

## **Noise and Dust Monitoring Report**

**Project Ref.:** 20543

**Period:** 01 March 2024 to 31 March 2024

**Site Address:**

100 Gray's Inn Road, London

**For:**

Erith Contractors Ltd

Erith House,

Queen Street

Erith

DA8 1RP

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Date	Document No./Revision version	Comments
04 April 2024	20239.SummaryReport202403	Noise/vibration/dust data – report generated

## Introduction:

Environmental Sensors Ltd. has been appointed by Erith Contractors Ltd. to undertake noise/dust monitoring at the 100 Gray's Inn Road, London.

This monitoring report presents data for the period from 01 March 202 to 31 March 2024 and it is marked as 20543.SummaryReport202403.

## Monitoring Locations:

Noise and dust monitors have been installed on site as per site-plan attached below.



Figure 1 Indicative Site Plan (ref. Google Maps)

The locations have been marked as:

- L1: Site Courtyard
- L2: Clerkenwell Rd
- L3: Gray's Inn Rd
- L4: East side

The vibration monitors have been installed in the location as per site plan below:





Figure 2 Indicative Site Plan with vibration monitoring locations (ref. Google Maps)

**Equipment:**

The following equipment has been used during the survey:

- 4No. Convergence Instruments Class 1 noise data loggers
- 4No. PM10 monitors
- 3No Convergence Instruments VSEW vibration data loggers

**Thresholds and Alerts:**

Noise and dust alerts trigger levels have been agreed and presented below.

**Noise Trigger Levels:**

**Location 1 and 4**

	Receiver of Alert	Trigger level and integration period	
RED	Steven.Gillam@erith.com	78dB LAeq 1 hour	75dB LAeq 10 hours (Monday – Friday)
		75dB LAeq 1 hour	72dB LAeq 5 hours (Saturday)

**Location 2 & Location 3**

	Receiver of Alert	Trigger level and integration period	
RED	Steven.Gillam@erith.com	83dB LAeq 1 hour	82dB LAeq 10 hours (Monday – Friday)
		78dB LAeq 1 hour	75dB LAeq 5 hours (Saturday)

**Dust Trigger Levels (PM10):**

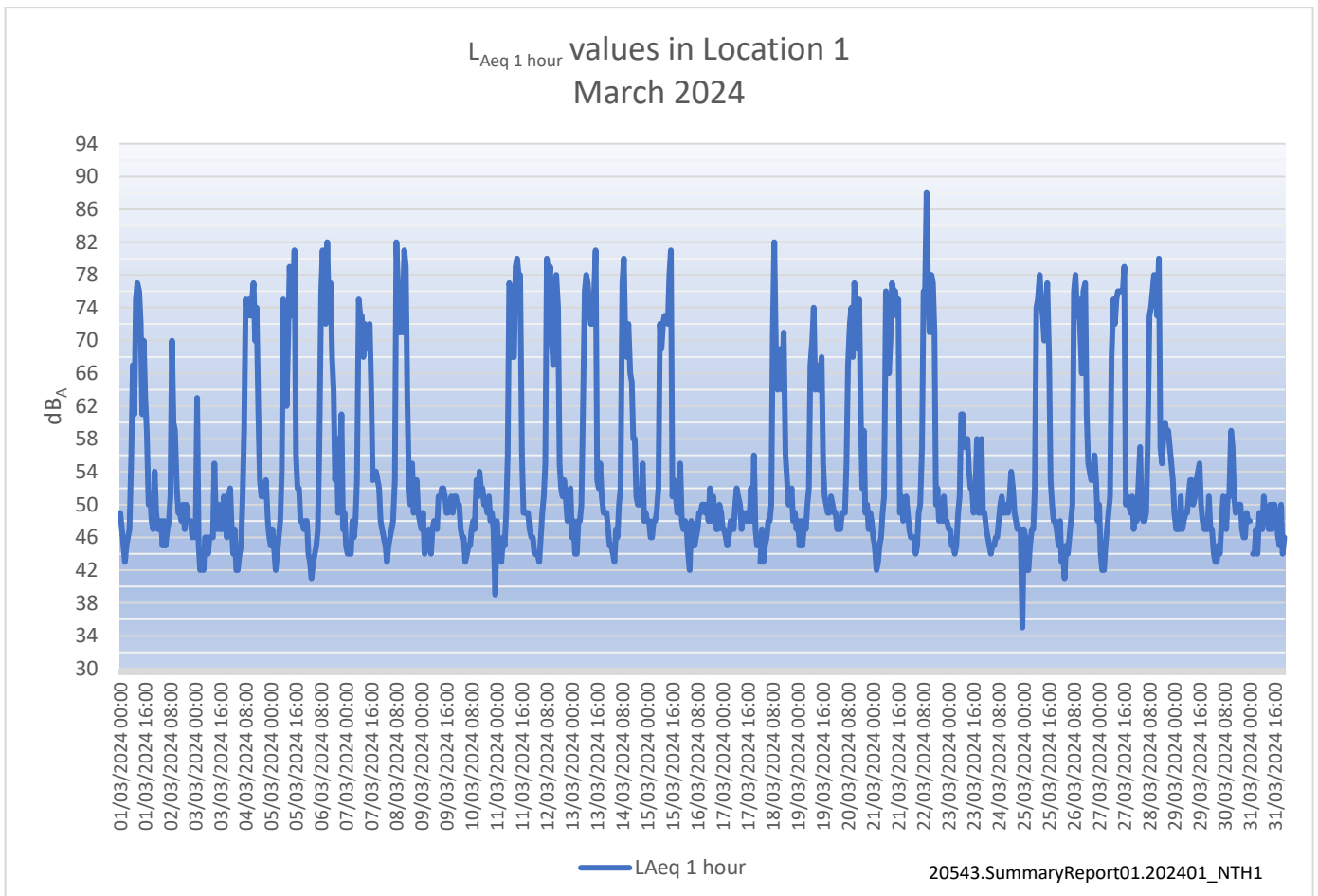
	Receiver of Alert	Trigger level and integration period
RED	Steven.Gillam@erith.com	190 ug/m3 1hour

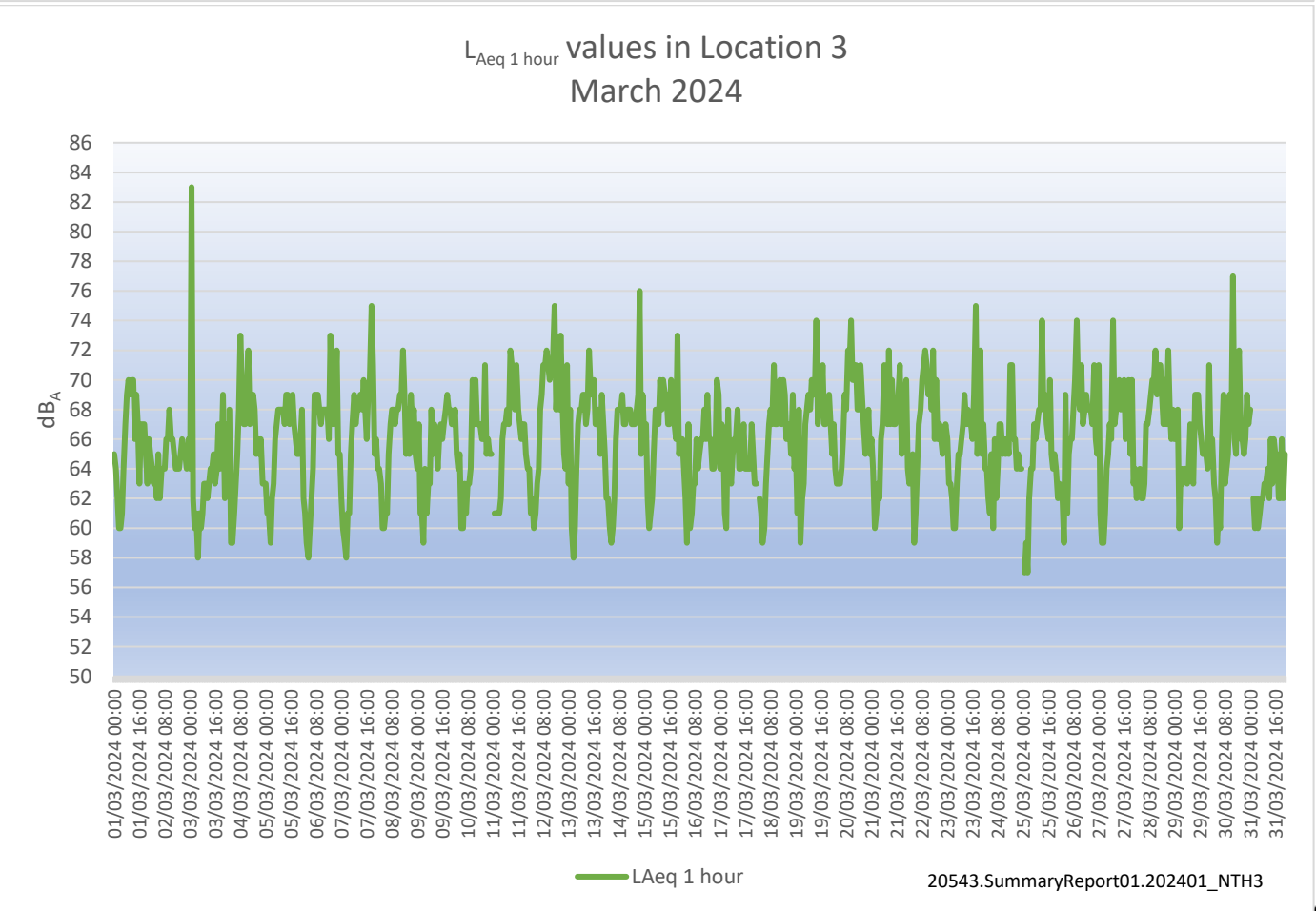
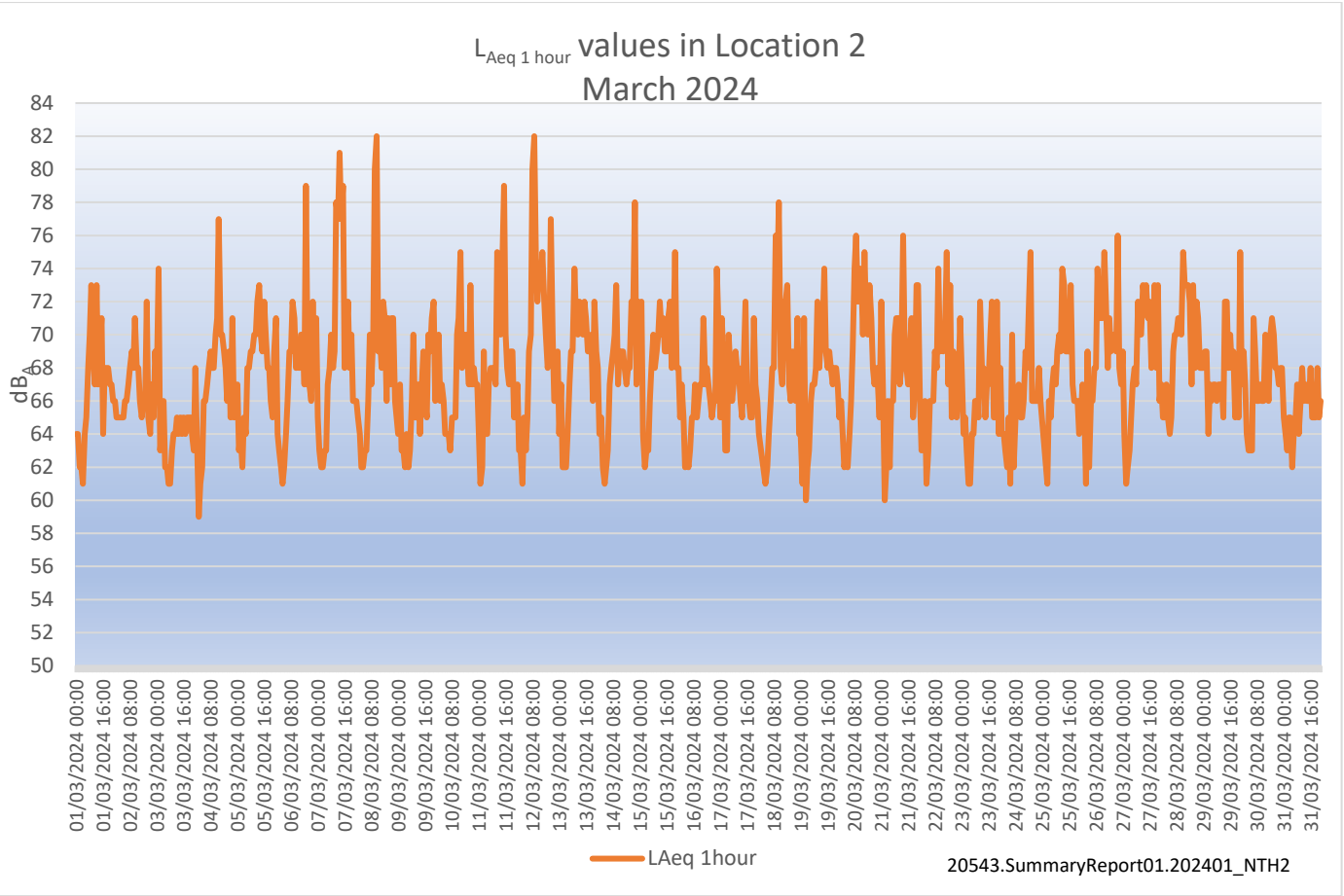
**Monitoring Results:**

Noise Survey

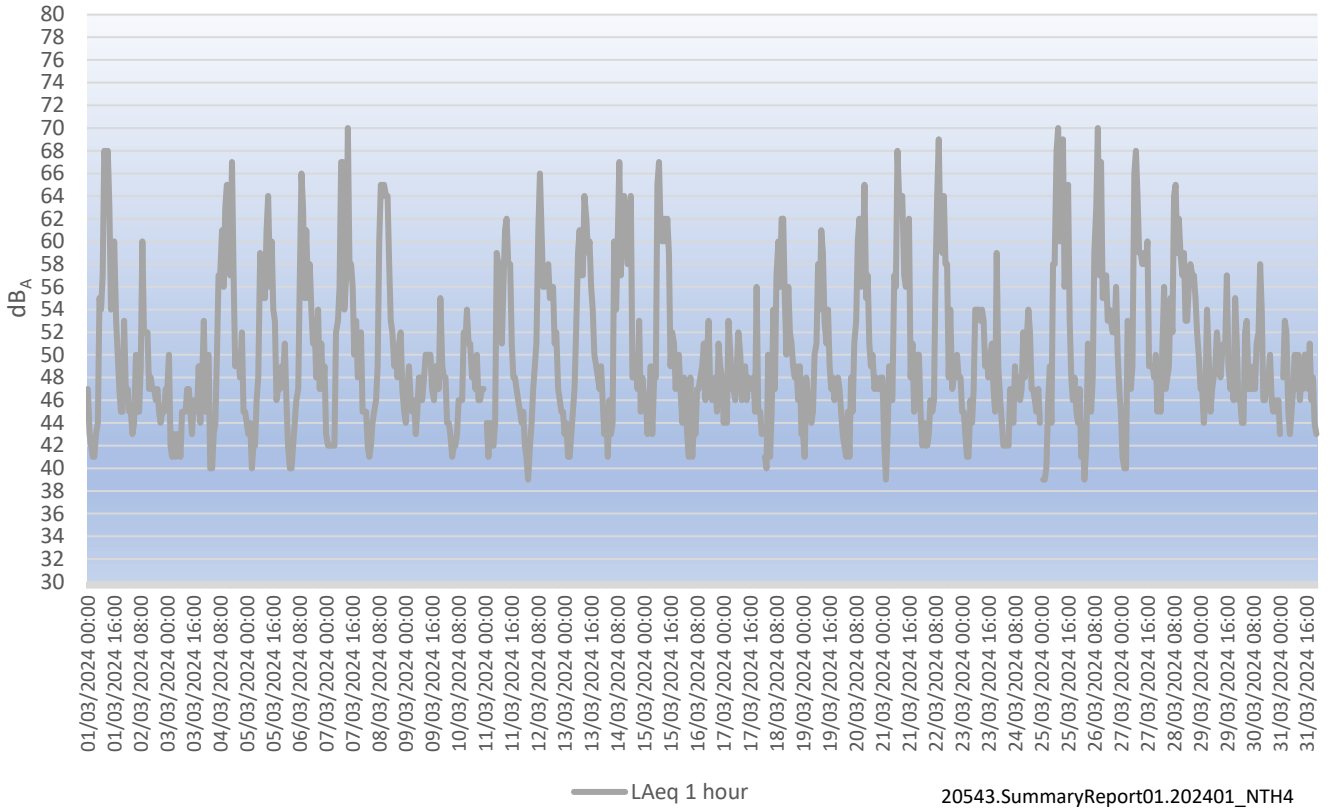
Noise monitoring results for the period between 01 March 202 and 31 March 2024 have been present in Figures: 20543.SummaryReport202403.YYYYMM\_NTHx where YYYYMM represents year and month of the monitoring period while 'x' – monitoring location.

Monitoring results have been also compared against agreed criteria of maximum daily allowed level of  $L_{Aeq\ 10h\ 08:00 - 18:00}$  Monday – Friday and  $L_{Aeq\ 5h\ 09:00 - 14:00}$  on Saturday. These values have been presented in graphical version below.

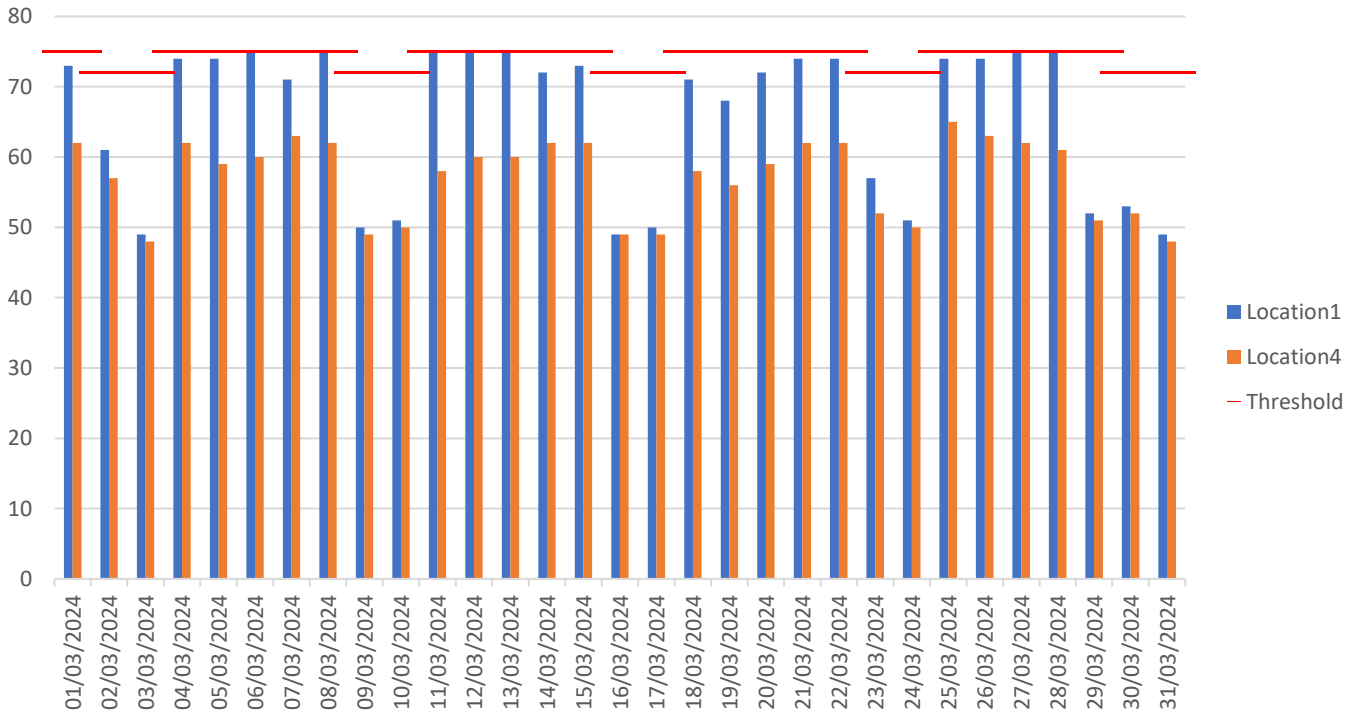


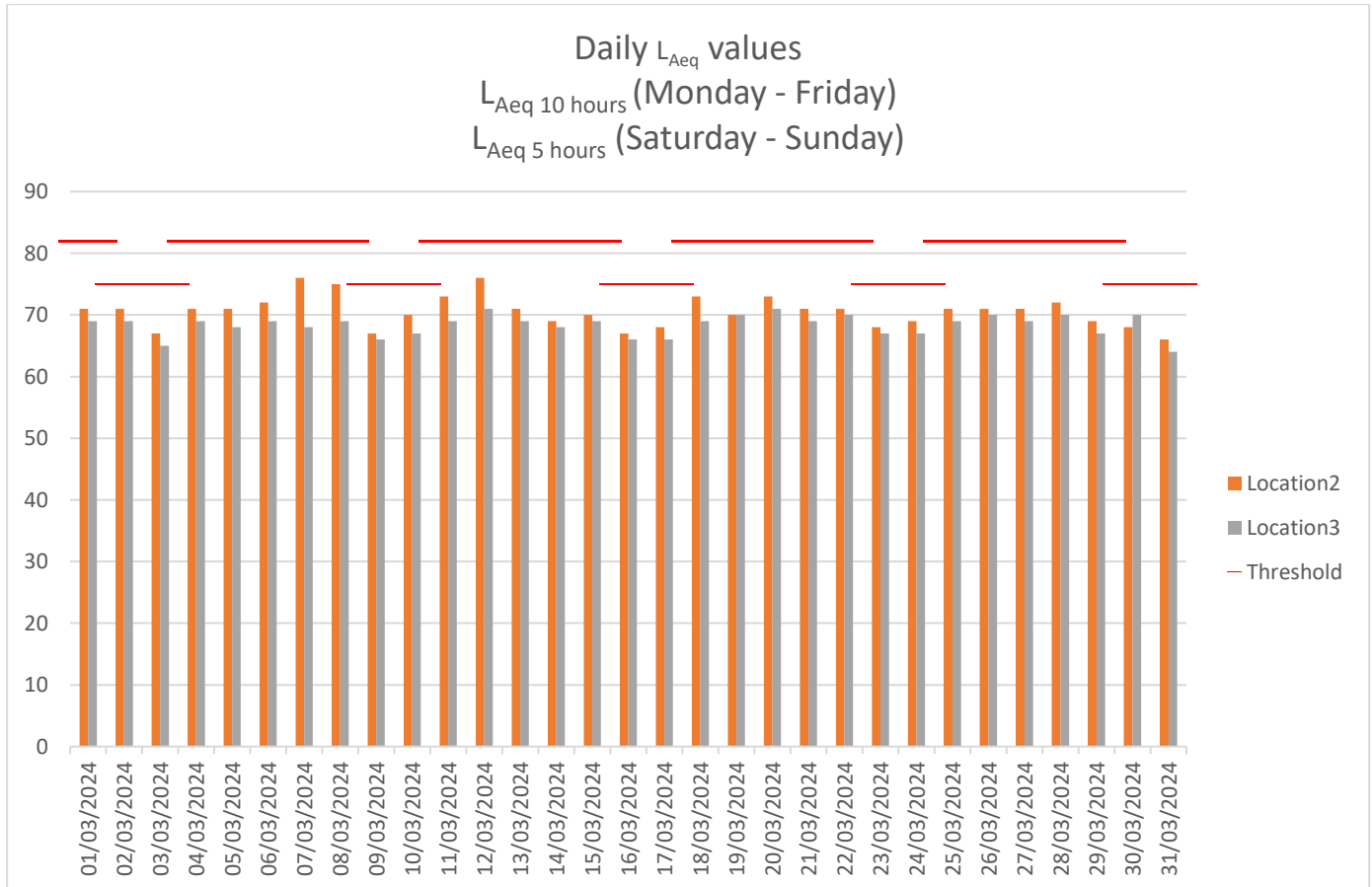


$L_{Aeq}$  1 hour values in Location 4  
March 2024



Daily  $L_{Aeq}$  values  
 $L_{Aeq}$  10 hours (Monday - Friday)  
 $L_{Aeq}$  5 hours (Saturday - Sunday)





It is expected that some attenuation of the construction noise will be provided due to the distance to closest sensitive receptors. The actual value will differ depending on location of noise source and the receiver. As the monitoring stations are located at the site boundary the difference between the level recorded at the monitoring station and the level at the façade of the receiver will also depend on the distance between the source and the monitoring station.

The noise levels from the point source reduce by 6dB by doubling the distance as per equation:

$$Lp_{R2} = Lp_{R1} - 20 \cdot \text{Log}_{10} \left( \frac{R2}{R1} \right)$$

The distance between monitoring station in Location 1 and closest sensitive receiver's façade is at least 10m while the distance between the source and the monitoring station is approx. 10m.

The distance in Location 2 and Location 3 is approx. 20 m. from the monitoring station and the receiver.

Table 1 presents the calculated attenuation of sound due to the distance between microphone (monitoring location) and receiver with consideration of the distance separating the sound source and the monitoring location.



Distance source to microphone	Distance in meters between monitoring location and receiver													
	5	6	7	8	9	10	12	14	16	18	20	25	30	35
Attenuation of sound due to distance														
5m	6	6.8	7.6	8.3	8.9	9.5	10.6	11.6	12.5	13.3	14	15.6	16.9	18.1
10m	3.5	4.1	4.6	5.1	5.6	6	6.8	7.6	8.3	8.9	9.5	10.9	12	13.1
15m	2.5	2.9	3.3	3.7	4.1	4.4	5.1	5.7	6.3	6.8	7.4	8.5	9.5	10.5
20m	1.9	2.3	2.6	2.9	3.2	3.5	4.1	4.6	5.1	5.6	6	7	8	8.8
25m	1.6	1.9	2.1	2.4	2.7	2.9	3.4	3.9	4.3	4.7	5.1	6	6.8	7.6
30m	1.3	1.6	1.8	2.1	2.3	2.5	2.9	3.3	3.7	4.1	4.4	5.3	6	6.7
35m	1.2	1.4	1.6	1.8	2	2.2	2.6	2.9	3.3	3.6	3.9	4.7	5.4	6

Table 1 The relation of sound reduction to distance of the source and receiver towards monitoring position

The highlighted columns represent the specific site worst case scenario where receivers are around 10m and 20m away from the site.

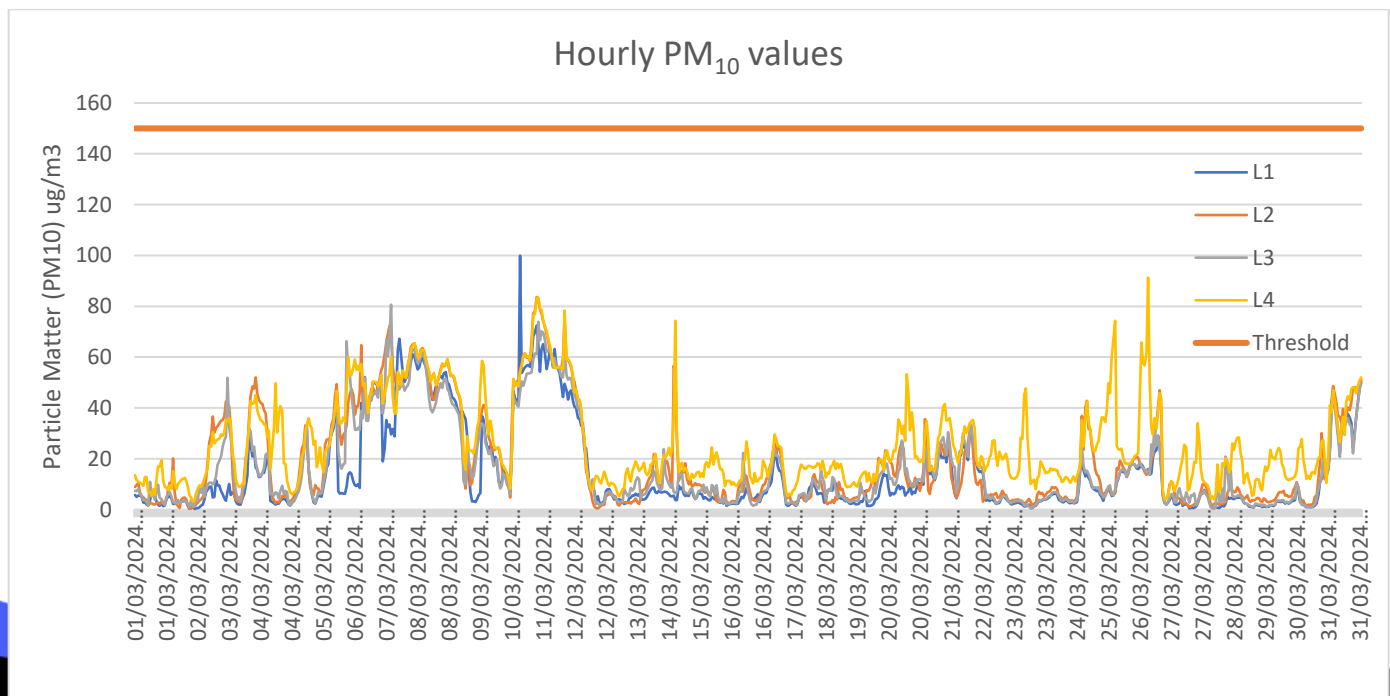
### Dust Survey

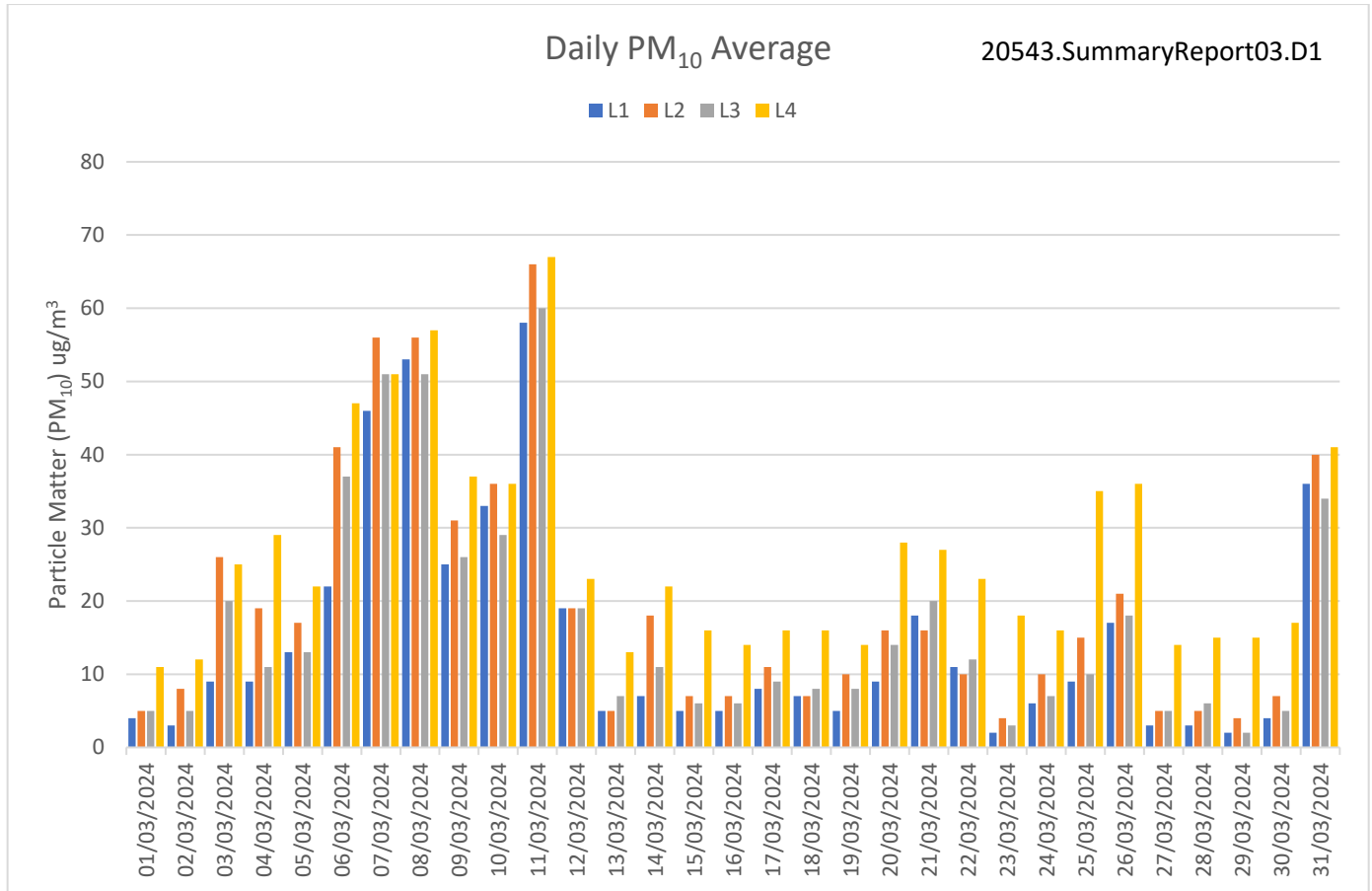
Dust monitoring summary results for the period between 01 March 202 and 31 March 2024 have been presented in Figures:

- 20543.SummaryReport202403.D\_YYYYMM\_hourly with summary 1 hour averages, where MMM represents the year and MM month of the reporting data.
- 20543.SummaryReport202403.D1\_Daily with summary 1 hour averages.

PM10 values were compared against the action threshold level of 190 ug/m<sup>3</sup> 1hour average.

Additional criterion of 150 ug/m<sup>3</sup> 15-minut average was set as a preventive pre-action trigger. No specific action is required to be undertaken on 15 min exceedances. This level has also been provided for easier comparison with other data sources.





A summary of PM10 values has been present in the table below.

Date	Max (µg/m3)				Min (µg/m3)				Average (µg/m3)				Number of Exceedance ≥ 190 µg/m3(1 Hour Mean)				Number of Exceedance ≥ 150 µg/m3(Trigger Level)				Data Capture						
	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4			
01/03/2024	7	20	11	20	1	1	2	6	4	5	5	11	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
02/03/2024	9	37	11	31	0	0	1	3	3	8	5	12	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
03/03/2024	29	48	52	43	2	3	3	9	9	26	20	25	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
04/03/2024	23	52	25	50	2	2	2	6	9	19	11	29	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
05/03/2024	30	33	33	36	2	5	3	7	13	17	13	22	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
06/03/2024	52	65	66	60	6	26	16	34	22	41	37	47	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
07/03/2024	67	72	81	63	19	46	38	38	46	56	51	51	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
08/03/2024	61	66	63	66	43	43	38	49	53	56	51	57	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
09/03/2024	44	53	42	59	3	8	10	16	25	31	26	37	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
10/03/2024	100	61	54	61	7	5	6	8	33	36	29	36	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
11/03/2024	72	84	74	84	43	55	51	55	58	66	60	67	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
12/03/2024	47	56	51	57	2	0	2	8	19	19	19	23	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
13/03/2024	7	12	13	19	2	2	3	5	5	5	7	13	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
14/03/2024	9	56	24	74	4	8	6	11	7	18	11	22	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
15/03/2024	8	12	10	25	2	3	2	9	5	7	6	16	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
16/03/2024	9	14	22	27	2	3	1	9	5	7	6	14	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
17/03/2024	22	26	24	30	1	2	2	5	8	11	9	16	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
18/03/2024	11	14	16	19	3	2	4	9	7	7	8	16	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %

Date	Max (µg/m3)				Min (µg/m3)				Average (µg/m3)				Number of Exceedance ≥ 190 µg/m3(1 Hour Mean)				Number of Exceedance ≥ 150 µg/m3(Trigger Level)				Data Capture						
	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4			
19/03/2024	14	23	18	23	1	3	3	9	5	10	8	14	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
20/03/2024	23	36	27	53	6	7	9	19	9	16	14	28	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %
21/03/2024	29	27	30	42	5	5	6	15	18	16	20	27	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
22/03/2024	31	33	33	35	2	3	2	15	11	10	12	23	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
23/03/2024	4	7	4	48	1	2	1	8	2	4	3	18	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
24/03/2024	20	40	25	37	2	3	3	11	6	10	7	16	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
25/03/2024	15	43	16	74	3	5	5	18	9	15	10	35	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
26/03/2024	29	47	34	91	3	4	3	4	17	21	18	36	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
27/03/2024	8	11	8	34	0	1	2	4	3	5	5	14	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
28/03/2024	6	9	21	28	1	2	0	4	3	5	6	15	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
29/03/2024	4	7	4	24	1	3	1	6	2	4	2	15	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
30/03/2024	19	30	20	28	1	2	1	12	4	7	5	17	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
31/03/2024	100	84	81	91	12	12	13	11	36	40	34	41	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	

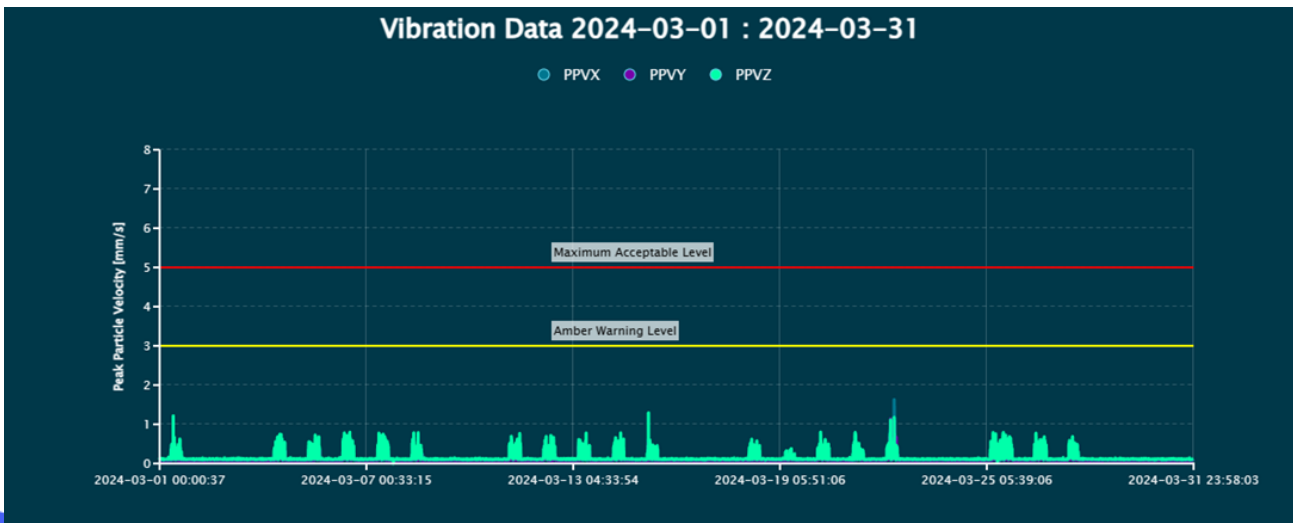
## Vibration Survey

Vibration monitors have been installed in 3 locations as per site plan below.



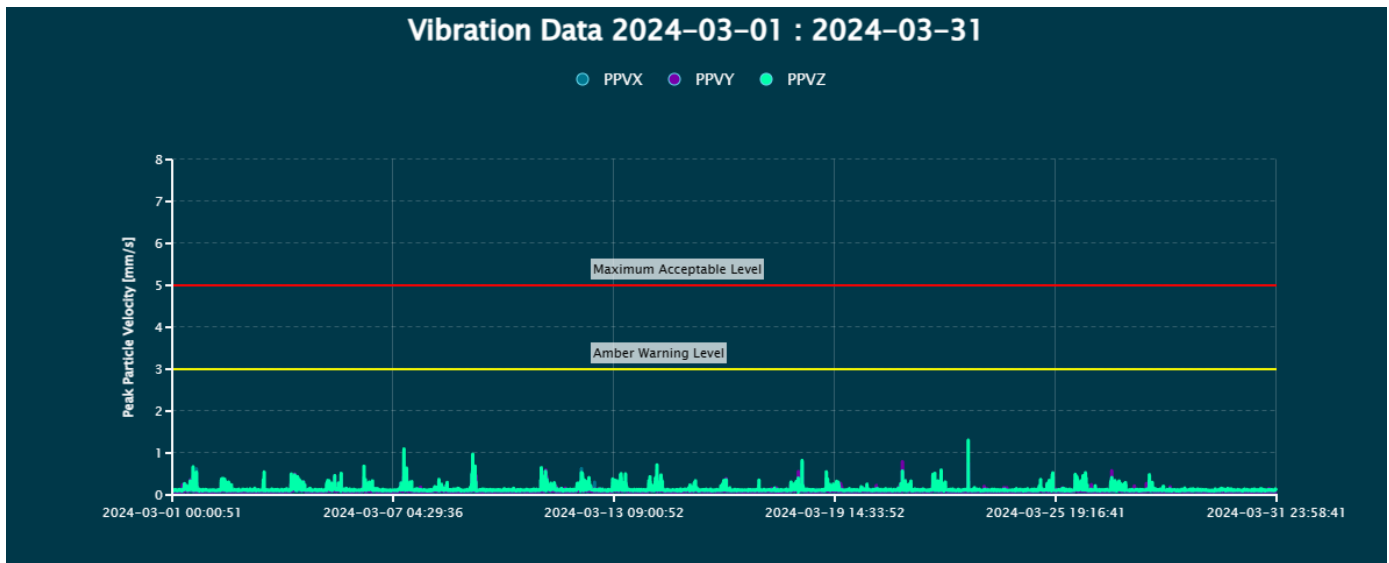
Data collected during the period were presented in the following graphs:

### Location 1

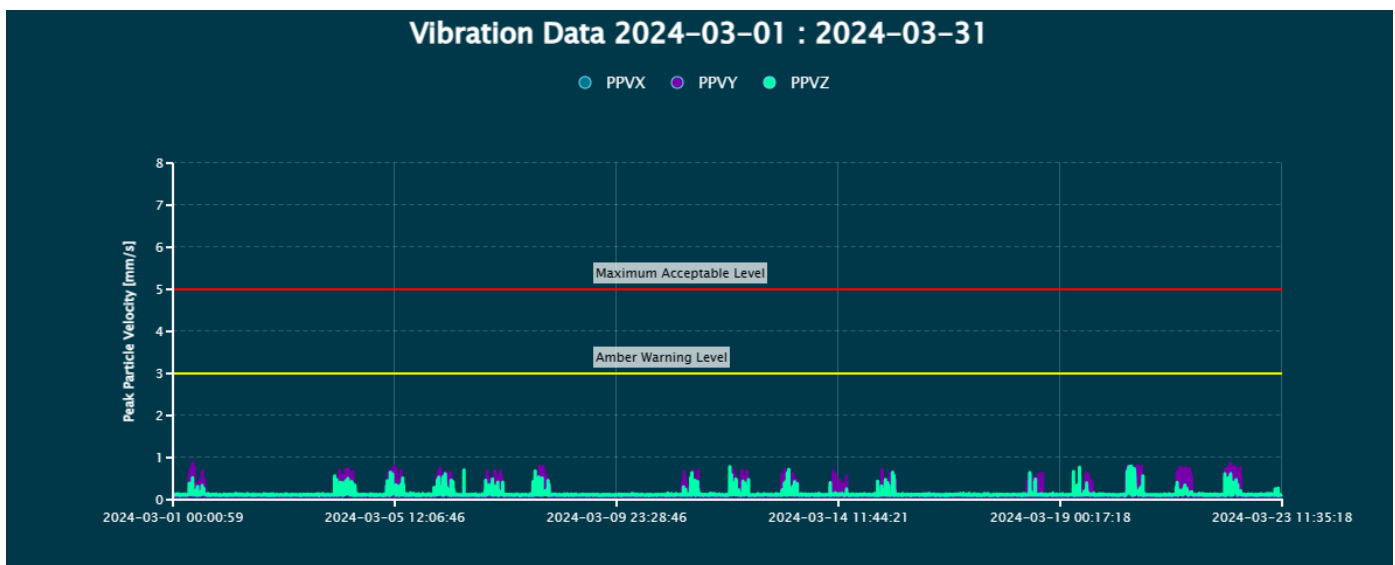




Location 2



Location 3



List of alerts and actions undertaken.

**Noise Red Trigger**

No exceedances recorded.

**Vibration Red Trigger**

No exceedances recorded.

**Dust Action Level**

No exceedances recorded.

