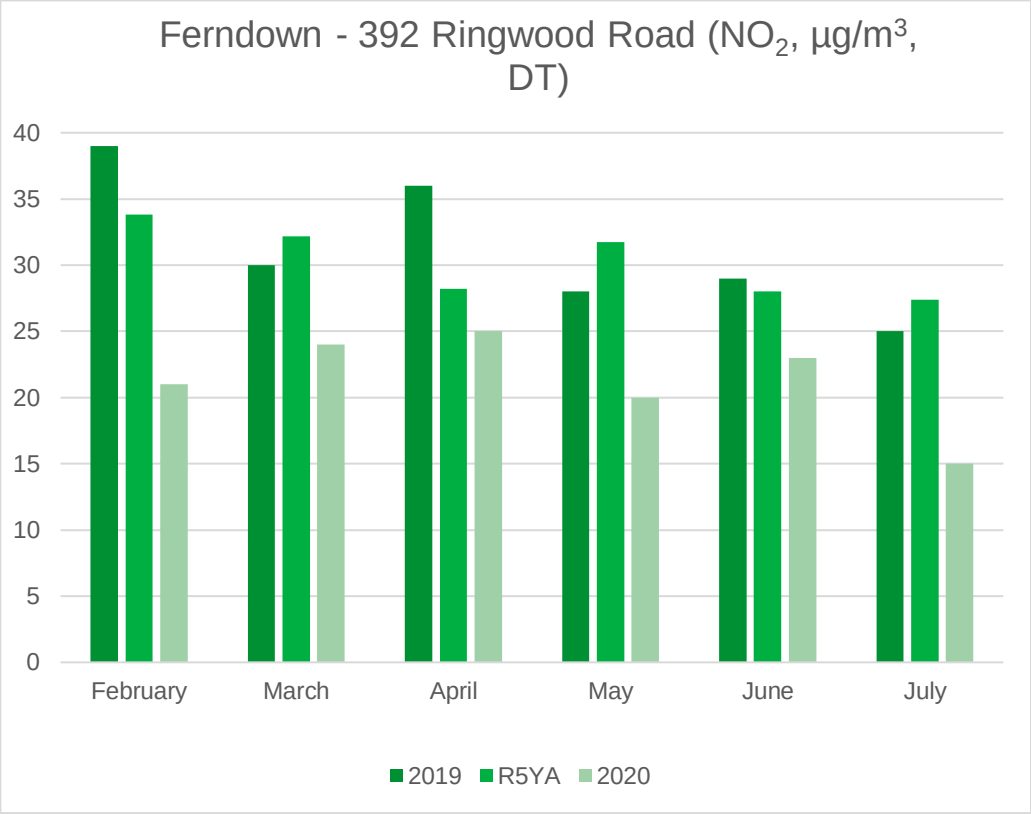


Figure 23: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube E6

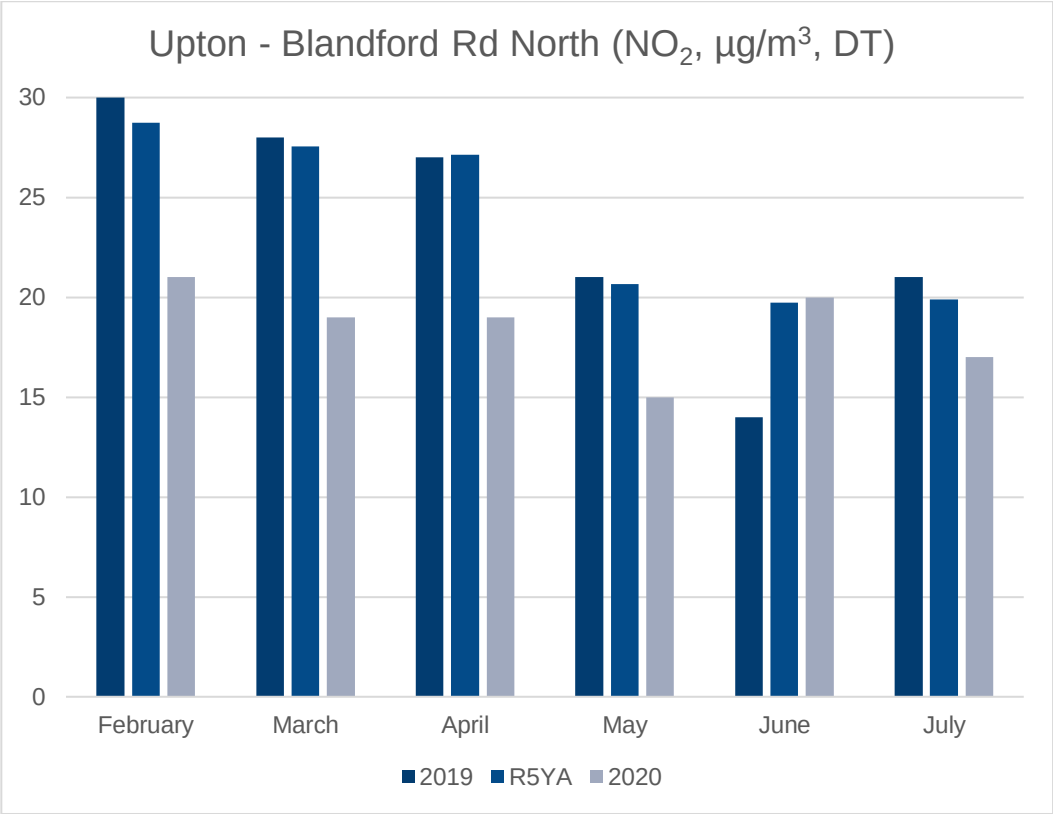


Figure 24: Monthly comparison of 2020 NO_2 concentrations against 2019 and the rolling 5 year average for tube P5

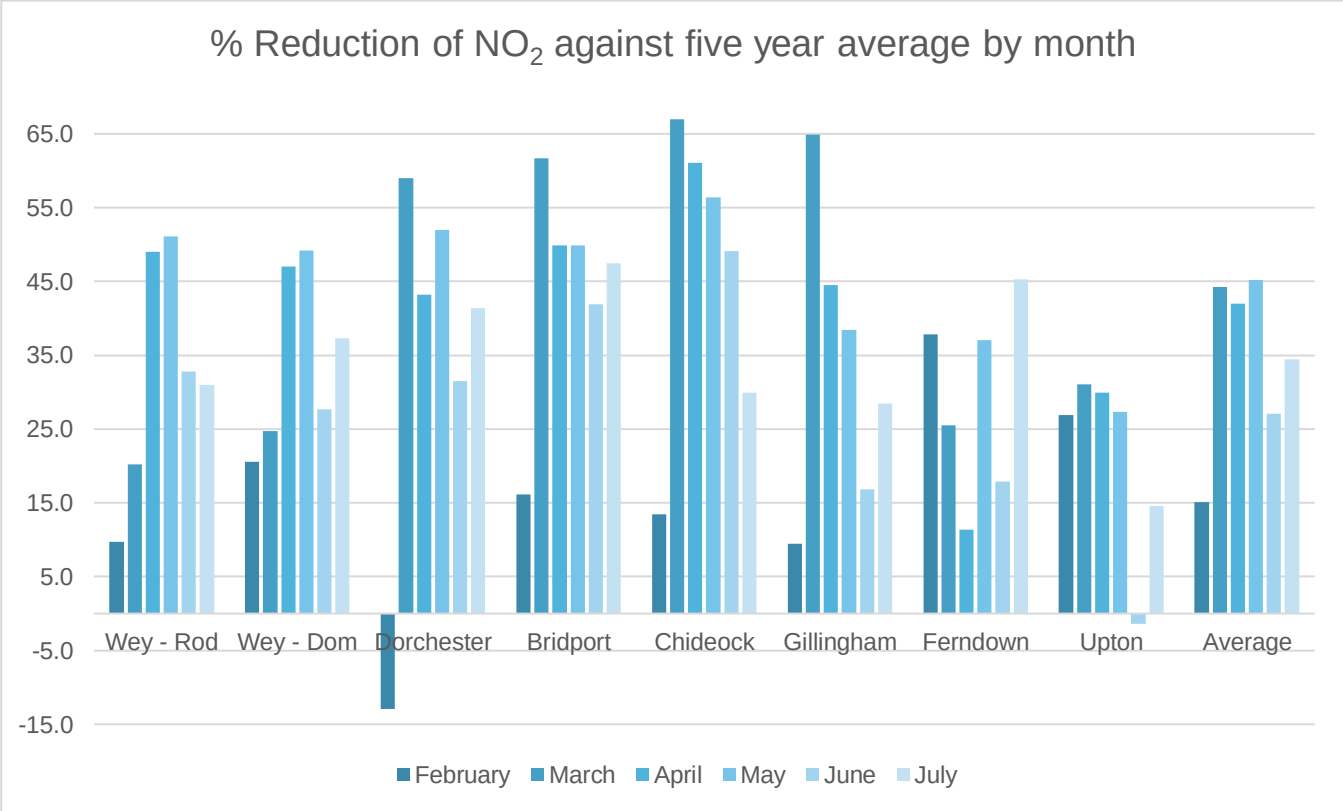


Figure 25: Percentage reduction of NO_2 against rolling five year average per month

$PM_{2.5}$ and PM_{10} analysis was conducted on the four "AQ Pods" within Dorset Council. These pods are as follows:

- 1766150 – Sandford School (Wareham)
- 1767150 – Blandford School
- 1768150 – Ferndown
- 1771150 – Beaminster School

$PM_{2.5}$ and PM_{10} graphs were mapped on a bi-daily basis. The period of time used was slightly longer – 11 March to 11 May. The graphs demonstrate variable levels for both types of particulate matter, with cross-over of levels between last year and this.

$PM_{2.5}$ data generally represented groups of heightened days between five and seven days long. These were not perfectly aligned in terms of dates, however the week days were two days later for 2020 (i.e. March 23 was a Monday in 2020, a Saturday in 2019). These wide areas of peaks and troughs are repeated in each graph, with a similar pattern for PM_{10}, although more pronounced. Total PMs for the periods were calculated, and demonstrate a decrease. As a percentage, this ranges between 18.2% for Ferndown PM_{10}, and 44% for Blandford PM_{10}, with an average decrease in PM of 29.6%.

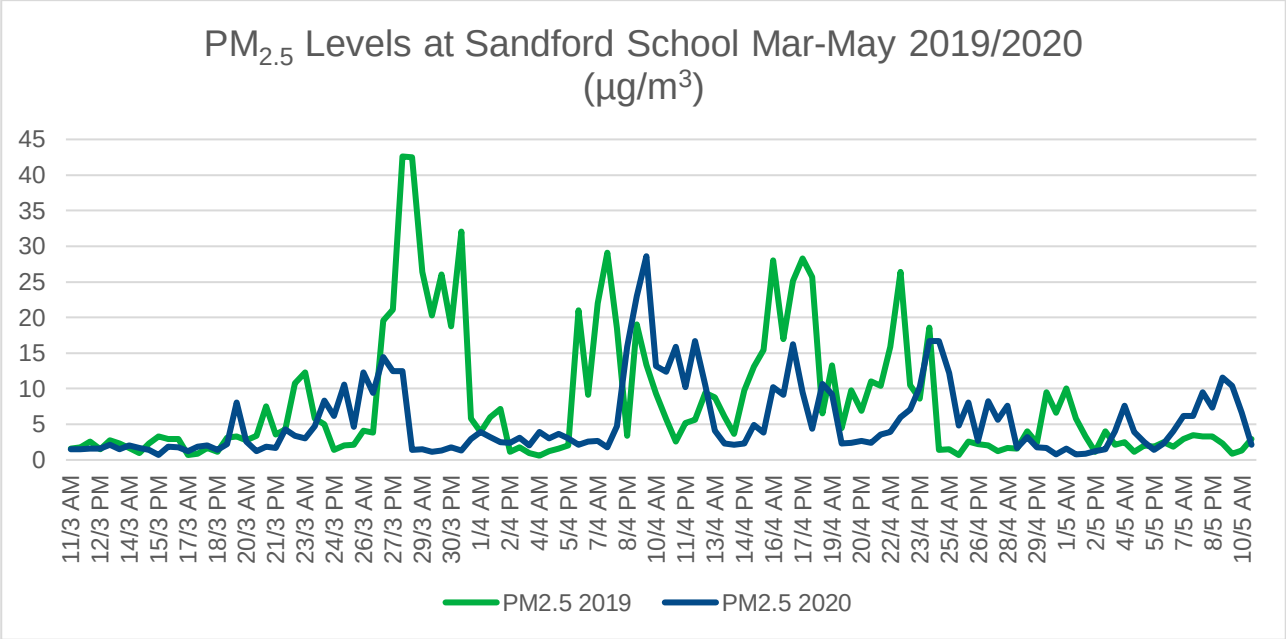


Figure 26: 48-hour mean $PM_{2.5}$ levels at Sandford school in 2019 and 2020 between 11 March and 11 May

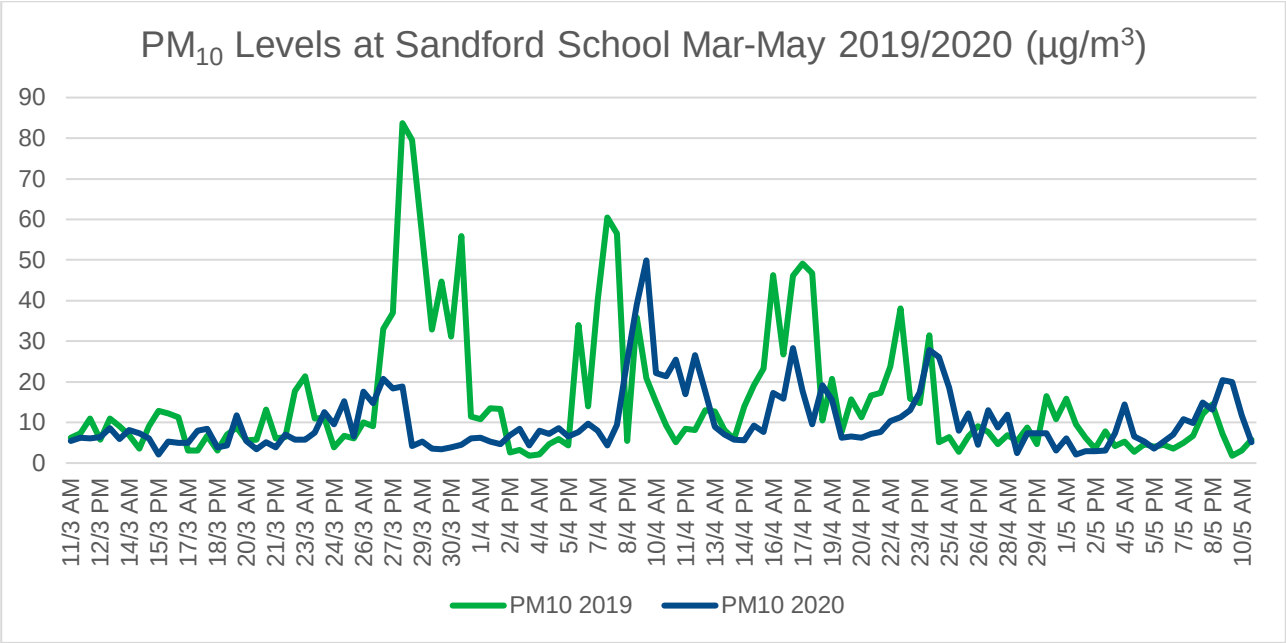


Figure 27: 48-hour mean PM_{10} levels at Sandford school in 2019 and 2020 between 11 March and 11 May

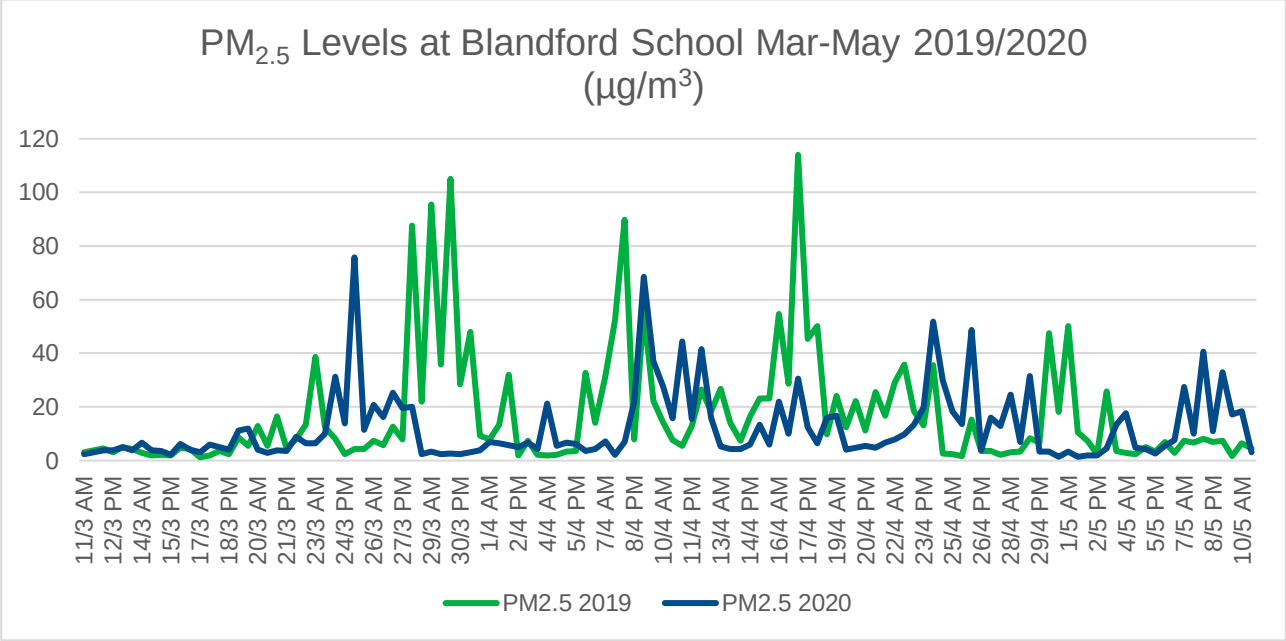


Figure 28: 48-hour mean $PM_{2.5}$ levels at Blandford school in 2019 and 2020 between 11 March and 11 May

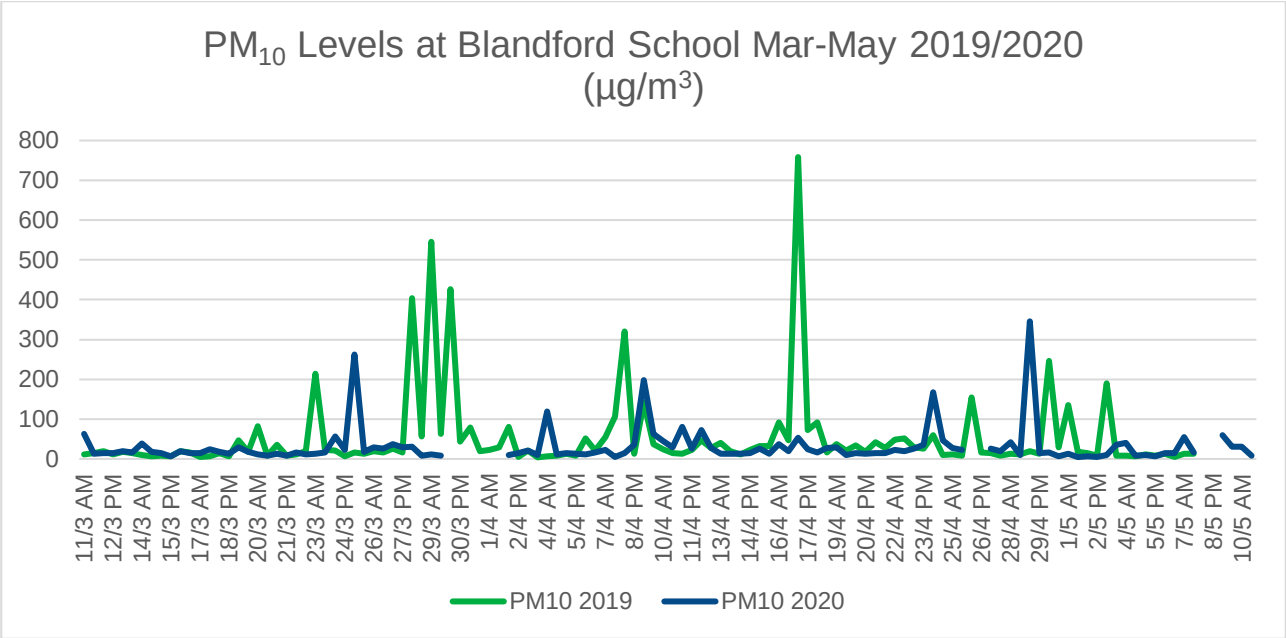


Figure 29: 48-hour mean PM_{10} levels at Blandford school in 2019 and 2020 between 11 March and 11 May

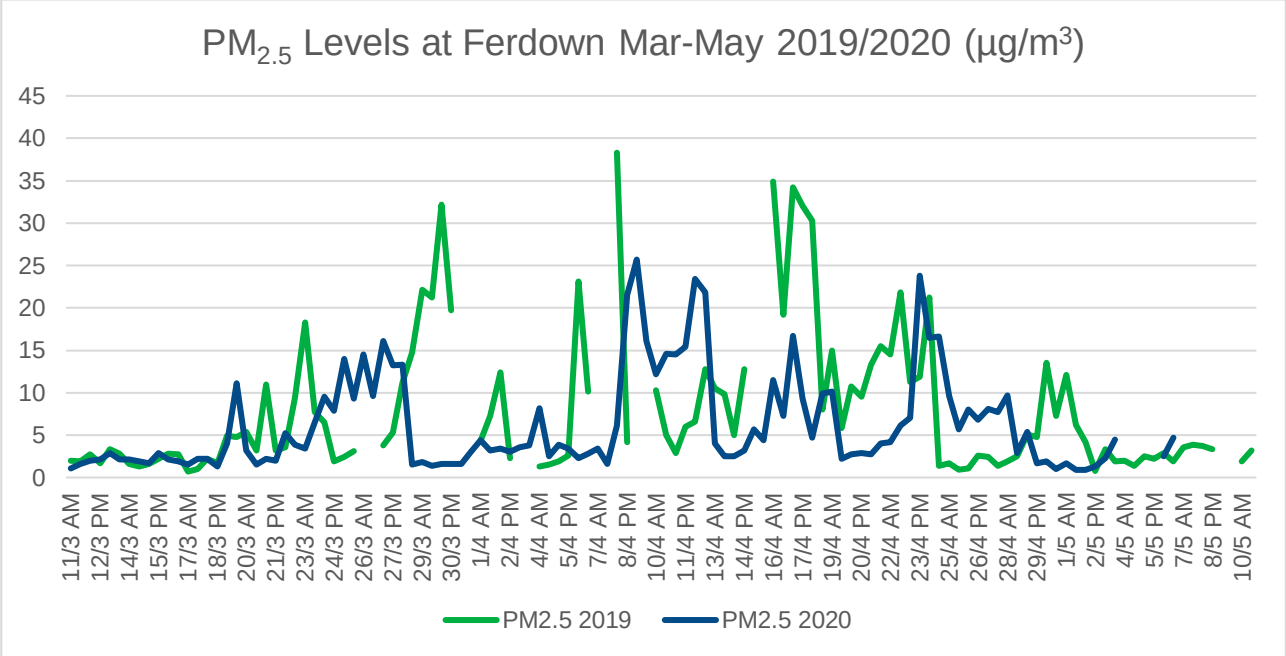


Figure 30: 48-hour mean $PM_{2.5}$ levels at Ferndown school in 2019 and 2020 between 11 March and 11 May

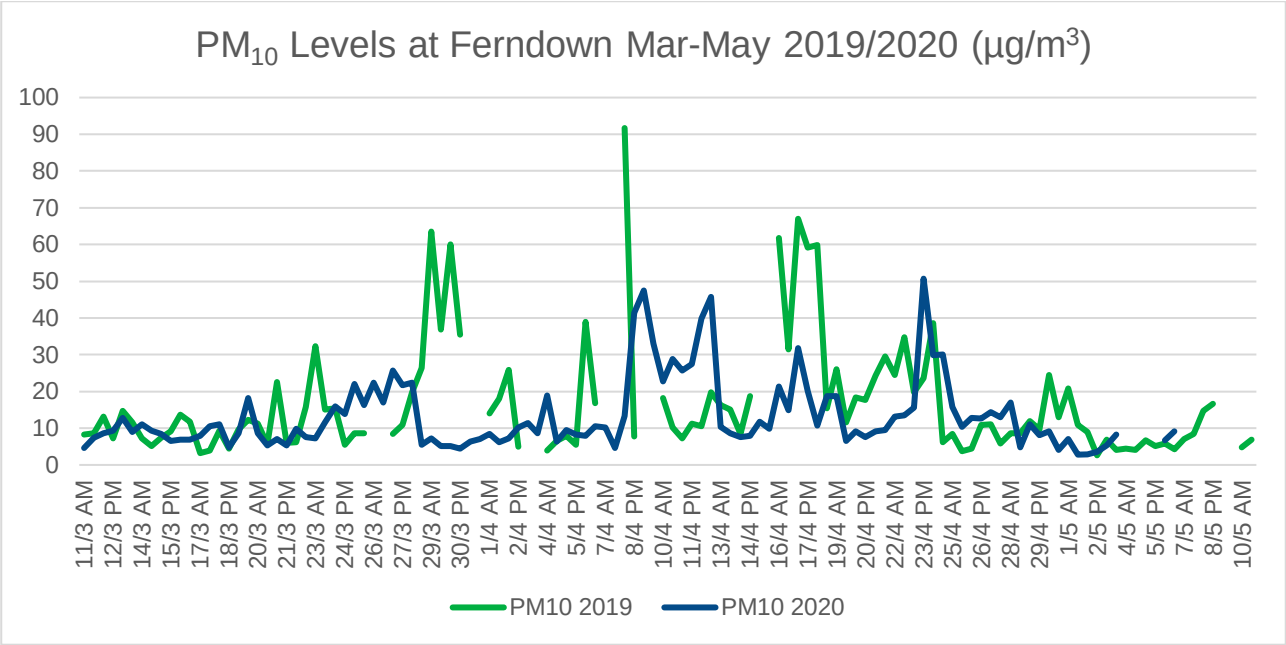


Figure 31: 48-hour mean PM_{10} levels at Ferndown school in 2019 and 2020 between 11 March and 11 May

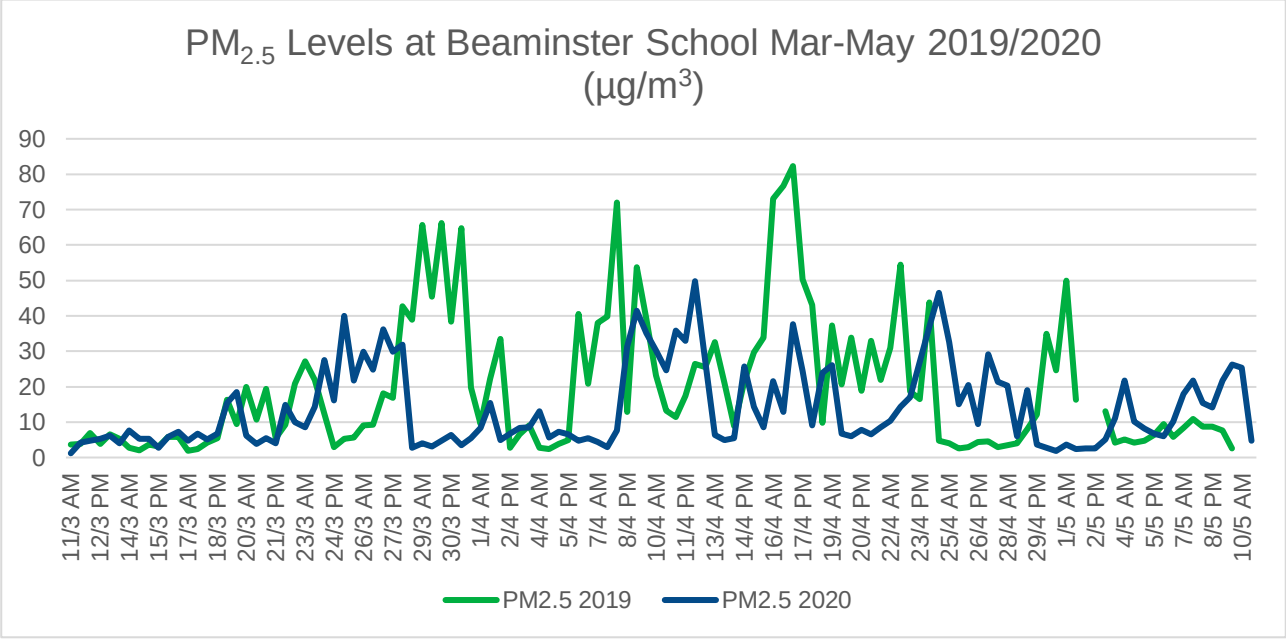


Figure 32: 48-hour mean $PM_{2.5}$ levels at Beaminster school in 2019 and 2020 between 11 March and 11 May

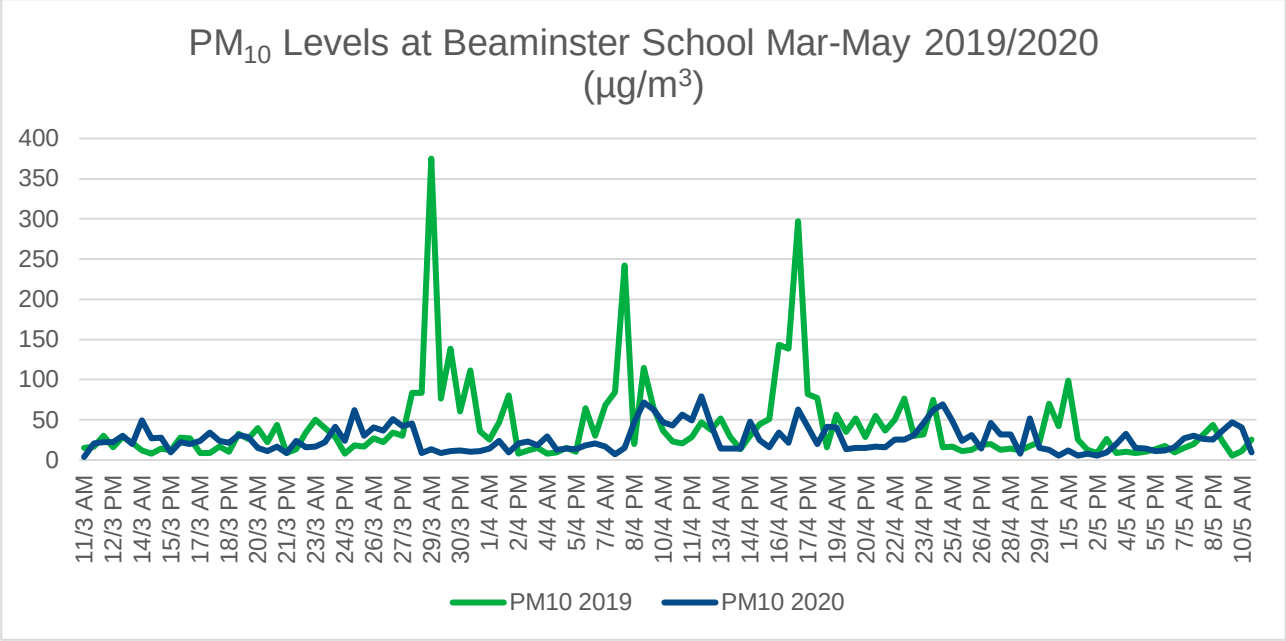


Figure 33: 48-hour mean PM_{10} levels at Beaminster school in 2019 and 2020 between 11 March and 11 May

The following traffic data was received from Dorset Council Highways. The table below showing the percentage difference of traffic flow between 2020 and 2019:

	A35	**B3150**	**A354**	**B3081**
Jan	2%	n/a	0%	4%
Feb	-5%	n/a	-2%	-1%
Mar	-27%	-28%	-21%	-18%
Apr	-80%	-70%	-69%	-60%
May	-67%	-54%	-46%	-51%
Jun	-46%	-32%	-24%	-25%
Jul	-21%	-18%	-11%	-17%
Aug	-11%	-7%	-1%	-10%

Sep	-1%	n/a	0%	-8%
Oct	-8%	n/a	-7%	-13%
Nov	-38%	n/a	-22%	-26%
Dec	-22%	-19%	-8%	-16%

Figure 34: Monthly traffic flow as a percentage of 2019 levels

The locations of the sites are:

A35 – Winterborne Kingston

B3150 – East of Dorchester

A354 – Weymouth Relief Road

B3081 – South of Gillingham

Opportunities Presented by COVID-19 upon LAQM within Dorset Council

Primary improvements in air quality will be seen due to the vast reduction in commuter traffic to towns within Dorset Council. Dorset Council itself has over five thousand employees, most of whom will continue to work from home in some form at least part of the week once restrictions are ended. This is clearly demonstrated by data above along the A35 trunk road (Bridport and Chideock), Dorchester town centre, Weymouth town centre, Ferndown and Upton. An interesting comparison may be made in future regarding the increase in holiday traffic, however, as a large proportion of holiday traffic to resorts in West Dorset and East Devon use the A35 as the primary route to-from. The A35 also provides an alternative route for the A303 trunk road through Wiltshire and Somerset, therefore careful attention should be paid to summer 2021 data in this regard.

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

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

- As with previous years, a national bias adjustment factor has been utilised to adjust the diffusion tube results for 2020. For 2020, the number of studies has reduced to only one study for SYAQS, and fourteen studies for Gradko. There is therefore the potential for there to be a greater degree of uncertainty associated with the resultant annual mean NO_2 concentrations in 2020 than in previous years. **Large Impact**
- A revised AQAP is being developed for Chideock AQMA. However, owing to the reallocation of Council resources during 2020, the development and implementation of the AQAP has been delayed. Current estimates are that the revised AQAP will be prepared in and sent out for draft consultation in July 2021. **Small Impact**
- Diffusion Tube monitoring within the Dorchester AQMA had led to Dorset Council deciding the review the annual mean results for 2020 and look to revoke the AQMA. Due to the uncertainty of the 2020 results, monitoring will continue throughout 2021 and revocation process will commence in 2022. **Small Impact**
- Passive monitoring continued, with little changes to the deployment dates, however, tubes were placed ready for post in unmanned offices, meaning that they took longer to arrive at laboratories. Tubes were delivered to officers homes, rather than offices, whilst good practices were carried out regarding temperature control within domestic fridges, there would likely be some fluctuation than within Dorset Council's dedicated laboratory storage. **Small Impact**

The impacts as presented above are aligned with the criteria as defined in Table F 1, with professional judgement considered as part of their application.

Table F 1 – Impact Matrix

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
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

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. 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.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.