

Holloway Park, London

Construction Monitoring Non-Technical Summary

Client: London Square
Ref: TN01-22405-R6
Date: 8 October 2024
Note by: Anthony Coraci, MSc DipIOA MIOA, Senior Acoustics Consultant

1. INTRODUCTION

1.1 Cass Allen are instructed by London Square to carry out monitoring throughout the demolition and construction works for the above site. This non-technical note sets out the monitoring strategy.

2. MONITORING METHODOLOGY

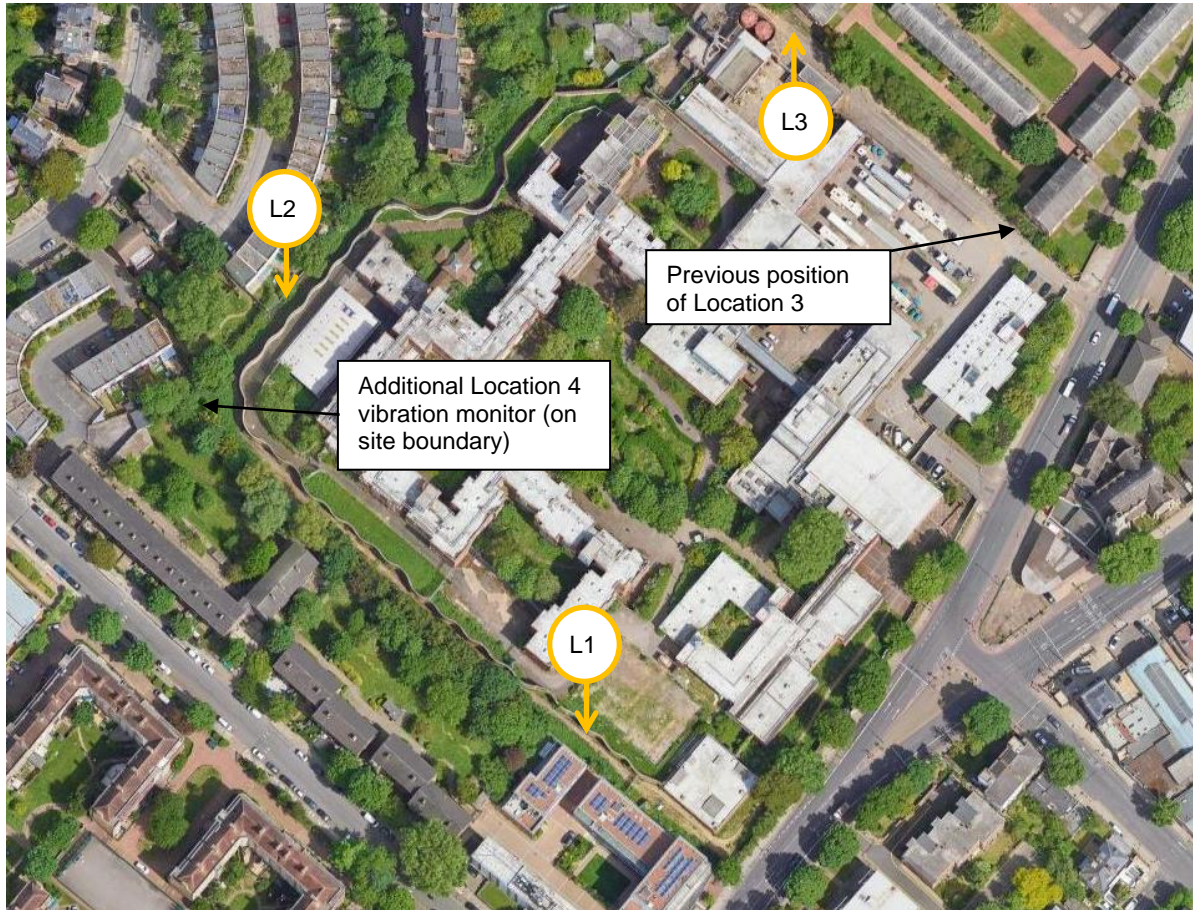
2.1 The monitoring is being carried out in accordance with the Construction Environmental Management Plan prepared for the Holloway Park development (a copy of which can be found on the Holloway Park Community Website within the planning documents, alternatively this can be found on the London Borough of Islington's website under planning ref: P2021/3273/FUL) and has been discussed and agreed with the Environmental Health Department at Islington Council.

2.2 Sensitive monitoring units have been installed at multiple locations both within the site, as well as one vibration monitor offsite, to record for the presence of dust, noise and vibration while demolition and construction takes place. The monitoring installations can be summarised as follows:

- An initial installation was carried out on 21st October 2022. This comprised the installation of the dust, noise and vibration monitor at Location 1 and the vibration monitor at Location 2 (refer to Figure 1 on page 4).
- A further installation was carried out on 8th November 2022 which included the installation of the dust and noise units at Location 2 (refer to Figure 1).
- A further installation was carried out on 28th June 2023 which included the installation of dust, noise and vibration units at Location 3.

- An additional vibration monitor is in place along the north-western boundary of the site, which is shown as Location 4 in Figure 1 below. The monitor was moved to this location on 17th May 2024. This monitor was previously located within the boundary of one of the dwellings at Trecastle Way following a residents' request, from 23rd August 2023 onwards. The monitor was moved to its current location (along the site boundary) at the request of this resident.
 - The monitors at Location 3 were moved to a new position during a site visit carried out by Cass Allen, on 26th September 2024. Prior to the site visit, the updated location was agreed with site management, as well as Islington Borough Council's EPPP Team.
- 2.3 A plan showing the monitoring locations are shown in Figure 1 (also showing the previous position of Location 3) and in-situ photographs of the monitoring installations are provided in Attachment 1 at the end of this note. These locations were discussed with the project team prior to installation and were advised by Cass Allen.
- 2.4 On 8th June 2023, the vibration monitor installed at Location 1 was relocated to the facade of the residential property. This was undertaken with the project Environmental Health Officer at Islington Council and a member of the Residents Association present. The monitor was relocated to accurately record vibration levels relevant to nearby residential receptors.
- 2.5 The monitoring units comprise real-time continuous unattended dust, noise and vibration measurements at fixed location(s). The monitoring devices can be relocated should this be deemed necessary as the works progress across the large site. Attended monitoring would only be carried out upon request from the Contractor or by the Local Planning Authority following receipt of validated complaints.
- 2.6 The dust and noise monitors are powered by 110v site power. The vibration monitors are currently powered by external batteries that are replaced at regular intervals by site personnel to maintain operation.
- 2.7 Monitoring reports showing time-history graphs of the recorded levels are being prepared by Cass Allen and will be made available for download from the Holloway Park Community website.

Figure 1 Construction Monitoring Locations



3. LIMITS

3.1 Table 1 below summarises the dust, noise and vibration limits that have been agreed with an Environmental Health Officer at Islington Council and adopted throughout the demolition phase of the works. All of the monitoring systems have been configured to send alerts to designed persons (the Contractor, London Square, the project Environmental Health Officer and Cass Allen) in the event of any exceedances of the agreed levels.

Table 1 Adopted Construction Monitoring Limits at Nearby Sensitive Receptors

Monitoring Equipment	Limit	Reference Periods
Dust	190 $\mu\text{g m}^{-3}$ 60-minute mean for PM10 ¹ concentrations	0800-1800hrs on weekdays (Monday through Friday) 0800-1300hrs on Saturdays

¹ Particulate matter, also known as particle pollution or PM, is a term that describes extremely small solid particles and liquid droplets suspended in air. PM10 are particles with a diameter of 10 micrometres or less.

Monitoring Equipment	Limit	Reference Periods
Noise	75 dB LAeq,T ² (daily noise limit) 78 dB LAeq,1hour (hourly noise limit)	0800-1800hrs on weekdays (Monday through Friday) 0800-1300hrs on Saturdays
Vibration	1 mms ⁻¹ PPV ³ at residential receptors 3 mms ⁻¹ PPV at non-residential receptors (Locations 1, 2 & 4) 4 mms ⁻¹ PPV ⁴ at residential receptors (Location 3)	0800-1800hrs on weekdays (Monday through Friday) 0800-1300hrs on Saturdays

NOTE 1: Any works outside of the normal operational hours (0800-1800 hours Monday to Friday and 0800-1300 Saturdays) will be subject to prior approval with Islington Council, unless they are emergency works

NOTE 2: The vibration limits apply at and within buildings of sensitive receptors. It is not possible to predict attenuation (or amplification) between monitoring and receptor positions without measuring the transfer function during the construction activity. The assumption will be made that approximately the same level will occur at monitoring and receptor positions, unless it can be modified where a transfer function has been established by measurement

NOTE 3: As per the current Section 61 agreement, the vibration trigger level at Location 3 has been set to 4.0 mm/s. The site haul road runs past Location 3 and site vehicle passes regularly caused false alerts of the previously agreed vibration trigger level of 1.0 mm/s. This approach has been agreed with the Local Planning Authority.

- 3.2 If there are any exceedances of the above limits due to construction activities, then the Contractor will review working practices.

4. UNDERSTANDING THE MONITORING DATA

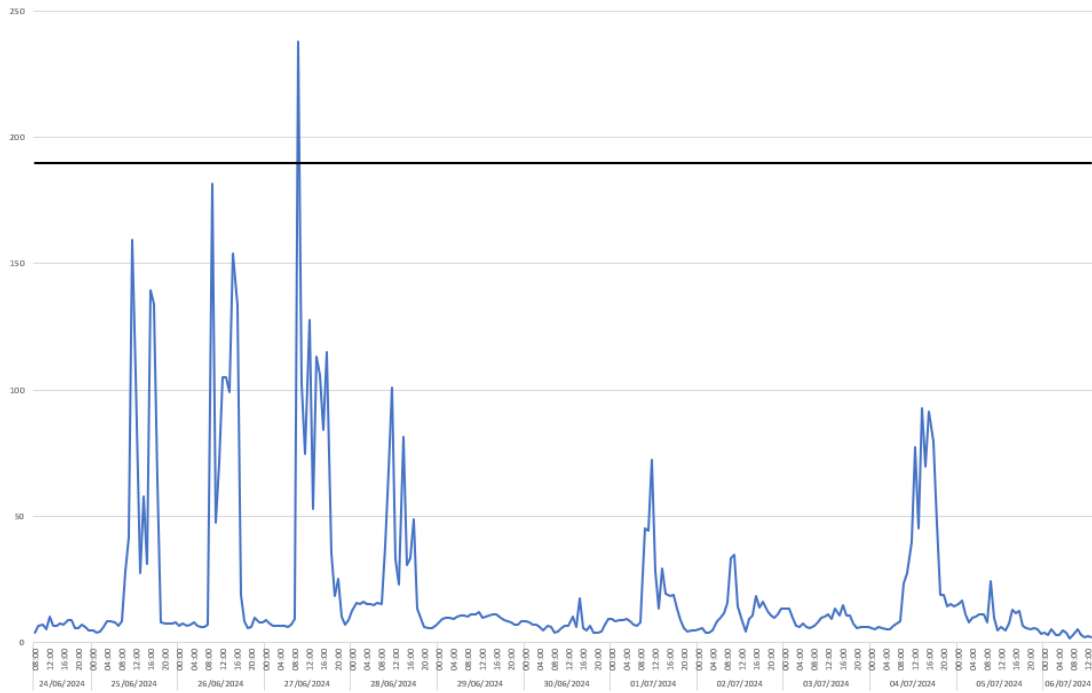
- 4.1 Figures 2, 3 and 4 below show examples of the dust, noise and vibration monitoring data that will be provided on the Holloway Park Community website and describes how this information can be interpreted.

² Equivalent Continuous Sound Pressure Level, or Leq/LAeq represents the decibel 'average' of a sound source over a given time as a single number.

³ Peak particle velocity is a widely used metric used to evaluate the magnitude and severity of the possible inconvenience to people and damage to adjacent structures and the environment. It is likely that a vibration level of 1 mm/s in residential environments will cause complaint; but can be tolerated if prior warning and explanation has been given to residents. This is based on advice given in a nationally recognised document (BS5228-2).

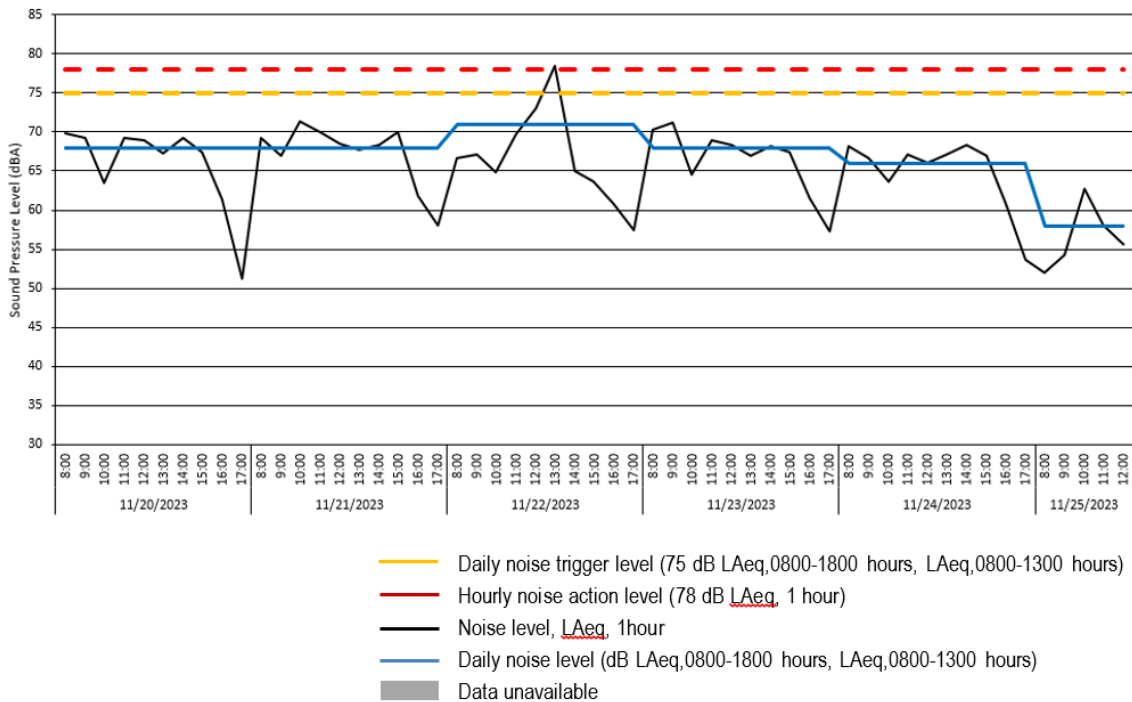
⁴ Peak particle velocity is a widely used metric used to evaluate the magnitude and severity of the possible inconvenience to people and damage to adjacent structures and the environment. It is likely that a vibration level of 1 mm/s in residential environments will cause complaint; but can be tolerated if prior warning and explanation has been given to residents. This is based on advice given in a nationally recognised document (BS5228-2).

Figure 2 – Example graph of dust monitoring at Holloway Park



- 4.2 The vertical axis shows the measured dust emissions (PM10) measured in micrograms per cubic meter.
- 4.3 The horizontal axis shows the date and time of the measurements.
- 4.4 The blue coloured line shows the variation of PM10 concentrations over the recorded period.
- 4.5 The dust trigger limit would be denoted by a solid black line on the graph, if applicable. In the above example (refer Figure 2), a single exceedance of the dust limit of $190 \mu\text{g m}^{-3}$ is shown. The project team will endeavour to explain what caused any exceedance(s) shown in the monitoring reports, and what mitigation/management measures were taken onsite to reduce the exceedances.
- 4.6 Any gaps in the measured data will be denoted by a solid vertical shaded grey area as show in the figure above. Gaps in data will usually be caused by either power outages or a loss in mobile signal.

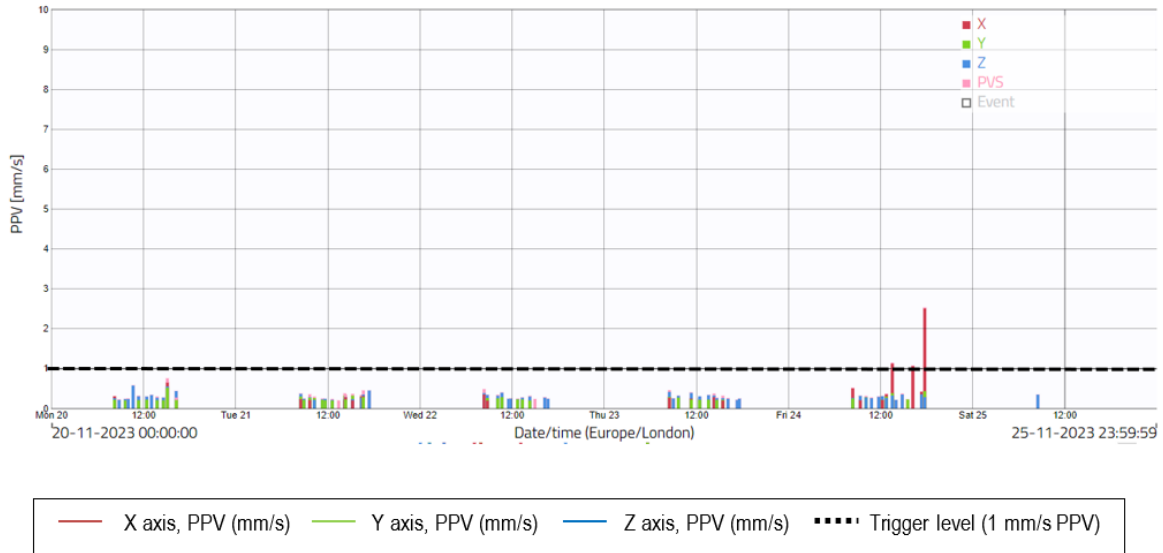
Figure 3 – Example graph of noise monitoring from Holloway Park



- 4.7 The vertical axis shows the measured noise levels (dB LAeq).
- 4.8 The horizontal axis shows the date and time of the measurements.
- 4.9 The solid blue line shows the daily measured noise level. For weekdays, this is a 10 hour value between 0800 and 1800 hours. For Saturdays, this is a 5 hour value between 0800 and 1300 hours.
- 4.10 The yellow dashed line shows the daily noise limit. In the example above there are no occasions where the blue line has gone above the yellow dashed line which means there were no exceedances of the daily noise limit.
- 4.11 The solid black line shows the hourly measured noise levels throughout the monitoring period.
- 4.12 The red dashed line shows the hourly noise limit. In the example above there is one occasion where the black line has gone above the red dashed line which means there was one exceedance of the hourly noise limit which occurred at 1300 hours on 22/11/2023.
- 4.13 If there are any exceedances above the project noise limits, then the project team will endeavour to explain what caused the exceedance(s) and what mitigation/management measures were taken onsite to reduce the exceedance(s).

4.14 Any gaps in the measured data will be denoted by a solid vertical shaded grey area as show in the figure above. Gaps in data will usually be caused by either power outages or a loss in mobile signal.

Figure 4 – Example graph of vibration monitoring from Holloway Park



4.15 The vertical axis shows the vibration (Peak Particle Velocity, PPV) measured in millimetres per second.

4.16 The horizontal axis shows the date and time of the measurements.

4.17 The solid red, green and blue lines show the measured horizontal and vertical PPV.

4.18 The black dashed line shows the vibration limit. In the example above there were exceedances of the vibration limit that occurred on Friday 24th November.

4.19 Any gaps in the measured data will be denoted by a solid vertical shaded grey area as show in the figure above. Gaps in data will usually be caused by either power outages or a loss in mobile signal.

4.20 It should be noted that the weekly vibration summary graph will be compressed as data is recorded every minute onsite and this cannot be shown completely on a single graph at a weekly resolution.

Attachment 1 – Insitu photographs of the monitoring locations

Location 1 – Dust and Noise – southern boundary facing residential uses on Dalmeny Avenue



Location 1 – Vibration – offsite – attached to facade of one of the residential flats within Dalmeny Avenue facing the development



Location 2 – Dust, Noise and Vibration – northern boundary facing residential uses on Penderyn Way



Location 3 – Dust, Noise and Vibration – northeastern boundary facing residential uses within Holloway Estate



Location 4 – Vibration – previously attached to rear garden fence of one of the dwellings on Trecastle Way (from August 2023 until May 2024 – it has since been relocated to within the site boundary)

