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Architectural & Environmental Acousticians

Noise & Vibration Engineers

Pre-construction & Construction Dust Monitoring

20-23 Greville Street, London

Cass Allen
01234 834 862
www.cassallen.co.uk

Pre-construction & Construction Dust Monitoring

Project: 20-23 GREVILLE STREET, LONDON

Report reference: CM01-20443

Client:
RED CONSTRUCTION GROUP LTD
ESTATE OFFICE, OAKLEY HOUSE
BEDFORD
MK43 7ST

Our details:
CASS ALLEN ASSOCIATES LTD
BEDFORD I-LAB
BEDFORD
MK44 3RZ

Document control:

REVISION	ISSUE DATE	REPORT BY	CHECKED BY	NOTES
4	06 January 2021	Jake Fordham, Acoustics Technician	Adam Bamford, BSc MIOA DipIOA, Principal Acoustics Consultant	Initial issue

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1. INTRODUCTION

1.1 Cass Allen Associates has been instructed by Red Construction Group Ltd to carry out pre-construction dust monitoring and then construction dust monitoring at the consented development at 20-23 Greville Street, London, in line with the project brief.

1.2 The monitoring commenced on 24th July 2020. For the first 12 weeks of monitoring, baseline dust levels are being monitored prior to construction activities commencing. Construction monitoring will then be carried out for a further 50 weeks throughout the construction phase of the project.

1.3 This report summarises:

- The monitoring methodology that has been adopted for works;
- The results of the monitoring – these will be updated on a monthly basis and presented in the Appendices attached to this report.

2. ADOPTED MONITORING METHODOLOGY

Locations

2.1 Two MCERTS dust monitoring systems are installed along the north-west and south-east site boundaries, as per the requirements of the project air quality monitoring plan prepared by Hilson Moran (report reference 28477-RP-SU-001 dated 3 June 2020). Camden Council expressed concerns regarding the siting of these monitoring units and this is discussed in further detailed in our letter report LR01-20443 dated 6 October 2020, included within Appendix 3 of this report. The monitoring positions were relocated on 30th September and the current positions are shown in Figure 1 below.

Figure 1 Construction Monitoring Locations

2.2 Both monitoring locations can be summarised as follows:

- The dust monitoring units are fixed to temporary scaffolding at least 0.5m in front of the facade of the building at approximately first floor level (4m above local ground level) to minimise obstructions affecting the airflow in the vicinity of the sampler and to prevent any risk of it being tampered with at street level below.

- An anemometer has been installed on the dust monitoring unit at Location 1. This will collect local wind speed and direct data impacting the site and its surroundings. An anemometer will also be installed at Location 2 w/c 16th November 2020 once the permanent monitor for Location 1 is returned from the manufacturer.

2.3 The dust monitoring systems are configured to record particulate matter (PM10) levels over 15-minute intervals and they are connected to the building's electricity supply, which should ensure that data is continuously recorded so long as the electricity to the building is not turned off.

Limits

2.4 Table 1 below summarises the dust trigger and action levels that will be adopted for the project. These are taken from the Hilson Moran project air quality monitoring plan document which are based on the on the guidance given in the Mayor of London Supplementary Planning Guidance document *"The Control of Dust and Emissions During Construction and Demolition*[1]*".*

Table 1 Dust Monitoring Limits during Construction Phase

Limits	Reference Periods
150 μg m^{-3} 15-minute mean for PM10 concentrations (trigger level – both locations)	0800-1800hrs on weekdays (Monday through Friday) 0800-1300hrs on Saturdays
250 μg m^{-3} 15-minute mean for PM10 concentrations (action level – both locations)	150 μg m^{-3} 15-minute mean for PM10 concentrations (trigger level – both locations)

2.5 In the event of exceedances of either the trigger level or the action level values given in Table 1 above for dust emissions relating to construction activities, the protocols given below should be followed.

Trigger Level Exceedance Protocol

2.6 In the event of any exceedances of the recommended trigger levels, the following actions should be taken:

- The Contractor should ascertain the cause of the exceedance by reference to the timing of the alert, site diaries and a knowledge of current site activity.
- The Contractor should inform the acoustics consultant managing the monitoring of the cause of the exceedance so it can be documented for reporting purposes. Non-construction related exceedances would be disregarded.

[1] https://www.london.gov.uk/file/18750/download?token=zV3ZKTpP

- For construction related exceedances, the Contractor should ensure that the activity causing the alert is carried out in such a way as to minimise construction emissions as far as reasonably practicable (as per the mitigation and management measures documented within the project Construction and Environmental Management Plan (CEMP)).
    - If the works believed to be the cause of the alerts are still to be completed, it is recommended that notice be provided to nearby sensitive receptors with an explanation of the types of works being undertaken, and an indication of the likely remaining duration, in order to manage their expectations of the works.

2.7 Following receipt of any construction related trigger level exceedances, construction emissions will be kept under close review as activities continue, to minimise the risk of actionable exceedances occurring.

Action Level Exceedance Protocol

2.8 In the event of any exceedances of the recommended action level, the following actions should be taken:

- The works believed to be causing the action level exceedance should cease while alternative working solutions are investigated. If no source can be identified, the site manager will query as to whether or not the alert was trigger by accident.
    - The Contractor should ascertain the cause of the exceedance by reference to the timing of the alert, site diaries and a knowledge of current site activity.
    - The Contractor should inform the acoustics consultant managing the monitoring of the cause of the exceedance so it can be documented for reporting purposes. Non-construction related exceedances would be disregarded.
- If there is a risk of repeat action level exceedances from the site activity identified, the Contractor may convene a meeting with the Local Planning Authority. The purpose of the meeting would be to carefully review the working method / practices and machinery to determine if there are any reasonable alternative measures that could be implemented to reduce construction emissions further to minimise the risk of a re-occurrence.

2.9 Following receipt of any actionable exceedances, construction emissions would be kept under close review until all related site activity is completed.

3. MONITORING RESULTS

3.1 The results of the pre-construction monitoring and the construction monitoring to follow, along with discussion of any remedial measures taken are provided in the Appendices to this report. They will be updated on a monthly basis until further notice.

4. CONCLUSIONS

4.1 Pre-construction and construction dust monitoring (PM10) is being carried out at a consented development at 20-23 Greville Street in London on behalf of Red Construction Group Ltd.

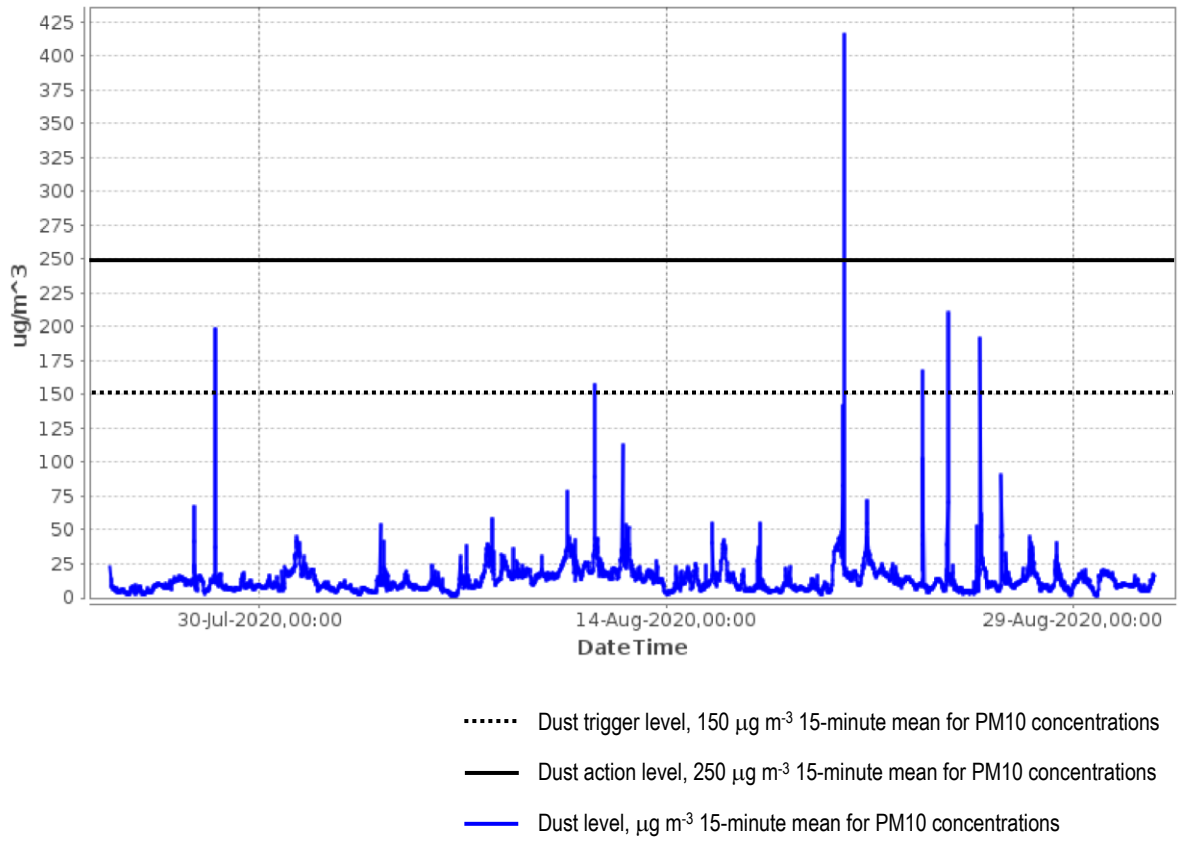
4.2 Two dust monitoring units have been installed on the north-west and south-east corners of the existing building as per the project air quality monitoring plan.

4.3 The monitoring is being provided by Cass Allen and commenced on the 24th July 2020. The monitoring is anticipated to last for 62 weeks in total – the first 12 weeks monitored baseline dust levels prior to construction starting.

4.4 The monitoring results and discussion of any remedial measures taken will be included in Appendices and reported on a rolling monthly basis unless otherwise advised by the client.

Appendix 1 Monitoring Results – July to August 2020

Location 1 – North-west corner of site



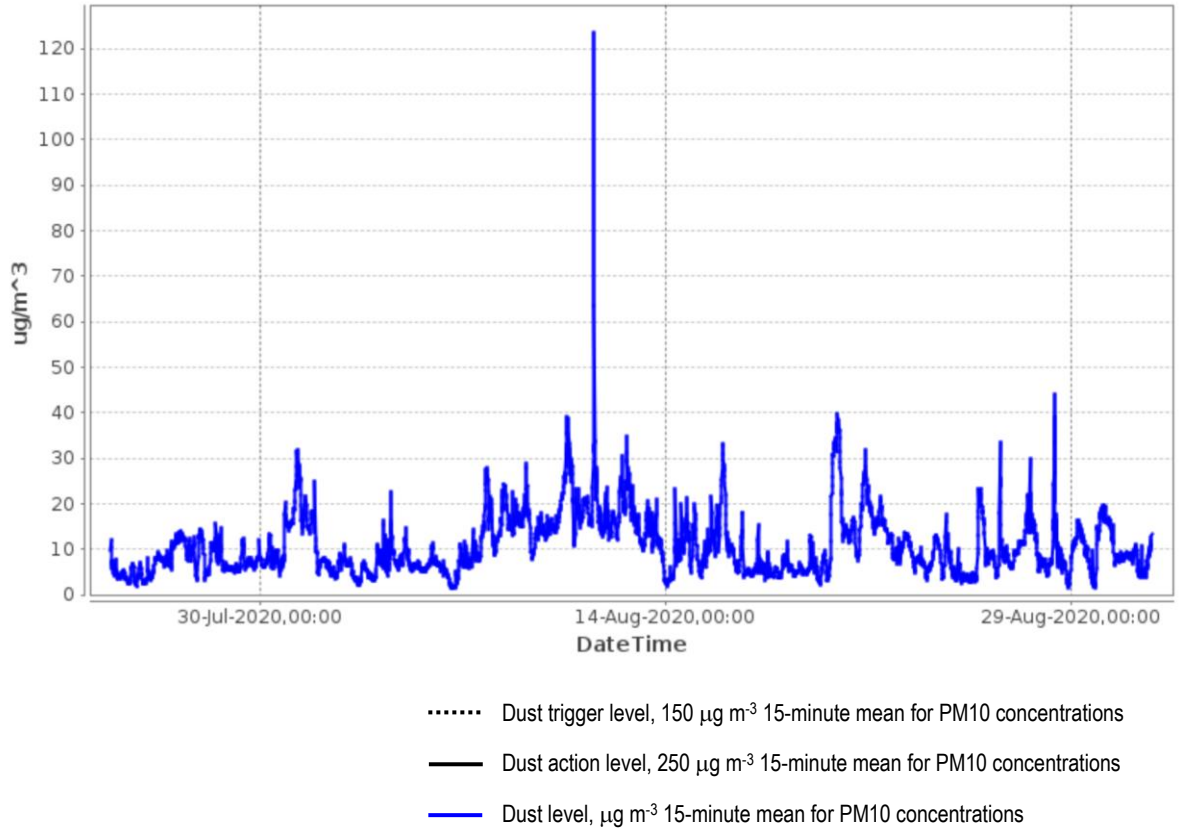
Dust trigger level, 150 µg m^{-3} 15-minute mean for PM10 concentrations

Dust action level, 250 µg m^{-3} 15-minute mean for PM10 concentrations

Dust level, µg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period – 13 µg/m^3

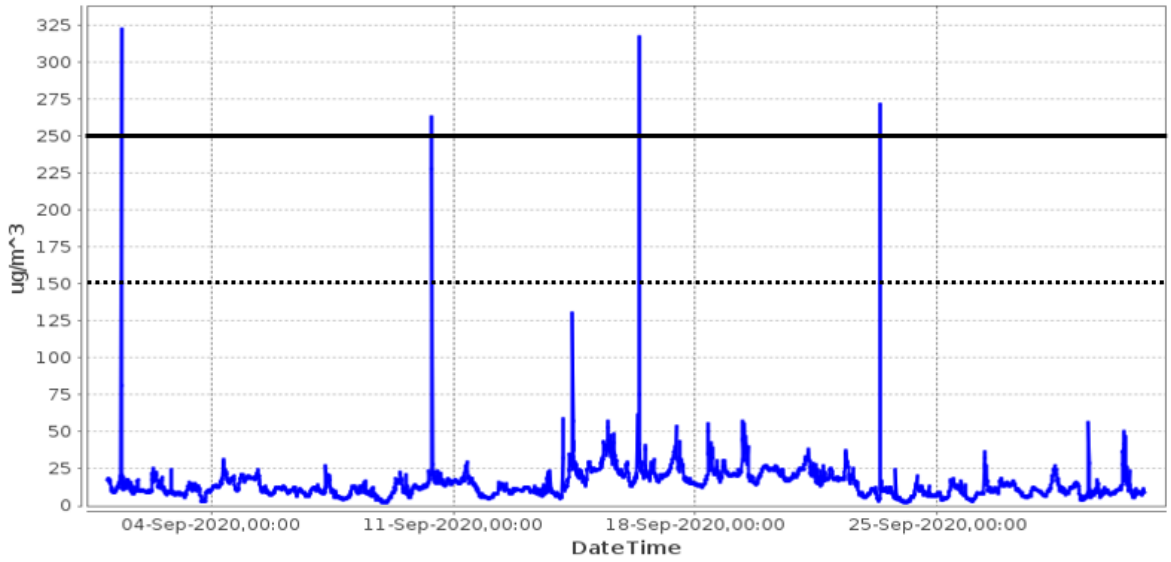
Location 2 – South-east corner of site



Average PM10 level during monitoring period – 11 µg/m^3

Appendix 2 Monitoring Results – September 2020

Location 1 – North-west corner of site



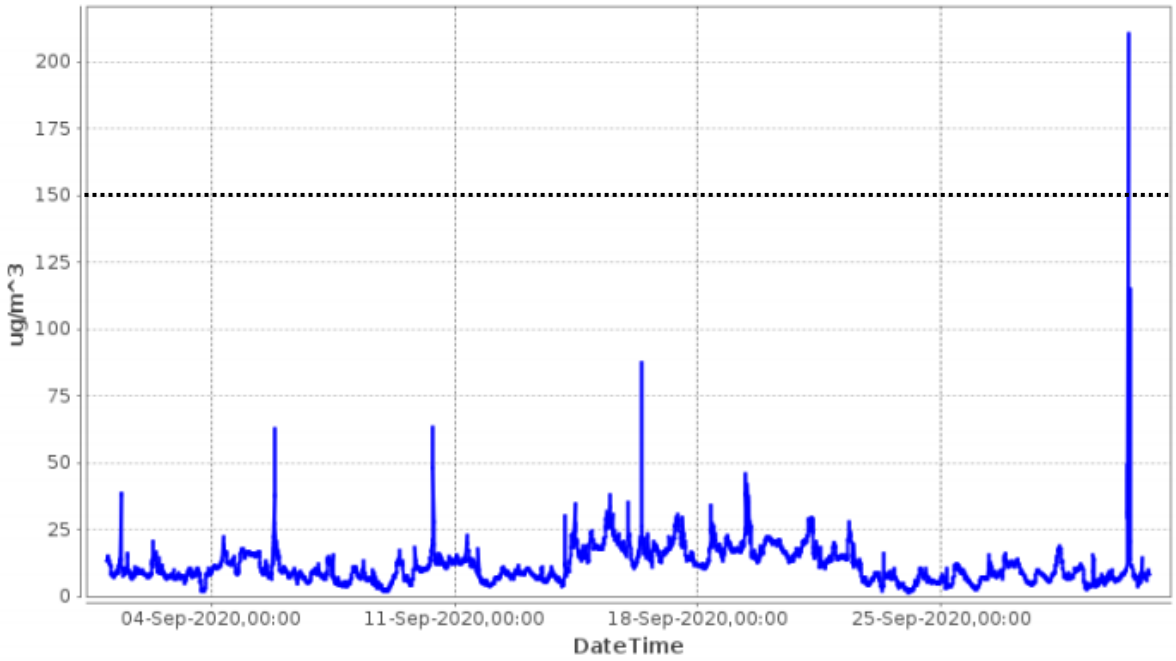
Dust trigger level, 150 μg m^{-3} 15-minute mean for PM10 concentrations

Dust action level, 250 μg m^{-3} 15-minute mean for PM10 concentrations

Dust level, μg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period – 15 μg/m^3

Location 2 – South-east corner of site



Dust trigger level, 150 μg m^{-3} 15-minute mean for PM10 concentrations

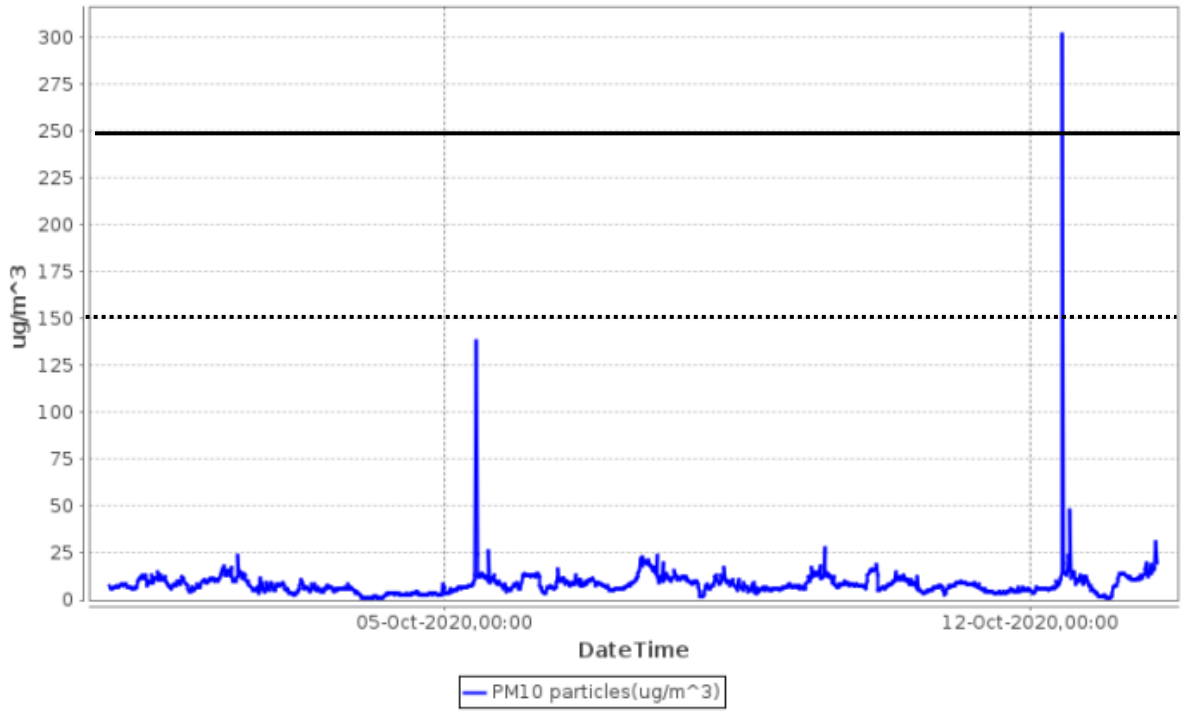
Dust action level, 250 μg m^{-3} 15-minute mean for PM10 concentrations

Dust level, μg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period – 11 μg/m^3

Appendix 3 Monitoring Results – October 2020

Location 1 – North-west corner of site



Dust trigger level, 150 μg m^{-3} 15-minute mean for PM10 concentrations

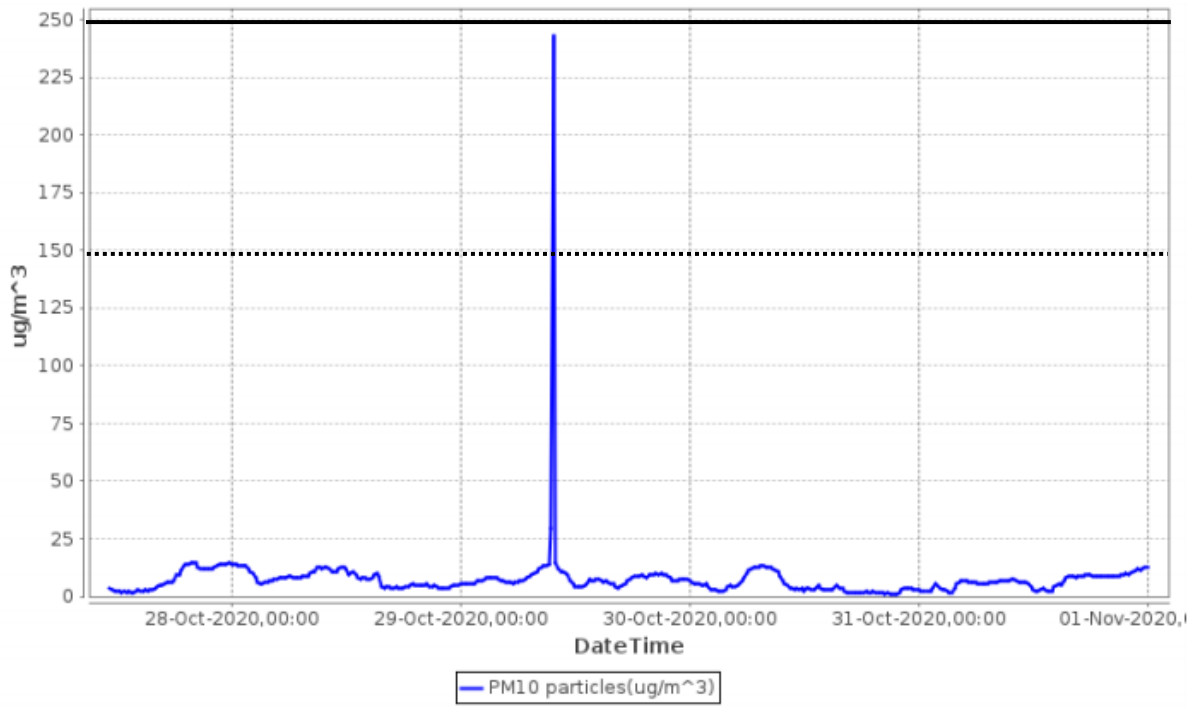
Dust action level, 250 μg m^{-3} 15-minute mean for PM10 concentrations

Dust level, μg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period (1st October to 13th October) – 9 μg/m^3

Unfortunately, the monitor stopped working on 13th October unexpectedly and no data was recorded between midday on the 13th October until 11:15 hours on 27th October when a temporary replacement unit was installed whilst the permanent monitor is fixed by the equipment manufacturer.

It is understood that the replacement monitor will be shipped from the manufacturer w/c 9th November until the clients dust monitor is repaired under warranty.



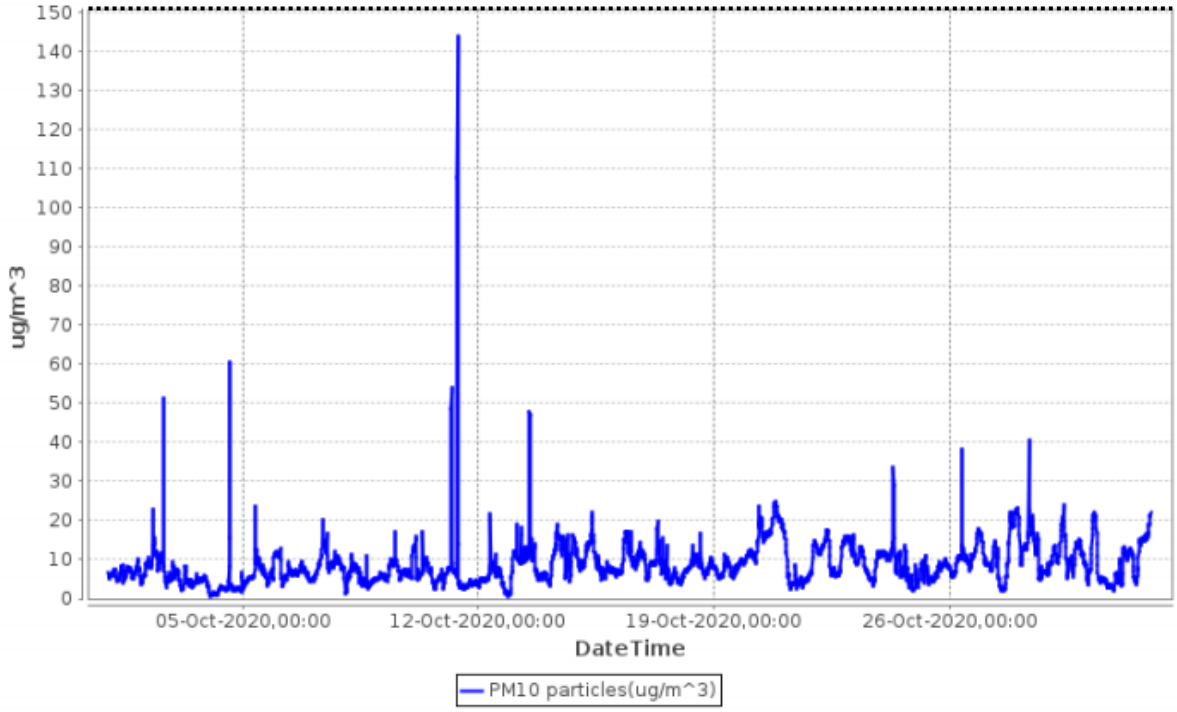
Dust trigger level, 150 μg m^{-3} 15-minute mean for PM10 concentrations

Dust action level, 250 μg m^{-3} 15-minute mean for PM10 concentrations

Dust level, μg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period (27th October to 31st October) – 7 μg/m^3

Location 2 – South-east corner of site



Dust trigger level, 150 μg m^{-3} 15-minute mean for PM10 concentrations

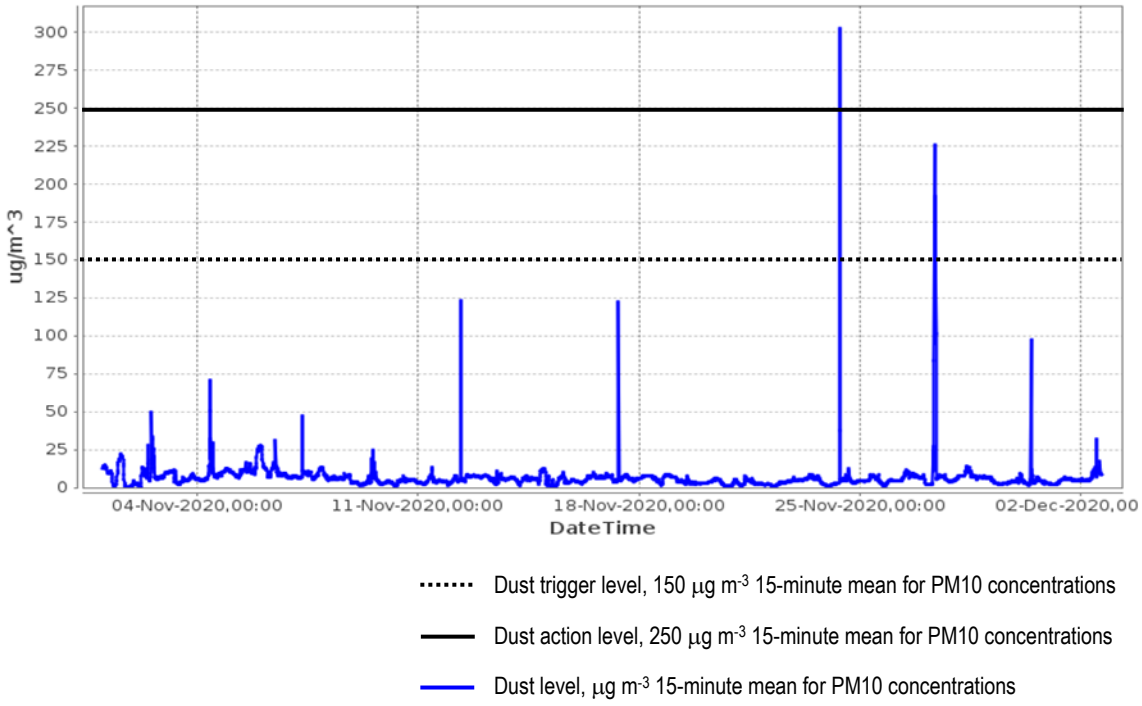
Dust action level, 250 μg m^{-3} 15-minute mean for PM10 concentrations

Dust level, μg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period – 9 μg/m^3

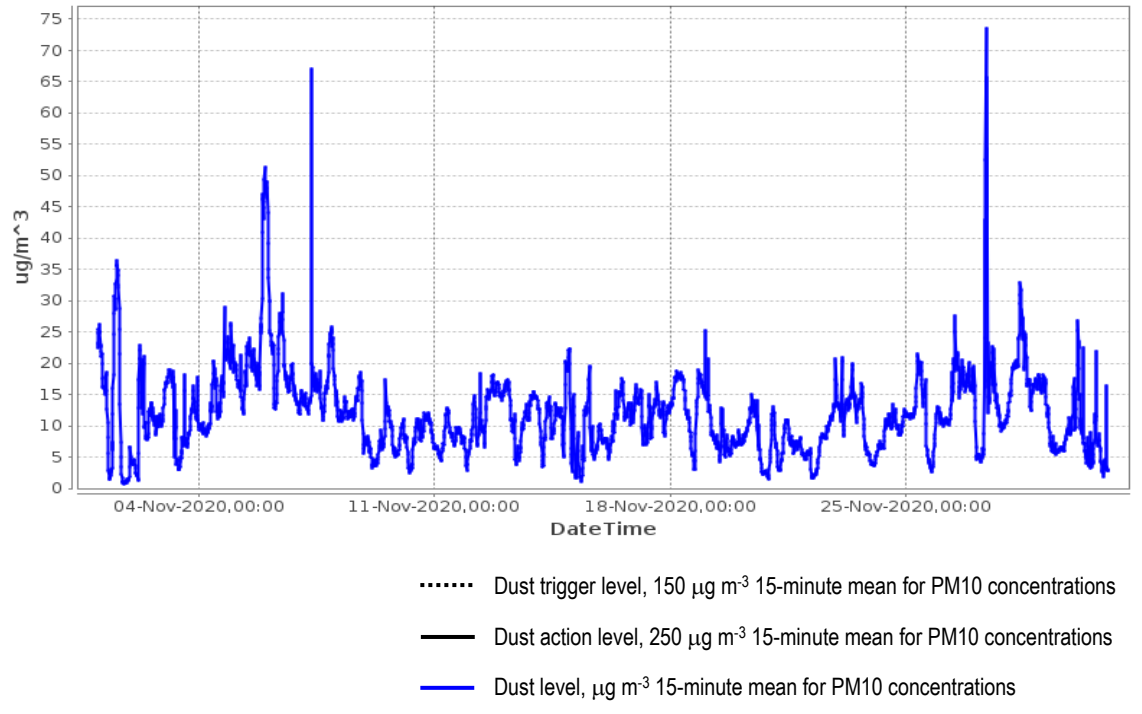
Appendix 4 Monitoring Results – November 2020

Location 1 – North-west corner of site



Average PM10 level during monitoring period – 7 µg/m^3

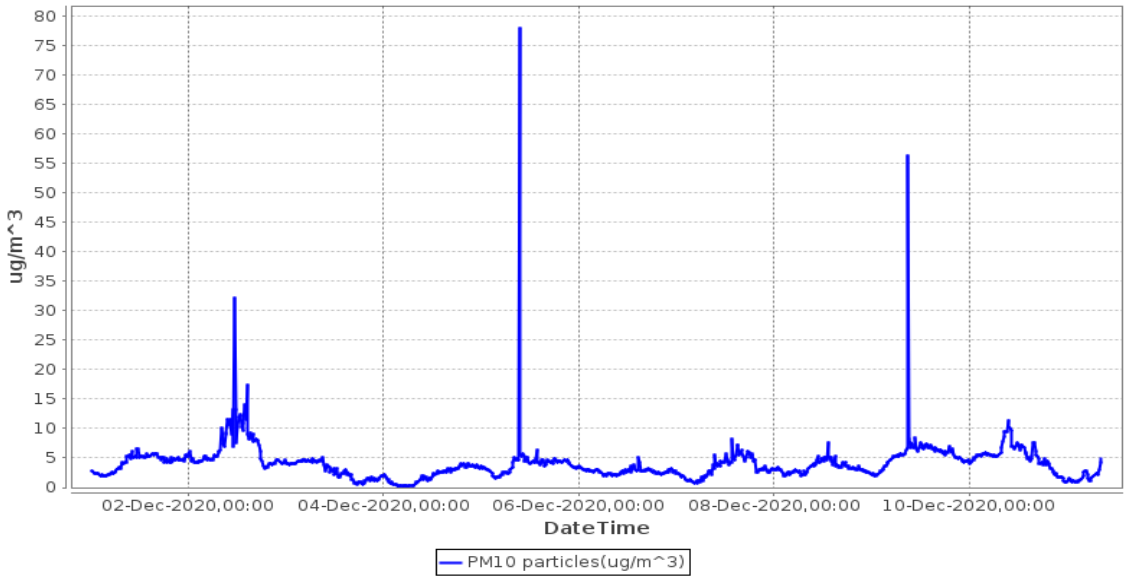
Location 2 – South-east corner of site

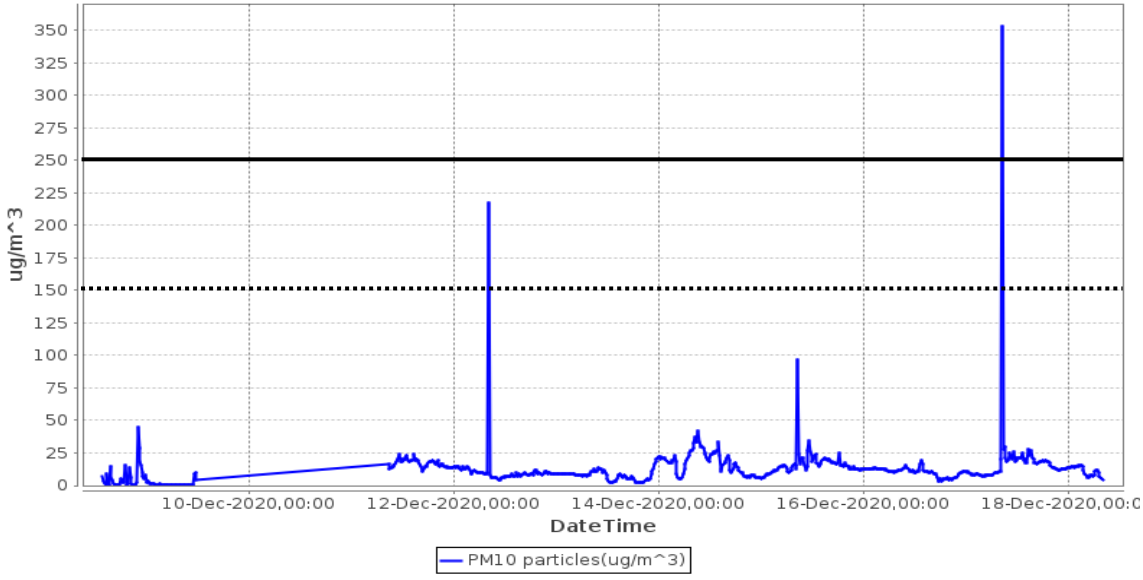


Average PM10 level during monitoring period – 12 µg/m^3

Appendix 5 Monitoring Results – December 2020

Location 1 – North-west corner of site





Dust trigger level, 150 µg m^{-3} 15-minute mean for PM10 concentrations

Dust action level, 250 µg m^{-3} 15-minute mean for PM10 concentrations

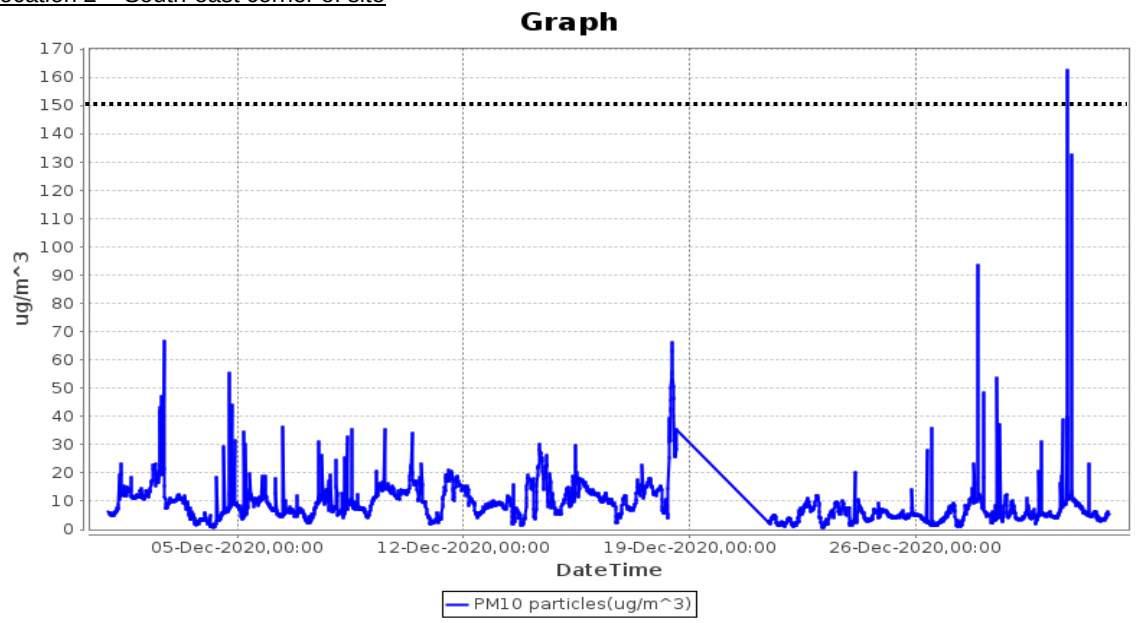
Dust level, µg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period – 4-13 µg/m^3.

Unfortunately, the monitor stopped working at 0810 hours on 18th December unexpectedly and no further data was recorded. It is understood that this is due to a power issue (possibly a faulty power supply unit).

Cass Allen will visit the site as soon as possible in January following the Christmas shut down to resolve the issue and resume data collection.

Location 2 – South-east corner of site



Dust trigger level, 150 μg m^{-3} 15-minute mean for PM10 concentrations

Dust action level, 250 μg m^{-3} 15-minute mean for PM10 concentrations

Dust level, μg m^{-3} 15-minute mean for PM10 concentrations

Average PM10 level during monitoring period – 9 μg/m^3.

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This report has been prepared by Cass Allen Associates Ltd in accordance with the CDM regulations with all reasonable skill, care and diligence, and taking account of the resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid at the time of collection. This report is for the exclusive use of the client named above; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from Cass Allen Associates Ltd. Cass Allen Associates Ltd disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of work.

Cass Allen Associates Ltd
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