



Air Quality Assessment: Southampton Road, Alderbury

September 2024



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management & assessment

Document Control

Client	Simply Planning	Principal Contact	Alastair Thornton
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Report Prepared By:	Meg Saunders and Dr Kate Wilkins
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Air Quality Consultants Ltd
3rd Floor St Augustine's Court, 1 St. Augustine's Place Bristol, BS1 4UD Tel: 0117 974 1086
24 Greville Street, Farringdon, London, EC1N 8SS Tel: 020 3873 4780
aqc@aqconsultants.co.uk

Registered Office: 3rd Floor St Augustine's Court, 1 St. Augustine's Place Bristol, BS1 4UD
 Companies House Registration No: 2814570

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1 Introduction

- 1.1 This report describes the potential air quality impacts associated with the proposed development on Southampton Road, Alderbury in Wiltshire. The proposed development is described as:

“Outline planning permission with all matters reserved, apart from details of access from Southampton Road, for a residential development of up to 47 dwellings, along with associated public open space, landscaping and biodiversity enhancements and a car park to serve the community allotments.”

- 1.2 The proposed development lies approximately 4.5 km from the Salisbury City Centre Air Quality Management Area (AQMA) declared by Wiltshire Council for exceedances of the annual mean nitrogen dioxide (NO₂) objective. The proposed development will generate additional traffic on local roads, which may impact on air quality at existing residential properties along the affected road network. An assessment is also required to determine the air quality conditions that future residents will experience. The main air pollutants of concern related to road traffic emissions are NO₂ and fine particulate matter (PM₁₀ and PM_{2.5}).
- 1.3 The location and setting of the proposed development are shown in Figure 1, along with the AQMA.

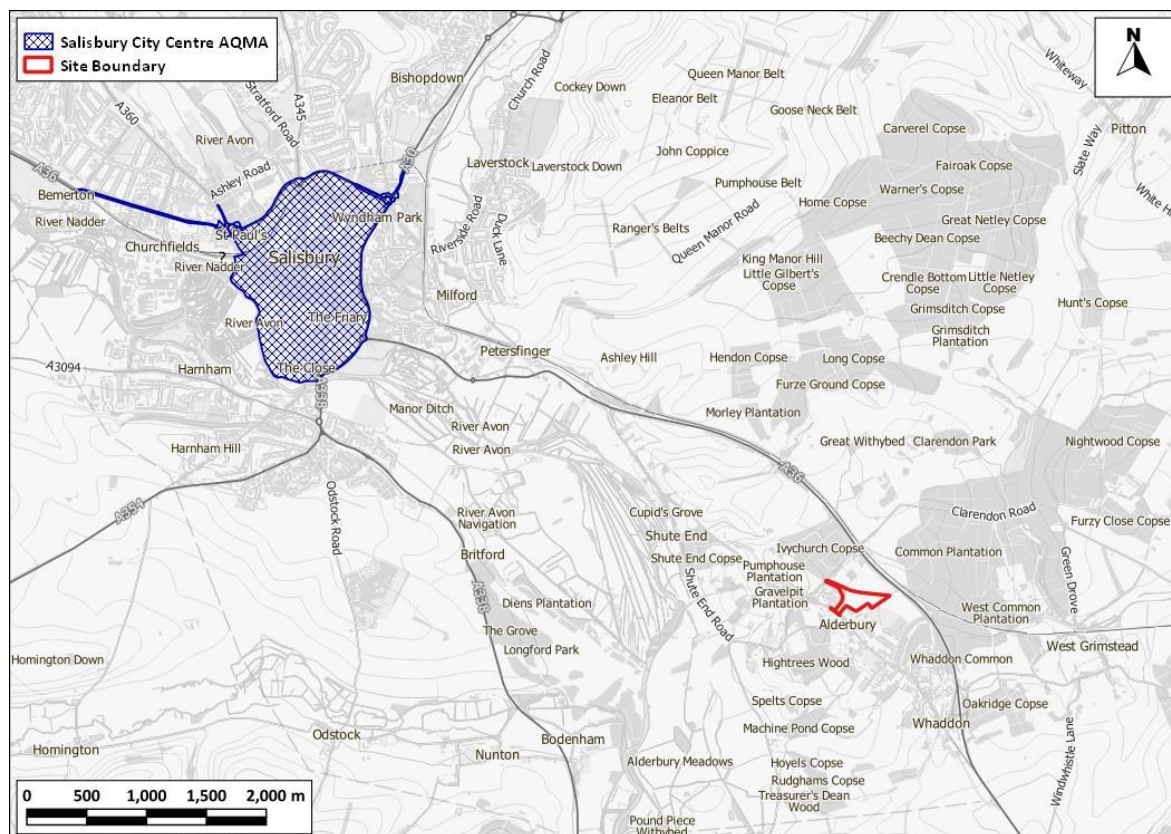


Figure 1: Proposed Development Setting in the Context of Air Quality

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- 1.4 The new homes within the proposed development will be provided with heat and hot water via Air Source Heat Pumps (ASHPs); the energy strategy for the proposed development will be all-electric and there will be no significant point sources of emissions within the proposed development.
- 1.5 This report describes existing local air quality conditions (base year 2022), and considers those in the earliest possible year of occupation of any of the new homes (2026).
- 1.6 This report has been prepared taking into account all relevant local and national guidance and regulations, and follows a methodology agreed with Wiltshire Council.

2 Policy Context

- 2.1 All European legislation referred to in this report is written into UK law and remains in place.

Air Quality Strategy 2007

- 2.2 The Air Quality Strategy (Defra, 2007) published by the Department for Environment, Food, and Rural Affairs (Defra) and Devolved Administrations, provides the policy framework for air quality management and assessment in the UK. It provides air quality standards and objectives for key air pollutants, which are designed to protect human health and the environment. It also sets out how the different sectors: industry, transport and local government, can contribute to achieving the air quality objectives. Local authorities are seen to play a particularly important role. The strategy describes the Local Air Quality Management (LAQM) regime that has been established, whereby every authority has to carry out regular reviews and assessments of air quality in its area to identify whether the objectives have been, or will be, achieved at relevant locations, by the applicable date. If this is not the case, the authority must declare an AQMA, and prepare an action plan which identifies appropriate measures that will be introduced in pursuit of the objectives.

Air Quality Strategy 2023

- 2.3 The Air Quality Strategy: Framework for Local Authority Delivery 2023 (Defra, 2023a) sets out the strategic air quality framework for local authorities and other Air Quality Partners in England. It sets out their powers and responsibilities, and actions the government expects them to take. It does not replace other air quality guidance documents relevant to local authorities.

Clean Air Strategy 2019

- 2.4 The Clean Air Strategy (Defra, 2019) sets out a wide range of actions by which the UK Government will seek to reduce pollutant emissions and improve air quality. Actions are targeted at four main sources of emissions: Transport, Domestic, Farming and Industry. At this stage, there is no straightforward way to take account of the expected future benefits to air quality within this assessment.

Reducing Emissions from Road Transport: Road to Zero Strategy

- 2.5 The Office for Low Emission Vehicles (OLEV) and Department for Transport (DfT) published a Policy Paper (DfT, 2018) in July 2018 outlining how the government will support the transition to zero tailpipe emission road transport and reduce tailpipe emissions from conventional vehicles during the transition. This paper affirms the Government's pledge to end the sale of new conventional petrol and diesel cars and vans by 2040, and states that the Government expects the majority of new cars and vans sold to be 100% zero tailpipe emission and all new cars and vans to have significant zero tailpipe emission capability by this year, and that by 2050 almost every car and van should have

zero tailpipe emissions. It states that the Government wants to see at least 50%, and as many as 70%, of new car sales, and up to 40% of new van sales, being ultra-low emission by 2030.

- 2.6 The paper sets out a number of measures by which Government will support this transition, but is clear that Government expects this transition to be industry and consumer led. The Government has recently announced that 80% of new cars and 70% of new vans sold in Great Britain must be zero emission by 2030, increasing to 100% by 2035. If these ambitions are realised then road traffic-related NO_x emissions can be expected to reduce significantly over the coming decades, likely beyond the scale of reductions forecast in the tools utilised in carrying out this air quality assessment.

Environment Act 2021

- 2.7 The UK's new legal framework for protection of the natural environment, the Environment Act (2021) passed into UK law in November 2021. The Act gives the Government the power to set long-term, legally binding environmental targets. It also establishes an Office for Environmental Protection (OEP), responsible for holding the government to account and ensuring compliance with these targets.
- 2.8 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (SI 2023 No. 96) sets two new targets for future concentrations of PM_{2.5}. These targets are described in Paragraph 3.5.

Environmental Improvement Plan 2023

- 2.9 Defra published its 25 Year Environment Plan in 2018 (Defra, 2018a). The Environment Act (2021) requires Defra to review this Plan at least every five years. The Environmental Improvement Plan 2023 (Defra, 2023b) is the first revision. This outlines the progress made since 2018 and adds detail to the goals defined in the 2018 Plan, including that of achieving clean air.
- 2.10 The Environmental Improvement Plan 2023 sets out the new air quality targets which have been set for concentrations of PM_{2.5}. These targets, which are described in more detail in Paragraph 3.5, include the long-term targets in the Statutory Instrument described in Paragraph 2.8, and interim targets to be achieved by 2028.
- 2.11 The 2023 Plan outlines the role of local authorities in helping it meet both its targets and existing commitments. It also outlines the respective roles of industry, agricultural sectors, and the Department for Transport in providing the coordinated action required to meet both its new, and pre-existing targets and commitments.

Planning Policy

National Policies

- 2.12 The National Planning Policy Framework (NPPF) (2023) sets out planning policy for England. It states that the purpose of the planning system is to contribute to the achievement of sustainable development, and that the planning system has three overarching objectives, one of which (Paragraph 8c) is an environmental objective:

“to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy”.

- 2.13 To prevent unacceptable risks from air pollution, Paragraph 174 of the NPPF states that:

“Planning policies and decisions should contribute to and enhance the natural and local environment by...preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air quality”.

- 2.14 Paragraph 185 states:

“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development”.

- 2.15 More specifically on air quality, Paragraph 186 makes clear that:

“Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan”.

- 2.16 The NPPF is supported by Planning Practice Guidance (PPG) (Ministry of Housing, Communities & Local Government, 2019), which includes guiding principles on how planning can take account of the impacts of new development on air quality. The PPG states that:

“Defra carries out an annual national assessment of air quality using modelling and monitoring to determine compliance with Limit Values. It is important that the potential impact of new development on air quality is taken into account where the national assessment indicates that relevant limits have been exceeded or are near the limit, or where the need for emissions reductions has been identified”.

2.17 Regarding plan-making, the PPG states:

“It is important to take into account air quality management areas, Clean Air Zones and other areas including sensitive habitats or designated sites of importance for biodiversity where there could be specific requirements or limitations on new development because of air quality”.

2.18 The role of the local authorities through the LAQM regime is covered, with the PPG stating that a local authority Air Quality Action Plan *“identifies measures that will be introduced in pursuit of the objectives and can have implications for planning”.*

2.19 Regarding the need for an air quality assessment, the PPG states that:

“Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity”.

2.20 The PPG sets out the information that may be required in an air quality assessment, making clear that:

“Assessments need to be proportionate to the nature and scale of development proposed and the potential impacts (taking into account existing air quality conditions), and because of this are likely to be locationally specific”.

2.21 The PPG also provides guidance on options for mitigating air quality impacts, as well as examples of the types of measures to be considered. It makes clear that:

“Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact. It is important that local planning authorities work with applicants to consider appropriate mitigation so as to ensure new development is appropriate for its location and unacceptable risks are prevented”.

Local Transport Plan

2.22 Wiltshire Council’s Local Transport Plan 2011-2016 (Wiltshire Council, 2011) states that *“our reliance on the private car, van and lorry has led to busier and more congested roads, This, in turn, has resulted in fewer people keeping healthy through walking and cycling, increased concerns with*

regard to noise and other community aspects, accessibility issues for people who rely on public transport, and environmental impacts such as air pollution and the threat of climate change.” Strategic Objective 11 in the Local Transport Plan is “*To reduce the level of air pollutant and climate change emissions from transport*”. This recognises the importance of the following factors:

- *“...Public transport which includes buses, rail and community and voluntary transport*
- *Smarter choices which are aimed at influencing people’s travel behaviour*
- *Air quality actions to address pollution caused by traffic.”*

Local Policies

2.23 The Wiltshire Core Strategy (Wiltshire Council, 2015) was adopted in January 2015, and within this there are two policies which refer to air quality. Core Policy 55 refers to air quality and states that:

“Development proposals, which by virtue of their scale, nature or location are likely to exacerbate existing areas of poor air quality, will need to demonstrate that measures can be taken to effectively mitigate emission levels in order to protect public health, environmental quality and amenity. Mitigation measures should demonstrate how they will make a positive contribution to the aims of the Air Quality Strategy for Wiltshire and where relevant, the Wiltshire Air Quality Action Plan. Mitigation may include:

- landscaping, bunding or separation to increase distance from highways and junctions*
- possible traffic management or highway improvements to be agreed with the local authority*
- abatement technology and incorporating site layout/separation and other conditions in site planning*
- traffic routing, site management, site layout and phasing*
- where appropriate, contributions will be sought toward the mitigation of the impact a development may have on levels of air pollutants.”*

2.24 Core Policy 60 on Sustainable Transport states that *“The Council will use its planning and transport powers to help reduce the need to travel particularly by private car, and support and encourage the sustainable, safe and efficient movement of people and goods within and through Wiltshire.”* Measures for achieving this include *“planning developments in accessible locations”* and *“assessing and, where necessary, mitigating the impact of developments on transport users, local communities and the environment.”*

2.25 The Wiltshire Core Strategy is currently under review to develop an emerging local plan for Wiltshire covering the years to 2038 (Wiltshire Council, 2023a). Within the new Local Plan, Core Policy 55 from the Core Strategy will be retained as Policy 101, with minor updates. Core Policy 60 will be

combined with Core Policy 63 as Policy 70 in the new Local Plan, which will be updated “to incorporate electric vehicle charging infrastructure.”

- 2.26 In addition, the Council has drafted a new Supplementary Planning Document (SPD) dealing with Air Quality (Wiltshire Council, 2023b), which states that any development within Wiltshire Council's area which does not exceed the 100 housing units (as is the case with the proposed development) is required to provide the following supporting documents with the planning application:

“Evidence of good base design including EV charging that meets our minimum EV charging requirements

Construction Environmental Management Plan (CEMP)

Exposure Mitigation (if applicable).”

- 2.27 Finally, Wiltshire Council's Air Quality Strategy for the years 2019-2024 (Wiltshire Council, 2019) states:

“We will work with Development Control and Developers to ensure development does not lead to future air quality problems. This may be through design and layout or through financial contributions to specific projects that promote better air quality.”

- 2.28 The Strategy includes four strategic policies, three of which are relevant to the proposed development:

- *“Strategic priority 1: Secure air quality objectives in the eight Air Quality Management Areas (AQMA). The poorest areas of air quality have been identified and Wiltshire Council is committed to working with communities, partner agencies and other services to secure the necessary improvements within the Local Air Quality Management Framework*
- *Strategic priority 2: Maintaining good air quality across the county. Preventing the deterioration of air quality in the first place is the most cost effective strategy to ensure a vibrant local economy, and that Wiltshire is a place where people wish to live, work and visit.*
- *Strategic priority 4: Communication and information dissemination. Good communication and information dissemination are key to shaping policy and plans, keeping communities informed, and assisting those professionals tasked with planning new development.”*

Building Standards

- 2.29 Part F(1) of Schedule 1 of the Building Regulations 2010 as amended June 2022 (Ministry of Housing, Communities & Local Government, 2022) places a duty on building owners, or those

responsible for relevant building work¹, to ensure adequate ventilation is provided to building occupants.

- 2.30 Approved Document F (HM Government, 2021a), which accompanies the Building Regulations, explains that care should be taken to minimise entry of external air pollutants. Specific steps should be taken to manage ventilation intakes where the building is near to a significant source of emissions, or if local ambient concentrations exceed values set in the Air Quality Standards Regulations 2010 (see Paragraph 3.10, later). These steps include maximising the distance between emission source and air intake, considering likely dispersion patterns, and considering the timing of pollution releases when designing the ventilation system.
- 2.31 Part S(1) of Schedule 1, and Regulation 44D, of the Building Regulations 2010 (Ministry of Housing, Communities & Local Government, 2022) define a requirement for the provision of infrastructure for charging electric vehicles. Precise requirements are explained further within Approved Document S (HM Government, 2021b) and depend on the overall number of parking spaces provided and the average financial cost of installation.
- 2.32 Compliance with the Building Regulations is not required for planning approval, but it is assumed that the Regulations will be complied with in the completed development.

Air Quality Action Plans

National Air Quality Plan

- 2.33 Defra has produced an Air Quality Plan to tackle roadside nitrogen dioxide concentrations in the UK (Defra, 2017); a supplement to the 2017 Plan (Defra, 2018b) was published in October 2018 and sets out the steps Government is taking in relation to a further 33 local authorities where shorter-term exceedances of the limit value were identified. Alongside a package of national measures, the 2017 Plan and the 2018 Supplement require those identified English Local Authorities (or the GLA in the case of London Authorities) to produce local action plans and/or feasibility studies. These plans and feasibility studies must have regard to measures to achieve the statutory limit values within the shortest possible time, which may include the implementation of a Clean Air Zone (CAZ). There is currently no straightforward way to take account of the effects of the 2017 Plan or 2018 Supplement in this assessment; however, consideration has been given to whether there is currently, or is likely to be in the future, a limit value exceedance in the vicinity of the proposed development. This assessment has principally been carried out in relation to the air quality objectives, rather than the limit values that are the focus of the Air Quality Plan.

¹ Building work is a legal term for work covered by the Building Regulations. With limited exemptions, the Regulations apply to all significant building work, including erecting or extending a building.

Local Air Quality Action Plan

- 2.34 Wiltshire Council has drafted a new Air Quality Action Plan (Wiltshire Council, 2023c) which sets out a series of measures by which they will seek to achieve the air quality objectives in their AQMAs. Measure S12 on *“Delivering Air Quality Improvements through the Planning System”* speaks to the importance of the new SPD alongside the new Local Plan in providing clarity to developers regarding what is expected from them in terms of air quality and notes the emerging Local Plan.

3 Assessment Criteria

- 3.1 The Government has established a set of air quality standards and objectives to protect human health. The 'standards' are set as concentrations below which effects are unlikely even in sensitive population groups, or below which risks to public health would be exceedingly small. They are based purely upon the scientific and medical evidence of the effects of an individual pollutant. The 'objectives' set out the extent to which the Government expects the standards to be achieved by a certain date. They take account of economic efficiency, practicability, technical feasibility and timescale. The objectives for use by local authorities are prescribed within the Air Quality (England) Regulations (2000) and the Air Quality (England) (Amendment) Regulations (2002).
- 3.2 The UK-wide objectives for nitrogen dioxide and PM₁₀ were to have been achieved by 2005 and 2004 respectively, and continue to apply in all future years thereafter. Measurements across the UK have shown that the 1-hour nitrogen dioxide objective is unlikely to be exceeded at roadside locations where the annual mean concentration is below 60 µg/m³ (Defra, 2022). Therefore, 1-hour nitrogen dioxide concentrations will only be considered if the annual mean concentration is above this level. Measurements have also shown that the 24-hour mean PM₁₀ objective could be exceeded at roadside locations where the annual mean concentration is above 32 µg/m³ (Defra, 2022).
- 3.3 The objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed over the averaging period of the objective. Defra explains where these objectives will apply in its Local Air Quality Management Technical Guidance (Defra, 2022). The annual mean objectives for nitrogen dioxide and PM₁₀ are considered to apply at the façades of residential properties, schools, hospitals etc.; they do not apply at hotels. The 24-hour mean objective for PM₁₀ is considered to apply at the same locations as the annual mean objective, as well as in gardens of residential properties and at hotels. The 1-hour mean objective for nitrogen dioxide applies wherever members of the public might regularly spend 1-hour or more, including outdoor eating locations and pavements of busy shopping streets.
- 3.4 For PM_{2.5}, the objective set by Defra for local authorities is to work toward reducing concentrations without setting any specific numerical value. In the absence of a numerical objective, it is convention to assess local air quality impacts against the limit value (see Paragraph 3.10), originally set at 25 µg/m³ and currently set at 20 µg/m³.
- 3.5 Defra has also recently set two new targets, and two new interim targets, for PM_{2.5} concentrations in England. One set of targets focuses on absolute concentrations. The long-term target is to achieve an annual mean PM_{2.5} concentration of 10 µg/m³ by the end of 2040, with the interim target being a value of 12 µg/m³ by the start of 2028². The second set of targets relate to reducing overall

² Meaning that it will be assessed using measurements from 2027. The 2040 target will be assessed using measurements from 2040. National targets are assessed against concentrations expressed to the nearest whole number, for example a concentration of 10.4 µg/m³ would not exceed the 10 µg/m³ target.

population exposure to PM_{2.5}. By the end of 2040, overall population exposure to PM_{2.5} should be reduced by 35% compared with 2018 levels, with the interim target being a reduction of 22% by the start of 2028.

3.6 Defra will assess compliance with the population exposure targets by averaging concentrations measured at its own background monitoring stations. This will not consider small changes over time to precisely where people are exposed (such as would relate to exposure introduced by a new development). Furthermore, as explained in Paragraph 2.11, all four new targets provide metrics against which central Government can assess its own progress. While local authorities have an important role delivering the required improvements, these are expected to relate to controlling emissions and not to directly assessing PM_{2.5} concentrations against the targets.

3.7 In March 2023, the Department for Levelling Up, Housing and Communities (DLUHC, 2023) explained that the new PM_{2.5} targets will:

“need to be integrated into the planning system, and in setting out planning guidance for local authorities and businesses, we will consider the specific characteristics of PM_{2.5}. The guidance will be forthcoming in due course, until then we expect local authorities to continue to assess local air quality impacts in accordance with existing guidance.”

3.8 Defra has also provided advice (Defra, 2023c) which explains that there is no current requirement to consider the new PM_{2.5} targets in planning decisions and that guidance to local planning authorities will be forthcoming before this position changes. In the future, when planning decisions do need to consider the new targets, the expectation is that this will focus on reducing emissions from new development rather than there being a direct requirement for planning-related air quality assessments to predict PM_{2.5} concentrations.

3.9 For the time being, therefore, no assessment is required, and indeed no robust assessment is possible, in relation to the new PM_{2.5} targets and they are not considered further.

3.10 EU Directive 2008/50/EC (The European Parliament and the Council of the European Union, 2008) sets limit values for nitrogen dioxide, PM₁₀ and PM_{2.5}, and is implemented in UK law through the Air Quality Standards Regulations (2010)³. The limit values for nitrogen dioxide and PM₁₀ are the same numerical concentrations as the UK objectives, but achievement of the limit values is a national obligation rather than a local one and concentrations are reported to the nearest whole number. In the UK, only monitoring and modelling carried out by UK Central Government meets the specification required to assess compliance with the limit values. Central Government does not normally recognise local authority monitoring or local modelling studies when determining the likelihood of the

³ As amended through The Air Quality Standards (Amendment) Regulations 2016 and The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020.

limit values being exceeded, unless such studies have been audited and approved by Defra and DfT's Joint Air Quality Unit (JAQU).

- 3.11 The relevant air quality criteria for this assessment are provided in Table 1.

Table 1: Air Quality Criteria for Nitrogen Dioxide, PM₁₀ and PM_{2.5}

Pollutant	Time Period	Value
Nitrogen Dioxide	1-hour Mean	200 µg/m ³ not to be exceeded more than 18 times a year
	Annual Mean	40 µg/m ³
PM ₁₀	24-hour Mean	50 µg/m ³ not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m ³
PM _{2.5}	Annual Mean	20 µg/m ³ ^a

^a There is no numerical PM_{2.5} objective for local authorities (see Paragraph 3.4). Convention is to assess against the UK limit value which is currently 20 µg/m³.

Road Traffic Screening Criteria

- 3.12 Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) recommend a two-stage screening approach (Moorcroft and Barrowcliffe et al, 2017) to determine whether emissions from road traffic generated by a development have the potential for significant air quality impacts. The approach, as described in Appendix A1, first considers the size and parking provision of a development; if the development is residential and is for fewer than ten homes or covers less than 0.5 ha, or is non-residential and will provide less than 1,000 m² of floor space or cover a site area of less than 1 ha, and will provide ten or fewer parking spaces, then there is no need to progress to a detailed assessment.
- 3.13 The second stage then compares the changes in vehicle flows on local roads that a development will lead to against specified screening criteria. The screening thresholds (described in full in Appendix A1 inside an AQMA) are a change in flows of more than 25 Heavy Duty Vehicles (HDVs) or 100 Light Duty Vehicles (LDVs) per day; outside of an AQMA the thresholds are 100 HDVs or 500 LDVs. Where these criteria are exceeded, a detailed assessment is likely to be required, although the guidance advises that *"the criteria provided are precautionary and should be treated as indicative"*, and *"it may be appropriate to amend them on the basis of professional judgement"*.

4 Assessment Approach

Consultation

4.1 The assessment follows a methodology agreed with Wiltshire via email correspondence between Peter Nobes (Environmental Protection Officer at Wiltshire) and Meg Saunders (Air Quality Consultants) between 8 and 13 November 2023. Specifically, it was agreed that the impacts of emissions from road traffic would be assessed qualitatively. This was based on:

- draft information provided by the transport consultant for the proposed development (Mayer Brown) at the time of the consultation indicated that traffic movements generated from the site would be below the EPUK/IAQM screening threshold of 500 AADT LDV movements outside AQMA. Within the Salisbury AQMA, the proposed development was anticipated to generate 101 AADT movements along the A36 (east of Salisbury, on the outer edge of the AQMA) north of the A338 (exceeding the 100 AADT screening threshold for trips within an AQMA by 1). The transport data has since been revised and the proposed development is not expected to lead to an increase in traffic movements exceeding the relevant thresholds in any location; and
- the new homes within the proposed development are set well back from any main roads, in an area where pollutant concentrations are expected to be approaching background levels.

4.2 The Officer identified that the draft SPD on Air Quality is in the process of being formally adopted, and that the assessment should ideally take account of this document.

Existing Conditions

4.3 Existing sources of emissions and baseline air quality conditions within the study area have been defined using a number of approaches:

- industrial and waste management sources that may affect the area have been identified using Defra's Pollutant Release and Transfer Register (Defra, 2023d);
- local sources have been identified through examination of the Council's Air Quality Review and Assessment reports;
- information on existing air quality has been obtained by collating the results of monitoring carried out by the local authority;
- background concentrations have been defined using Defra's 2018-based background maps (Defra, 2023e). These cover the whole of the UK on a 1x1 km grid; and
- whether or not there are any exceedances of the annual mean limit value for nitrogen dioxide in the study area has been identified using the maps of roadside concentrations published by Defra (2020; 2023f). These are the maps used by the UK Government,

together with the results from national Automatic Urban and Rural Network (AURN) monitoring sites that operate to the required data quality standards, to identify and report exceedances of the limit value. The national maps of roadside PM₁₀ and PM_{2.5} concentrations (Defra, 2023f), which are available for the years 2009 to 2019, show no exceedances of the limit values anywhere in the UK in 2022.

Road Traffic Impacts on Air Quality at Existing Receptors

- 4.4 The first step in considering the road traffic impacts of the proposed development has been to screen the development and its traffic generation against the criteria set out in the EPUK/IAQM guidance (Moorcroft and Barrowcliffe et al, 2017), as described in Paragraph 3.12 and detailed further in Appendix A1. Where impacts can be screened out there is no need to progress to a more detailed assessment.

Impacts of Road Traffic on Future Residents of the Proposed Development

- 4.5 The impacts of nitrogen dioxide, PM₁₀ and PM_{2.5} concentrations on new residents of the development have been assessed qualitatively, taking account of local air quality monitoring data and proximity to local roads.
- 4.6 The assessment examines air quality conditions in 2022 and assumes these are representative of air quality conditions at the time the development is occupied; this assumption is considered to be worst-case as it is generally expected that nitrogen dioxide, PM₁₀ and PM_{2.5} concentrations will decline in future years.

5 Baseline Conditions

Relevant Features

- 5.1 The application site is bounded by Southampton Road, Clarendon Road and Junction Road, and is set approximately 80 m back from the A36. It currently consists of agricultural land. There are existing residential properties adjacent to the proposed development in all directions.
- 5.2 The proposed development is located approximately 4.5 km away from the nearest AQMA (Salisbury City Centre), as highlighted in Figure 1.

Industrial Sources

- 5.3 No significant industrial or waste management sources have been identified that are likely to affect the proposed development, in terms of air quality.

Local Air Quality Monitoring

- 5.4 Wiltshire Council operates three automatic monitoring stations within its area, including the AM1 roadside monitor at Exeter Street, Salisbury, which is approximately 4.5 km northwest of the proposed development. The Council also operates a number of nitrogen dioxide monitoring sites using diffusion tubes prepared and analysed by Somerset Scientific Services (using the 20% TEA in water method). The nearest diffusion tubes to the proposed development are just under 5 km away in Salisbury. These include one adjacent to Exeter Street close to the AM1 monitor, one further north on Catherine Street, and one at the junction between Rollerstone Street and Blue Boar Row. Annual mean results for monitoring sites within 5 km of the proposed development for the years 2018 to 2022 are summarised in Table 2, while results relating to the 1-hour mean objective are summarised in Table 3. The monitoring locations are shown in Figure 2. The monitoring data have been taken from Wiltshire Council's 2023 Annual Status Report (ASR) (Wiltshire Council, 2023d).

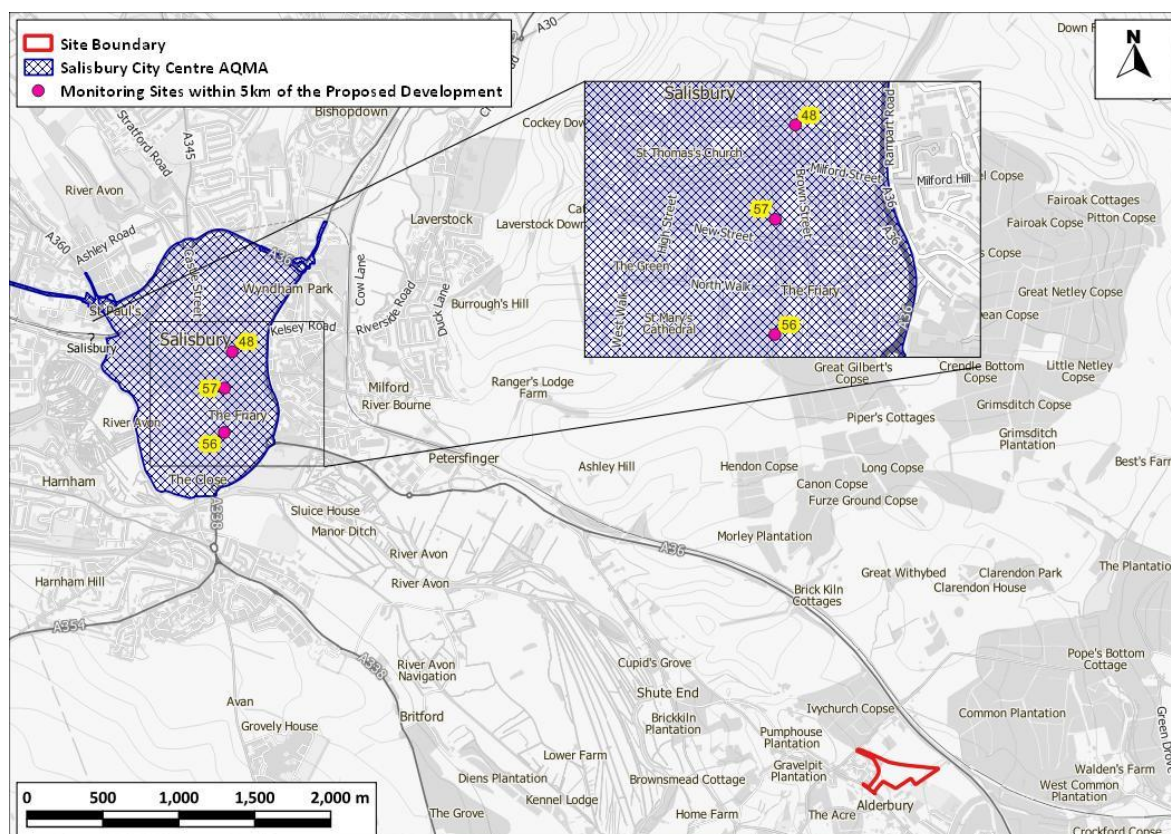
Table 2: Summary of Annual Mean NO₂ Monitoring (2018-2022) (µg/m³)^a

Site No.	Site Type	Location	2018	2019	2020	2021	2022
AM1	Roadside	Exeter Street, Salisbury	35.0	30.0	26.0	27.0	26.0
48	Roadside	16 Winchester Street, Salisbury	33.5	29.7	24.1	25.7	25.1
56	Roadside	91 Exeter Street, Salisbury	42.6	34.8	27.3	31.3	29.3
57	Roadside	Catherine Street, Salisbury	40.9	35.5	26.4	30.0	28.2
Objective			40				

^a Exceedances of the objectives are shown in bold.

Table 3: Number of Hours with NO₂ Concentrations Above 200 µg/m³

Site No.	Site Type	Location	2018	2019	2020	2021	2022
AM1	Roadside	Exeter Street, Salisbury	0	0	0	0	0
Objective			18				

**Figure 2: Monitoring Locations**

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- 5.5 Diffusion tubes 56 and 57 measured exceedances of the annual mean nitrogen dioxide objective in 2018. No exceedances have been recorded at any of the monitoring sites within 5 km of the proposed development since, and in 2022, measured concentrations were well below the objective. The monitors shown are located within the AQMA and in a built-up area.
- 5.6 The AM1 roadside automatic monitoring station also measures PM₁₀ and PM_{2.5} concentrations. Annual mean results for the years 2018 to 2022 are summarised in Table 4, while results relating to the daily mean objective are summarised in Table 5. Concentrations have been well below the objectives in all recent years.

Table 4: Summary of Annual Mean PM₁₀ and PM_{2.5} Monitoring (2018-2022) (µg/m³)

Site No.	Site Type	Location	2018	2019	2020	2021	2022
PM ₁₀							
AM1	Roadside	Exeter Street, Salisbury	22.0	22.0	21.0	19.0	20.0
Objective			40				
PM _{2.5}							
AM1	Roadside	Exeter Street, Salisbury	15.4	15.4	14.7	13.3	14.3
Objective			20 ^a				

^a The 20 µg/m³ PM_{2.5} objective, which was to be met by 2020, is not in Regulations and there is no requirement for local authorities to meet it.

Table 5: Number of Days with PM₁₀ Concentrations Above 50 µg/m³

Site No.	Site Type	Location	2018	2019	2020	2021	2022
AM1	Roadside	Exeter Street, Salisbury	0	5	0	3	3
Objective			35				

- 5.7 While 2020 and 2021 results have been presented in this Section for completeness, they are not relied upon in any way as they will not be representative of 'typical' air quality conditions due to the impact of the Covid-19 pandemic on traffic volumes and thus pollutant concentrations.

Exceedances of Limit Value

- 5.8 There are no AURN (Defra, 2023g) monitoring sites within 1 km of the application site with which to identify exceedances of the annual mean nitrogen dioxide limit value. Similarly, Defra's roadside annual mean nitrogen dioxide concentrations (Defra, 2023f), which are used to identify and report exceedances of the limit value, do not identify do not cover any roads within 1 km of the application site in 2022. As such, there is considered to be no risk of a limit value exceedance in the vicinity of the proposed development.

Background Concentrations

- 5.9 Estimated background concentrations at the proposed development are set out in Table 6 and are all well below the objectives. A range of values is presented as the proposed development site covers multiple 1x1 km grid squares.

Table 6: Estimated Annual Mean Background Pollutant Concentrations in 2022 and 2026 ($\mu\text{g}/\text{m}^3$)

Year	NO ₂	PM ₁₀	PM _{2.5}
2022	6.9 - 7.2	11.7 - 11.8	7.8
2026	6.2 - 6.3	11.2 - 11.4	7.4
Objective	40	40	20 ^a

^a The 20 $\mu\text{g}/\text{m}^3$ PM_{2.5} objective, which was to be met by 2020, is not in Regulations and there is no requirement for local authorities to meet it.

6 Impact Assessment

Impacts at Existing Receptors

- 6.1 The proposed development is expected to generate a total of 233 daily light vehicle trips as an AADT, of which approximately 159 will travel north on Southampton Road, and 75 will travel south. Of the vehicles travelling north of the site, approximately 146 will use the A36 east of College Roundabout. These daily trip rates are below the screening threshold of 500 LDVs recommended for use outside of an AQMA in the EPUK/IAQM guidance (Moorcroft and Barrowcliffe et al, 2017) (see Paragraph 3.13). Beyond College Roundabout, the traffic will distribute further; approximately 99 vehicles will use the A36 north of the roundabout (east of Salisbury and just inside the Salisbury AQMA), and approximately 48 vehicles will use the A338 (south of Salisbury and adjacent to the Salisbury AQMA) towards the A354. These daily trip rates are below the screening threshold of 100 LDVs recommended for use within an AQMA. The proposed development will generate very few operational heavy vehicle trips. As such, it is judged that the relevant screening thresholds will not be exceeded and there is no requirement for a detailed assessment of road traffic impacts at existing receptors; it can be concluded that the proposed development will not have a significant impact on local roadside air quality.

Impacts of Existing Sources on Future Residents of the Development

- 6.2 The proposed development is not located within an existing AQMA and does not introduce any residential properties closer to roads than existing properties. New properties within the site are located over 100 m from the A36, and a minimum of 14 m away from Southampton Road. Measured concentrations at the closest monitoring sites, which are located within the Salisbury City Centre AQMA, were below the relevant objectives in 2022. Concentrations at the proposed development are expected to be lower than those measured within the AQMA, and are expected to be close to background levels. Background concentrations at the site are also well below the objectives (see Table 6), thus it can be concluded that future residents will experience acceptable air quality, and there is no need for a more detailed assessment.

Significance of Operational Air Quality Effects

- 6.3 The operational air quality effects without mitigation are judged to be 'not significant'. This professional judgement is made in accordance with the methodology set out in Appendix A1, and takes account of the assessment that:
- pollutant concentrations throughout the proposed development will all be well below the objectives, thus future residents will experience acceptable air quality; and
 - the proposed development will generate traffic below industry screening thresholds.

7 Mitigation

Good Design and Best Practice

- 7.1 The EPUK/IAQM guidance advises that good design and best practice measures should be considered, whether or not more specific mitigation is required.
- 7.2 The proposed development incorporates the following good design and best practice measures:
- heating and hot water will be provided via ASHPs;
 - retention the majority of existing trees between the site and any surrounding roads, which can act as a barrier between pollution sources and residential properties within the site; and
 - provision of one electric vehicle (EV) charging point for each property with private parking.

Recommended Mitigation

- 7.3 The assessment has demonstrated that the overall air quality effect of the proposed development will be 'not significant'; air quality at the site is considered acceptable and the development-generated traffic emissions will not have a significant impact on local air quality. It is, therefore, not considered appropriate to propose further mitigation measures for this development.
- 7.4 Measures to reduce pollutant emissions from road traffic are principally being delivered in the longer term by the introduction of more stringent emissions standards, largely via European legislation (which is written into UK law).

8 Conclusions

- 8.1 The assessment has considered the impacts of the proposed development on local air quality in terms of emissions from road traffic generated by the completed and occupied development. It has also identified the air quality conditions that future residents will experience.
- 8.2 Air quality conditions for future residents of the proposed development have been shown to be acceptable, with concentrations well below the air quality objectives throughout the site.
- 8.3 The assessment has demonstrated that the emissions from the additional traffic generated by the proposed development will not have a significant impact on air quality conditions at existing receptors along the local road network, as the traffic generated is below industry screening thresholds.
- 8.4 The overall operational air quality effects of the proposed development are judged to be 'not significant'.
- 8.5 Taking into account these conclusions, it is judged that the proposed development is consistent with Paragraph 185 of the NPPF, being appropriate for its location both in terms of its effects on the local air quality environment and the air quality conditions for future residents. It is also consistent with Paragraph 186, as it will not affect compliance with relevant limit values or national objectives, and Core Policy 55 of Wiltshire Council's Core Strategy, as it is not likely to exacerbate existing areas of poor air quality. Further, by providing one EV charging point for each property with private parking, the proposed development is consistent with Wiltshire Council's emerging SPD on Air Quality, as it will meet the Council's minimum EV charging requirements.

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10 Glossary

AADT	Annual Average Daily Traffic
AQC	Air Quality Consultants
AQMA	Air Quality Management Area
ASHP	Air Source Heat Pump
AURN	Automatic Urban and Rural Network
CAZ	Clean Air Zone
CEMP	Construction Environmental Management Plan
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EFT	Emission Factor Toolkit
EPUK	Environmental Protection UK
EU	European Union
EV	Electric Vehicle
Exceedance	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
HDV	Heavy Duty Vehicles (> 3.5 tonnes)
HMSO	Her Majesty's Stationery Office
IAQM	Institute of Air Quality Management
JAQU	Joint Air Quality Unit
kW	Kilowatt
LAQM	Local Air Quality Management
LDV	Light Duty Vehicles (<3.5 tonnes)
µg/m³	Microgrammes per cubic metre
NO	Nitric oxide
NO₂	Nitrogen dioxide
NO_x	Nitrogen oxides (taken to be NO ₂ + NO)
NPPF	National Planning Policy Framework

OEP	Office for Environmental Protection
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
OLEV	Office for Low Emission Vehicles
PM₁₀	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
PM_{2.5}	Small airborne particles less than 2.5 micrometres in aerodynamic diameter
PPG	Planning Practice Guidance
SPD	Supplementary Planning Document
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
TEA	Triethanolamine – used to absorb nitrogen dioxide
WHO	World Health Organisation

11 Appendices

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A1 EPUK & IAQM Planning for Air Quality Guidance

- A1.1 The guidance issued by EPUK and IAQM (Moorcroft and Barrowcliffe et al, 2017) is comprehensive in its explanation of the place of air quality in the planning regime. Key sections of the guidance not already mentioned above are set out below.

Air Quality as a Material Consideration

“Any air quality issue that relates to land use and its development is capable of being a material planning consideration. The weight, however, given to air quality in making a planning application decision, in addition to the policies in the local plan, will depend on such factors as:

- *the severity of the impacts on air quality;*
- *the air quality in the area surrounding the proposed development;*
- *the likely use of the development, i.e. the length of time people are likely to be exposed at that location; and*
- *the positive benefits provided through other material considerations”.*

Recommended Best Practice

- A1.2 The guidance goes into detail on how all development proposals can and should adopt good design principles that reduce emissions and contribute to better air quality management. It states:

“The basic concept is that good practice to reduce emissions and exposure is incorporated into all developments at the outset, at a scale commensurate with the emissions”.

- A1.3 The guidance sets out a number of good practice principles that should be applied to all developments that:

- include 10 or more dwellings;
- where the number of dwellings is not known, residential development is carried out on a site of more than 0.5 ha;
- provide more than 1,000 m² of commercial floorspace;
- are carried out on land of 1 ha or more.

- A1.4 The good practice principles are that:

- New developments should not contravene the Council's Air Quality Action Plan, or render any of the measures unworkable;
- Wherever possible, new developments should not create a new “street canyon”, as this inhibits pollution dispersion;

- Delivering sustainable development should be the key theme of any application;
- New development should be designed to minimise public exposure to pollution sources, e.g. by locating habitable rooms away from busy roads;
- The provision of at least 1 Electric Vehicle (EV) “rapid charge” point per 10 residential dwellings and/or 1000 m² of commercial floorspace. Where on-site parking is provided for residential dwellings, EV charging points for each parking space should be made available;
- Where development generates significant additional traffic, provision of a detailed travel plan (with provision to measure its implementation and effect) which sets out measures to encourage sustainable means of transport (public, cycling and walking) via subsidised or free-ticketing, improved links to bus stops, improved infrastructure and layouts to improve accessibility and safety;
- All gas-fired boilers to meet a minimum standard of <40 mgNO_x/kWh;
- Where emissions are likely to impact on an AQMA, all gas-fired CHP plant to meet a minimum emissions standard of:
 - Spark ignition engine: 250 mgNO_x/Nm³;
 - Compression ignition engine: 400 mgNO_x/Nm³;
 - Gas turbine: 50 mgNO_x/Nm³.
- A presumption should be to use natural gas-fired installations. Where biomass is proposed within an urban area it is to meet minimum emissions standards of 275 mgNO_x/Nm³ and 25 mgPM/Nm³.

A1.5 The guidance also outlines that offsetting emissions might be used as a mitigation measure for a proposed development. However, it states that:

“It is important that obligations to include offsetting are proportional to the nature and scale of development proposed and the level of concern about air quality; such offsetting can be based on a quantification of the emissions associated with the development. These emissions can be assigned a value, based on the “damage cost approach” used by Defra, and then applied as an indicator of the level of offsetting required, or as a financial obligation on the developer. Unless some form of benchmarking is applied, it is impractical to include building emissions in this approach, but if the boiler and CHP emissions are consistent with the standards as described above then this is not essential”.

A1.6 The guidance offers a widely used approach for quantifying costs associated with pollutant emissions from transport. It also outlines the following typical measures that may be considered to offset emissions, stating that measures to offset emissions may also be applied as post assessment mitigation:

- Support and promotion of car clubs;
- Contributions to low emission vehicle refuelling infrastructure;
- Provision of incentives for the uptake of low emission vehicles;
- Financial support to low emission public transport options; and
- Improvements to cycling and walking infrastructures.

Screening

Impacts of the Local Area on the Development

“There may be a requirement to carry out an air quality assessment for the impacts of the local area’s emissions on the proposed development itself, to assess the exposure that residents or users might experience. This will need to be a matter of judgement and should take into account:

- the background and future baseline air quality and whether this will be likely to approach or exceed the values set by air quality objectives;*
- the presence and location of Air Quality Management Areas as an indicator of local hotspots where the air quality objectives may be exceeded;*
- the presence of a heavily trafficked road, with emissions that could give rise to sufficiently high concentrations of pollutants (in particular nitrogen dioxide), that would cause unacceptably high exposure for users of the new development; and*
- the presence of a source of odour and/or dust that may affect amenity for future occupants of the development”.*

Impacts of the Development on the Local Area

A1.7 The guidance sets out two stages of screening criteria that can be used to identify whether a detailed air quality assessment is required, in terms of the impact of the development on the local area. The first stage is that you should proceed to the second stage if any of the following apply:

- 10 or more residential units or a site area of more than 0.5 ha residential use; and/or
- more than 1,000 m² of floor space for all other uses or a site area greater than 1 ha.

A1.8 Coupled with any of the following:

- the development has more than 10 parking spaces; and/or
- the development will have a centralised energy facility or other centralised combustion process.

A1.9 If the above do not apply then the development can be screened out as not requiring a detailed air quality assessment of the impact of the development on the local area. If they do apply then you proceed to stage 2, which sets out indicative criteria for requiring an air quality assessment. The stage 2 criteria relating to vehicle emissions are set out below:

- the development will lead to a change in LDV flows of more than 100 AADT within or adjacent to an AQMA or more than 500 AADT elsewhere;
- the development will lead to a change in HDV flows of more than 25 AADT within or adjacent to an AQMA or more than 100 AADT elsewhere;
- the development will lead to a realigning of roads (i.e. changing the proximity of receptors to traffic lanes) where the change is 5m or more and the road is within an AQMA;
- the development will introduce a new junction or remove an existing junction near to relevant receptors, and the junction will cause traffic to significantly change vehicle acceleration/deceleration, e.g. traffic lights or roundabouts;
- the development will introduce or change a bus station where bus flows will change by more than 25 AADT within or adjacent to an AQMA or more than 100 AADT elsewhere; and
- the development will have an underground car park with more than 100 movements per day (total in and out) with an extraction system that exhausts within 20 m of a relevant receptor.

A1.10 The criteria are more stringent where the traffic impacts may arise on roads where concentrations are close to the objective. The presence of an AQMA is taken to indicate the possibility of being close to the objective, but where whole authority AQMAs are present and it is known that the affected roads have concentrations below 90% of the objective, the less stringent criteria are likely to be more appropriate.

A1.11 On combustion processes (including standby emergency generators and shipping) where there is a risk of impacts at relevant receptors, the guidance states that:

“Typically, any combustion plant where the single or combined NO_x emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion. As a guide, the 5 mg/s criterion equates to a 450 kW ultra-low NO_x gas boiler or a 30kW CHP unit operating at <95mg/Nm³.

In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates.

Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable”.

- A1.12 Should none of the above apply then the development can be screened out as not requiring a detailed air quality assessment of the impact of the development on the local area, provided that professional judgement is applied; the guidance importantly states the following:

“The criteria provided are precautionary and should be treated as indicative. They are intended to function as a sensitive ‘trigger’ for initiating an assessment in cases where there is a possibility of significant effects arising on local air quality. This possibility will, self-evidently, not be realised in many cases. The criteria should not be applied rigidly; in some instances, it may be appropriate to amend them on the basis of professional judgement, bearing in mind that the objective is to identify situations where there is a possibility of a significant effect on local air quality”.

- A1.13 Even if a development cannot be screened out, the guidance is clear that a detailed assessment is not necessarily required:

“The use of a Simple Assessment may be appropriate, where it will clearly suffice for the purposes of reaching a conclusion on the significance of effects on local air quality. The principle underlying this guidance is that any assessment should provide enough evidence that will lead to a sound conclusion on the presence, or otherwise, of a significant effect on local air quality. A Simple Assessment will be appropriate, if it can provide this evidence. Similarly, it may be possible to conduct a quantitative assessment that does not require the use of a dispersion model run on a computer”.

- A1.14 The guidance also outlines what the content of the air quality assessment should include, and this has been adhered to in the production of this report.

Assessment of Significance

- A1.15 There is no official guidance in the UK in relation to development control on how to describe the nature of air quality impacts, nor how to assess their significance. The approach within the EPUK/IAQM guidance has, therefore, been used in this assessment. This approach involves a two stage process:

- a qualitative or quantitative description of the impacts on local air quality arising from the development; and
- a judgement on the overall significance of the effects of any impacts.

- A1.16 The guidance recommends that the assessment of significance should be based on professional judgement, with the overall air quality impact of the development described as either ‘significant’ or ‘not significant’. In drawing this conclusion, the following factors should be taken into account:

- the existing and future air quality in the absence of the development;
- the extent of current and future population exposure to the impacts;
- the influence and validity of any assumptions adopted when undertaking the prediction of impacts;
- the potential for cumulative impacts and, in such circumstances, several impacts that are described as '*slight*' individually could, taken together, be regarded as having a significant effect for the purposes of air quality management in an area, especially where it is proving difficult to reduce concentrations of a pollutant. Conversely, a '*moderate*' or '*substantial*' impact may not have a significant effect if it is confined to a very small area and where it is not obviously the cause of harm to human health; and
- the judgement on significance relates to the consequences of the impacts; will they have an effect on human health that could be considered as significant? In the majority of cases, the impacts from an individual development will be insufficiently large to result in measurable changes in health outcomes that could be regarded as significant by health care professionals.

A1.17 The guidance is clear that other factors may be relevant in individual cases. It also states that the effect on the residents of any new development where the air quality is such that an air quality objective is not met will be judged as significant. For people working at new developments in this situation, the same will not be true as occupational exposure standards are different, although any assessment may wish to draw attention to the undesirability of the exposure.

A1.18 A judgement of the significance should be made by a competent professional who is suitably qualified. A summary of the professional experience of the staff contributing to this assessment is provided in Appendix A2.

A2 Professional Experience

Dr Denise Evans, BSc (Hons) PhD MEnvSc MIAQM

Dr Evans is an Associate Director with AQC, with more than 24 years' relevant experience. She has prepared air quality review and assessment reports for local authorities, and has appraised local authority air quality assessments on behalf of the UK governments, and provided support to the Review and Assessment helpdesk. She has extensive modelling experience, completing air quality and odour assessments to support applications for a variety of development sectors including residential, mixed use, urban regeneration, energy, commercial, industrial, and road schemes, assessing the effects of a range of pollutants against relevant standards for human and ecological receptors. Denise has acted as an Expert Witness and is a Member of the Institute of Air Quality Management.

Dr Kate Wilkins, BSc (Hons) MSc PhD CSci MEnvSc MIAQM

Dr Wilkins is a Principal Consultant with AQC with six years' experience in the field of air quality. Since joining AQC in January 2018, she has undertaken numerous air quality impact assessments for road traffic, combustion plant and construction dust throughout the UK for both standalone assessments and for EIAs, and has also prepared local authority reports and literature reviews. She has contributed her technical skills in programming, specialist software and data analysis to a range of large-scale projects, including the third runway at Heathrow airport. Previously, Kate completed a PhD at the University of Bristol, researching atmospheric dispersion modelling and satellite remote sensing of volcanic ash. She is a Chartered Scientist and a Member of both the Institute of Air Quality Management and the Institution of Environmental Sciences.

Meg Saunders, BSc MSc

Miss Saunders is an Assistant Consultant with AQC and joined the company in 2023. During her MSc degree in Sustainability Science and Practice at Stanford University, she joined Stanford Future Bay Initiative, completing project work related to extreme heat forecasting. She went on to complete a summer internship focussed on developing the foundations for an open-source methodology for urban air quality modelling in collaboration with community partners in the Bay Area. Her master's practicum project with the NGO Groundwater Collaborative analysed data relevant to sustainable groundwater management in California.