



Newport Knowledge Quarter (NKQ)

Air Quality Assessment

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Prepared for:
Welsh Education Partnership Company



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1 Introduction

1.1 Proposed Development

- 1.1.1 Welsh Education Partnership Company (the 'Applicant') has commissioned Stantec to undertake an air quality assessment to support a reserved matters application for detailed planning permission for the redevelopment of the land to the west of the A4042 (the 'Site'). The Site is located within the administrative boundary of Newport City Council (NCC).
- 1.1.2 The planning application is a reserved matters application for detailed planning permission for the development of a new 16+ further education facility on land adjacent to Friar's Walk Centre, in Newport City Centre (the 'Proposed Development').

1.2 Scope of Assessment

- 1.2.1 This report describes existing air quality within the study area, considers the suitability of the Site for the proposed end-use in relation to air quality and assesses the impact of the construction and operation of the Proposed Development on air quality in the study area.
- 1.2.2 The main air pollutants of concern related to construction are dust and fine particulate matter (PM₁₀) associated with on-site construction activities and off-site trackout.
- 1.2.3 The main air pollutants of concern during the operational period are nitrogen dioxide (NO₂), PM₁₀ and PM_{2.5} emissions associated with road traffic and emissions from a standby diesel generator that can be used to aid the fire services in the case of a fire.
- 1.2.4 Despite this, the energy strategy for the Proposed Development will be all-electric, utilising Air Source Heat Pumps (ASHPs), in accordance with the latest building regulations, policy and guidance requirements.
- 1.2.5 The assessment has been prepared taking into account the requirements of relevant local and national guidance, policy and legislation.
- 1.2.6 A glossary of terms used in this assessment is provided in **Appendix A**.



2 Legislation, Policy and Guidance

2.1 Air Quality Regulations

- 2.1.1 The Air Quality (Wales) Regulations 2000 (AQR) defined National Air Quality Objectives (NAQOs, a combination of concentration-based thresholds, averaging periods and compliance dates) for a limited range of pollutants. Subsequent amendments were made to the AQR in 2001 and 2002 to incorporate 'limit values' and 'target values' for a wider range of pollutants as defined in European Union (EU) Directives.
- 2.1.2 These amendments were consolidated by the Air Quality Standards (Wales) Regulations 2010 (AQSR) (with subsequent amendments most notably in 2016 and for the devolved administrations), which transposed the EU's Directive on ambient air quality and cleaner air for Europe (2008/50/EC).
- 2.1.3 Following the Transition Period after the UK's departure from the EU in January 2020, the Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019 (and subsequent amendments for the devolved administrations) have amended the Air Quality Standards Regulations 2010 to reflect the fact that the UK has left the EU.
- 2.1.4 The relevant NAQOs and limit values for this assessment are shown in **Table 2-1**.

Table 2-1 Relevant Air Quality Objectives/Limit Values

Pollutant	Time Period	Objectives	Source
NO ₂	1-hour mean	200 µg/m ³ not to be exceeded more than 18 times a year	NAQO and AQSR limit value
	Annual mean	40 µg/m ³	NAQO and AQSR limit value
PM ₁₀	24-hour mean	50 µg/m ³ not to be exceeded more than 35 times a year	NAQO and AQSR limit value
	Annual mean	40 µg/m ³	NAQO and AQSR limit value
PM _{2.5}	Annual mean	20 µg/m ³	NAQO and AQSR limit value

- 2.1.5 The NAQOs for NO₂ and PM₁₀ were to have been achieved by 2005 and 2004 respectively, but also continue to apply in all future years thereafter.
- 2.1.6 The 2019 Clean Air Strategy includes a commitment to set a *“new, ambitious, long-term target to reduce people's exposure to PM_{2.5}”* which the Environment Act 2021 commits the Secretary of State to setting (Statutory Instrument, 2021).
- 2.1.7 The Environment (Air Quality and Soundscapes) (Wales) Act 2024 contains a requirement for Ministers to set a PM_{2.5} target. The Clean Air Act (Wales) also required the Welsh government to:
- Provide a framework for setting national air quality targets and consider who guidelines,
 - amend existing legislation relating to the national air quality strategy
 - local air quality management; smoke control; clean air zones/low emission zones and vehicle idling; and

- place a duty on Welsh Ministers to promote awareness of air pollution.

National Air Quality Plan for NO₂ in the UK

- 2.1.8 The National Air Quality Plan for NO₂ (The Plan) (DEFRA, 2018) sets out how the Government plans to deliver reductions in NO₂ throughout the UK, with a focus on reducing concentrations to below the EU limit values throughout the UK within the “*shortest possible time*”.
- 2.1.9 The Plan requires all local authorities in England which DEFRA identified as having exceedances of the limit values in their areas past 2020 to develop local plans to improve air quality and identify measures to deliver reduced emissions, with the aim of meeting the limit values within their area within ‘the shortest possible time’. Potential measures include changing road layouts, encouraging public and private ultra-low emission vehicle (ULEV) uptake, the use of retrofitting technologies and new fuels and encouraging public transport. In cases where these measures are not sufficient to bring about the required change within ‘the shortest possible time’ then local authorities may consider implementing access restrictions on more polluting vehicles (e.g. Clean Air Zones (CAZs)).

Tackling Roadside Nitrogen Dioxide Concentrations in Wales

- 2.1.10 The Welsh Supplemental Plan to the ‘UK plan for tackling roadside nitrogen dioxide concentrations 2017’ (Welsh Government, 2018) sets out work that has been, and continues to be done to identify how Wales will reduce concentrations of NO₂ around roads where levels are above legal limits in the “*shortest time possible*”.

Clean Air Plan for Wales: Healthy Air, Healthy Wales 2020

- 2.1.11 The aim of the Clean Air Plan for Wales (Welsh Government, 2024a) is to improve air quality and reduce the impacts of air pollution on human health, biodiversity, the natural environment and the economy. The Plan sets out a 10-year pathway to achieving cleaner air. The Plan is structured around four core themes, with actions to enable collaborative approaches to reducing air pollution:
- *‘People: Protecting the health and well-being of current and future generations.*
 - *Environment: Taking action to support our natural environment, ecosystems and biodiversity.*
 - *Prosperity: Working with industry to reduce emissions, supporting a cleaner and more prosperous Wales.*
 - *Place: Creating sustainable places through better planning, infrastructure and transport.’*

Well-being of Future Generations Act

- 2.1.12 The Well-being of Future Generations Act (Welsh Government, 2015) requires public bodies in Wales to consider the long-term impact of their decisions, to collaborate with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change. Under the Well-being of Future Generations Act, the Welsh government has established average population exposure to NO₂ as an indicator to measure progress towards well-being goals in Wales. Regulations made under the Act require public services boards to consider air quality when carrying out their statutory assessments of local well-being.

2.2 Air Quality Management

The Air Quality Strategy

- 2.2.1 Part IV of the Environment Act 1995 (Statutory Instrument, 1995) required the Secretary of State to prepare and publish a ‘strategy’ regarding air quality.
- 2.2.2 The Air Quality Strategy (2007) establishes the policy framework for ambient air quality management and assessment in the UK (DEFRA in partnership with the Scottish Executive, The National Assembly for Wales and the Department of the Environment for Northern Ireland, 2007). The primary objective of the Air Quality Strategy is to ensure that everyone can enjoy a level of ambient air quality which poses no significant risk to health or quality of life. The Air Quality Strategy sets out the NAQOs and Government policy on achieving these.
- 2.2.3 The Clean Air Strategy (2019) aims to lower national emissions of pollutants, thereby reducing background pollution and minimising human exposure to harmful concentrations of pollution. The Strategy aims to create a stronger and more coherent framework for action to tackle air pollution (DEFRA, 2019).

Local Air Quality Management

- 2.2.4 Part IV of the Environment Act 1995 (Statutory Instrument, 1995) introduced a system of Local Air Quality Management (LAQM) which requires local authorities to regularly and systematically review and assess air quality within their boundary. In addition, local authorities are required to appraise development and transport plans against these assessments.
- 2.2.5 Where an NAQO is unlikely to be met, the local authority must designate an Air Quality Management Area (AQMA) and draw up an Air Quality Action Plan (AQAP) setting out the measures it intends to introduce in pursuit of the NAQOs within its AQMA.
- 2.2.6 The Local Air Quality Management Technical Guidance 2022 ((LAQM.TG(22); (DEFRA, 2025a)), issued by the DEFRA for local authorities provides advice on where the NAQOs apply. These include outdoor locations where members of the public are likely to be regularly present for the averaging period of the objective (which vary from 15 minutes to a year) as summarised in **Table 2-2**.

Table 2-2 Relevant Public Exposure

Averaging Period	NAQOs should apply at:	NAQOs do not apply at:
Annual mean	All locations where members of the public might be regularly exposed. For example: Building façades of residential properties, schools, hospitals, care homes etc	Façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residences. Kerbside sites. Any other location where public exposure is expected to be short term.
24-hour mean and 8-hour mean	All locations where the annual mean NAQO would apply, together with hotels and gardens of residences.	Kerbside sites. Any other location where public exposure is expected to be short term.

1-hour mean	All locations where the annual mean and 24 and 8-hour mean NAQOs apply as well as: Kerbside sites . Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer.	Kerbside locations where the public would not be expected to have regular access.
15-minute mean	All locations where members of the public might reasonably be regularly exposed for a period of 15 minutes or longer.	

2.3 Planning Policy

National Planning Policy

Planning Policy Wales

- 2.3.1 Planning Policy Wales (PPW) (Welsh Government, 2024b) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales.
- 2.3.2 Paragraph 1.2 states that “*the primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales...*”
- 2.3.3 Chapter 6 provides specific guidance on air quality within Section 6.7 Air Quality and Soundscape. Paragraph 6.7.6 states that:

“In proposing new development, planning authorities and developers must, therefore:

- address any implication arising as a result of its association with, or location within, air quality management areas...*
- not create areas of poor air quality or inappropriate soundscape; and*
- seek to incorporate measures which reduce overall exposure to air and noise pollution...”*

Future Wales: The National Plan 2040

- 2.3.4 Future Wales: The National Plan 2040 (Welsh Government, 2021) was published in February 2021 by the Welsh government. This document forms part of the national development framework for Wales and promotes development that enhances wellbeing and quality of life. The document should be read in conjunction with Planning Policy Wales and planning applications will need comply with the plan. Air quality and clean air is referenced throughout the document, in particular developing infrastructure responsibly.

Technical Advice Note 18: Transport

- 2.3.5 Technical Advice Note (TAN) 18 was adopted in March 2007 (Welsh Government, 2007) and should be read in conjunction with PPW. There are no policies within the TAN 18 that relate directly to air quality. However, TAN states that “*transport emissions contribute significantly to*

climate change and poor air quality” and when “considering planning applications, planning authorities should take into account statutory air quality objectives, together with the results of air quality reviews and assessments and any Air Quality Management Area Action Plans that may have been prepared.”

Local Planning Policy

Newport Local Development Plan 2011 - 2026

- 2.3.6 The Newport Local Development Plan 2011 – 2026 was adopted in 2015 (Newport City Council, 2015) and is a guide for how land is used and where development occurs across Newport. It also identifies air quality as a key issue that future development within Newport needs to take into consideration. As a result, Objective 9 of the Local Plan: To provide an environment that is safe and encourages healthy lifestyle choices and promotes well-being, takes note of improving air quality issues. The policies relating to air quality are set out below.

- 2.3.7 SP14: Transport Proposals

“Transport Proposals will be supported where they:

[...]

ix) result in other environmental improvements, including air quality, noise reduction, sustainable drainage and enhanced biodiversity.”

- 2.3.8 GP2: General Development Principles – General Amenity

“Development will be permitted where, as applicable:

i) there will not be a significant adverse effect on local amenity, including in terms of noise, disturbance, privacy, overbearing, light, odours and air quality;

[...]”

- 2.3.9 GP4 General Development Principles – Highways and Accessibility

“Development proposals should:

[...]

iii) be designed to avoid or reduce transport severance, noise and air pollution;

[...]”

- 2.3.10 GP7: General Development Principles – Environmental Protection and Public Health

“Development will not be permitted which would cause or result in unacceptable harm to health because of land contamination, dust, instability or subsidence, air, heat, noise or light pollution, flooding, water pollution, or any other identified risk to the environment, local amenity or public health and safety.”

National Transport Delivery Plan 2022 to 2027

- 2.3.11 The National Transport Delivery Plan (Welsh Government, 2022) seeks to deliver a transport network that reduces its residents dependence on private vehicle trips and promotes active travel and public transport. These measures are intended to reduce traffic-related emissions and improve air quality across Wales. The Plan therefore supports development in sustainable locations that maximise opportunities for walking, cycling and public transport use, thereby minimising the potential for adverse air quality effects associated with road traffic.

Newport City Council Organisational Climate Change Plan

- 2.3.12 NCC's Organisational Climate Change Plan (Newport City Council, 2022) sets out key themes, priorities, actions and milestones that the Council plan to take from 2022 to 2027. With regards to air quality, the Council state "*Priorities and actions identified in the Climate Change Plan will support the work that is underway to improve air quality in Newport*".

Newport City Council Air Quality Action Plan 2024 - 2029

- 2.3.13 NCC's Air Quality Action Plan was adopted in March 2024 (Newport City Council, 2024) and aims to combat the main sources of air pollution within the city through actions that can fit into four categories:
- Emissions from Transport;
 - Emissions from new development;
 - Education & Awareness; and
 - Active Travel/Green Infrastructure.

2.4 Assessment Guidance

- 2.4.1 The primary guidance documents used in undertaking this assessment are detailed in the section below.

DEFRA 'Local Air Quality Management Technical Guidance (LAQM.TG(22))'

- 2.4.2 DEFRA's LAQM.TG(22) was published for use by local authorities in their LAQM review and assessment work (DEFRA, 2025a). The document provides key guidance on aspects of air quality assessment, including screening, use of monitoring data, and use of background data that are applicable to all air quality assessments.

EPUK & IAQM 'Land-Use Planning & Development Control: Planning for Air Quality'

- 2.4.3 Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have together published guidance to help ensure that air quality is properly accounted for in the development control process (EPUK and IAQM, 2017). It clarifies when an air quality assessment should be undertaken, what it should contain, and how impacts should be described and assessed including guidelines for assessing the significance of impacts.

IAQM 'Guidance on the Assessment of Dust from Demolition and Construction'

- 2.4.4 Guidance on the assessment of dust from demolition and construction has been published by the IAQM (IAQM, 2024). The guidance provides a series of matrices to determine the risk magnitude of potential dust sources associated with construction activities in order to identify appropriate mitigation measures that are defined within further IAQM guidance.

Natural Resources Wales

- 2.4.5 Natural Resources Wales has published guidance on air pollution and development (Natural Resource Wales, 2025). The guidance relates specifically to air quality impacts on protected sites which include Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites. The guidance sets out the



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recommended methodology and screening criteria for assessing air quality impacts on protected sites, including consideration of in-combination air quality impacts at protected sites resulting from the Proposed Development with other projects and plans.



3 Methodology

3.1 Introduction

- 3.1.1 The assessment methodology detailed in the following sections has been applied to ascertain the potential impacts of emissions to air in order to identify their significance and compliance with policy and regulatory requirements (outlined in **Section 2** of this report), and whether or not additional mitigation is required.
- 3.1.2 This assessment outlines the existing air quality within the study area, assesses the impact of construction and operational activities on air quality and sensitive receptors in the study area and also assesses the suitability of the Site for its proposed end-use.

3.2 Baseline Air Quality

- 3.2.1 Any exceedances of the limit values (and compliance date where relevant) for the zone or agglomeration which the Site is located in have been identified from DEFRA's latest Compliance Assessment report (DEFRA, 2025b) and exceedance along roads within the study area have been identified using the 2020 NO₂ and PM Projections Data published by DEFRA (DEFRA, 2020).
- 3.2.2 Information on baseline air quality in the study area has been obtained by collating the results of monitoring carried out by NCC and their LAQM reports to identify potential AQMAs. Background concentrations for the study area have been defined using the national pollution maps published by DEFRA which cover the whole country on a 1x1 km grid (DEFRA, 2024).

3.3 Construction Dust Impacts

- 3.3.1 During demolition and construction, dust from on-site activities and off-site trackout by construction vehicles has the potential to impact on sensitive human receptors within the study area. The main potential impacts are loss of amenity (as a result of dust soiling) and deterioration of human health (as a result of increased concentrations of PM₁₀) and harm to sensitive ecological receptors.
- 3.3.2 The suspension of particles in the air is dependent on surface characteristics, weather conditions and on-site activities. Impacts have the potential to occur when dust generating activities coincide with dry, windy conditions, and where sensitive receptors are located downwind of the dust source(s).
- 3.3.3 Separation distance is also an important factor. Large dust particles (greater than 30 µm), which can be potentially responsible for most dust annoyance, will largely deposit within 100 m of sources. Intermediate particles (10-30 µm) can travel 200-500 m. Consequently, significant dust annoyance is usually limited to within a few hundred metres of its source. Smaller particles (less than 10 µm), which are the predominant fraction that can be potentially responsible for human health impacts largely remain airborne. However, the impact on the short-term concentrations of PM₁₀ occurs over a shorter distance due to the rapid decrease in concentrations with distance from the source due to dispersion.
- 3.3.4 The assessment of the risk of potential construction dust impacts has been undertaken with reference to relevant guidance (IAQM, 2024).

Screening Assessment

- 3.3.5 The first stage of the assessment involves screening to determine if there are sensitive receptors within threshold distances of the activities associated with the construction phase of the Proposed Development; defined as the study area. No further assessment is required if there are no receptors within the study area.



3.3.6 The IAQM guidance outlines that an assessment is only required in cases where:

- A 'human receptor' is located within:
 - 250 m of the boundary of the Site; or
 - 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s).
- An 'ecological receptor' is located within:
 - 50 m of the boundary of the Site; or
 - 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s).

Further Assessment

3.3.7 The risk of impacts associated with dust soiling and PM₁₀ caused by the Proposed Development has been determined (following the IAQM guidance) based on the dust emission class (or magnitude) for each activity arising from four activities in the absence of mitigation (demolition, earthworks, construction and trackout), the sensitivity of nearby receptors and the overall sensitivity of the area. The dust emission class, receptor sensitivity and the overall sensitivity of the area are determined using the criteria outlined in **Table B-1, Table B-2, Table B-3, Table B-4 and Table B-5 of Appendix B** (based on the IAQM guidance), indicative thresholds and professional judgement. The risk of dust impacts arising is a product of the relationship between the dust emission magnitude and the area sensitivity and is based on the criteria outlined in **Table B-6** (based on the IAQM guidance). The risk of impact is then used to determine the mitigation requirements.

3.3.8 The IAQM guidance recommends that no assessment of the significance of effects is made without mitigation in place, as mitigation is assumed to be secured by planning conditions, legal requirements or required by regulations.

3.3.9 With appropriate mitigation in place, the IAQM guidance indicates that the residual effect dust emissions associated with the demolition and construction can be classified as being 'not significant'.

3.4 Demolition and Construction Road Traffic Emission Impacts

3.4.1 The potential for a significant overall effect on existing sensitive receptors within the study area as a result of emissions from demolition and construction traffic generated by the Proposed Development has been determined qualitatively, taking into consideration the screening criteria outlined in the EPUK and IAQM guidance (EPUK and IAQM, 2017) (see **Appendix C**) the anticipated routing of the generated traffic and the anticipated duration of impacts associated with the generated traffic.

3.5 Demolition and Construction Non-Road Mobile Machinery Emission Impacts

3.5.1 The impacts of emissions associated with Non-Road Mobile Machinery (NRMM) during the construction phase of Proposed Development has been undertaken qualitatively, taking into account the following:

- Duration of works;
- Type and number of NRMM to be used on-site;
- Operating hours of NRMM;



- Emissions standard to which NRMM comply;
- Proximity of receptors to NRMM working areas; and
- Existing background pollutant concentrations.

3.5.2 In accordance with DEFRA's LAQM TG.22 (DEFRA, 2025a), with suitable controls and site management in place, emissions associated with NRMM and site traffic are unlikely to have significant impact on local air quality.

3.6 Operational Road Traffic Emission Impacts

Human Receptors

3.6.1 The potential for significant impacts on existing sensitive receptors within the study area as a result of emissions from operational traffic generated by the Proposed Development is determined based on the screening criteria outlined in the EPUK and IAQM Guidance (EPUK and IAQM, 2017) (see **Appendix C**) which include consideration of the volume and composition of traffic generated by the Proposed Development and existing local air quality conditions (i.e. the presence of any declared AQMAs). It should be noted that if traffic from a development exceeds these levels, then it does not necessarily mean that a modelling assessment is necessary, only that the air quality impacts of traffic require more detailed consideration.

Ecological Receptors

3.6.2 In relation to ecological receptors, guidance (Natural Resource Wales, 2025) indicates that a detailed (quantitative) air quality assessment of impacts is required where a Proposed Development is expected to increase traffic movements and there are protected sites located within 200 metres of the edge of a road affected by that additional traffic. In such cases, a detailed assessment is required if the development, either alone or in combination with other plans or projects, would result in an increase in annual average daily traffic (AADT) flows of more than 1,000 light-duty vehicles or more than 200 heavy-duty vehicles on the affected road network.

3.7 Operational Combustion Emission Impacts

3.7.1 The potential for a significant overall effect on existing sensitive receptors within the study area as a result of emissions from the back-up power generator during the operational phase have been determined qualitatively considering the potential emission rates and operational frequency.

3.7.2 Research indicates that given the limited capacity, flue discharge conditions and operating duration of the generator, resultant impacts during operation will be limited and inherently cannot result in exceedance of the short-term NO₂ NAQO (which allows 18 hours of exceedance per annum) and will have a minimal influence on annual average concentrations. Therefore, as per IAQM guidance (Air Quality Consultants Ltd, 2025) it is considered that the life safety backup power generators do not require detailed assessment

3.7.3 The NO_x emission rate (g/s) of the unit is compared to the EPUK and IAQM guidance indicative criteria for combustion processes which 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"* (EPUK and IAQM, 2017) (see **Appendix C**). If the emission rate falls below the screening criteria, then a detailed assessment of combustion emissions is not required.

4 Baseline Environment

4.1 Site Context

- 4.1.1 The Site is bound to the north and west by Usk Way (A4042), to the south by Emlyn Street and to the west by Kingsway Shopping Centre.

4.2 Study Area

- 4.2.1 The study area adopted for this assessment is as follows:
- For the construction phase dust assessment, the study area (based on IAQM, 2024 guidance) is defined as up to 250 m from the Site or 50 m from the route of construction vehicles (up to 250 m from the entrance of the Site).
 - For the construction and operational phase road traffic emissions assessment, the study area (based on EPUK and IAQM, 2017 guidance) is defined as all roads within 250 m of the site and any other roads which could potentially exceed the screening criteria outlined in **Appendix C**.

4.3 Ambient Air Quality

Limit Values

- 4.3.1 The study area does not contain any predicted exceedances of a limit values either in the existing year (2026) or future years (DEFRA, 2020) (DEFRA, 2023).

LAQM

- 4.3.2 NCC has investigated air quality within its area as part of its responsibilities under the LAQM regime. To date, 13 AQMAs have been declared as a result of exceedances of the annual mean NO₂ NAQOs, however, two have been revoked. The Site is not located within an AQMA, the closest AQMA to the Site being AQMA the George Street AQMA 2018 which is located approximately 250 m south of the Site.

Local Monitoring Data

NO₂

- 4.3.3 NCC carries out monitoring at 2 automatic monitoring stations, the nearest of which, AN2, is located approximately 2 km to the east of the Site, therefore it is not considered to be representative of the Site and has not been considered further in this assessment. Council also deploys a total of 61 NO₂ diffusion tubes at a number of locations, including twelve locations located within the study area. 2020-2024 monitoring results for the most representative and closest monitoring locations to the Site are shown in **Table 4-1** and their locations are shown in **Figure 4-1** below. Whilst 2020 and 2021 monitoring results have been included in **Table 4-1**, it should be noted that these are not considered to be representative of longer-term trends due to COVID-19 restrictions in place during 2020 and 2021.

Air Quality Assessment Newport Knowledge Quarter (NKQ)

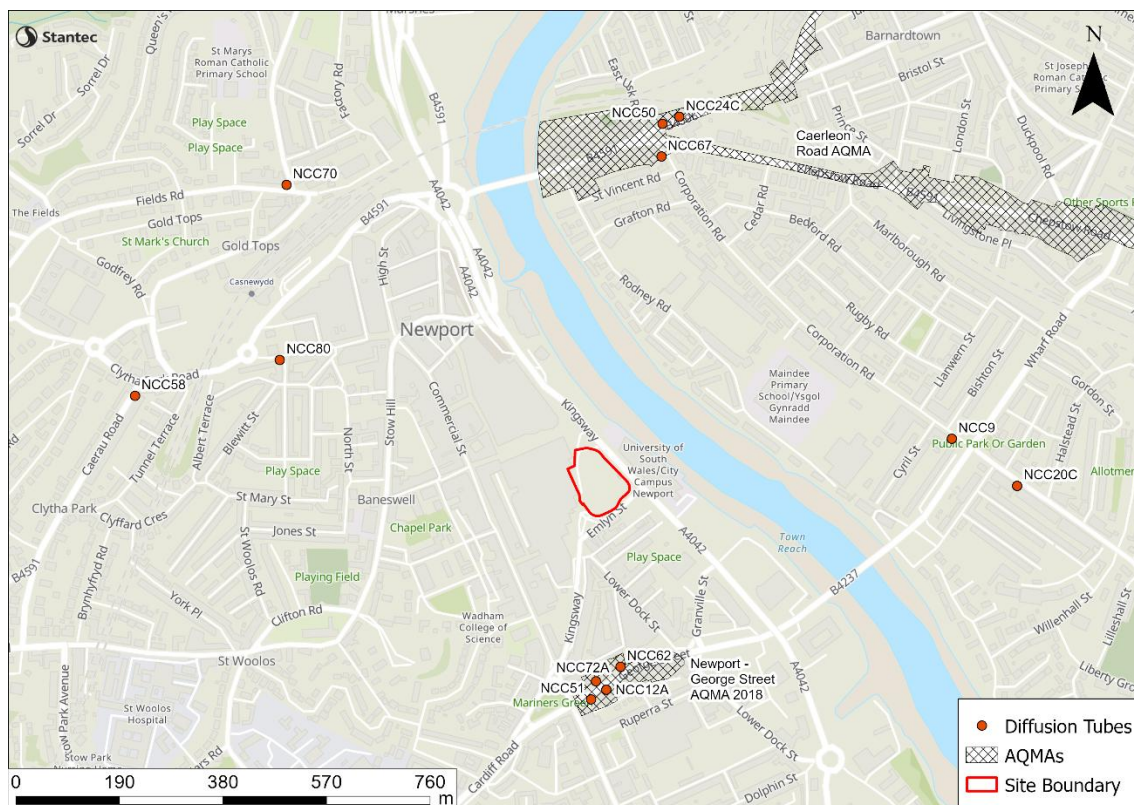


Figure 4-1: Monitoring Locations in the Vicinity of the Site. Contains OS Data © Crown Copyright and Database rights 2026. Contains data from OS Zoomstack.

Table 4-1 Measured Annual Mean NO₂ Concentrations 2020 – 2024

Site ID	Site Type	Within AQMA	Annual Mean (µg/m ³)				
			2020	2021	2022	2023	2024
NCC9 - 182 Corporation Road	Roadside	No	26.8	26.1	26.5	22.5	20.1
NCC12A - 73 George Street	Façade	Yes	28.1	29.1	30.2	26.8	24.8
NCC20C - 222 Corporation Road	Roadside	No	28.8	30.8	30.8	29.9	25.8
NCC24C - 15 Caerleon Road	Façade	Yes	26.3	27.5	28.9	24.2	20.4
NCC50 - 9 Caerleon Road (tattoo)	Roadside	Yes	30.2	32.3	28.5	29.5	25.2
NCC51 - 81 George Street	Façade	Yes	32.8	31.9	32.9	28.6	25.8
NCC58 - 1 Caerau Road	Roadside	No	29.4	30.4	30.4	26.7	21.6
NCC80 - 24 Bridge Street (was NCC61)	Façade	No	29.4	33.1	33.6	28.7	27.8
NCC62 - 17 George Street	Façade	Yes	25.5	28.0	33.6	26.2	22.6
NCC67 - 1-17 Corporation Road	Façade	Yes	26.0	25.9	23.1	21.9	19.6
NCC70 - 1 Queens Hill	Façade	No	25.8	29.9	28.1	25.9	22.8
NCC72A - 6 George Street	Façade	Yes	27.5	28.3	28.8	26.0	23.8
NAQO			40				

2020 – 2024 data taken from the NCC Air Quality Annual Status Report for 2025 (Newport City Council, 2025).

- 4.3.4 Measured concentrations at the closest monitoring location to the Site, NCC62 (circa 280 m), have been well below the annual mean objective since 2020. Measured concentrations at remaining monitoring locations have been below the annual mean objective. Furthermore, measured concentrations at all diffusion tube monitoring sites are below 60 µg/m³, indicating that it is unlikely that any exceedances of the 1-hour mean objective have occurred. There is a generally decreasing trend in concentrations over time, which is in accordance with national trends (Air Quality Consultants Ltd., 2022).



PM₁₀ and PM_{2.5}

4.3.5 NCC does not undertake PM₁₀ or PM_{2.5} monitoring within the study area.

4.4 Predicted Background Concentrations

4.4.1 Estimated background concentrations for the Site have been obtained from the latest 2021-based national maps provided by DEFRA (DEFRA, 2024) and are provided in **Table 4-2** the 'existing' year and anticipated completion year of the Proposed Development.

Table 4-2 Estimated Annual Mean Background Concentrations

Year	Location	Annual Mean (µg/m ³)		
		NO ₂	PM ₁₀	PM _{2.5}
2026	331500,187500	10.4	13.1	7.8
2029	331500,187500	9.0	12.8	7.6
NAQO / Limit Value		40	40	20

4.4.2 The background concentrations are all well below the relevant NAQOs.



5 Predicted Impacts

5.1 Construction Dust Impacts

Screening Assessment

- 5.1.1 There are a number of existing sensitive human receptors (including residential properties and a university) located within 250 m of the site boundary and within 50 m of the routes that will be used by demolition and construction vehicles. As such, further assessment of the risk of dust soiling and PM₁₀ emissions is required.
- 5.1.2 The River Usk SAC is located within 50 m of the routes to be used that may be used by construction vehicles on the public highway. As such, the potential for ecological impacts as a result of dust soiling cannot be screened out of further assessment and has been considered below.

Further Assessment

Dust Emission Magnitude

- 5.1.3 The dust emissions magnitude of demolition, earthworks and construction activities and as a result of trackout have been determined in **Table 5-1** below based the criteria shown in **Table B-1, Appendix B**.

Table 5-1 Dust Emissions Magnitudes

Activity	Magnitude	Justification
Demolition	NA	No demolition is proposed as the demolition on the Site has already been undertaken.
Earthworks	Small	Proposed earthworks activities comprise clearance of vegetation, soil preparation and landscaping across an area less than 18,000 m ² . The soil at the Site is largely classified as loamy and clayey soils of coastal flats with naturally high groundwater (Cranfield University, 2026) which are considered to be moderately dusty, particularly during periods of dry weather. Based on this, the dust emission magnitude of earthworks activities is judged to be 'small'.
Construction	Medium	The total building volume to be constructed is expected to be between 12,000 m ³ and 75,000 m ³ . Construction materials will comprise a mixture of masonry material including those with a high potential for dust release, such as concrete, as well as those with a lower dust potential such as metals and timber. Based on this, the dust emission magnitude of construction activities is judged to be 'medium'.
Trackout	Medium	The number of HDVs that will exit the Site will vary depending upon the processes occurring at any one time. There are unlikely to be more than 50 outward HDV movements in any one day. Due to the nature of the Site, there could be an unpaved road length between 50 m and 100 m in length comprising moderately dusty surface material. Based on this, the dust emission magnitude of trackout is judged to be 'medium'.

Area Sensitivity

- 5.1.4 The area sensitivity to dust soiling and human health impacts has been determined based on the criteria shown in **Table B-3, Table B-4, Table B-5, Appendix B**. The study area, based on the IAQM guidance is shown in **Figure 4-2** below.



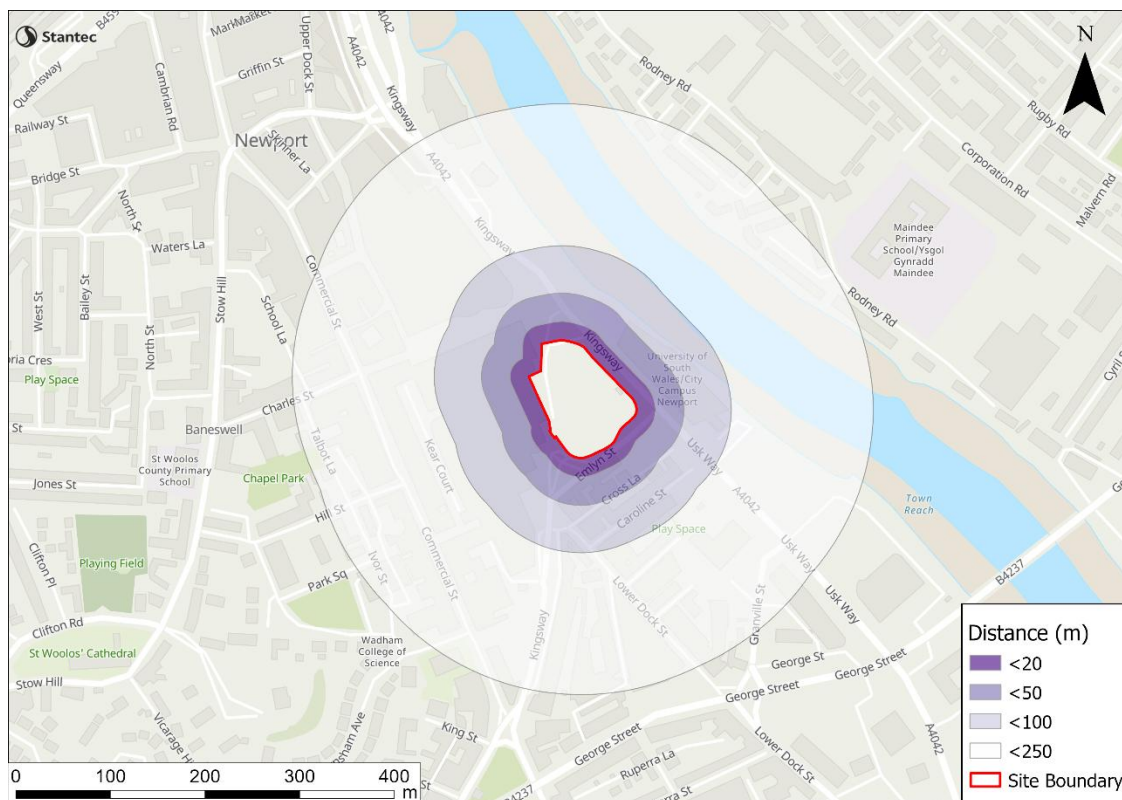


Figure 4-2: Monitoring IAQM Demolition and Construction Dust band Criteria from the Site boundary. Contains OS Data © Crown Copyright and Database rights 2026. Contains data from OS Zoomstack.

- 5.1.5 Residential properties are classed as being 'high sensitivity' receptors to dust soiling, based on the IAQM guidance (IAQM, 2024) (see **Table B-3, Appendix B**). There are approximately 10 residential properties located within 20 m of the site boundary. As such, the sensitivity of the area surrounding the Site to dust soiling is judged to be 'high'.
- 5.1.6 The IAQM guidance indicates that potential impacts of trackout should be considered for sensitive receptors within 50 m of the route used by construction vehicles within a distance of up to 250 m from the site entrance. As the construction traffic routing is currently unknown, the worst-case assumption has been made that all main roads may potentially be used by HDVs leaving the site entrance(s). There are greater than ten residential properties located within 20 m of roads extending up to 250 m of the Site. As such, the sensitivity to dust soiling of the area surrounding roads along which material may be tracked is judged to be 'high'.
- 5.1.7 The IAQM also defines residential properties as being 'high sensitivity' receptors to human health impacts (see **Table B-4, Appendix B**). PM₁₀ concentrations at existing residential properties within the study area are anticipated to be similar to the maximum of the predicted 2026 PM₁₀ concentrations at the Site (13.1 µg/m³). Based on the predicted existing PM₁₀ concentrations and the number of sensitive receptors within 20 m of the site boundary and roads along which material may be tracked, the sensitivity to human health impacts of the areas surrounding the Site and the area surrounding roads along which material may be tracked are judged to be 'low'.
- 5.1.8 SACs as being 'high sensitivity' receptors to dust deposition, based on the IAQM guidance (IAQM, 2024) (see **Table B-5, Appendix B**). The River Usk is located approximately 70 m from the site boundary and approximately 50 m from roads along which material could be tracked; as such, the sensitivity of the area surrounding the Site to ecological effects resulting from dust deposition is judged to be 'medium'.

Risk of Impacts

- 5.1.9 The risk of construction dust impacts, without mitigation, have been defined based on the criteria shown in **Table B-6, Appendix B** and are presented in **Table 5-2**.

Table 5-2 Risk of Construction Dust Impacts without Mitigation

Potential Impact	Risk		
	Earthworks	Construction	Trackout
Dust Soiling	Low Risk	Medium Risk	Medium Risk
Human Health	Negligible Risk	Low Risk	Low Risk
Ecological	Low Risk	Medium Risk	Medium Risk

5.2 Construction Road Traffic Emission Impacts

- 5.2.1 At present, detailed information regarding the construction methodology for the Proposed Development, specific activities and traffic movements is not available. However, a Construction Environmental Management Plan (CEMP) will outline measures to control and minimise the risk of adverse effects from construction activities. The CEMP will be submitted to NCC for their approval. The CEMP will consider Heavy Goods Vehicles (HGV) and other construction traffic movements, including details of routing and times of day of movements. HGV access will be prevented or minimised, where possible, on traffic sensitive roads, residential streets, congested roads or unsuitable junctions.
- 5.2.2 Vehicle movements associated with access and construction will vary through the construction programme, with short periods of peak HGV movements associated with the delivery of materials during the construction phase. However, when the HGV movements are averaged over a full year period (Annual Average Daily Traffic - AADT), these will be significantly lower than peak movements. Together with the implementation of the CEMP, the impacts of emissions associated with construction road traffic on local air quality are considered to be temporary and 'not significant'. Moreover, vehicle movements associated with construction are typically significantly lower than the number of vehicle movements associated with operation of a development, which have been taken into account in this assessment.

5.3 Construction Non-Road Mobile Machinery Emission Impacts

- 5.3.1 At present, detailed information regarding NRMM specifications and operating hours are not available. The background concentrations at the Site are all well below the relevant NAQOs both in the 'existing' and future years.
- 5.3.2 In accordance with Part 4 of the IAQM construction dust guidance, all NRMM will need to adhere to the NRMM emissions standards for NO₂ and PM₁₀ outlined in the Road Vehicles and Non-Road Mobile Machinery (Type-Approval) (Amendment and Transitional Provisions) (EU Exit) Regulations 2022 (Statutory Instrument, 2022).
- 5.3.3 Considering the above, the impacts of emissions associated with NRMM during the construction phase of the Proposed Development are considered to be 'not significant'.

5.4 Operational Road Traffic Emission Impacts

Human Receptors

- 5.4.1 The Proposed Development does not include any car parking for staff or students, as such, the trip generation of the Proposed Development has been based on analysis of TRICS Use class 'Education – College or University' as there are limited car free college sites available on TRICS database. As a result, it is considered the trip generation provided sets out a worst-case scenario, with actual vehicle trips likely to be significantly fewer than calculated. The outcome of this is that the Proposed Development could generate 811 AADT movements, four of which

being HDVs. The vehicle movements associated with the Site will distribute on the surrounding road network. Despite this, these vehicle movements are not considered to be additional trips on the surrounding road network for the reasons outlined below:

- The Site was previously occupied by the Newport Leisure Centre which remained operational until 2023, and the vehicle trips associated with Newport Leisure Centre would already have formed part of existing traffic flows on the surrounding road network.
- The Proposed Development comprises the relocation of the existing Coleg Gwent campus within Newport rather than the creation of a new educational facility. Therefore, a substantial proportion of the forecast trips do not represent new trips being introduced onto the road network, instead they are existing journeys that are reassigned to a new location .
- The Site occupies a highly sustainable city centre location within NCC's Zone 1 parking area, and no on-site car parking will be provided in accordance with local parking standards.
- The Site benefits from accessibility by sustainable modes, with extensive pedestrian and cycle infrastructure and a range of bus and rail services available within 800 m. Consequently, it is anticipated that a greater proportion of staff and students will travel by sustainable and active transport methods compared with the existing college location, resulting in a reduction in private car use.
- Whilst some staff and students may continue to travel by car, they would utilise existing off-site parking provision, including The Kingsway Centre Car Park.

5.4.2 Therefore, whilst a worst-case assessment indicates that the Proposed Development could generate up to 811 AADT, these trips are considered to comprise predominantly redistributed and replacement journeys associated with the former Newport Leisure Centre and the relocation of the existing Coleg Gwent campus, rather than a net increase in traffic on the surrounding road network. Furthermore, the highly sustainable city centre location, absence of on-site parking, and excellent accessibility by walking, cycling and public transport are expected to encourage greater use of sustainable travel modes and reduce reliance on private vehicles. Additionally, the latest monitoring data published by NCC (Newport City Council, 2025) and presented in **Table 4-1** demonstrates that during 2022 and 2023, when the Site was occupied by the Newport Leisure Centre, the measured concentrations in the vicinity of the Site were well below the NAQOs. It is therefore unlikely that the Proposed Development would result in any exceedances.

5.4.3 On this basis, recognising that the forecast traffic primarily represents the redistribution of existing journeys rather than a net increase in traffic on the surrounding road network, the Proposed Development's trip generation is considered to fall below the EPUK and IAQM traffic screening criteria (see **Appendix C**) (EPUK and IAQM, 2017). Therefore, the impacts of operational road traffic emissions are considered to be 'not significant' and additional mitigation is not required.

Ecological Receptors

5.4.4 There is only one sensitive designated site located within 200 m of a road predicted to see an increase in traffic as a result of the operational phase of the Proposed Development. This designated site, the River Usk SAC, is located within 200 m of the A4042. However, as set out previously the worst-case assessment trip generation of 811 AADT is considered to represent the replacement and redistribution of existing trips, rather than a net increase in traffic on the surrounding road network therefore the trip generation below the relevant screening thresholds of 1000 AADT or 200 HDV AADT, as defined in Paragraph 3.6.2 (Natural Resource Wales, 2025).

5.4.5 Therefore, the impacts of operational traffic generated by the Proposed Development on existing sensitive ecological receptors within the Study Area can be considered 'not significant' and no additional mitigation is required.



5.5 Operational Combustion Emission Impacts

- 5.5.1 As part of the Proposed Development, there is a standby 100 kVA diesel power generator (diesel fired) which is required in case of a fire to aid the fire services. Due to the size of the generator the NO_x emission rate screening criteria of 5 mg/sec (EPUK and IAQM, 2017) would be exceeded (**Appendix C**). However, the generator will be operated very infrequently (less than one-hour tests per month, totalling less than 18 hours per annum) and will therefore not have the potential to impact the short-term or long-term NO₂, PM₁₀ and PM_{2.5} NAQOs.
- 5.5.2 Given the limited capacity and operating frequency and duration of the standby diesel generator alongside the low background concentrations, the emissions to air (of NO_x and PM₁₀/PM_{2.5}) from the standby diesel generator are not considered to have the potential to give rise to significant offsite impacts on the short-term and long-term NAQOs and therefore considered 'not significant'.

5.6 Site Suitability

- 5.6.1 As the Site is for educational use, the annual mean NO₂, PM₁₀ and PM_{2.5}, the 1-hour mean NO₂ and the 24-hour mean PM₁₀ NAQOs all apply.
- 5.6.2 Measured NO₂ concentrations at local monitoring sites were below the annual mean NAQO at all locations in 2024 and there has been a general decrease in concentrations over the last five years. As NO₂ concentrations measured at the roadside monitoring locations are below the annual man NAQO, it is unlikely that the annual mean NO₂ NAQO will be exceeded within the Site itself. Measured concentrations in close proximity to the Site are also well below 60 µg/m³, indicating that the one-hour mean NO₂ NAQO is unlikely to be exceeded within the Site.
- 5.6.3 PM₁₀ and PM_{2.5} concentrations are also expected to be below the relevant NAQOs as background concentrations of NO₂, PM₁₀ and PM_{2.5} are well below the relevant annual mean NAQOs.
- 5.6.4 Based on the findings above, the Site is considered suitable for the proposed educational use without the need for site-specific mitigation associated with air quality.

6 Mitigation

6.1 Construction

- 6.1.1 The following standard mitigation measures from the IAQM guidance (IAQM, 2024) are recommended to be incorporated into the CEMP, taking into account the outcomes of the construction dust risk assessment (presented in **Table 5-2**).
- 6.1.2 Furthermore, in accordance with Part 4 of the IAQM demolition and construction guidance, all NRMM will need to adhere to the relevant NRMM emissions standards for NO₂ and PM₁₀. These measures will be implemented through a CEMP secured by a suitably worded planning condition on any permission.
- 6.1.3 These mitigation measures will also contribute towards reducing the impacts of PM_{2.5} emission during the construction phase.

Table 6-1 Construction Phase Mitigation Measures

Category	Mitigation Measure
Communications	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
	Display the head or regional office contact information.
Management	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real time PM ₁₀ continuous monitoring and/or visual inspections.
	Record all dust and air quality complaints, identify cause(s) and take measures to reduce emissions in a timely manner, and record the measures taken.
	Make the complaints log available to the local authority when asked.
	Record any exceptional incidents that cause dust and/or air emissions, either on- of off-site, and the action taken to resolve the situation in the log book.
Monitoring	Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of the site boundary, with cleaning to be provided if necessary.
	Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
	Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the local authority. Where possible, commence baseline monitoring at least three months before work on a phase commences.
Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
	Fully enclose site or specific operations where there is a high potential for dust productions and the site is active for an extensive period.
	Avoid site runoff of water or mud.
	Keep site fencing, barriers and scaffolding clean using wet methods.

Category	Mitigation Measure
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site, cover as described below.
	Cover, seed or fence stockpiles to prevent wind whipping.
Operating vehicle/machinery and sustainable travel	Ensure all vehicles switch off engines when stationary – no idling vehicles.
	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
	Impose and signpost a maximum speed limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
	Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking and car sharing).
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
	Use enclosed chutes and conveyors and covered skips.
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
	Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Waste management	Avoid bonfires and burning of waste materials.
Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
	Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
	Only remove the cover in small areas during work and not all at once.
Construction	Avoid scabbling (roughening of concrete surfaces) if possible.
	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
	For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.
Trackout	Use water assisted dust sweeper(s) on the site access and local roads, to remove, as necessary, any material trackout out of the site. This may require the sweeper being continuously in use.
	Avoid dry sweeping of large areas.
	Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport.
	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
	Record all inspections of haul routes and any subsequent action in a site log book.
	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.

Category	Mitigation Measure
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
	Access gates to be located at least 10 m from receptors where possible.

6.2 Operation

- 6.2.1 The operational impacts of the Proposed Development are considered to be ‘not significant’ and no additional mitigation is therefore required.
- 6.2.2 Nonetheless, a series of mitigation measures have been embedded into the Proposed Development and will contribute towards reducing local air quality impacts and exposure to air pollution for future users of the Proposed Development.
- 6.2.3 A Travel Plan will contribute towards the reduction of any operational air quality impacts associated with road traffic emissions resulting from the Proposed Development by increasing travel by sustainable modes and reduce the reliance on a private car. The Travel Plan promotes sustainable travel through a range of awareness and engagement measures. These include providing a travel information board and Travel Information Pack for staff and students, containing guidance on walking, cycling, public transport, and local travel routes. The college will promote sustainable travel initiatives and national events such as Car Free Day and Cycle to Work Day, publicise travel activities on its website. In addition, the Travel Plan Coordinator will use travel survey data to identify opportunities for car sharing among staff and students making similar journeys (Stantec UK Ltd, 2025).
- 6.2.4 Furthermore, 80 cycle parking spaces will be in place for students with a further 20 for staff. The utilisation of these spaces will be monitored closely by the Travel Plan Coordinator with additional cycle parking made available if demand dictates.

7 Summary and Conclusions

- 7.1.1 The air quality impacts associated with the proposed redevelopment of the Site off the A4042, located within the boundary of the Newport City Council (NCC) have been assessed.
- 7.1.2 NCC has investigated air quality within its area as part of its responsibilities under the LAQM regime. To date, 11 Air Quality Management Areas (AQMAs) have been declared as a result of exceedances of the annual mean NO₂ National Air Quality Objectives (NAQOs). The Site is not located within an AQMA, the closest AQMA to the Site being AQMA the George Street AQMA 2018 which is located approximately 250 m south of the Site.
- 7.1.3 The construction works have the potential to create dust. During construction it is recommended that in accordance with the Institute of Air Quality Management (IAQM) guidance a package of mitigation measures is put in place to minimise the risk of elevated PM₁₀ concentrations and dust nuisance in the surrounding area. With mitigation in place the construction impacts are judged as not significant.
- 7.1.4 The trip generation associated with the Proposed Development has been derived from an analysis of TRICS Use class 'Education – College or University' as there are limited car free college sites available on TRICS database. Consequently, the trip generation assessment is considered to represent a worst-case scenario, with actual vehicle trips likely to be significantly lower. Based on this assessment, the Proposed Development could generate up to 811 Annual Average Daily Traffic (AADT). However, this worst-case forecast is considered to represent the replacement and redistribution of existing trips, rather than a net increase in traffic on the surrounding road network. Furthermore, the highly sustainable city centre location, absence of on-site parking, and excellent accessibility by walking, cycling and public transport are expected to encourage travel by sustainable modes.
- 7.1.5 On this basis, the trip generation associated with the Proposed Development is considered to fall below the Environmental Protection United Kingdom (EPUK) & IAQM traffic screening criteria. Therefore, the impacts of operational road traffic emissions are considered to be 'not significant' and additional mitigation is not required.
- 7.1.6 The River Usk Special Area of Conservation (SAC) is located within 200 m of the A4042. However, as set out previously the worst-case assessment trip generation of 811 AADT is considered to represent the replacement and redistribution of existing trips, rather than a net increase in traffic on the surrounding road network therefore the trip generation below the relevant Natural Resources Wales screening thresholds. Therefore, the impacts of operational traffic generated by the Proposed Development on existing sensitive ecological receptors within the Study Area can be considered 'not significant' and no additional mitigation is required.
- 7.1.7 As part of the Proposed Development, there is a standby 100 kVA diesel power generator (diesel fired) which is required in case of a fire to aid the fire services. Due to the size of the generator the EPUK and IAQM NO_x emission rate screening criteria of 5 mg/sec would be exceeded. However, the generator will be operated very infrequently (less than one-hour tests per month, totalling less than 18 hours per annum) and will therefore not have the potential to impact the short-term or long-term NO₂, PM₁₀ and PM_{2.5} NAQOs. Given the limited capacity and operating frequency and duration of the standby diesel generator alongside the low background concentrations, the emissions to air (of NO_x and PM₁₀/PM_{2.5}) from the standby diesel generator are not considered to have the potential to give rise to significant offsite impacts on the short-term and long-term NAQOs and therefore considered 'not significant'.
- 7.1.8 The Proposed Development is therefore considered to be in accordance with the requirements of the planning policy, and relevant local and national guidance regarding air quality.

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Appendix A Glossary

Abbreviations	Meaning
AADT	Annual Average Daily Traffic
ASHP	Air Source Heat Pumps
AQAP	Air Quality Action Plan
AQR	Air Quality Regulations
AQSR	Air Quality Standards (Wales) Regulations
AQMA	Air Quality Management Area
CAZ	Clean Air Zone
CEMP	Construction Environmental Management Plan
DEFRA	Department for Environment, Food and Rural Affairs
Diffusion Tube	A passive sampler used for collecting NO ₂ in the air
EPUK	Environmental Protection UK
HDV	Heavy Duty Vehicle; a vehicle with a gross vehicle weight greater than 3.5 tonnes. Includes Heavy Goods Vehicles and buses
HGV	Heavy Goods Vehicles
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LDV	Light Duty Vehicle; a vehicle with a gross vehicle weight less than 3.5 tonnes. Includes cars and light goods vehicles.
NAQO	National Air Quality Objective as set out in the Air Quality Strategy and the Air Quality Regulations
NCC	Newport City Council
NO ₂	Nitrogen Dioxide
NO _x	Oxides of nitrogen generally considered to be nitric oxide and NO ₂ . Its main source is from combustion of fossil fuels, including petrol and diesel used in road vehicles
NRMM	Non-Road Mobile Machinery
PM ₁₀ /PM _{2.5}	Small airborne particles less than 10/2.5 µm in diameter
PPW	Planning Policy Wales
Receptor	A location where the effects of pollution may occur
SAC	Special Area of Conservation
SPA	Special Protection Areas
SSSI	Sites of Special Scientific Interest
TAN	Technical Advice Note
The Plan	The National Air Quality Plan for NO ₂
ULEV	Ultra-low Emission Vehicles



Appendix B IAQM Dust Guidance (2024) Approach

Table B-1 Dust Emission Magnitude Classification

Activity	Dust Emission Magnitude		
	Large	Medium	Small
Demolition	Total building volume of >75,000 m ³ , potentially dusty construction material, on-site crushing and screening, demolition activities >12 m above ground	Total building volume of 12,000 – 75,000 m ³ , potentially dusty construction material, demolition activities 6 – 12 m above ground level	Total building volume of <12,000 m ³ , construction material with low potential for dust release, demolition activities <6 m above ground, demolition during wetter months
Earthworks	Total site area of >110,000 m ² , potentially dusty soil type, >10 heavy earth moving vehicles active at any one time, formation of bunds >6 m in height	Total site area of 18,000 – 110,000 m ² , moderately dusty soil type, 5 - 10 heavy earth moving vehicles active at any one time, formation of bunds 3 - 6 m in height	Total site area of <18,000 m ² , soil type with large grain size, <5 heavy earth moving vehicles active at any one time, formation of bunds <3 m in height
Construction	Total building volume >75,000 m ³ , on-site concrete batching, sandblasting	Total building volume 12,000 - 75,000 m ³ , potentially dusty construction material, on-site concrete batching	Total building volume <12,000 m ³ , construction material with low potential for dust release
Trackout	>50 HDV outwards movements in any one day, potentially dusty surface material, unpaved road length >100 m	20 - 50 HDV outwards movements in any one day, moderately dusty surface material, unpaved road length 50 - 100 m	<20 HDV outwards movements in any one day, surface material with low potential for dust release, unpaved road length <50 m

Table B-2 Receptor Sensitivity

Receptor Sensitivity	Impact		
	Dust Soiling	Health Effects of PM ₁₀	Ecological Impacts
High	An area where: - Users can reasonably expect enjoyment of a high level of amenity; - The appearance, aesthetics or value of their property would be diminished by soiling; - The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land. Examples include dwellings, museums and other culturally important collections, medium and long-term car parks and car showrooms.	Locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objective, a relevant location would be one where individuals may be exposed for eight hours or more per day). Examples include residential properties. Hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.	Locations with an international or national designation <i>and</i> the designated features may be affected by dust soiling; OR Locations where there is a community of particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain. Indicative examples include a SAC designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.



Medium	An area where: - Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; - The appearance, aesthetics or value of their property could be diminished by soiling; - The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods, as part of the normal pattern of use of the land. Examples include parks and places of work.	Locations where people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objective, a relevant location would be one where individuals may be exposed for eight hours or more per day). Examples include office and shop workers, but will generally not include workers occupationally exposed to for PM₁₀, as protection is covered by Health and Safety at Work legislation.	Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; OR Locations with a national designation where the features may be affected by dust deposition. Indicative example is a SSSI with dust sensitive features.
Low	An area where: - The enjoyment of amenity would not reasonably be expected; - Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; - There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land. Examples include playing fields, farmland (unless commercially sensitive horticultural), footpaths, short-term car parks and roads.	Locations where human exposure is transient. Examples include public footpaths, playing fields, parks and shopping streets.	Locations with a local designation where the features may be affected by dust deposition. Indicative example is a LNR with dust sensitive features.

Table B-3 Sensitivity of an Area to Dust Soiling Effects

Receptor Sensitivity	Number of Receptors	Distance from Source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10 – 100	High	Medium	Low	Low
	1 – 10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table B-4 Sensitivity of an Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	>32 µg/m ³	>100	High	High	High	Medium
		10 – 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low



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	28 - 32 µg/m ³	>100	High	High	Medium	Low
		10 – 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24 - 28 µg/m ³	>100	High	Medium	Low	Low
		10 – 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	<24 µg/m ³	>100	Medium	Low	Low	Low
		10 – 100	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Medium	>32 µg/m ³	>10	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	28 - 32 µg/m ³	>10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28 µg/m ³	>10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	<24 µg/m ³	>10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Low	-	≥1	Low	Low	Low	Low

Table B-5 Sensitivity of an Area to Ecological Impacts

Receptor Sensitivity	Distance from Source (m)	
	<20	<50
High	High Risk	Medium Risk
Medium	Medium Risk	Low Risk
Low	Low Risk	Low Risk

Table B-6 Risk of Dust Impacts Calculation Matrix

Sensitivity of Area		Dust Emission Magnitude		
		Large	Medium	Small
Demolition	High	High Risk	Medium Risk	Medium Risk
	Medium	High Risk	Medium Risk	Low Risk
	Low	Medium Risk	Low Risk	Negligible Risk
Earthworks	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible Risk
Construction	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible Risk
Trackout	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible Risk



Appendix C EPUK IAQM Guidance (2017)

Screening Criteria

The Development Will:	Indicative Criteria to Proceed to an Air Quality Assessment
Cause a significant change in LDV traffic flows on local roads with relevant receptors.	A change of LDV flow of: >100 AADT within or adjacent to an AQMA; and >500 AADT elsewhere.
Cause a significant change in HDV flows on local roads with relevant receptors.	A change of HDV flow of: >25 AADT within or adjacent to an AQMA; and >100 AADT elsewhere.
Realign roads i.e. changing the proximity of receptors to traffic lanes.	Where the change is 5 m or more and the road is within an AQMA.
Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle acceleration / deceleration, e.g. traffic lights, or roundabouts.
Introduce or change a bus station.	A change of bus flows of: >25 AADT within or adjacent to an AQMA; and >100 AADT elsewhere.
Have an underground car park with extraction system.	The ventilation extract for the car park will be located within 20 m of a relevant receptor; and The car park will have >100 movements per day (total in and out).

The screening criteria presented is amended from Table 6.2 of the EPUK & IAQM guidance (EPUK and IAQM, 2017). Only the screening criteria relevant to changes in transport (including both traffic and the transport network) are outlined.

