

Project

Maggie's Royal Free Hospital - Baseline
Monitoring Report

Prepared for

Sir Robert McAlpine

By

Rob Torlasco

Published

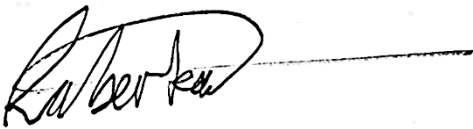
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Summary

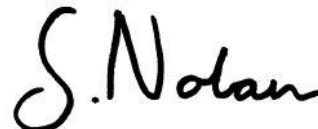
SRL Technical Services Limited has installed automatic monitors to measure noise and vibration levels at Maggie's Royal Free hospital to gather baseline data, prior to the long-term monitoring due to commence in April. This report covers the period 04/12/2020 – 13/12/2020.

All data logged has been assessed against the criteria outlined in the "*Quote Request for Environmental Monitoring Services – Maggie's*". To obtain the $L_{Aeq(T)}$ figures required for the periodic assessment a logarithmic average of relevant noise levels was conducted. The maximum 1-minute reading is presented as the hourly figure for vibration over the survey period. In the case of vibration, exceedances of the 1mm/s threshold detailed have been highlighted in red.



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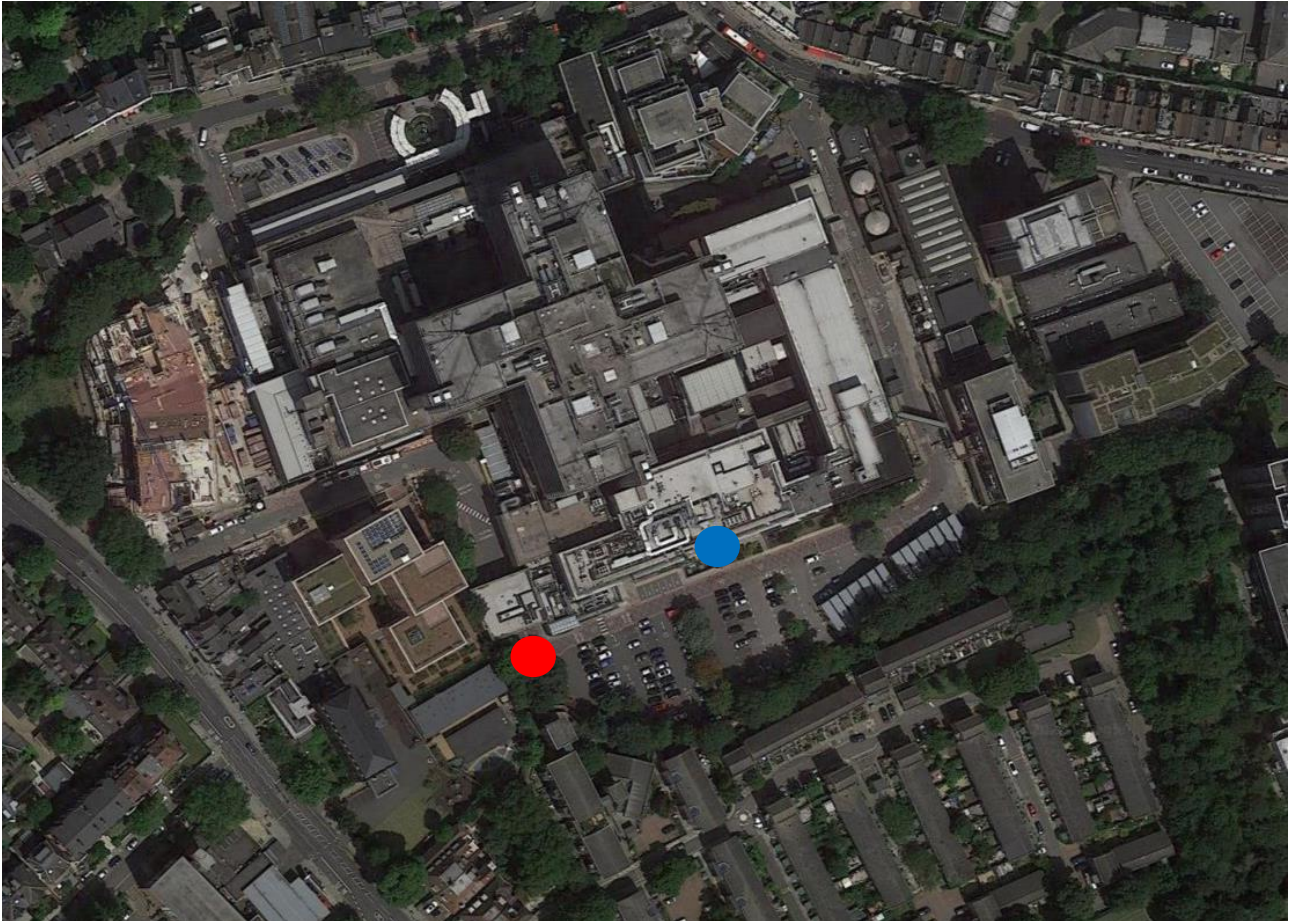
Contents

Summary.....	3
Monitoring Location.....	5
Noise Monitoring Results – North West Car Park – External.....	6
Vibration Monitoring Results – North West Car Park – External.....	8
Vibration Monitoring Results – Water Plant Room – Basement.....	9
Appendix A - Survey Details.....	10
Appendix B - Parameter Definitions.....	11

Monitoring Location

The automatic noise and vibration monitors were located at the following positions.

1.1 Plan view of site and the monitor positions



- North West Car Park - **RED**
 - Noise – Nor-I40 (s/n – 3772103)
 - Vibration – XV-2P (s/n – 00370023)
- Water Plant Room – Basement - **BLUE**
 - Vibration – Vibra+ (s/n – VIB03510)

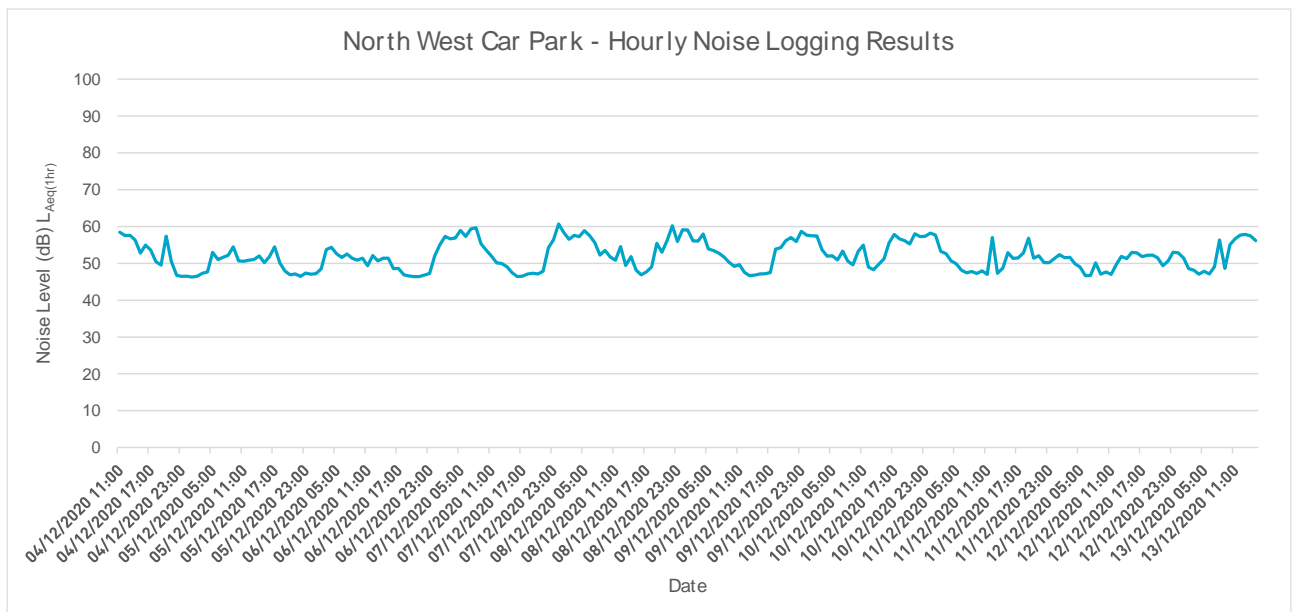


Noise Monitoring Results – North West Car Park – External

2.1 Hourly Results

North West Car Park - Hourly Noise Results - dB L _{Aeq(1hr)}										
	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	04/12/2020	05/12/2020	06/12/2020	07/12/2020	08/12/2020	09/12/2020	10/12/2020	11/12/2020	12/12/2020	13/12/2020
00:00 - 00:59	-	46	47	47	56	56	59	57	50	53
01:00 - 01:59	-	47	47	52	61	59	58	58	51	53
02:00 - 02:59	-	46	47	55	58	59	58	58	52	51
03:00 - 03:59	-	47	49	57	57	56	57	53	52	49
04:00 - 04:59	-	47	54	57	58	56	54	53	52	48
05:00 - 05:59	-	48	54	57	57	58	52	51	50	47
06:00 - 06:59	-	53	53	59	59	54	52	50	49	48
07:00 - 07:59	-	51	52	57	57	53	51	48	47	47
08:00 - 08:59	-	52	53	59	56	53	53	47	47	49
09:00 - 09:59	-	52	51	60	52	52	51	48	50	56
10:00 - 10:59	-	54	51	55	53	50	50	47	47	49
11:00 - 11:59	-	51	51	53	52	49	53	48	48	55
12:00 - 12:59	58	51	49	52	51	50	55	47	47	57
13:00 - 13:59	58	51	52	50	55	48	49	57	50	58
14:00 - 14:59	58	51	51	50	49	47	48	47	52	58
15:00 - 15:59	56	52	51	49	52	47	50	49	51	57
16:00 - 16:59	53	50	51	47	48	47	51	53	53	56
17:00 - 17:59	55	52	49	46	47	47	56	51	53	-
18:00 - 18:59	54	54	49	47	48	47	58	51	52	-
19:00 - 19:59	50	50	47	47	49	54	57	53	52	-
20:00 - 20:59	50	48	47	47	55	54	56	57	52	-
21:00 - 21:59	57	47	46	47	53	56	55	51	52	-
22:00 - 22:59	51	47	46	48	56	57	58	52	49	-
23:00 - 23:59	47	46	47	54	60	56	57	50	51	-

2.2 Hourly Noise Results Graph



2.3 Noise Results Per Period

North West Car Park - Noise Results Per Period - dB L _{Aeq(T)}										
	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	04/12/2020	05/12/2020	06/12/2020	07/12/2020	08/12/2020	09/12/2020	10/12/2020	11/12/2020	12/12/2020	13/12/2020
08:00 - 17:59	-	-	-	53	51	49	53	51	-	-
18:00 - 23:59	52	48	47	52	56	56	57	53	52	-
00:00 - 07:59	-	50	52	57	58	57	55	54	50	50
08:00 - 12:59	-	52	51	-	-	-	-	-	49	56
13:00 - 17:59	-	52	50	-	-	-	-	-	52	-

2.4 Average Noise Results Over Survey

North West Car Park - Average Noise Results Over Survey - dB L _{Aeq(T)}			
	Weekdays	Saturday	Sunday
08:00 - 17:59	52	-	-
18:00 - 23:59	55	50	47
00:00 - 07:59	56	50	51
08:00 - 12:59	-	51	54
13:00 - 17:59	-	52	50



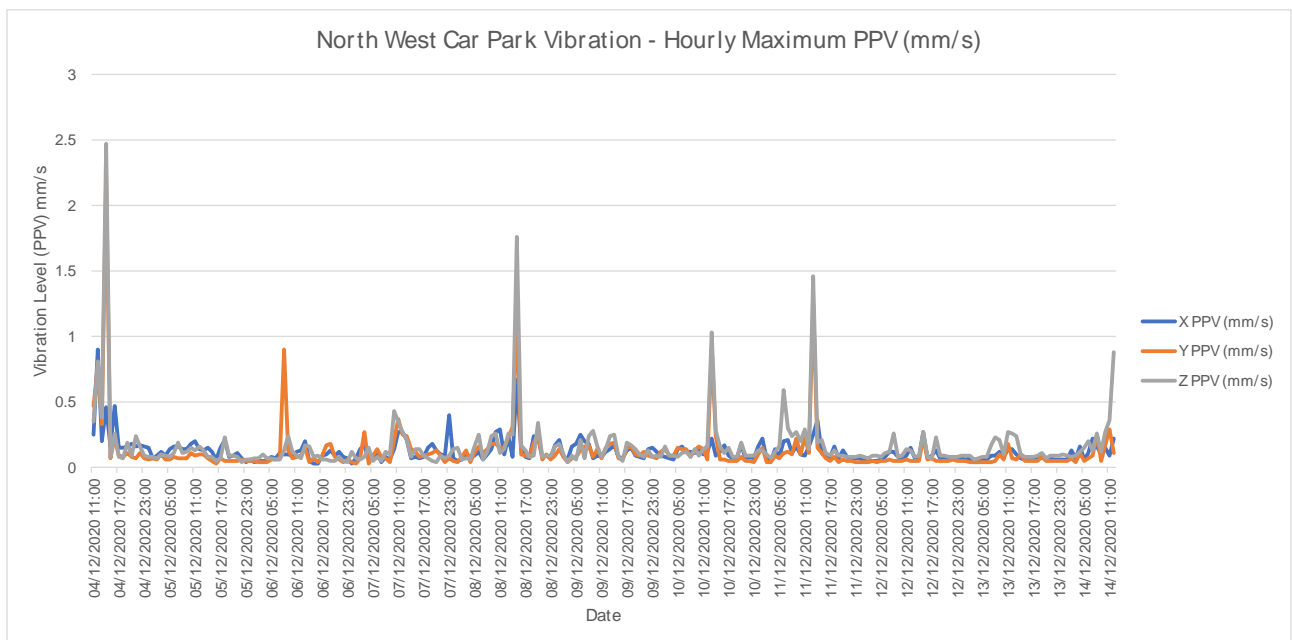
Vibration Monitoring Results – North West Car Park – External

As specified in the assessment criteria, all hourly results in which vibration levels exceeded 1 mm/s in this survey are highlighted in red.

3.1 Hourly Vibration Results Table

North West Car Park Vibration - Hourly Maximum PPV (mm/s)												
	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	
	04/12/2020	05/12/2020	06/12/2020	07/12/2020	08/12/2020	09/12/2020	10/12/2020	11/12/2020	12/12/2020	13/12/2020	14/12/2020	
00:00 - 00:59	-	0.15	0.06	0.12	0.14	0.17	0.12	0.16	0.09	0.09	0.1	
01:00 - 01:59	-	0.08	0.07	0.07	0.15	0.21	0.12	0.22	0.08	0.09	0.09	
02:00 - 02:59	-	0.09	0.07	0.14	0.08	0.1	0.16	0.1	0.07	0.09	0.13	
03:00 - 03:59	-	0.12	0.1	0.27	0.13	0.06	0.09	0.07	0.09	0.06	0.09	
04:00 - 04:59	-	0.09	0.07	0.15	0.08	0.16	0.09	0.14	0.09	0.07	0.16	
05:00 - 05:59	-	0.14	0.08	0.09	0.16	0.18	0.15	0.16	0.08	0.08	0.15	
06:00 - 06:59	-	0.16	0.07	0.14	0.25	0.25	0.16	0.59	0.11	0.08	0.2	
07:00 - 07:59	-	0.19	0.11	0.08	0.11	0.2	0.14	0.3	0.12	0.17	0.22	
08:00 - 08:59	-	0.14	0.9	0.12	0.14	0.24	0.12	0.24	0.26	0.23	0.26	
09:00 - 09:59	-	0.14	0.24	0.1	0.24	0.28	0.14	0.27	0.08	0.21	0.12	
10:00 - 10:59	-	0.18	0.12	0.43	0.27	0.16	0.16	0.2	0.09	0.1	0.27	
11:00 - 11:59	0.47	0.2	0.12	0.37	0.29	0.08	0.14	0.29	0.14	0.27	0.36	
12:00 - 12:59	0.9	0.16	0.13	0.27	0.15	0.15	0.16	0.16	0.15	0.26	0.88	
13:00 - 13:59	0.38	0.13	0.2	0.24	0.26	0.24	1.03	1.46	0.08	0.24	-	
14:00 - 14:59	2.47	0.15	0.16	0.14	0.31	0.25	0.28	0.36	0.09	0.1	-	
15:00 - 15:59	0.16	0.12	0.08	0.14	1.76	0.08	0.16	0.21	0.27	0.08	-	
16:00 - 16:59	0.47	0.06	0.09	0.14	0.17	0.07	0.17	0.11	0.08	0.08	-	
17:00 - 17:59	0.15	0.15	0.09	0.09	0.13	0.19	0.15	0.09	0.09	0.08	-	
18:00 - 18:59	0.15	0.23	0.17	0.15	0.08	0.17	0.08	0.16	0.23	0.09	-	
19:00 - 19:59	0.19	0.09	0.18	0.18	0.24	0.14	0.08	0.09	0.09	0.11	-	
20:00 - 20:59	0.18	0.09	0.09	0.13	0.34	0.1	0.19	0.13	0.09	0.07	-	
21:00 - 21:59	0.24	0.11	0.12	0.1	0.08	0.12	0.09	0.08	0.08	0.09	-	
22:00 - 22:59	0.17	0.07	0.08	0.09	0.1	0.14	0.09	0.08	0.08	0.09	-	
23:00 - 23:59	0.16	0.06	0.07	0.4	0.09	0.15	0.09	0.08	0.08	0.09	-	

3.2 Vibration Results Graph



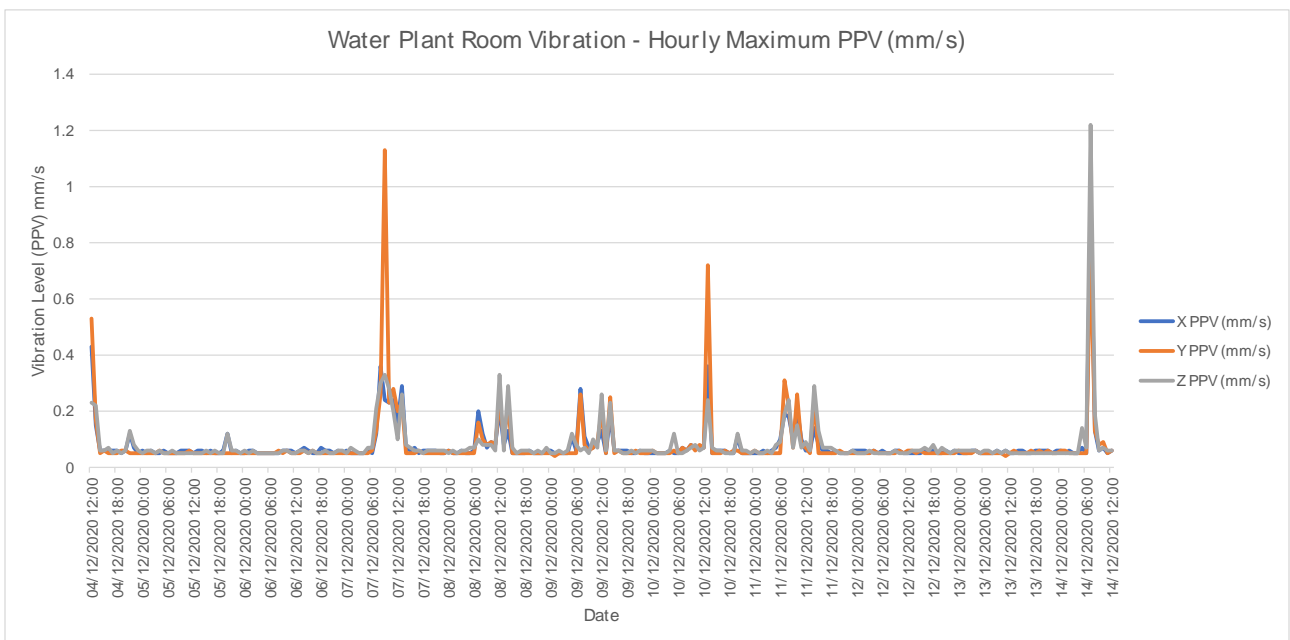
Vibration Monitoring Results – Water Plant Room – Basement

As specified in the assessment criteria, all hourly results in which vibration levels exceeded 1 mm/s in this survey are highlighted in red.

4.1 Hourly Vibration Results Table

Water Plant Room Vibration - Hourly Maximum PPV (mm/s)											
	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
	04/12/2020	05/12/2020	06/12/2020	07/12/2020	08/12/2020	09/12/2020	10/12/2020	11/12/2020	12/12/2020	13/12/2020	14/12/2020
00:00 - 00:59	-	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
01:00 - 01:59	-	0.06	0.06	0.07	0.06	0.05	0.05	0.05	0.06	0.06	0.06
02:00 - 02:59	-	0.06	0.06	0.06	0.05	0.06	0.05	0.06	0.06	0.06	0.06
03:00 - 03:59	-	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.06	0.06	0.05
04:00 - 04:59	-	0.06	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.05
05:00 - 05:59	-	0.06	0.05	0.07	0.07	0.12	0.12	0.08	0.05	0.05	0.14
06:00 - 06:59	-	0.05	0.05	0.07	0.07	0.08	0.05	0.1	0.06	0.06	0.07
07:00 - 07:59	-	0.06	0.05	0.21	0.2	0.28	0.07	0.31	0.05	0.06	1.22
08:00 - 08:59	-	0.05	0.06	0.36	0.12	0.11	0.06	0.24	0.05	0.05	0.19
09:00 - 09:59	-	0.06	0.06	1.13	0.08	0.07	0.08	0.1	0.06	0.06	0.08
10:00 - 10:59	-	0.06	0.06	0.28	0.09	0.1	0.08	0.26	0.06	0.05	0.09
11:00 - 11:59	-	0.06	0.06	0.28	0.08	0.09	0.08	0.1	0.05	0.06	0.06
12:00 - 12:59	0.53	0.05	0.05	0.2	0.33	0.26	0.07	0.09	0.06	0.05	0.06
13:00 - 13:59	0.22	0.06	0.06	0.29	0.1	0.06	0.72	0.06	0.06	0.06	-
14:00 - 14:59	0.06	0.06	0.07	0.08	0.29	0.25	0.07	0.29	0.06	0.06	-
15:00 - 15:59	0.06	0.06	0.06	0.07	0.07	0.06	0.06	0.13	0.06	0.06	-
16:00 - 16:59	0.07	0.06	0.06	0.07	0.05	0.06	0.06	0.07	0.07	0.05	-
17:00 - 17:59	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.07	0.06	0.06	-
18:00 - 18:59	0.06	0.05	0.07	0.06	0.06	0.06	0.05	0.07	0.08	0.06	-
19:00 - 19:59	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.06	-
20:00 - 20:59	0.06	0.12	0.06	0.06	0.05	0.06	0.12	0.06	0.07	0.06	-
21:00 - 21:59	0.13	0.06	0.05	0.06	0.06	0.06	0.06	0.05	0.06	0.06	-
22:00 - 22:59	0.08	0.06	0.06	0.06	0.05	0.06	0.06	0.05	0.05	0.05	-
23:00 - 23:59	0.06	0.05	0.06	0.06	0.07	0.06	0.05	0.06	0.06	0.06	-

4.2 Vibration Results Graph



Appendix A - Survey Details

A1. Location of Survey

Royal Free Hospital, Rowland Hill St, Hampstead, London NW3 2PF

A2. Date & Time of Survey

04/12/2020 (11:00) to 14/12/2020 (12:59)

A3. Personnel Present During Survey

- Unmanned

A4. Instrumentation

- North West Car Park
 - Noise – Nor-140 (s/n – 3772103)
 - Vibration – XV-2P (s/n – 00370023)
- Water Plant Room – Basement
 - Vibration – Vibra+ (s/n – VIB03510)

A5. Survey Procedure

- A continuous noise monitoring system was set up to log noise in 1-minute integration periods. The measured data was then processed to obtain the $L_{Aeq(T)}$ over the required time periods.
- A continuous vibration monitoring system was set up to log vibration in 1-minute integration periods. The measured data was then processed to obtain the 1-hour PPV in mm/s over the required time periods.



Appendix B - Parameter Definitions

B1. $L_{Aeq(T)}$

The equivalent continuous “A-weighted” sound level. This may be thought of as the "average" sound level over a given time T. It is used for assessing noise from various sources: industrial and commercial premises, construction sites, railways and other intermittent noises.

B2. PPV mm/s

Ground vibration is measured in PPV (Peak Particle Velocity) in mm/s.

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