Environmental Monitoring Report

Shorts Gardens, London WC2H

30th August 2021 – 20th December 2021

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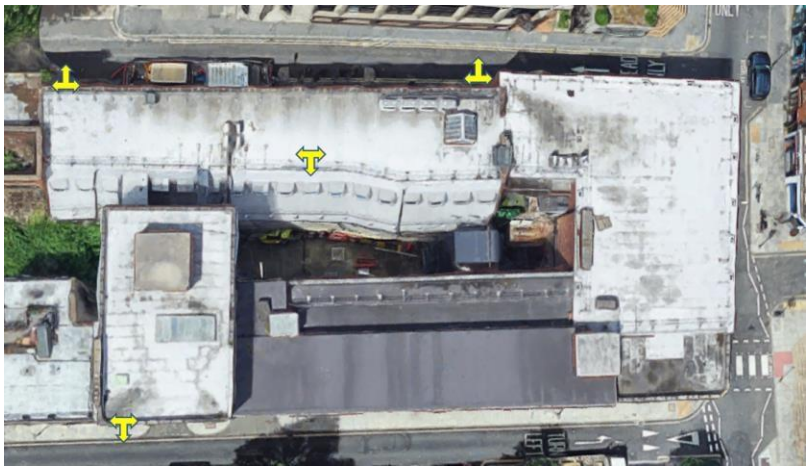
Introduction

Sunbelt rentals were requested by Hush PMC to install and maintain 4 x Guardian 2 environmental monitoring stations around the Shorts Gardens project. The purpose of the monitoring was to gain data to indicate ambient noise, dust and vibration levels around the site. This would then form a baseline for when the development project begins. After an initial site survey, the following locations were chosen as prime points to install the units and give maximum coverage of the area.



The units were installed on 28th August 2021 with monitoring and reports starting WC 30th August 2021. Custom mounting brackets were pre-installed by Hush PMC to ensure the sensors were at a minimum distance from the building façade.

The Guardian 2

The Casella Guardian2 is a fixed environmental monitoring device which can be equipped with multiple sensors. For this project, the units were equipped with a Class 1 noise monitor, a dust and particulate monitor capable of monitoring PM10, PM2.5 & PM1 simultaneously, a 3 axis vibration sensor measuring PPV (peak particle velocity) and a digital wind speed & direction sensor. Once powered, the Guardian 2 will continually monitor and then send out reports at chosen intervals to specified users.

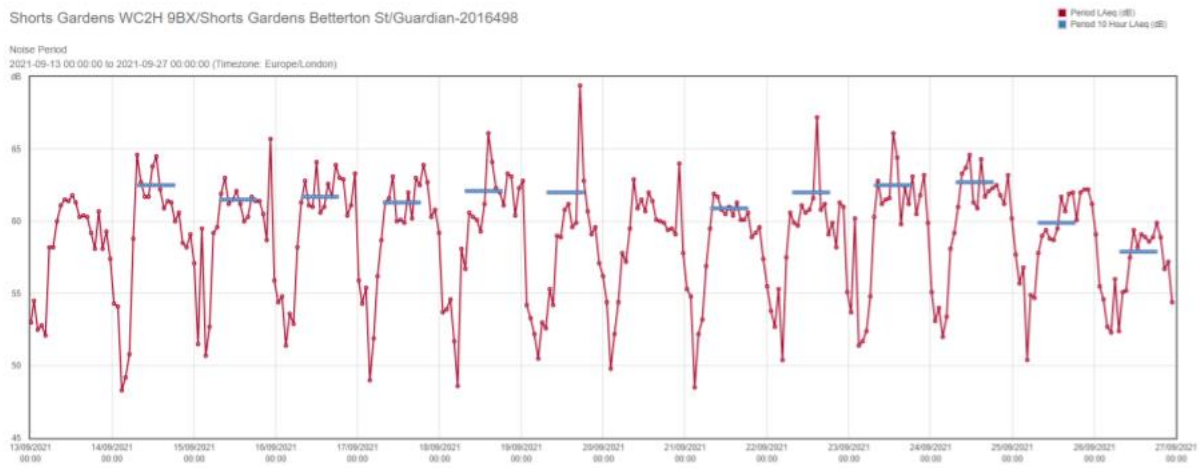
Reports

The reports set up for this project were a daily graphical format PDF. This was emailed out at 6am each day. Also set up was a fortnightly report, and also a monthly report which contained a graphical report and a csv file .

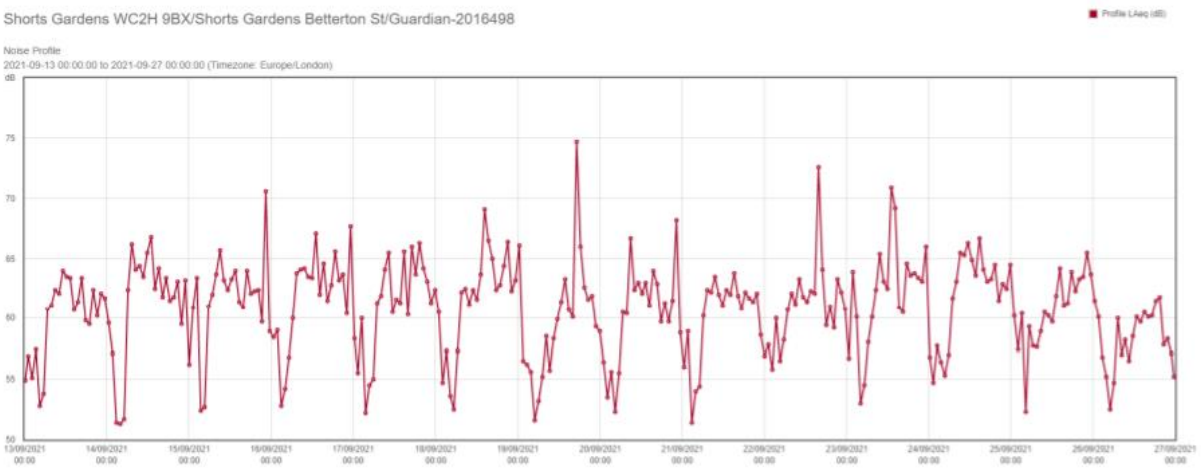
Graph interpretation

The graph below shows a typical daily noise period reading. Above the graph is the unit identification and to the right is the graph legend. The red line indicates noise levels (LAeq) over each hour period. The blue line represents the 10hr LAeq. This factors an average over the normal working day from 8am to 6pm.

Timestamps are shown across the bottom of the graph with increments of levels at the left hand side

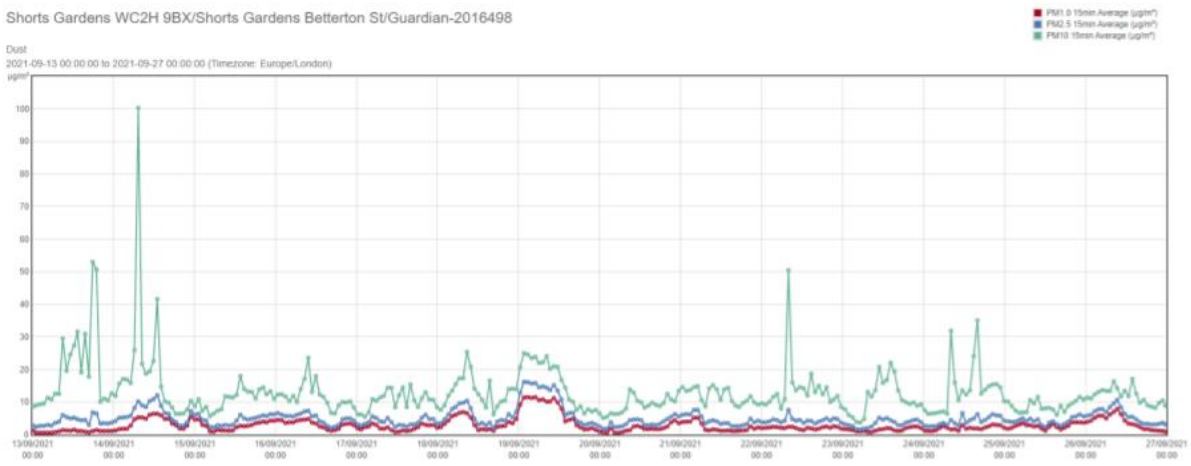


A second noise profile graph is included on the reports. This has been included as it shows a higher sampling rate to give a more ‘real-time’ interpretation of the noise activities



The graph below shows a typical daily Dust or air quality reading. Above the graph is the unit identification and to the right is the graph legend. The legend represents the different sizes of particulate mass. (PM10, PM2.5 & PM1) Most local authorities are interested purely in PM10 levels, for construction projects, and this is represented by the green line on this graph. Samples are analysed over a 15-minute period and the result is the level shown.

The graph below shows a typical daily vibration reading. Above the graph is the unit identification and to the right is the graph legend. The ambient levels shown are very low and we would expect to see levels averaged over a working day at around 2mm/s based purely on pedestrian activity. Add traffic activity and we would expect to see averages around 4mm/s



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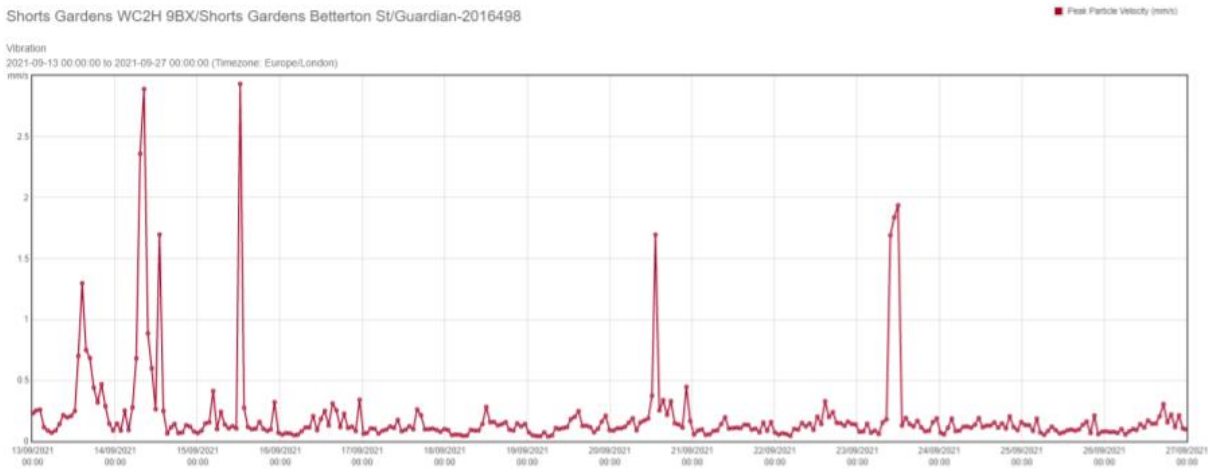
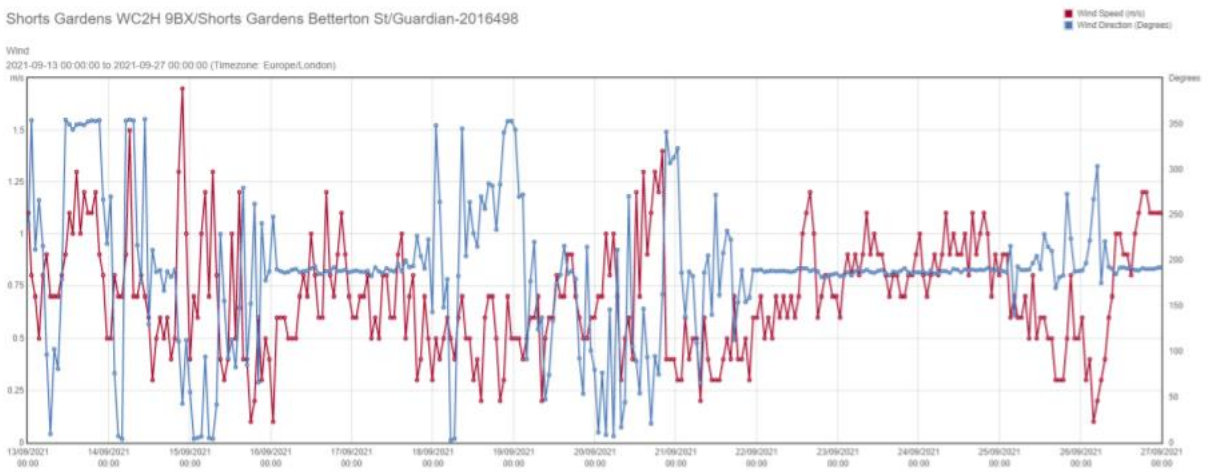


The graph below shows a typical daily wind speed and wind direction reading. Above the graph is the unit identification and to the right is the graph legend. Wind direction is measuredin degrees and relative to North. Wind speed is measured in M/S.

This data is particularly useful if there are other construction projects nearby



To Conclude

Without any breaks in data and the area now back to more normal levels of activity, it is clear to see that all ambient levels have significantly increased since the previous monitoring phase. Ambient noise and dust levels have increased due to the popular location and pedestrian footfall. Dust & particulate levels, alongside vibration levels have also increased due to an increase in traffic flow within the area. The levels seen within the data show no significant increase or decrease in ambient levels over other similar areas within the district.

Copies of all unit monthly reports in PDF format have been included with this repor