



PM Monthly Summary Report: June 2023

88 & 100 Gray's Inn Road and 127 Clerkenwell Road

August 2023

Lawnmist Limited






Document Control Sheet

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Glossary of Terms

Term	Definition
AQMA	Air Quality Management Area
AQO	Air Quality Objectives
AY	Avison Young
DS	DustScanAQ
GLA	The Greater London Authority
IAQM	Institute of Air Quality Management
LBC	London Borough of Camden
NO ₂	Nitrogen Dioxide
PM	Particulate Matter

1 Introduction

1.1 Overview

Avison Young (AY) are assisting their client, Lawnmist Limited, with planning matters relating to a proposed development at 88 & 100 Gray's Inn Road and 127 Clerkenwell Road, London, WC1X 8AL. The site is in the London Borough of Camden.

A Construction Dust Risk Assessment¹ was undertaken by GEM Air Quality Ltd as part of the Air Quality Assessment for the development, and was submitted as part of the planning application. The largest risk associated with dust soiling was considered to be 'Medium' during the demolition and construction phases. With respect to human health impacts, the largest risk classified was 'Medium' during the construction phase.

In response to this, the local planning authority, the London Borough of Camden has advised the project managers for the proposed development of the following draft planning conditions:

'prior to installing monitors, full details of the air quality monitors have been submitted to and approved by the local planning authority in writing. Such details shall include the location, number and specification of the monitors etc etc' and

'prior to commencement, evidence has been submitted demonstrating that the monitors have been in place for at least 3 months prior to the proposed implementation date.'

The proposed development lies within the London Borough of Camden (LBC) borough wide Air Quality Management Area (AQMA), declared for exceedances of the:

- NO₂ annual mean objective; and
- PM₁₀ 24-hour mean objective.

Lawnmist Limited commissioned DS to undertake real-time PM₁₀ continuous monitoring at two site locations to address and discharge this planning condition.

Two Turnkey Osiris real-time continuous PM₁₀ monitors were installed by DS on 30th May 2023. This report summaries PM₁₀ and PM_{2.5} monitoring data collected from 30th May – 29th June 2023.

1.2 Objective

This report provides a review of the 1st month's PM₁₀ and PM_{2.5} monitoring data.

1.3 Site Location

¹ Assessment based on the following guidance: Greater London Authority (2014), 'The Control of Dust and Emissions during Construction and Demolition SPG'.

The development site is located at 88 & 100 Gray's Inn Road and 127 Clerkenwell Road, with the front of the buildings fronting onto the road, and an access road leading to a service area for the buildings.

Figure 1.1 below shows the approximate location of the two PM monitors at the site (Site 1 and Site 2).

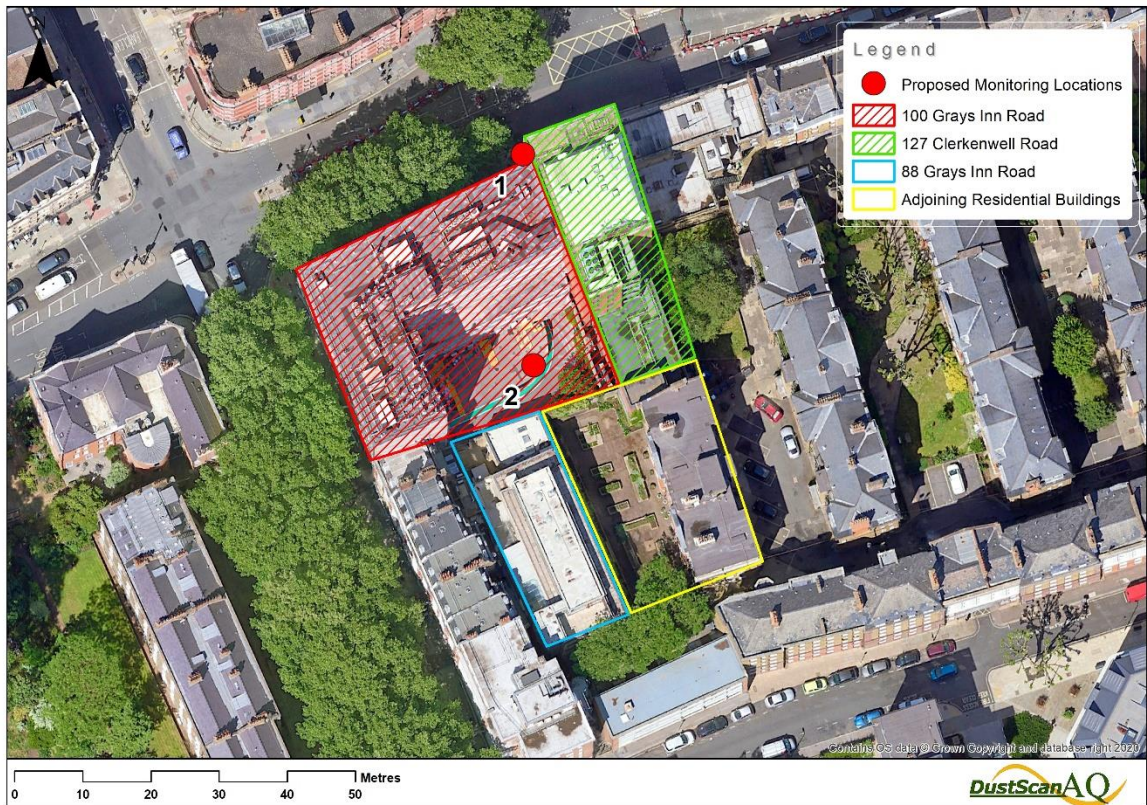


Figure 1-1 PM Monitoring locations. Source: Google Earth²

² © Google Earth 2023

2 Relevant Air Quality Standards

'Dust' is generally regarded as particulate matter with an aerodynamic diameter of 75 µm (microns) and below. Dust can be considered in two categories:

- Fine dust, consisting of particulate matter with an aerodynamic diameter of 10 µm and below (PM₁₀); and
- Coarser, 'nuisance' dust consisting of particulate matter with an aerodynamic diameter greater than 10 µm.

PM₁₀ and PM_{2.5} is measured to agreed standards and forms part of the national Air Quality Objectives (AQO), a summary of which can be found in Section 2.1.

There are no official standards or objectives for nuisance dust.

2.1 Air Quality Standards

A summary of the relevant AQO as stated in LLAQM.TG (19)³ are presented in Table 2.1.

Table 2.1: AQO Relevant to the development

Pollutant	Air Quality Objectives		Concentration measured as:	Applicable to:
	Concentration	Allowance		
PM ₁₀	50 µg/m ³	35 per calendar year	24-hour mean	All local authorities
	40 µg/m ³	-	Annual mean	All local authorities
PM _{2.5} ^(a)	10 µg/m ³	-	Annual mean	All local authorities

Source: GLA (LLAQM.TG (19))

^(a) - The annual mean concentration target is that by the end of 31st December 2040 the annual mean level of PM_{2.5} in ambient air must be equal to or less than 10 µg/m³ ("the target level")⁴.

2.2 The Control of Dust and Emissions during Construction and Demolition: Supplementary Planning Guidance (2014)

The Greater London Authority Guidance sets out procedures that should be undertaken to mitigate any effects from the construction and demolition of sites at 'Low', 'Medium' and 'High' risk sites.

The Greater London Authority Guidance requires visual monitoring of dust as a minimum. It states for 'Medium risk' sites:

"Operate a minimum of two automatic particulate monitors to measure PM₁₀ levels at either end of the line – either inside or outside the site boundary. These

³ Greater London Authority (2019), 'London Local Air Quality Management (LLAQM) Technical Guidance 2019' (LLAQM.TG (19)).

⁴ Statutory Instrument. (2023), 'The Environmental Targets (Fine Particulate Matter) (England) Regulations', No. 96. King's Printer of Acts of Parliament.

instruments should provide data that can be download in real-time by the local authority”.

The approach of the GLA SPG is based on the site evaluation process set out in the IAQM 2014 Construction Dust Risk guidance. IAQM published an updated version of this guidance in August 2023⁵. As stated in the GLA SPG, in reference to the IAQM guidance:

“This guidance is periodically updated and, therefore, the latest version of the IAQM Guidance should be used.”

Following new IAQM guidance, the proposed development remains a ‘Medium’ risk site.

⁵ Institute of Air Quality Management. (2023) ‘Guidance on assessment of dust form demolition and construction. V2.1’. Accessible at: <https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-dust-2023-BG-v6-amendments.pdf>

3 Methodology

3.1 Real-Time PM₁₀ Monitoring

Two Turnkey Osiris real-time continuous PM₁₀ monitors were installed by DS on 30th May 2023. These instruments have MCERTS 'indicative' certification and Osiris data may be compared against the relevant AQO for PM₁₀ and PM_{2.5}. One monitor (Site 1) is located at the north of the site on the façade of 129 Clerkenwell Road; the other (Site 2) is located at the south of the development site in the service area. The locations of the monitors are presented in Figure 1.1.

The monitors are set to record PM₁₀ and PM_{2.5} concentrations at 15-minute averaging periods. Initial monitoring is planned for 3 months to establish a baseline for setting alert thresholds. This will enable future site management to take immediate dust mitigating actions if required.

4 Results

4.1 Measurements

Daily average PM₁₀ and PM_{2.5} concentrations have been calculated for the monitor at Site 1 and Site 2 for the period 30th May to 29th June 2023 so that they can be compared against the 24-hour average AQO for PM₁₀. 24-hour averages have not been calculated when 15-minute average data capture was less than 50% in any 24-hour period.

Table 4.1 summarises the monitored PM₁₀ and PM_{2.5} data for the month from Site 1 and Site 2 and the 24-hour PM₁₀ mean concentrations are visualised in Figure 4-1.

Summarised daily PM₁₀ average concentration data are presented in full in Appendix A. The 15-minute PM₁₀ and PM_{2.5} mean concentrations are visualised for Site 1 and Site 2 in Appendix B.

Table 4.1: PM₁₀ data summary (30/05/23 – 29/06/23)

PM ₁₀ / PM _{2.5}	Site 1		Site 2	
	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
Data capture (%)	98	98	98	98
Mean concentration (µg/m ³)	10.66	6.31	10.60	5.10
Number of 24-hour periods above 50 µg/m ³ mean PM ₁₀ concentration	0	n/a	0	n/a
Number of 15-minute periods above 250 µg/m ³ PM ₁₀ concentration	0	n/a	0	n/a
Maximum recorded 24-hour mean PM ₁₀ concentration (µg/m ³)	18.97	n/a	17.97	n/a
Maximum recorded 15-minute mean PM ₁₀ concentration (µg/m ³)	36	n/a	113.23	n/a

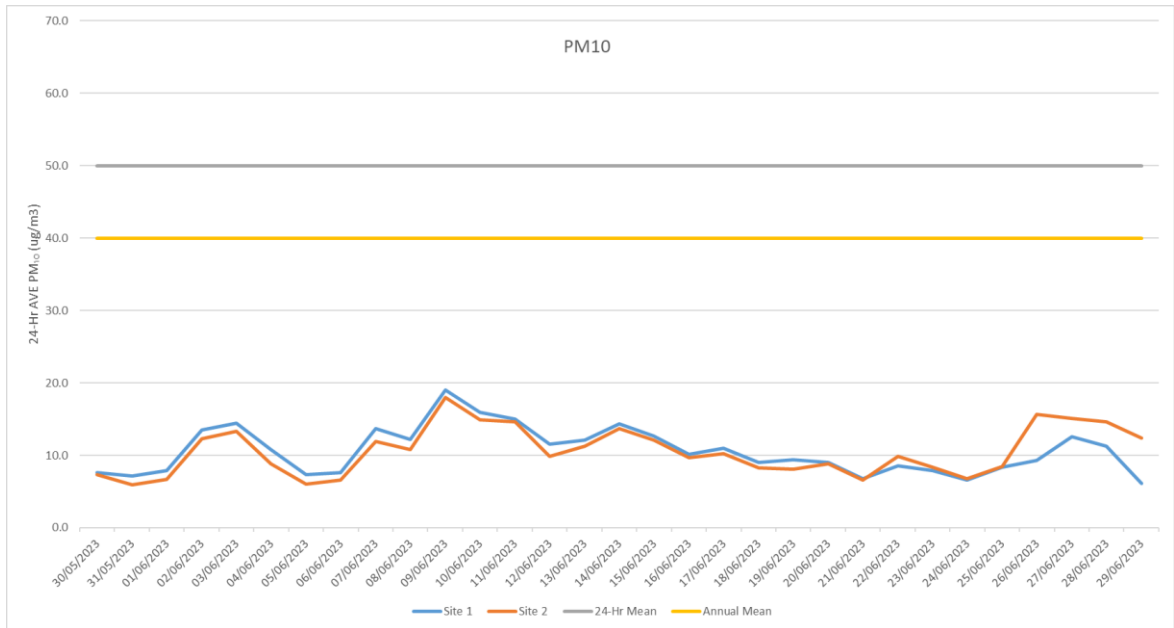


Figure 4-1: Daily average PM₁₀ concentrations (30/05/23 – 29/06/23)

5 Summary

This report provides a monthly review of PM₁₀ and PM_{2.5} monitoring data.

Site 1 and Site 2 both had 98% data capture from 30th May – 29th June. PM₁₀ concentrations at Sites 1 and 2 were low with a mean concentration of 10.66 µg/m³ and 10.60 µg/m³ respectively. PM_{2.5} concentrations were also low at Sites 1 and 2 with mean concentrations of 6.31 and 5.10 µg/m³ respectively.

Appendix A: Raw PM₁₀ Daily Averages

Table A1: Daily average PM₁₀ concentrations (30/05/23 – 29/06/23)

Date	Site 1 (µg/m ³)	Site 2 (µg/m ³)
30/05/2023	7.65	7.34
31/05/2023	7.10	5.95
01/06/2023	7.89	6.66
02/06/2023	13.48	12.25
03/06/2023	14.45	13.33
04/06/2023	10.83	8.81
05/06/2023	7.32	6.06
06/06/2023	7.61	6.54
07/06/2023	13.67	11.90
08/06/2023	12.20	10.76
09/06/2023	18.97	17.97
10/06/2023	15.89	14.92
11/06/2023	14.98	14.66
12/06/2023	11.55	9.83
13/06/2023	12.07	11.22
14/06/2023	14.36	13.71
15/06/2023	12.66	12.08
16/06/2023	10.15	9.70
17/06/2023	11.02	10.19
18/06/2023	9.01	8.30
19/06/2023	9.41	8.09
20/06/2023	9.04	8.80
21/06/2023	6.75	6.60
22/06/2023	8.54	9.86
23/06/2023	7.92	8.38
24/06/2023	6.60	6.75
25/06/2023	8.37	8.41
26/06/2023	9.32	15.65
27/06/2023	12.53	15.07
28/06/2023	11.26	14.66
29/06/2023	6.12	12.34

Appendix B: PM₁₀ 15-Minute Averages

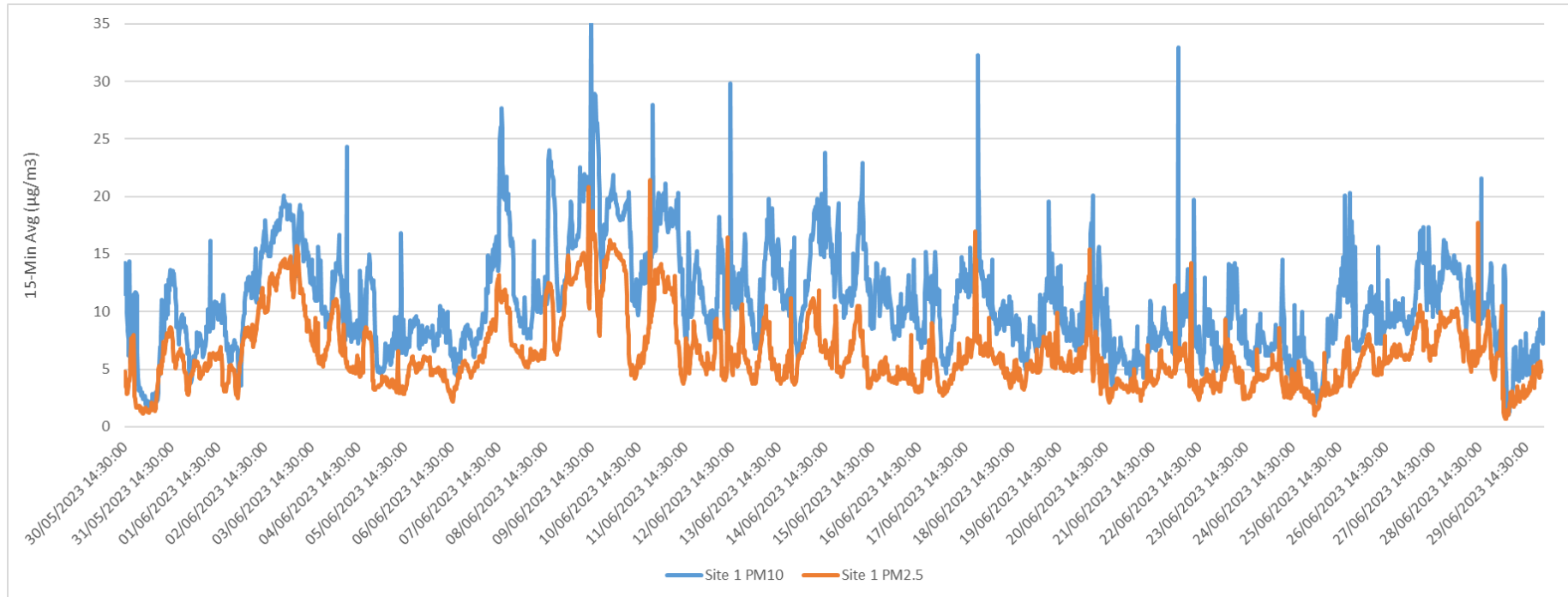


Figure B 1: Site 1 15-Minute Average PM₁₀ and PM_{2.5} Concentrations

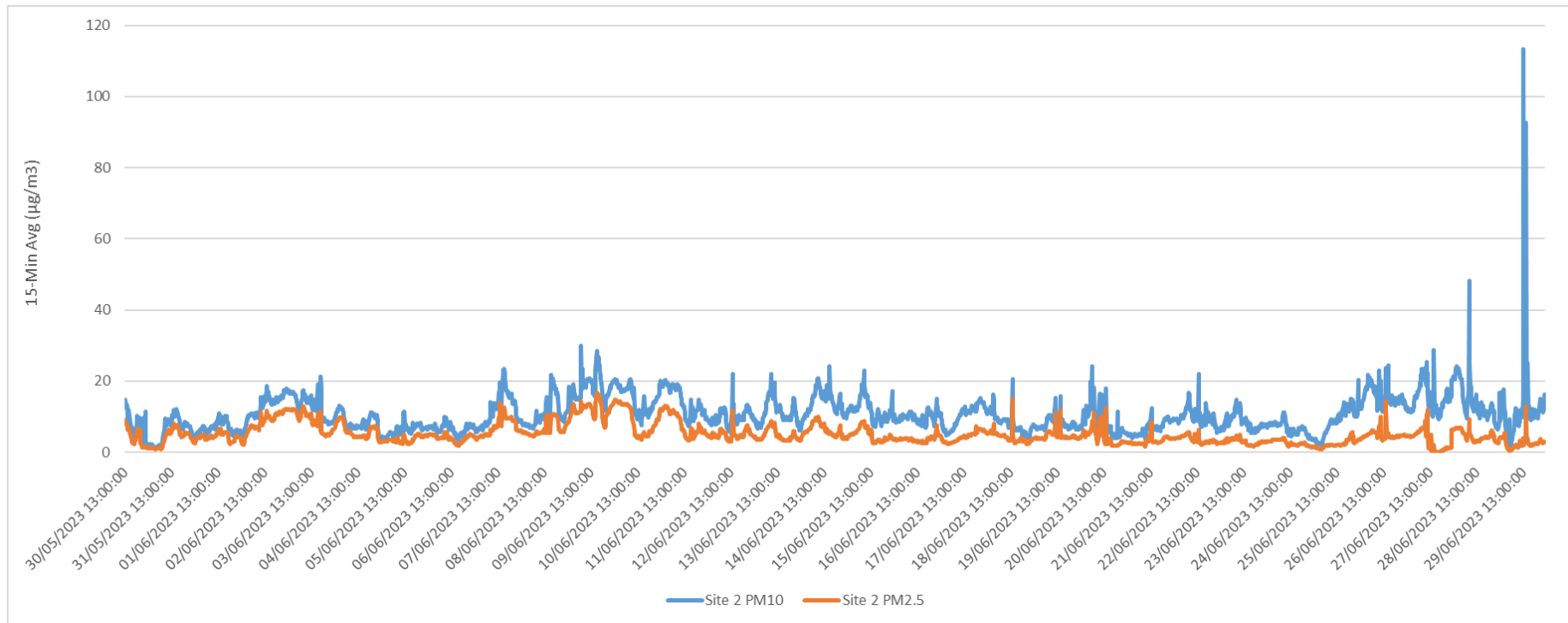


Figure B 2: Site 2 15-Minute Average PM₁₀ and PM_{2.5} Concentrations