

Air Quality Technical Note: Former Boddingtons Brewery, Manchester

Client¹: Graham (Salford Quays)
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1. Introduction

- 1.1. This technical note has been prepared by Kalaco, on behalf of Graham (Salford Quays) (the client) in support of the discharge of a planning condition for the approved development at the former Boddingtons Brewery in Manchester.
- 1.2. Planning permission for the development (137941/FO/2023) was granted with conditions in 2024. The approved development comprised of the following:

“Erection of two buildings part 29, 25 and 20 storeys and 12 storeys to create a mixed-use development comprising 505 residential apartments (Use Class C3a) with commercial uses (Use Class E) provided at the ground floor level, together with public realm including courtyard pocket, cycle parking, accessible parking spaces, access arrangements, and other associated works.”

- 1.3. This technical note provides a response to planning condition 52, which relates to air quality:

“Prior to any above ground works, details of the N02 [sic] and particulate filters to be installed into the ventilation system shall be submitted for approval in writing by the City Council, as Local Planning Authority. This shall include details of a management plan for the filters including the specification, the filter maintenance, replacement and inspection frequencies, responsibility and how the requirements will be managed and maintained by any future subsequent management

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company or building owner. The approved details shall be implemented and retained at all times whilst the building is in use.”

- 1.4. Kalaco (formerly Air Pollution Services) undertook the air quality assessment (herein referred to as ‘the assessment’) to support the original planning application in 2021. The assessment formed a chapter of the Environmental Statement (ES) and concluded the following:

“The assessment has demonstrated that the Site will have negligible impacts and thus not significant effects on the local area.

The future users of the Site will not be exposed to air quality breaching the NAQO and will be compliant with the limit values. The overall effect of the Site will be “negligible”. It is, therefore, not considered necessary to propose further mitigation measures. However as there are exceedances of the NO₂, PM₁₀ and PM_{2.5} WHO AQGs there would be some benefit in installing NO₂ and particulate filters in the ventilation system of the building in the Site to at least work towards meeting the AQGs and achieve many of the interim objectives.

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 was transposed into UK law). Furthermore, the government, the regional authority and the local authority are working on improving air quality under the relevant air quality Strategies and LAQM regime.”

- 1.5. Furthermore, the non-technical summary for the assessment stated:

“The site suitability assessment did not predict a significant effect within the Site, therefore no mitigation measures to improve the air quality conditions for future users of the Site were deemed necessary, beyond the built-in good design measures included in the Site.”

- 1.6. This technical note reviews the findings of the assessment, reviews changes in local air quality since the assessment was completed, and sets out the reasons why nitrogen dioxide (NO₂) and particulate filtration should not be a mandatory requirement for planning.

2. Review of Changes to Baseline Conditions

- A1.1. The assessment reviewed the results of air quality monitoring undertaken by Manchester City Council and Salford City Council for monitoring sites within 2 km of the development. Annual mean concentration data for the years 2015 to 2019 were presented in the assessment; these data have been updated with monitoring results for the years 2020 to 2024, where available, as set out in Table 1 to Table 3 below. Note that the data for 2020 and 2021 are not considered representative of typical conditions at the monitoring stations due to restrictions associated with the COVID-19 pandemic; therefore, this data should not be used to define trends in air quality.

Table 1: Measured NO₂ Annual Mean Concentrations (µg/m³)^a

Site ID – Name (type)	2019	2020	2021	2022	2023	2024
MAN3 - Manchester Piccadilly Automatic Monitor (Urban Centre)	36	27	30	29	26.8	27
SA14 – Bury New Road near Wellington Street (Kerbside)	31.6	-	-	-	-	-



SA79 – Chapel Street near Oldfield Road (Roadside)	41.1	27.3	30.0	30.8	29.5	28.5
SA39 – Junction of Ring Road and Chapel Street (Roadside)	41.7	30.4	33.0	35.1	27.8	-
SA27 – Frederick Street (Roadside)	37.2	26.7	28.8	27.2	24.6	24.0
SA81 – Regent Road near Bridge over River Irwell (Roadside)	46.4	34.8	42.3	44.2	40.5	-
MAN26 – Chetham’s School of Music (Urban Background)	33.0	22.9	25.9	27.5	24.5	24.6
MAN88 – Angel Street near Rochdale Road (Kerbside)	43.3	30.1	36.8	35.7	32.7	30.3
MAN36 – Rochdale Road between Osborne Street and Whitley Road (Roadside)	31.7	24.3	26.7	27.4	28.0	-
MAN77 – Medlock Street near Little Peter Street (Urban Background)	43.7	26.9	30.8	33.1	31.6	28.4
MAN29 – Oxford Road near Wakefield Street (Roadside)	55.4	39.0	44.8	49.8	49.6	51.3
MAN24 – Near Manchester Cenotaph on Princess Street (Kerbside)	40.8	26.8	31.8	32.4	29.8	27.2
MA9ANO – Newton Street near Dale Street (Kerbside)	44.9	32.5	35.7	37.5	36.2	33.8
MAN71 – Great Ancoats Street between Laystall Street and Store Street (Roadside)	45.3	31.4	34.2	34.4	30.7	29.0
Table notes: ^a Exceedances shown in bold						

Table 2: Measured PM₁₀ Annual Mean Concentrations (µg/m³)

Site ID – Name (type)	2019	2020	2021	2022	2023	2024
MAN3 - Manchester Piccadilly Automatic Monitor (Urban Centre)	14.2	15	15	17	15.1	14.8
Table notes: n/a						

Table 3: Measured PM_{2.5} Annual Mean Concentrations (µg/m³)

Site ID – Name (type)	2019	2020	2021	2022	2023	2024
MAN3 - Manchester Piccadilly Automatic Monitor (Urban Centre)	12	8	9	10	8.5	8.5
Table notes: n/a						

- 2.1. The data show that, for all of the sites presented, annual mean concentrations of NO₂ are lower in the most recent year of available data than in 2019. Furthermore, of the nine sites which measured exceedances in 2019, only one of these sites (MAN29) measured an exceedance in 2024; this monitoring site is located approximately 1.7 km south of the development and thus not representative of conditions for future residents.
- 2.2. For PM₁₀, measured concentrations have remained relatively stable since 2019. For PM_{2.5}, the annual mean concentration in 2024 is 3.5 µg/m³ lower than in 2019.
- 2.3. The data show that air quality in the study area has improved since the assessment was undertaken.



3. Review of the Assessment Results

- 3.1. The assessment used dispersion modelling to predict the concentrations of NO₂, PM₁₀ and PM_{2.5} at the worst-case locations in the development in 2024 (the original proposed first year of operation). The results have been set out below for ease of reference.

Table 4: Predicted 2024 Pollutant Concentrations at On-Site Receptors (µg/m³)

Receptor	NO ₂ concentration (µg/m ³)		PM ₁₀ Concentration (µg/m ³)	PM _{2.5} Concentration (µg/m ³)
	Road & Background	Including Plant ^a	Road & Background	Road & Background
R1	23.3	30.9	12.9	8.3
R2	26.0	33.6	13.5	8.7
R3	22.5	30.1	12.6	8.2
R4	21.4	29.0	12.4	8.0
R5	21.8	29.4	12.4	8.1
R6	20.6	28.2	12.2	7.9
R7	21.1	28.7	12.3	8.0
R8	22.3	29.9	12.6	8.2
R9	24.2	31.8	13.1	8.4
R10	21.8	29.4	12.4	8.1
R11	21.0	28.6	12.3	8.0
R12	21.5	29.1	12.4	8.0
R13	20.5	28.1	12.2	7.9
R14	21.0	28.6	12.2	7.9

Table notes:
^a Plant refers to the boiler emissions from Manchester College and Old Brewery Gardens.

- 3.2. All predicted concentrations were below the air quality objectives and limit values, and the assessment stated that *“The air quality effects on-site as a result of pollutant sources in the local area, as part of the Site Suitability Assessment, are judged as not significant”*.
- 3.3. Furthermore, from the review of the air quality monitoring data provided in Section 2 which shows concentrations of pollutants have reduced since 2019, it is reasonable to assume that air quality at the development site has improved since the assessment was undertaken, and thus predicted concentrations of pollutants will be lower than those set out in Table 4.

4. Summary

- 4.1. This note has set out a review of the findings of the air quality assessment undertaken to support the planning application (reference: 137941/FO/2023) in relation to changes in local air quality since the assessment was completed in 2021. It has been provided to assist with the discharge of planning condition 52.
- 4.2. The review has shown that NO₂ and particulate filtration is not required on the development’s ventilation system, and that air quality for future residents, *without mitigation*, is acceptable. Therefore, it is recommended that condition 52 be discharged and that no air filtration system is required to protect future users from poor air quality.