

Nepean Hospital Stage 2 Main Works

Noise and Vibration Monitoring Report 3

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Document Title	Noise and Vibration Monitoring Report 3
Attention To	CPB Contractors Pty Limited

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1 INTRODUCTION

This report presents the results of noise and vibration monitoring conducted by Acoustic Logic for the Nepean Hospital Stage 2 Main Works project site. Details presented in this report include monitoring locations, relevant noise and vibration objectives, measured levels over the monitoring period and discussion of results.

This report presents the monitoring results for the period between 10/02/2024 and 24/02/2024 for noise and vibration. Monitoring has been ongoing since 11th January 2023.

We note general demolition works were carried out over this monitoring period.

This report should be read in conjunction with the Construction Noise and Vibration Management Sub Plan prepared by this office (ref: 20230373.3/2908A/R3/VF, dated 29/08/2023)

2 MONITORING LOCATIONS AND DESCRIPTION

2.1 MONITORING EQUIPMENT

Noise

Noise monitoring was conducted using Acoustic Research Laboratories Rion NL-42 noise monitors. Monitors are programmed to continuously store noise data over every 15-minute period throughout the monitoring period. The monitor was calibrated before and after the measurements using a Rion Type NC-74 calibrator. No significant drift was recorded.

Vibration

Vibration monitoring was conducted using Texcel ETM vibration monitors fitted with external Tri-axial Geophones. The monitors are programmed to store statistical vibration data over every 5-minute period, along with any 'triggered' events that occur throughout the monitoring period. Texcel monitors are equipped with the ability to send SMS alarm messages to site operators and project managers.

2.2 MONITORING LOCATIONS AND ID

Acoustic Logic are currently conducting noise and vibration monitoring at surrounding internal and external locations as follows (refer to the figures below):

- Nepean Stage 1 – Level 2 waiting area near staff offices and pharmacy (internal)
 - Noise monitor ID: 01010769
 - Texcel monitor ID: ETM7381
- Tower Block 1 (TB1) – Level 3 corridor near staff offices and meeting rooms (internal)
 - Noise monitor ID:01259209
 - Texcel monitor ID: ETM7280
- Tresillian Building (external)
 - Noise monitor ID: 01010764
 - Texcel monitor ID: ETM7426

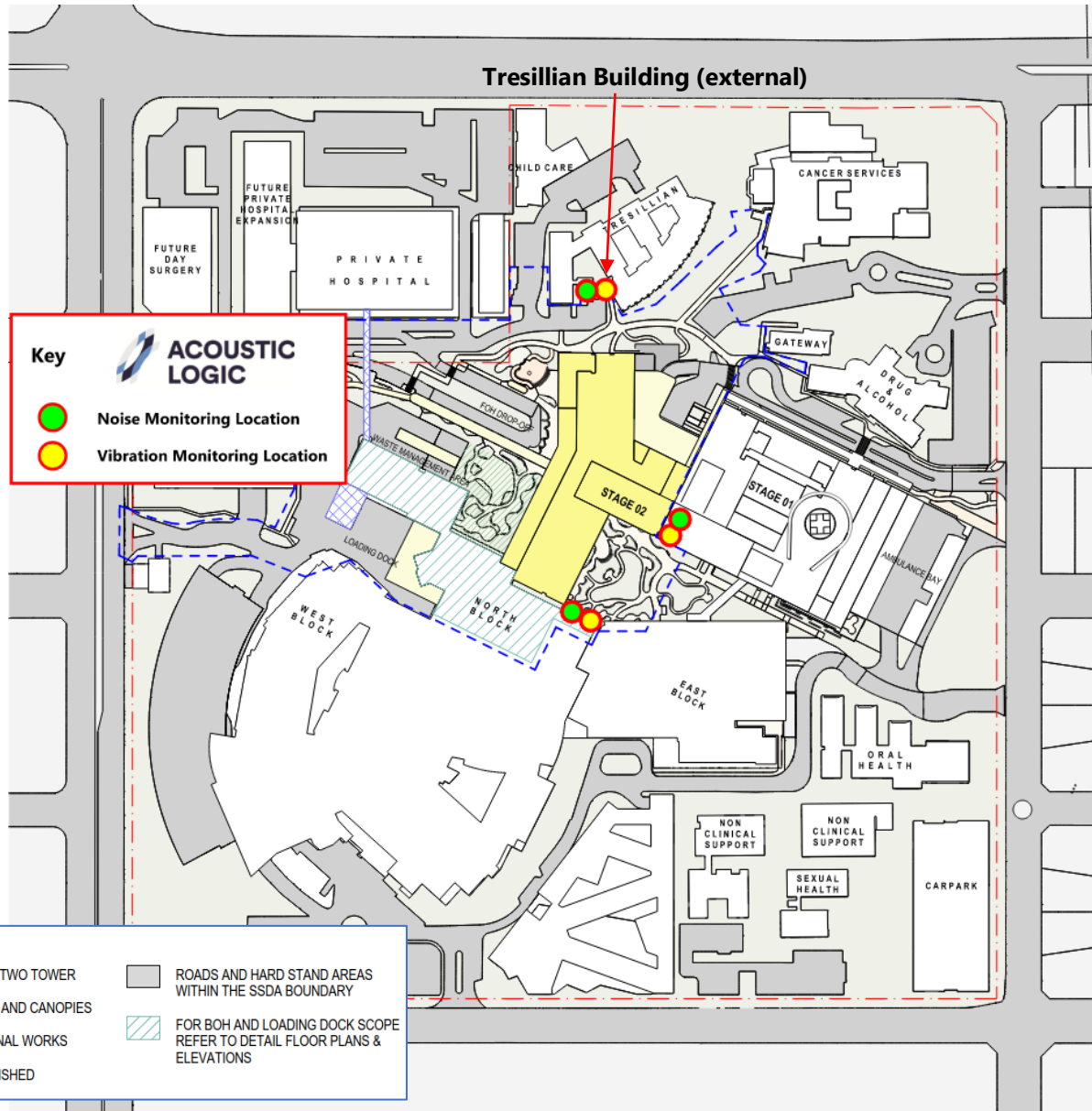


Figure 1 – Stage 2 Site Plan and Monitoring Locations (Source: BVN)

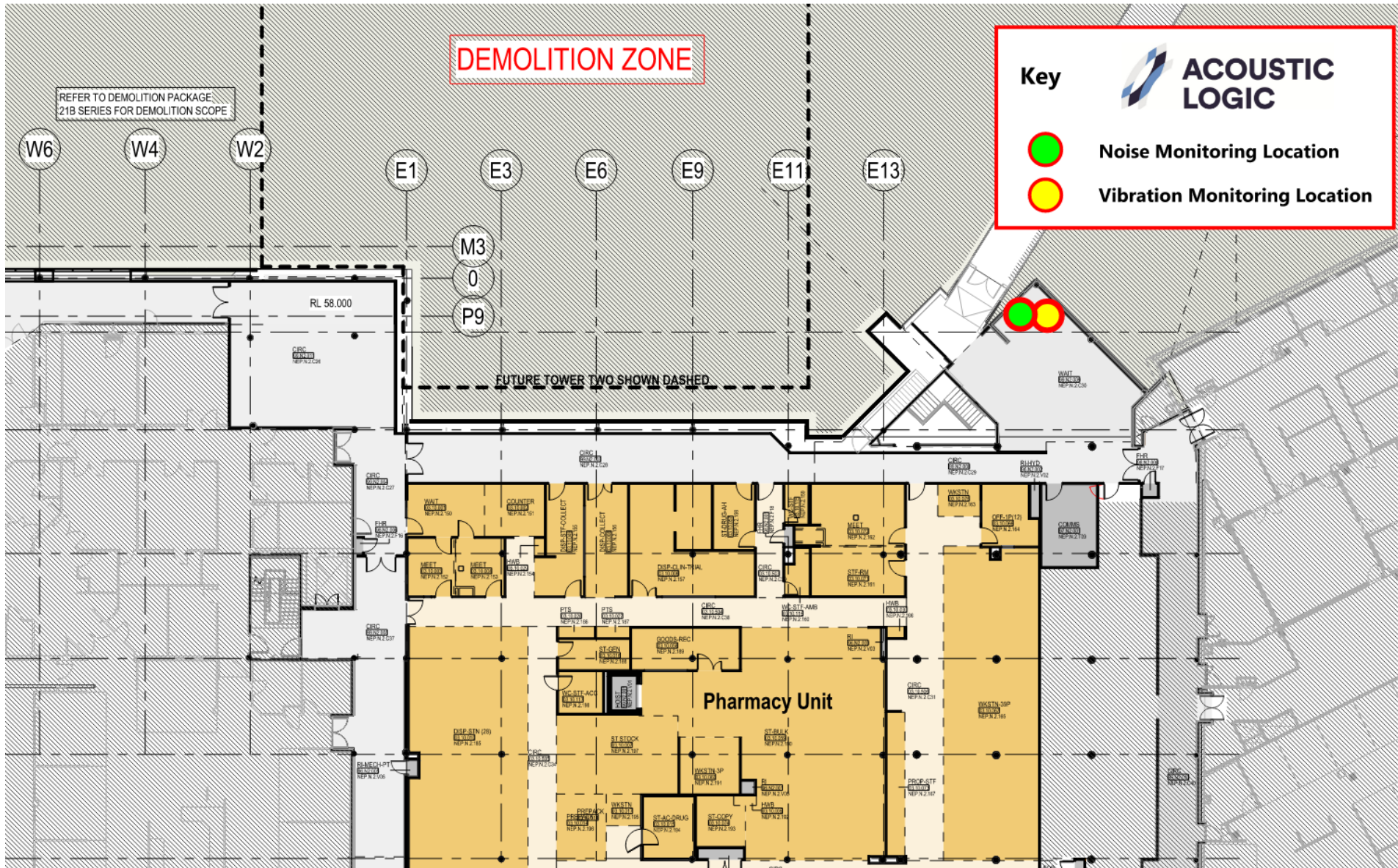


Figure 2 – Waiting Area Near Staff Offices and Pharmacy (Internal)

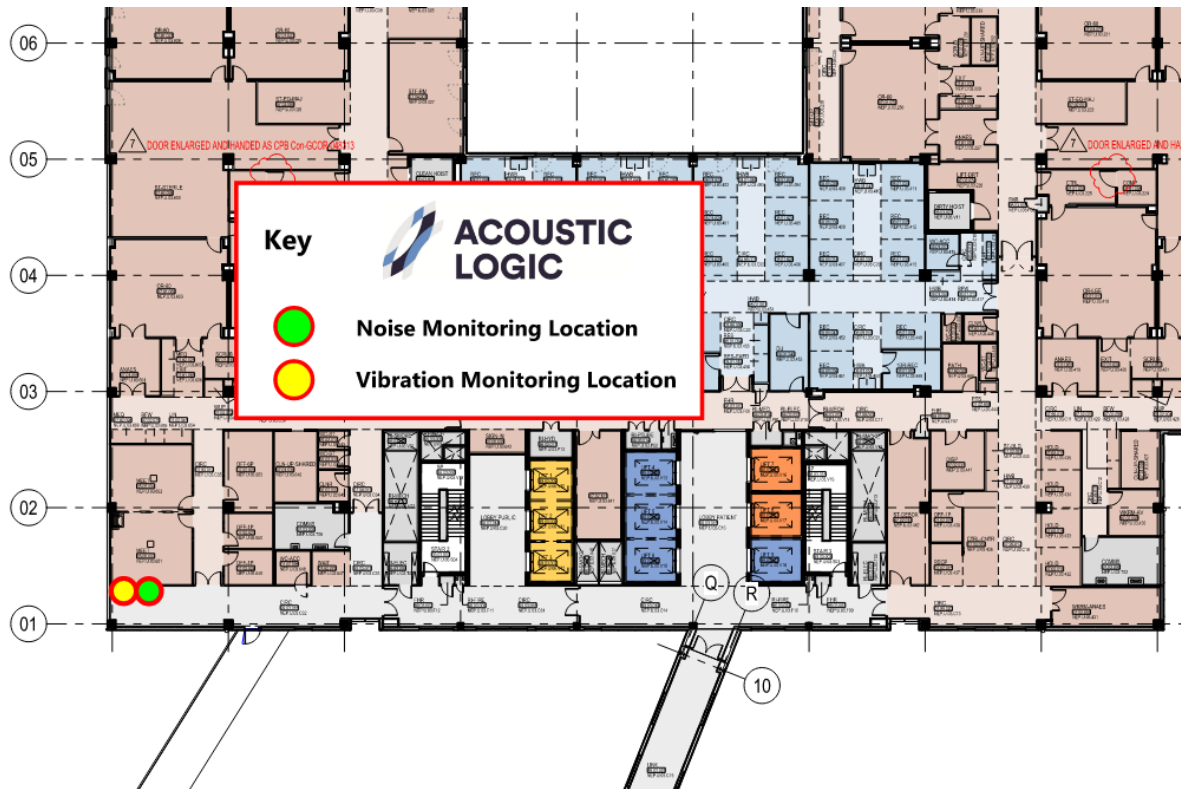


Figure 3 – TB1 Level 3 Staff Offices and Meeting Rooms (Internal)

3 NOISE AND VIBRATION OBJECTIVES

3.1 PROJECT DOCUMENTATION

Construction impacts to nearby development have been determined in the Construction Noise and Vibration Management Sub Plan prepared by this office (ref: 20230373.3/2908A/R3/VF, dated 29/08/2023)

3.2 NOISE MANAGEMENT LEVELS (NML)

The project specific NML's for the most impacted receivers are summarised from the Sub-Plan and are reproduced as follows:

Table 1 – Noise Management Levels for Most Impacted Receivers

Location/Receiver	Noise Management Level dB(A) L_{eq}
Tresillian	65 (external)
Private offices / waiting areas	50 (internal)

*Noise levels within private offices and waiting areas area expected to exceed the noise management level occasionally as they are still in use by active staff / public.

3.3 VIBRATION MANAGEMENT LEVELS

3.3.1 Structure Vibration Damage Criteria

The Type 2 criteria below will be adopted for the external Tresillian Building.

German Standard DIN 4150-3 (1992-02) provides a guideline for acceptable levels of vibration velocity in building foundations, to assess the effects of vibration on structures. The table give guidance on the maximum accepted values of velocity at the foundation and in the plane of the highest floor of various types of buildings, to prevent any structural damage.

The table below lists the peak particle velocity, which is the maximum absolute value of the velocity signals for the three orthogonal components. This is measured as a maximum value of any of the three orthogonal component particle velocities when measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

It is noted that if measured vibration levels are below the guidelines listed below, damage that will reduce the serviceability of the building will not occur and if damage to the building does occur, it is assumed that the damage is related to other activities or sources. Furthermore, the DIN4150-3 guideline states the following regarding the limits presented in Table 1 of the standard:

“Exceeding the guideline values does not necessarily lead to damage. Should they be exceeded, however, further investigations may be necessary, such as determining and evaluating the stresses as detailed in 4.3 and 4.4.”.

Table 2 - DIN 4150-3 (1999-02) Safe Limits for Building Vibration

TYPE OF STRUCTURE		PEAK PARTICLE VELOCITY (mms ⁻¹)			
		At Foundation at a Frequency of			Plane of Floor of Uppermost Storey
		< 10Hz	10Hz to 50Hz	50Hz to 100Hz	All Frequencies
1	Buildings used in commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

NOTE Even if guideline values as in line 1, columns 2 to 5, are complied with, minor damage cannot be excluded.

a At frequencies above 100 Hz, the guideline values for 100 Hz can be applied as minimum values.

b It may be necessary to lower the guideline value markedly to prevent minor damage

The Type 2 criteria above will be adopted for the external Tresillian Building.

3.3.2 Amenity Criteria

Vibration levels for the amenity of nearby land users are those recommended by the EPA document *Assessing Vibration: A technical guideline*. These levels are presented below:

Table 3 – Construction Vibration Goals - Amenity

Location	Time	Peak velocity (mm/s)	
		Preferred	Maximum
Continuous Vibration			
Residences	Daytime	0.28	0.56
Hospitals – Office Areas	When in use	0.56	1.1
Hospitals – Theatres	When in use	0.14	0.28
Impulsive Vibration			
Residences	Daytime	8.6	17
Hospitals – Office Areas	When in use	18	36
Hospitals – Theatres	When in use	0.14	0.28

It is typically accepted that:

- operating theatres and medical imaging rooms have a response factor of 1
- intensive care wards have a response factor of 2
- general hospital rooms have a response factor of 4
- offices/consulting rooms have a response factor of 8.

Hence, we will assume the waiting areas/pharmacy (PPV) and offices (PPV) vibration levels for the internal levels, derived from the UK Hospitals Guide. The working 'alert level' will be set at 85% of the 'stop work' criteria level. These criteria are valid for vibrations at frequencies above 8Hz.

Table 4 – Summarised Project Vibration Management Levels

Location	Orientation	Alert Level (mm/s)	Stop Work Level (mm/s)
Staff offices, meeting rooms (internal)	Vertical	0.95	1.1
Public waiting areas (internal)	Vertical	1.9	2.2
Tresillian Building (external)	Ground Plane	4.25	5.0

4 MEASUREMENT RESULTS

4.1 NOISE MONITORING RESULTS

The tables below present a summary of daily measured noise levels across a 15-minute period. Refer to appendices for detailed noise monitoring results.

ICNG Standard construction hours are as follows:

- Monday to Friday between 7am and 6pm
- Saturday between 8am and 1pm

Note: all presented noise levels are measured at the monitoring location with no correction factors applied.

NML = Noise Management Level

A discussion will be provided where exceedances of the highly affected noise management level occur.

Monitoring locations and monitor IDs are repeated below:

- Nepean Stage 1 – Level 2 waiting area near staff offices and pharmacy (internal)
 - Rion Noise monitor ID: 01010769
- Tower Block 1 (TB1) – Level 3 corridor near staff offices and meeting rooms (internal)
 - Rion Noise monitor ID:01259209
- Tresillian Building (external)
 - Rion Noise monitor ID: 01010764

Table 5 – Monitored Noise Levels – Level 2 Waiting Area (monitor ID: 01010769)

Date	Noise Management Trigger Level dB(A) $L_{eq,15-min}$	NML Exceedance Range ($L_{Aeq, 15-min}$ dB(A)) – Standard Operating Hours			
		<NML	0-5 above NML	5-10 above NML	10-15 Above NML
10/02/2024	50 (internal)	15.0%	70.0%	10.0%	0.0%
11/02/2024		Sunday – No Works			
12/02/2024		11.1%	77.8%	11.1%	0.0%
13/02/2024		0.0%	31.8%	61.4%	0.0%
14/02/2024		0.0%	27.3%	56.8%	9.1%
15/02/2024		0.0%	25.0%	68.2%	2.3%
16/02/2024		0.0%	31.8%	61.4%	4.5%
17/02/2024		15.0%	60.0%	10.0%	10.0%
18/02/2024		Sunday – No Works			
19/02/2024		0.0%	38.6%	47.7%	6.8%
20/02/2024		0.0%	29.5%	59.1%	6.8%
21/02/2024		0.0%	36.4%	56.8%	2.3%
22/02/2024		0.0%	29.5%	56.8%	4.5%
23/02/2024		2.3%	25.0%	52.3%	11.4%
24/02/2024		20.0%	65.0%	10.0%	0.0%

Table 6 – Monitored Noise Levels – TB1 Corridor (monitor ID:01259209)

Date	Noise Management Trigger Level dB(A) $L_{eq,15-min}$	NML Exceedance Range ($L_{Aeq, 15-min}$ dB(A)) – Standard Operating Hours			
		<NML	0-5 above NML	5-10 above NML	10-15 Above NML
10/02/2024	50 (internal)	95.0%	5.0%	0.0%	0.0%
11/02/2024		Sunday – No Works			
12/02/2024		100.0%	0.0%	0.0%	0.0%
13/02/2024		100.0%	0.0%	0.0%	0.0%
14/02/2024		100.0%	0.0%	0.0%	0.0%
15/02/2024		100.0%	0.0%	0.0%	0.0%
16/02/2024		100.0%	0.0%	0.0%	0.0%
17/02/2024		100.0%	0.0%	0.0%	0.0%
18/02/2024		Sunday – No Works			
19/02/2024		97.7%	0.0%	2.3%	0.0%
20/02/2024		100.0%	0.0%	0.0%	0.0%
21/02/2024		97.7%	2.3%	0.0%	0.0%
22/02/2024		100.0%	0.0%	0.0%	0.0%
23/02/2024		94.1%	5.9%	0.0%	0.0%
24/02/2024		No data on this date			

Table 7 – Monitored Noise Levels – Tresillian Building (monitor ID: 01010764)

Date	Noise Management Trigger Level dB(A) $L_{eq,15-min}$	NML Exceedance Range ($L_{Aeq, 15-min}$ dB(A)) – Standard Operating Hours			
		<NML	0-5 above NML	5-10 above NML	10-15 above NML
10/02/2024	65 (external)	100.0%	0.0%	0.0%	0.0%
11/02/2024		Sunday – No Works			
12/02/2024		100.0%	0.0%	0.0%	0.0%
13/02/2024		100.0%	0.0%	0.0%	0.0%
14/02/2024		86.4%	13.6%	0.0%	0.0%
15/02/2024		100.0%	0.0%	0.0%	0.0%
16/02/2024		100.0%	0.0%	0.0%	0.0%
17/02/2024		100.0%	0.0%	0.0%	0.0%
18/02/2024		Sunday – No Works			
19/02/2024		86.4%	6.8%	2.3%	2.3%
20/02/2024		100.0%	0.0%	0.0%	0.0%
21/02/2024		88.6%	11.4%	0.0%	0.0%
22/02/2024		95.5%	4.5%	0.0%	0.0%
23/02/2024		100.0%	0.0%	0.0%	0.0%
24/02/2024		100.0%	0.0%	0.0%	0.0%

4.2 VIBRATION MONITORING RESULTS

The tables below present a summary of measured daily maximum vibration levels (PPVs). Refer to appendices for detailed noise monitoring results.

ICNG Standard construction hours are as follows:

- Monday to Friday between 7am and 6pm
- Saturday between 8am and 1pm

A discussion will be provided where exceedances of the vibration criteria occur.

Monitoring locations and monitor IDs are repeated below:

- Nepean Stage 1 – Level 2 waiting area near staff offices and pharmacy (internal)
 - Texcel monitor ID: ETM7381
- Tower Block 1 (TB1) – Level 3 corridor near staff offices and meeting rooms (internal)
 - Texcel monitor ID: ETM7280
- Tresillian Building (external)
 - Texcel monitor ID: ETM7426

Table 8 – Monitored Vibration Levels – Level 2 Waiting Area (monitor ID: ETM7381)

Date	Measured PPV Daily Maximum (mm/s)	Vibration Monitoring Criteria	Compliance
10/02/2024	0.2	Alarm Level: 1.9 mm/s Stop Work Level: 2.2 mm/s (8 -100Hz)	Yes
11/02/2024	0.1		Yes
12/02/2024	0.2		Yes
13/02/2024	0.4		Yes
14/02/2024	0.5		Yes
15/02/2024	0.4		Yes
16/02/2024	0.4		Yes
17/02/2024	0.2		Yes
18/02/2024	0.1		Yes
19/02/2024	0.3		Yes
20/02/2024	0.2		Yes
21/02/2024	0.2		Yes
22/02/2024	0.4		Yes
23/02/2024	0.4		Yes
24/02/2024	0.2		Yes

Table 9 – Monitored Vibration Levels – TB1 Corridor (monitor ID: ETM7280)

Date	Measured PPV Daily Maximum (mm/s)	Vibration Monitoring Criteria	Compliance
10/02/2024	0.1	Alarm Level: 0.95 mm/s Stop Work Level: 1.1 mm/s (8 -100Hz)	Yes
11/02/2024	0.1		Yes
12/02/2024	0.3		Yes
13/02/2024	0.2		Yes
14/02/2024	0.2		Yes
15/02/2024	0.2		Yes
16/02/2024	0.3		Yes
17/02/2024	0.2		Yes
18/02/2024	0.2		Yes
19/02/2024	0.4		Yes
20/02/2024	0.3		Yes
21/02/2024	0.2		Yes
22/02/2024	0.2		Yes
23/02/2024	0.2		Yes
24/02/2024	0.2		Yes

Table 10 – Monitored Vibration Levels – Tresillian Building (monitor ID: ETM7426)

Date	Measured PPV Daily Maximum (mm/s)	Vibration Monitoring Criteria	Compliance
10/02/2024	0.1	DIN4150 Type 2 (Refer Table 2): 5 mm/s (<10 Hz) 10 to 15 mm/s (10- 50Hz) 15 to 20 mm/s (50 - 100 Hz)	Yes
11/02/2024	0.1		Yes
12/02/2024	0.8		Yes
13/02/2024	0.3		Yes
14/02/2024	0.3		Yes
15/02/2024	0.2		Yes
16/02/2024	0.4		Yes
17/02/2024	0.1		Yes
18/02/2024	0.1		Yes
19/02/2024	0.4		Yes
20/02/2024	0.2		Yes
21/02/2024	0.2		Yes
22/02/2024	0.4		Yes
23/02/2024	0.3		Yes
24/02/2024	0.8		Yes

4.3 DISCUSSION

4.3.1 Noise

Level 2 Waiting Area – Internal (01010769)

- Works were generally above the Noise Management Level.
- Periods of recorded exceedances likely to be associated with construction activities occurred on the following dates and times:
 - Monday 19th - between 10:00 and 11:00am – Maximum recorded level of 72dB(A) L_{eq}
 - Thursday 22nd - between 1:30pm and 2:00pm – Maximum recorded level of 65dB(A) L_{eq}
 - Works were preceded and followed by periods of quieter noise levels.
- Outside of the above exceedance periods, a review of the noise monitoring data show that there is generally minimal deviation of the background levels within the space, and measured noise levels are likely to be operational noise from use of the waiting area, or from staff/public transitioning through the space.
 - Considering the above, it is unlikely that the measured noise levels within the space during these periods are associated with construction/demolition activities.

TB1 Staff offices - Internal (ETM7280)

- Works were generally below the Noise Management Level over the monitoring period.

Tresillian Building – External (01010764)

- Works were generally below the Noise Management Level over the monitoring period.
- Where exceedances of 10-15 above the NML occurred, these were preceded and followed by periods of quieter noise levels below the NML (between 1:30pm and 2:00pm on Monday 19th).

4.3.2 Vibration

Level 2 Waiting Area – Internal (ETM7381)

- Vibration levels were all within the nominated criteria during this monitoring period.

TB1 Staff offices - Internal (ETM7280)

- Vibration levels were all within the nominated criteria during this monitoring period.

Tresillian Building – External (7426)

- Vibration levels were all within the nominated criteria during this monitoring period.

4.3.3 General Notes:

Regarding measured exceedances generally, we note that an exceedance of the noise management level is not necessarily prohibited, however is a trigger for providing mitigation measures for the control of noise from construction activities.

5 CONCLUSION

Noise and Vibration monitoring has been conducted at various locations for the Nepean Hospital Stage 2 Main Works between 10/02/2024 and 24/02/2024.

For this monitoring period, we note the following:

Noise

- **Level 2 waiting area near pharmacy** – whilst measured noise levels generally exceeded the NML's, assessment indicates that outside of select periods outlined in the discussion, they are unlikely to be related to construction activities.
- **TB1 Staff offices** - measured noise levels were generally below NMLs over the monitoring period.
- **Tresillian Building** - measured noise levels were generally below NMLs over the monitoring period.

Vibration

- **Level 2 waiting area near pharmacy** - vibration levels were all within the nominated criteria during this monitoring period.
- **TB1 Staff offices** - vibration levels were all within the nominated criteria during this monitoring period.
- **Tresillian Building** - vibration levels were all within the nominated criteria during this monitoring period.

Please contact us should you have any further queries.

Yours faithfully,

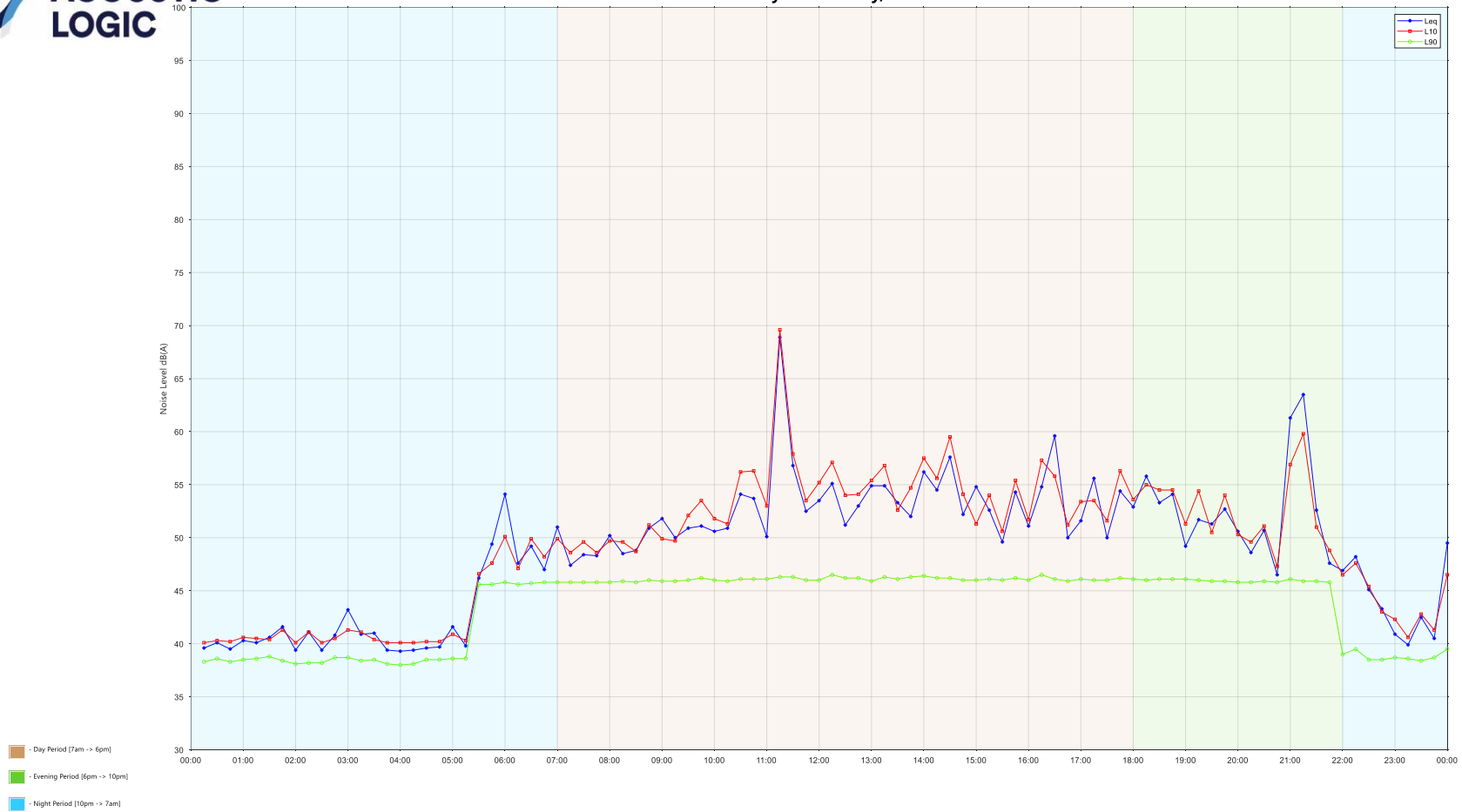


Acoustic Logic Pty Ltd
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APPENDIX A – UNATTENDED NOISE MONITORING DATA

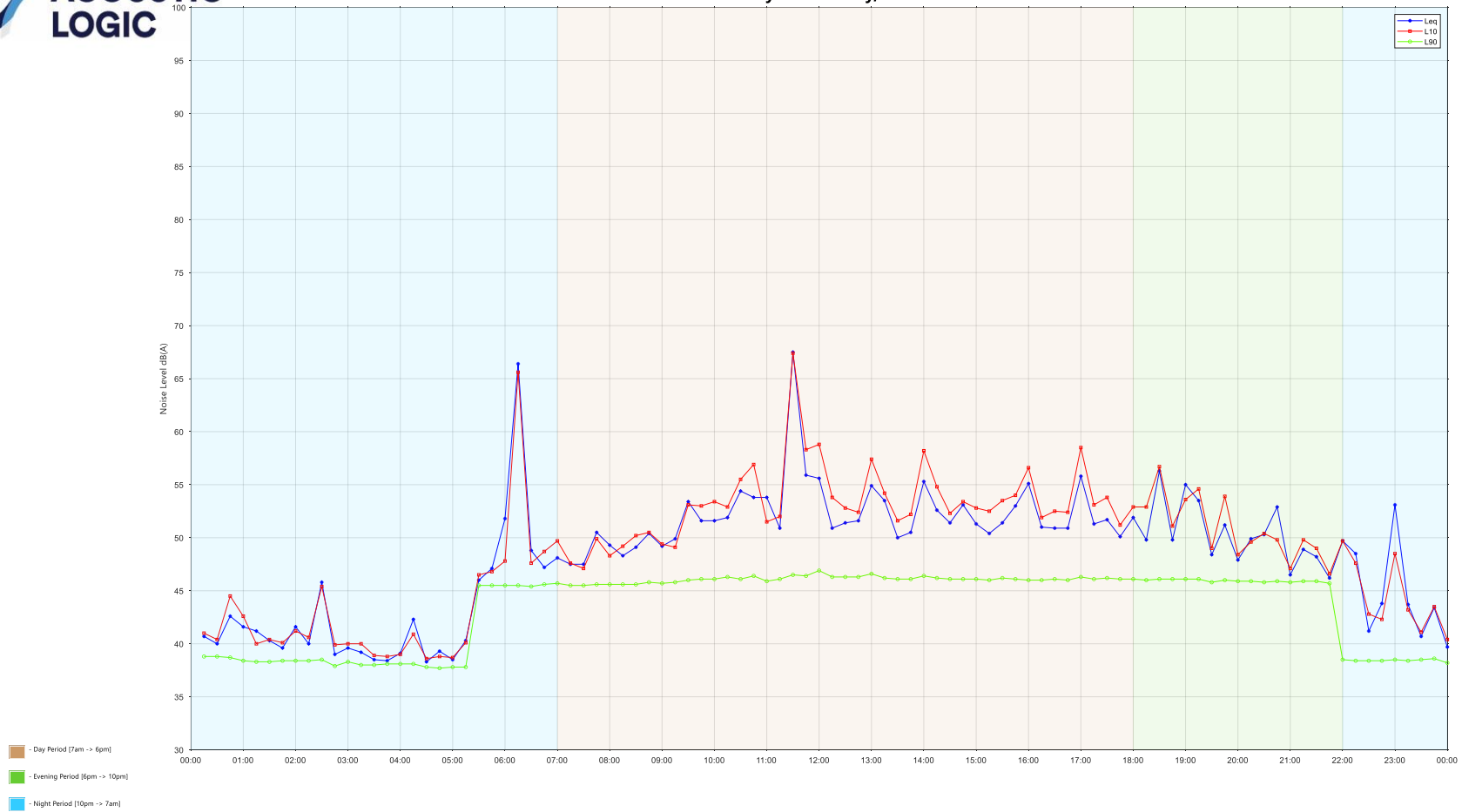


Nepean Hospital Stage 2 - Level 2 Waiting Area Saturday 10 February, 2024



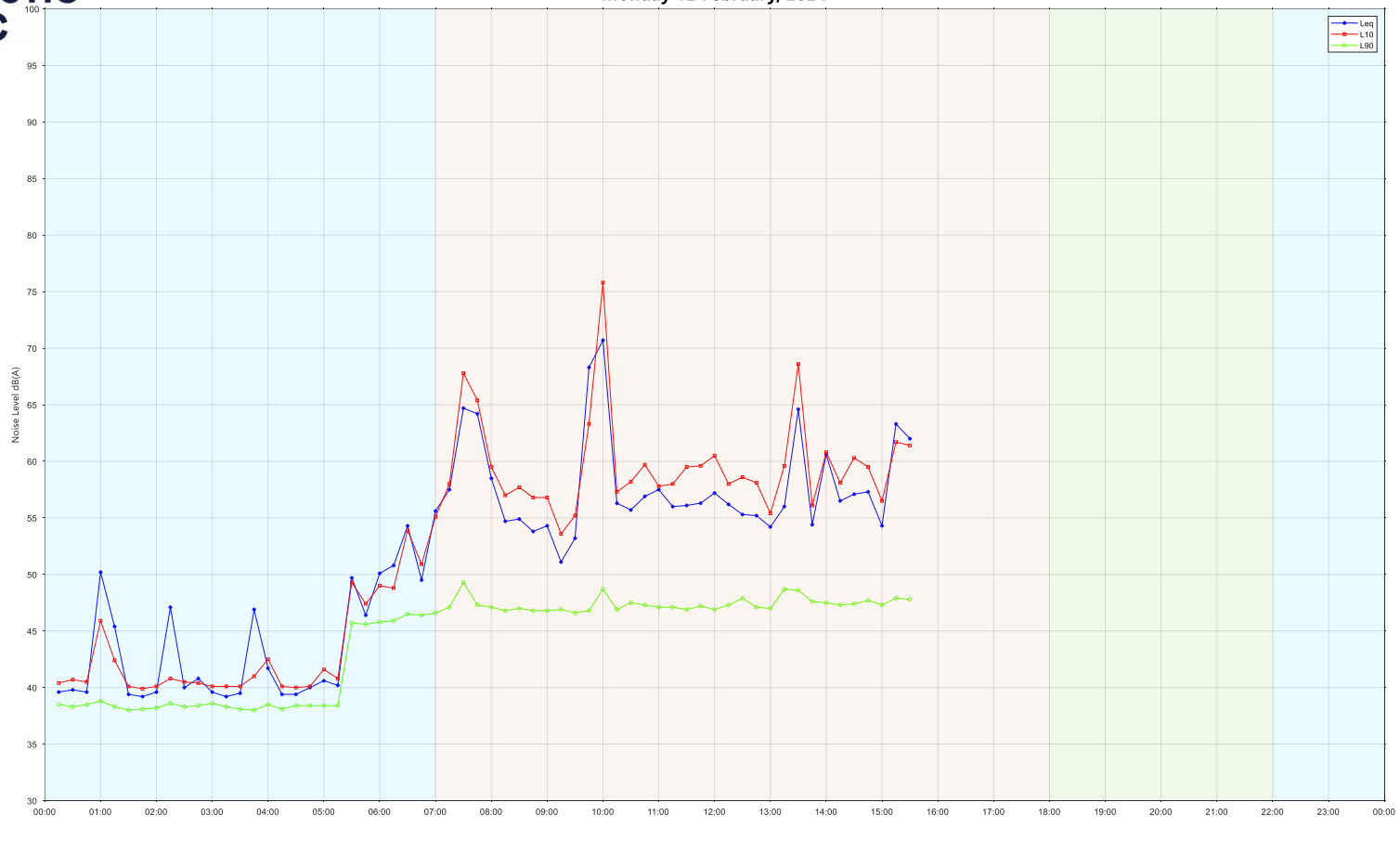


Nepean Hospital Stage 2 - Level 2 Waiting Area Sunday 11 February, 2024



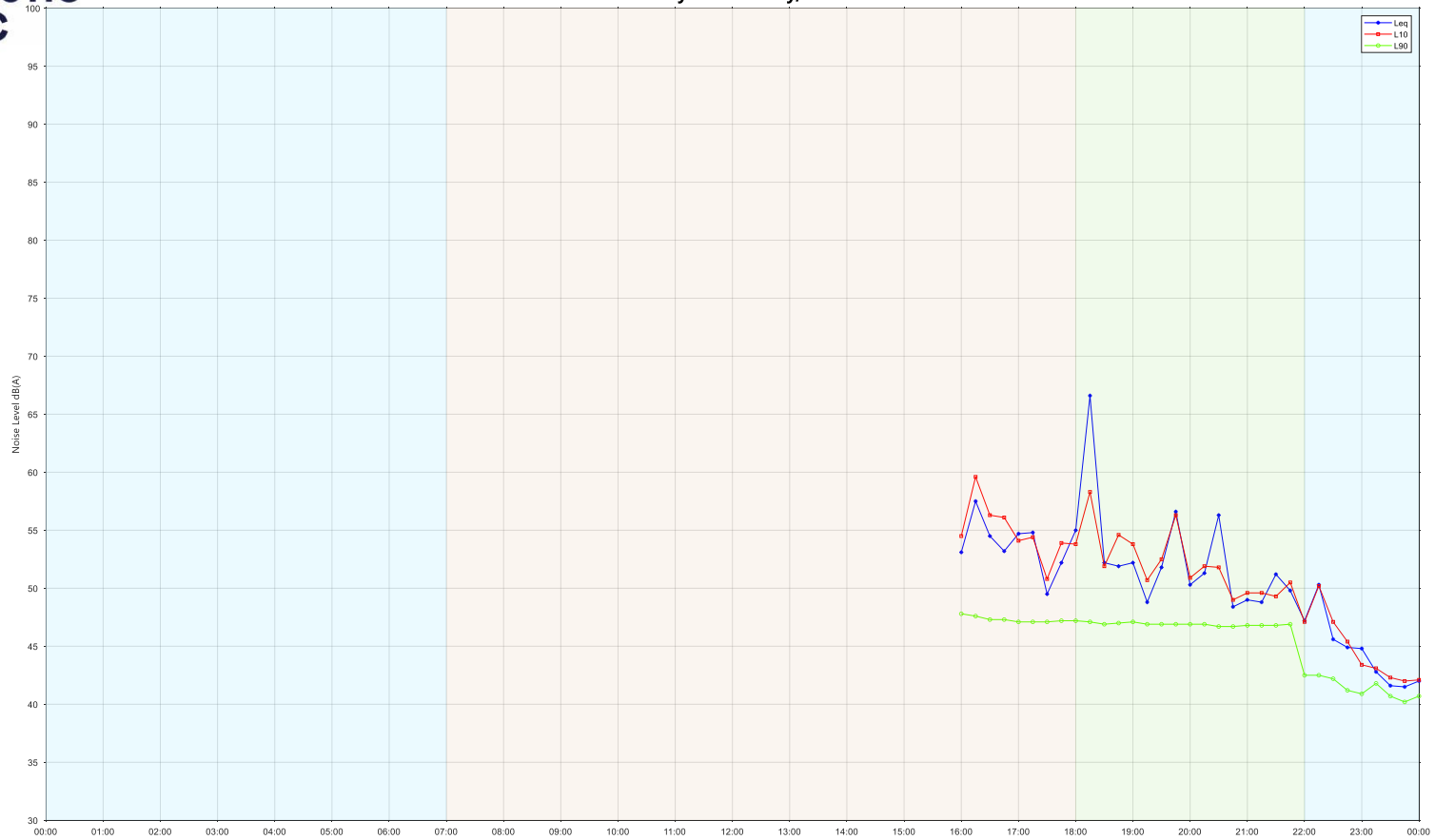


Nepean Hospital Stage 2 - Level 2 Waiting Area Monday 12 February, 2024





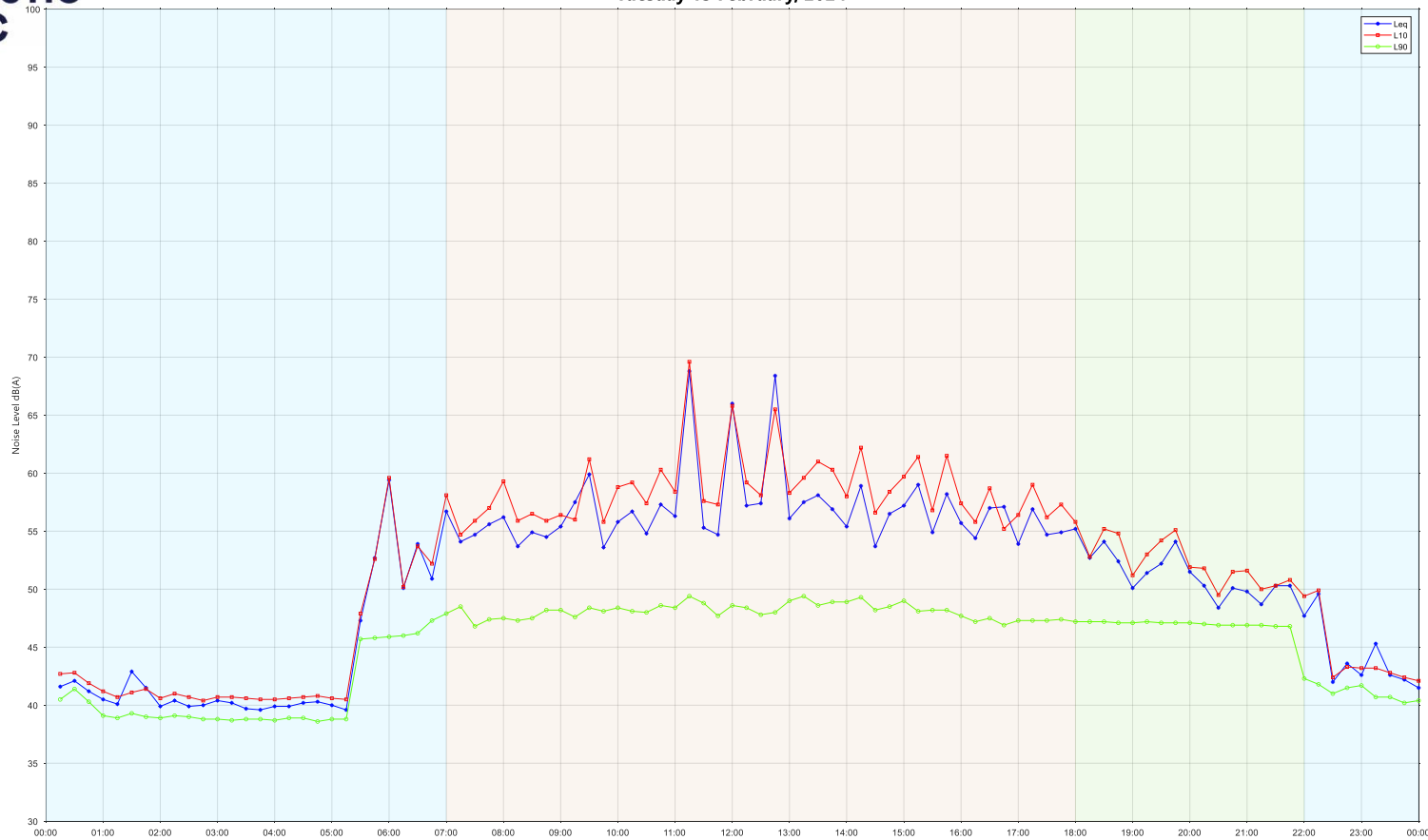
Nepean Hospital Stage 2 - Level 2 Waiting Area Monday 12 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)



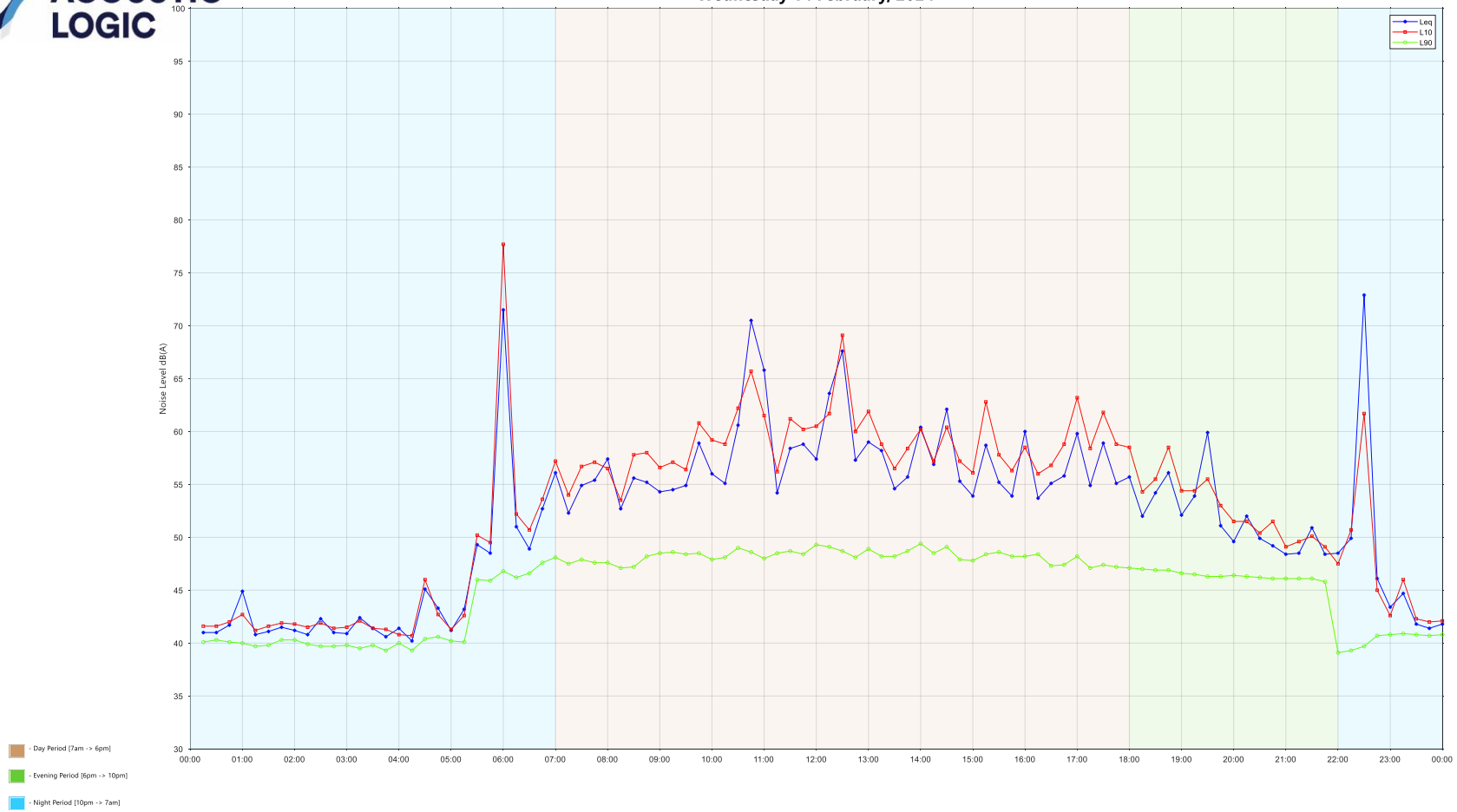
Nepean Hospital Stage 2 - Level 2 Waiting Area Tuesday 13 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)

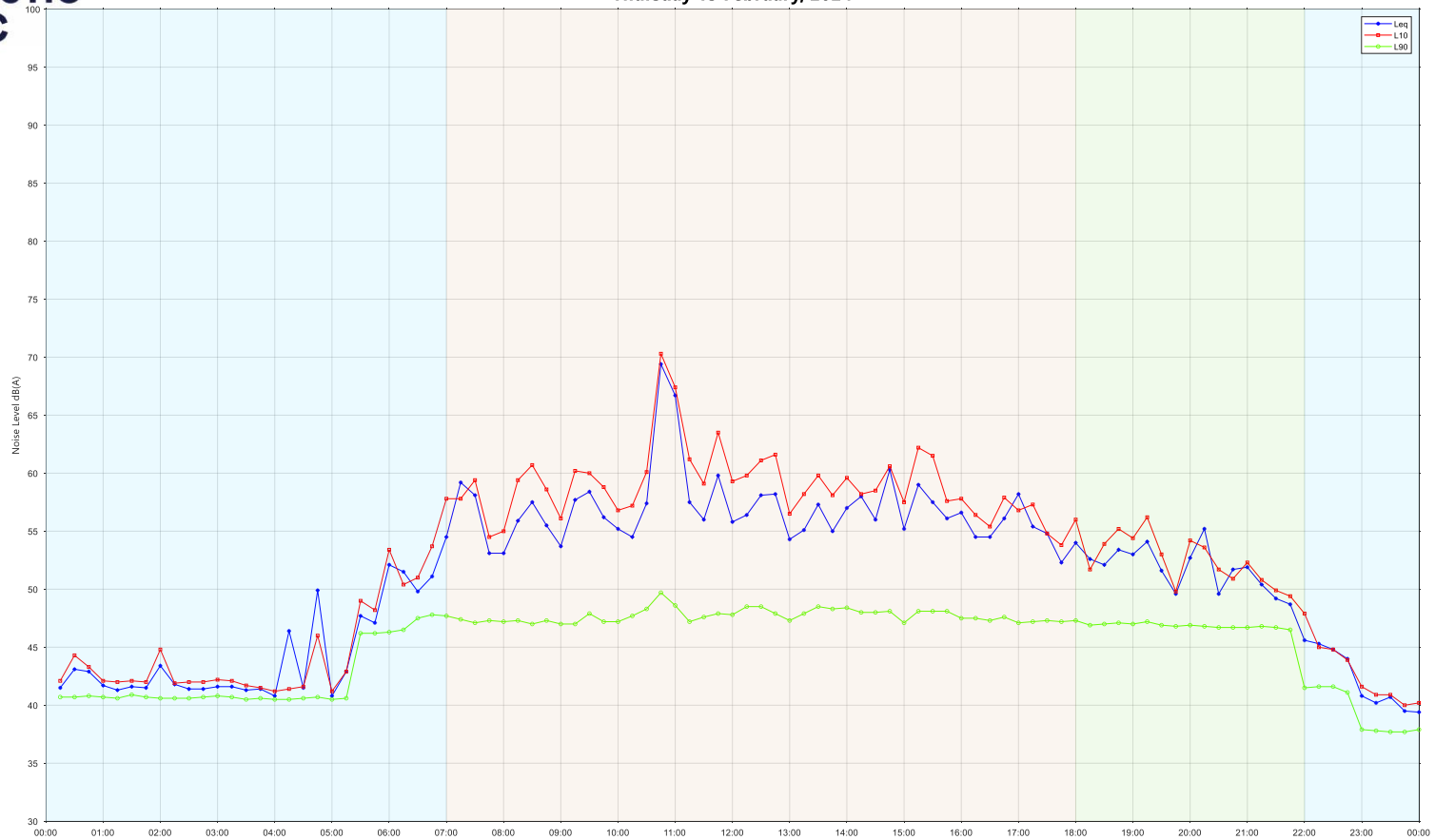


Nepean Hospital Stage 2 - Level 2 Waiting Area Wednesday 14 February, 2024





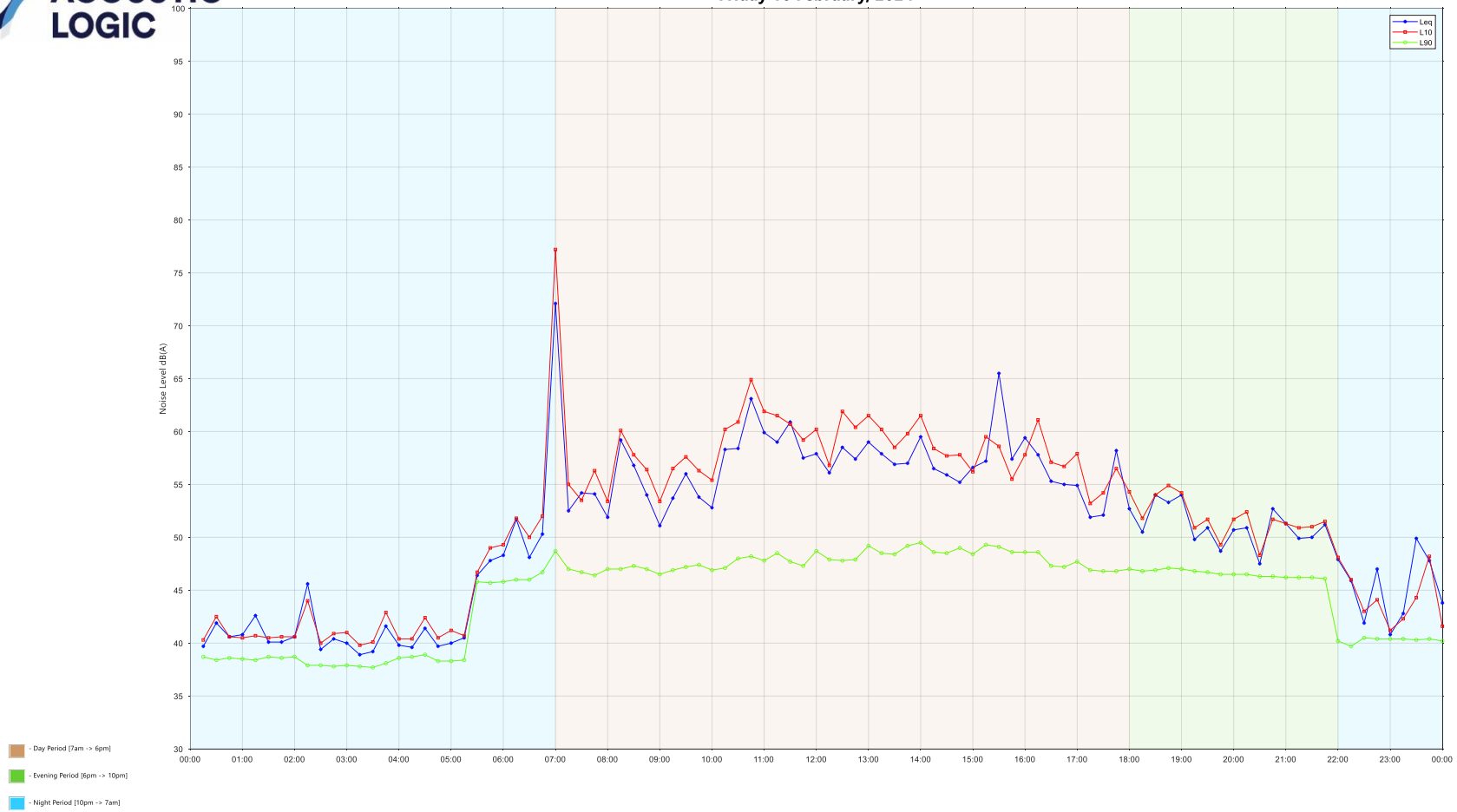
Nepean Hospital Stage 2 - Level 2 Waiting Area Thursday 15 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)

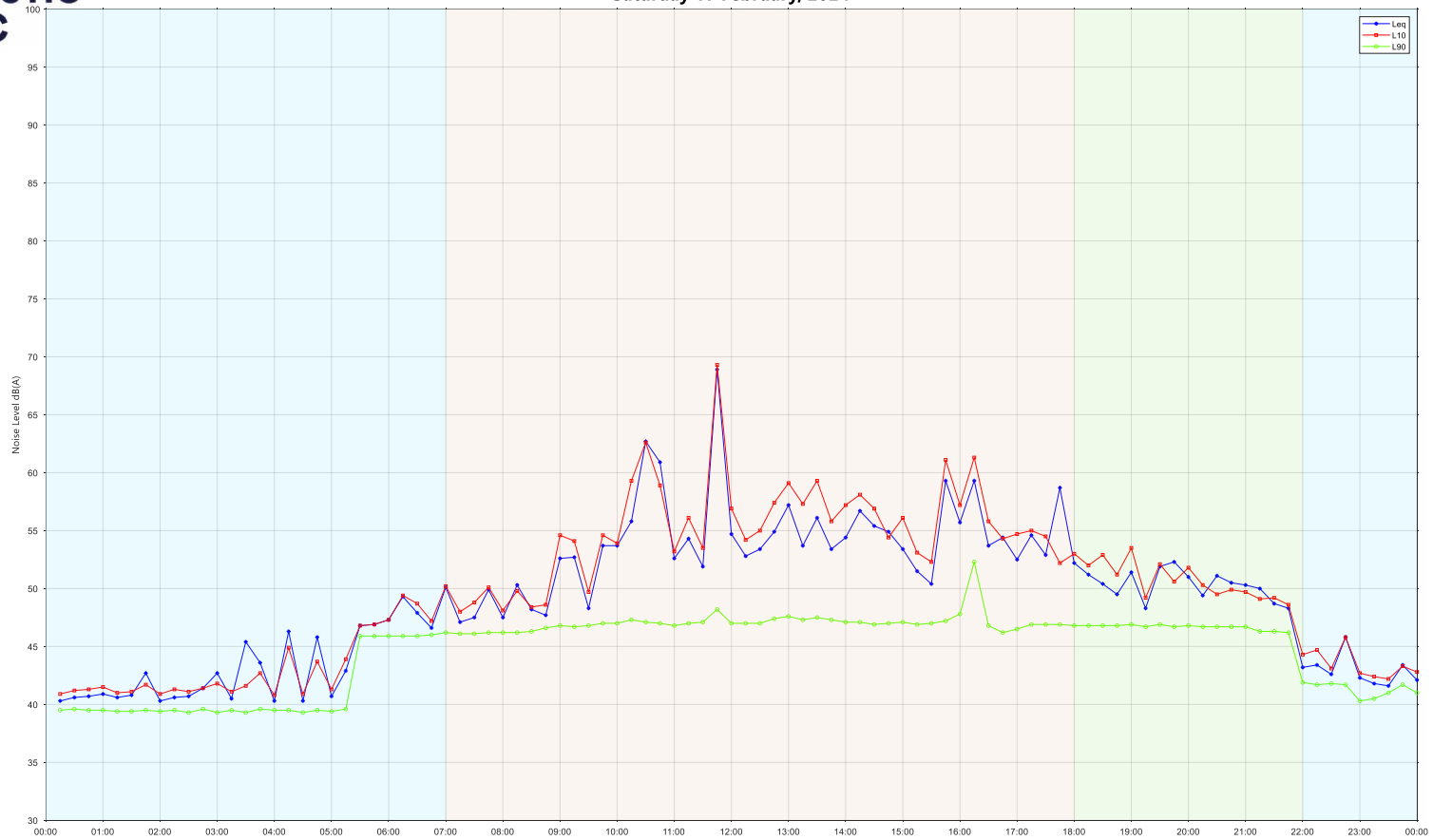


Nepean Hospital Stage 2 - Level 2 Waiting Area Friday 16 February, 2024





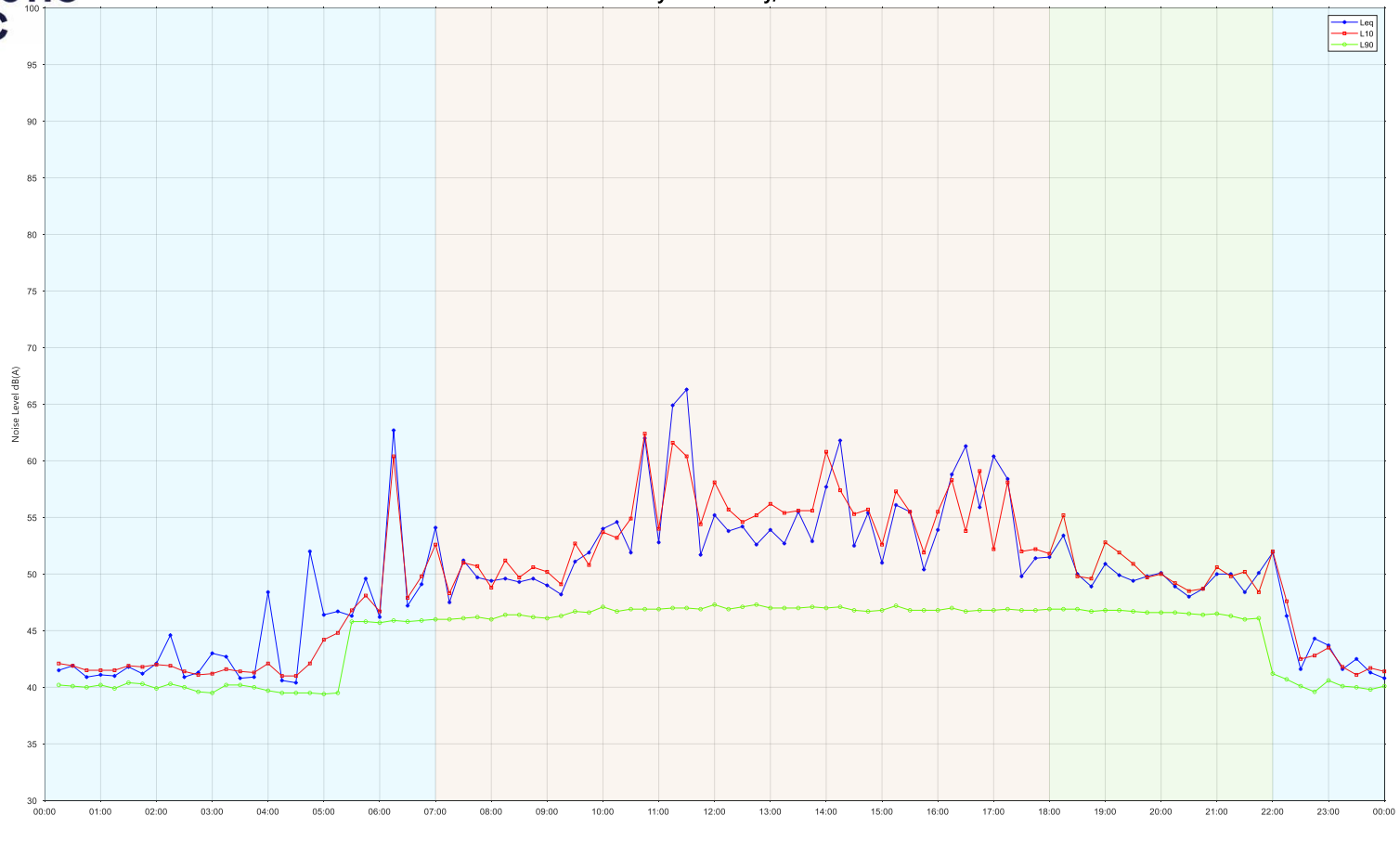
Nepean Hospital Stage 2 - Level 2 Waiting Area Saturday 17 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)

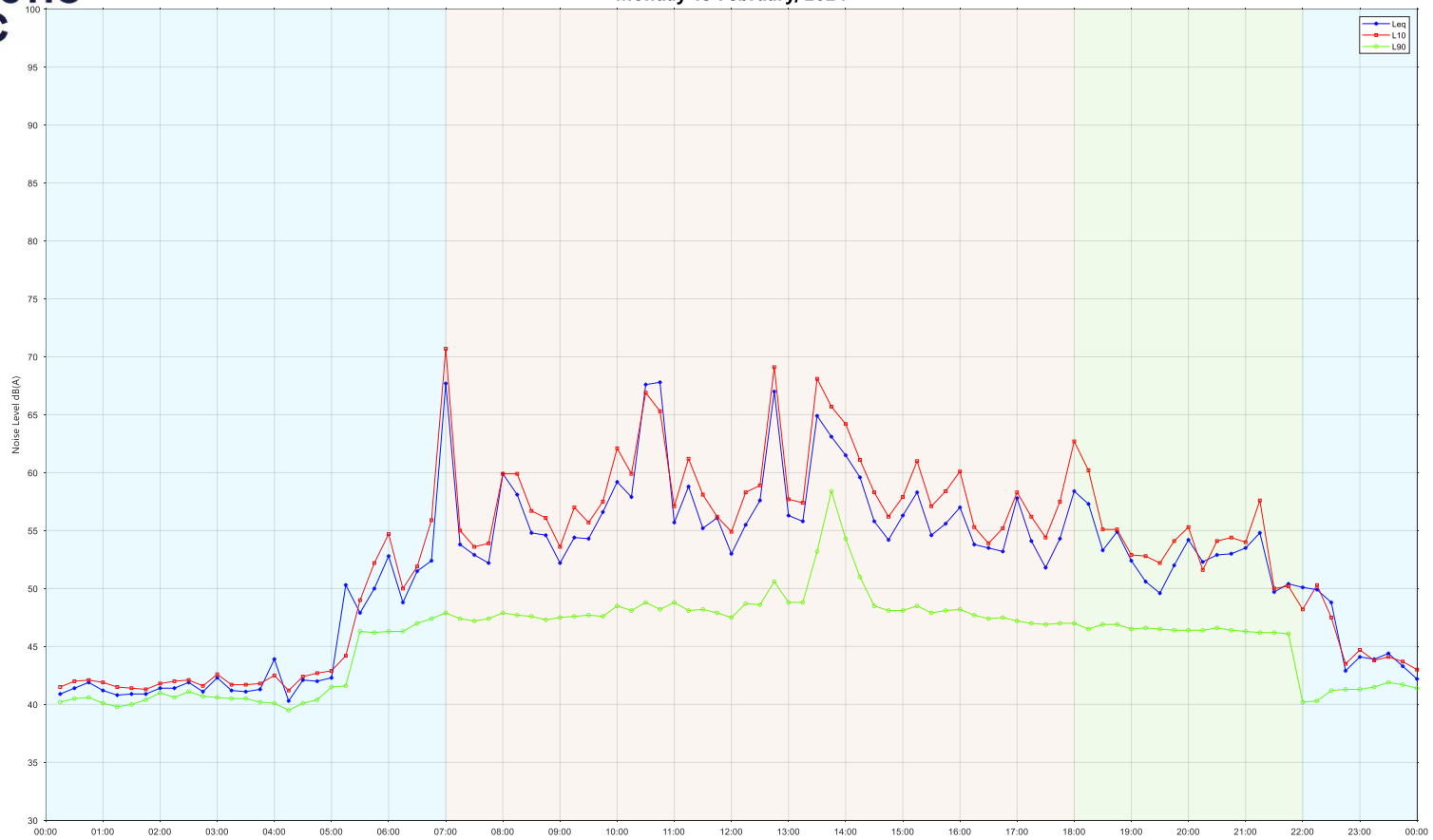


Nepean Hospital Stage 2 - Level 2 Waiting Area Sunday 18 February, 2024





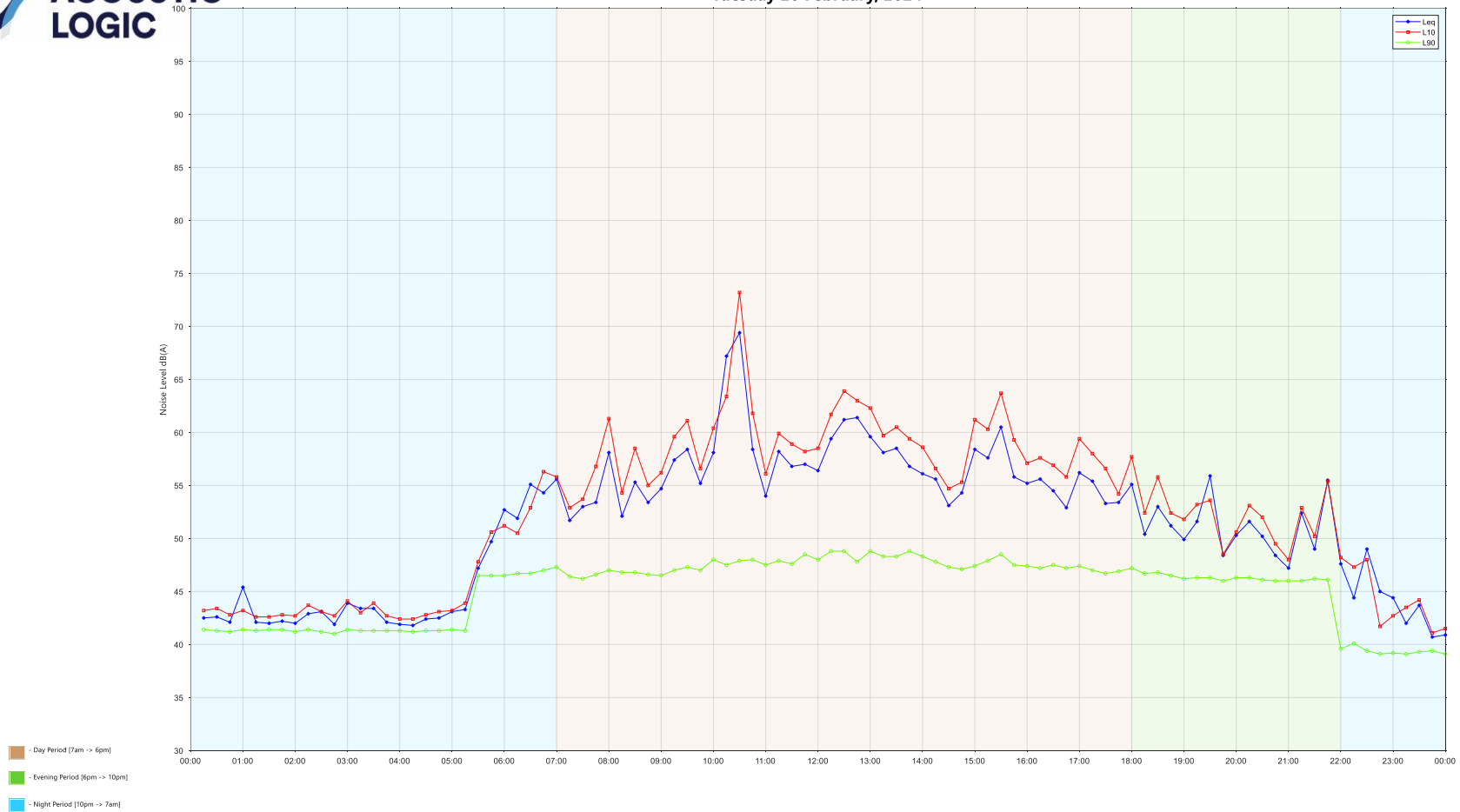
Nepean Hospital Stage 2 - Level 2 Waiting Area Monday 19 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)

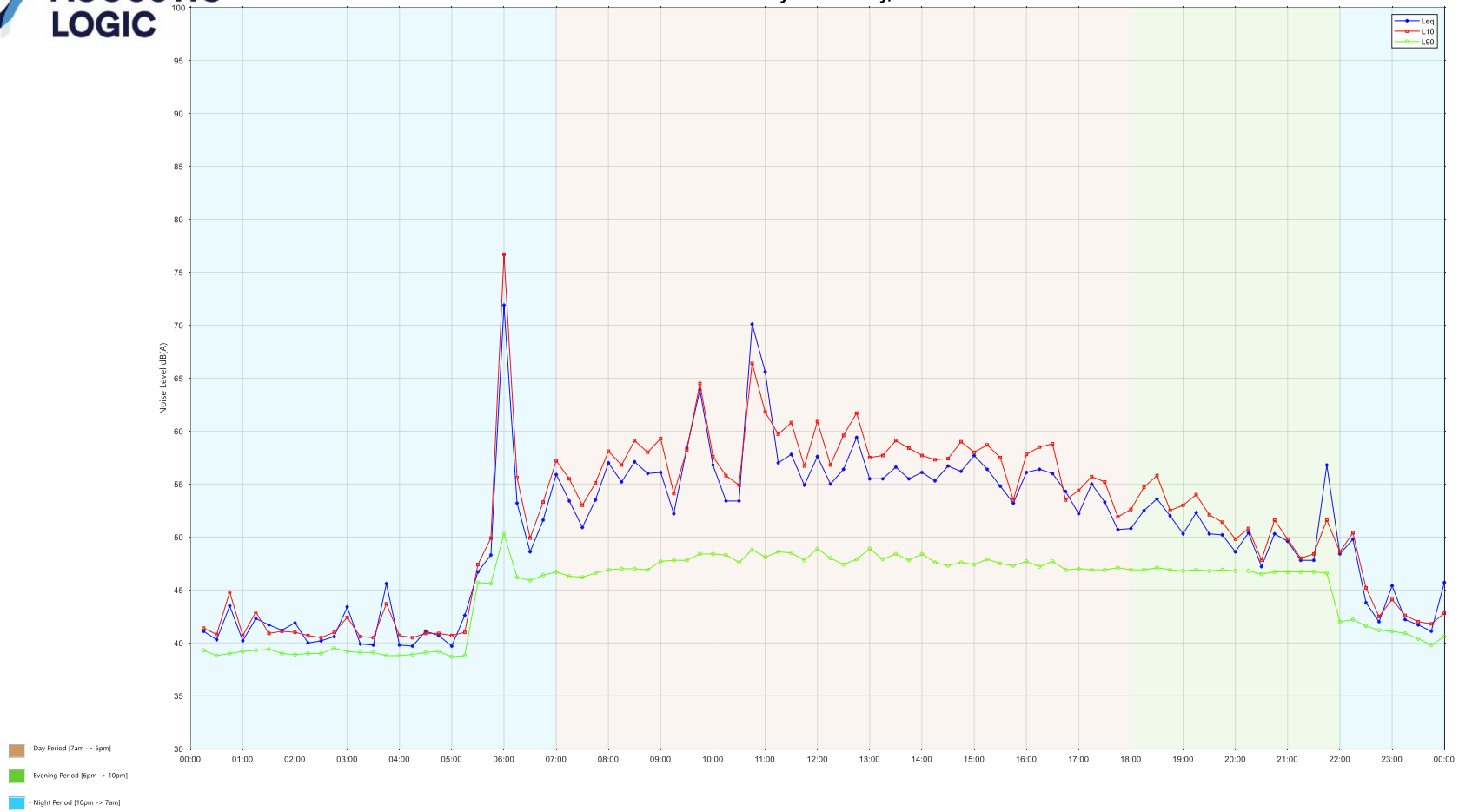


Nepean Hospital Stage 2 - Level 2 Waiting Area Tuesday 20 February, 2024





Nepean Hospital Stage 2 - Level 2 Waiting Area Wednesday 21 February, 2024



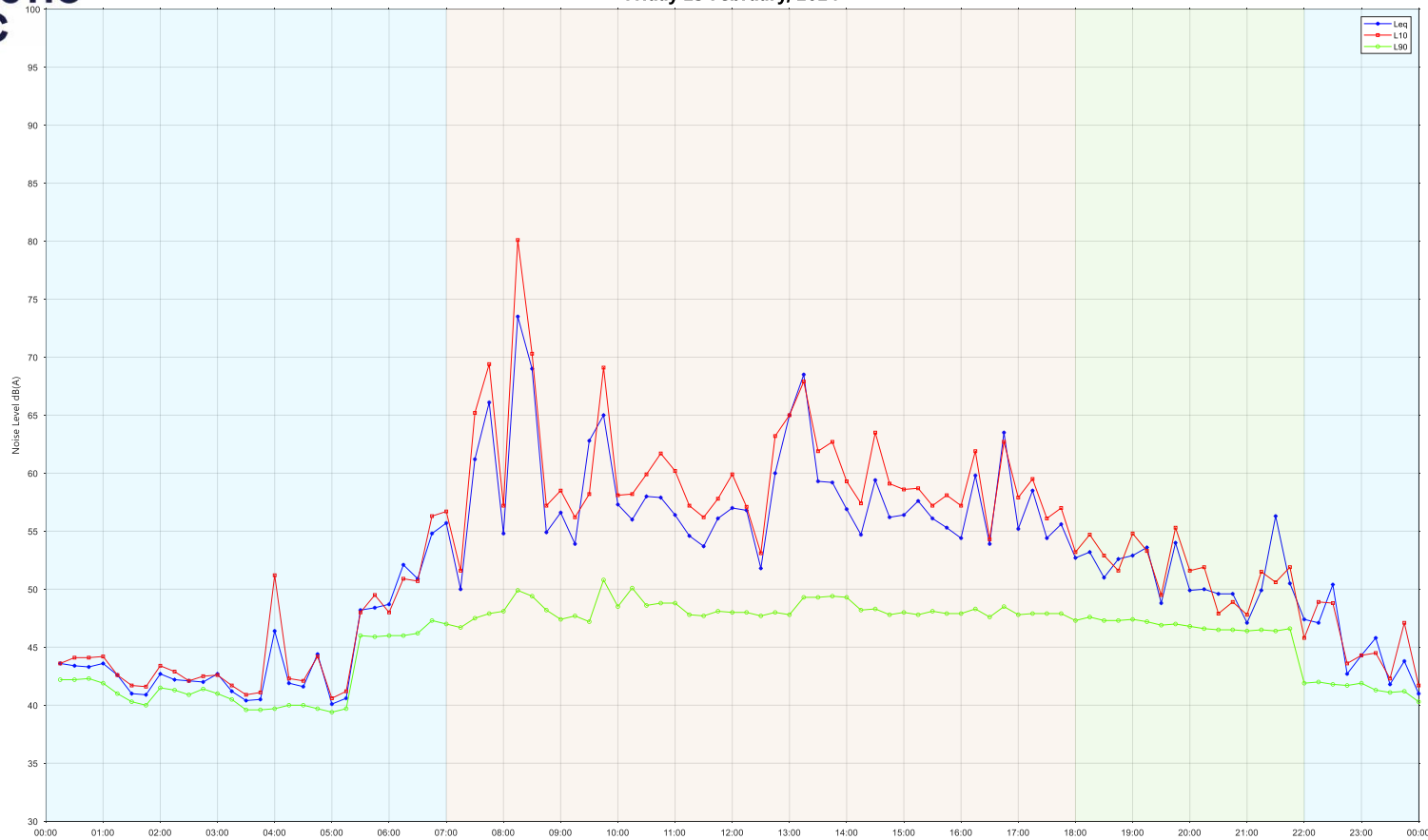


Nepean Hospital Stage 2 - Level 2 Waiting Area Thursday 22 February, 2024





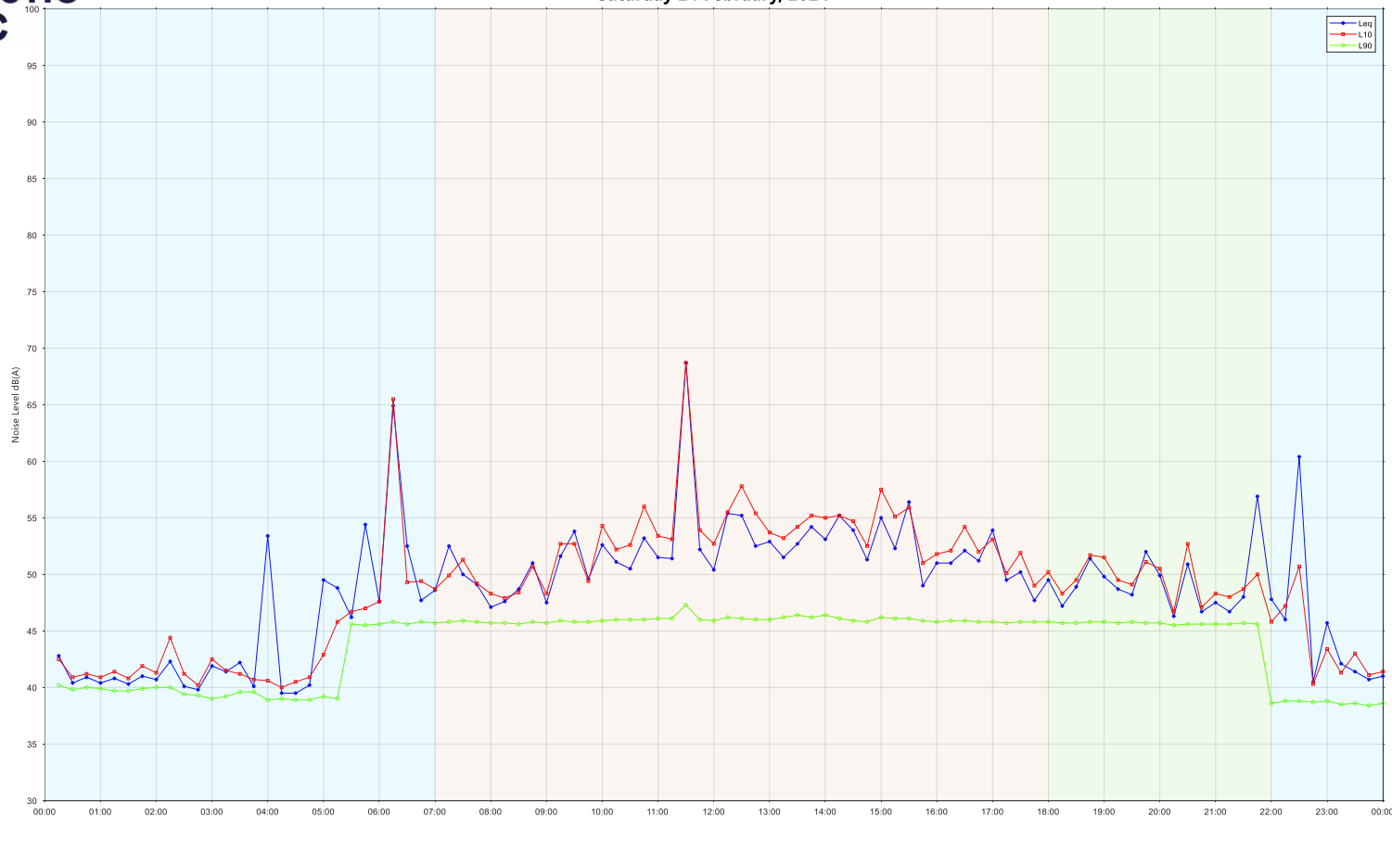
Nepean Hospital Stage 2 - Level 2 Waiting Area Friday 23 February, 2024



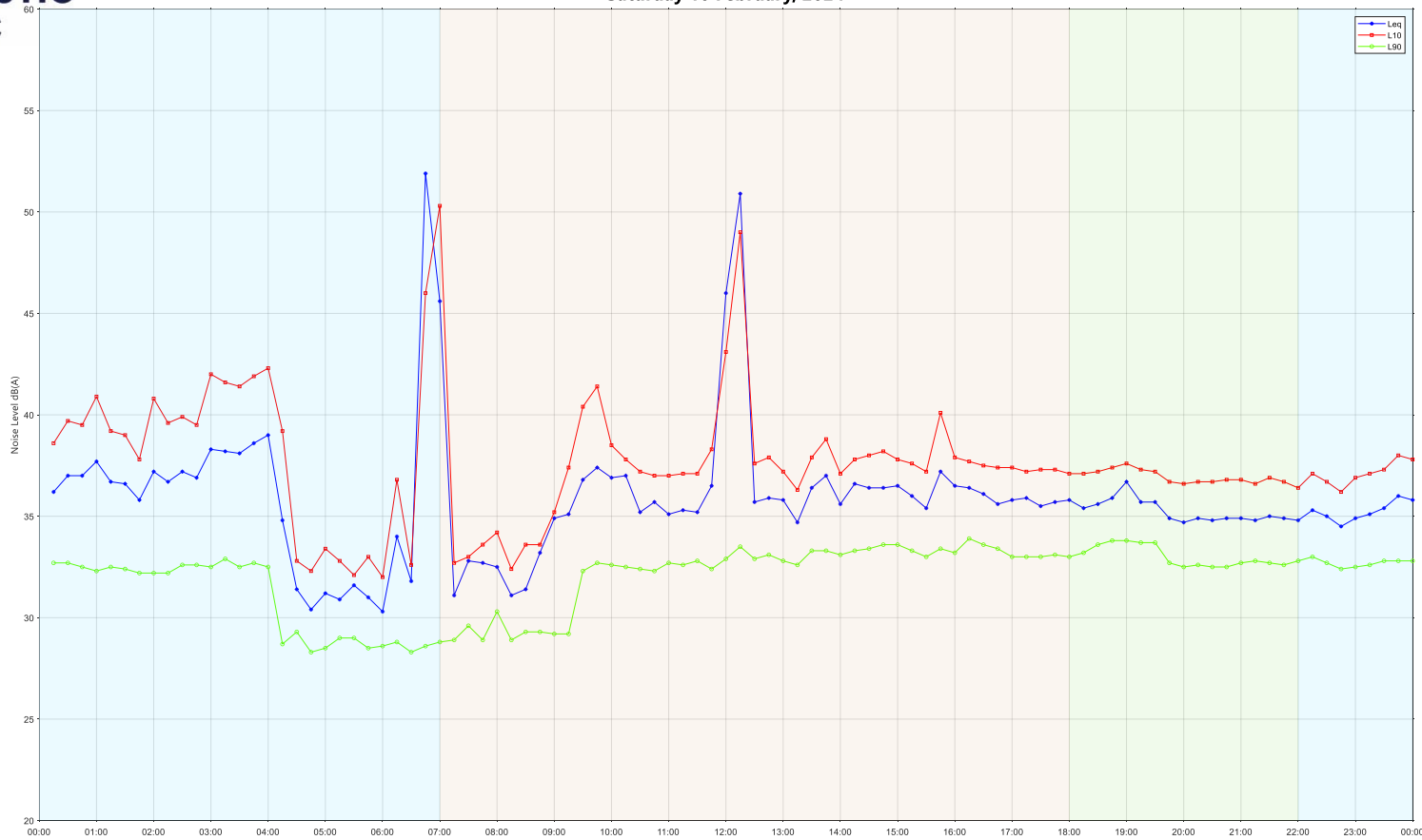
- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)



Nepean Hospital Stage 2 - Level 2 Waiting Area Saturday 24 February, 2024



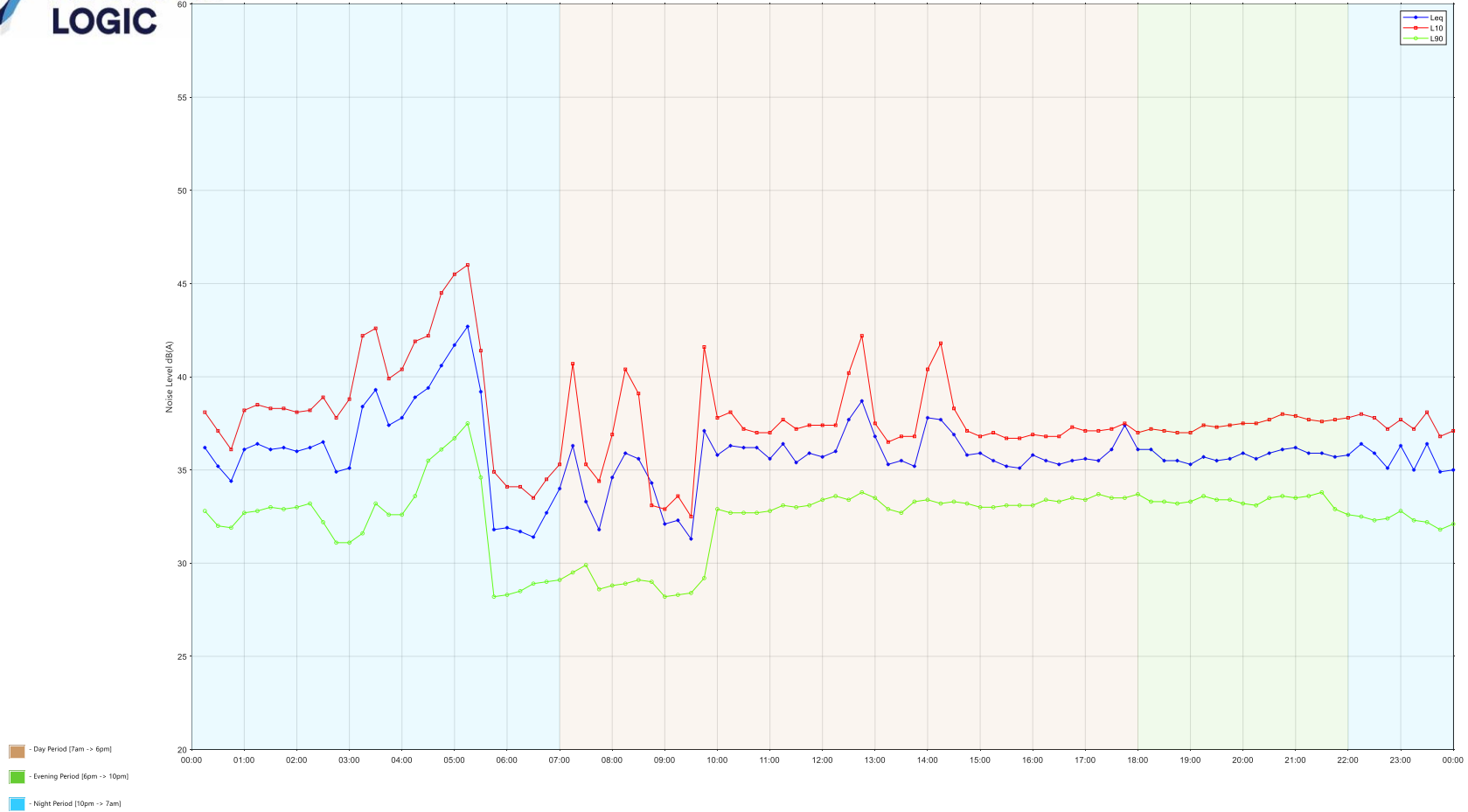
Nepean Hospital Stage 2 - TB1 Corridor
Saturday 10 February, 2024



■ Day Period (7am -> 6pm)
■ Evening Period (6pm -> 10pm)
■ Night Period (10pm -> 7am)

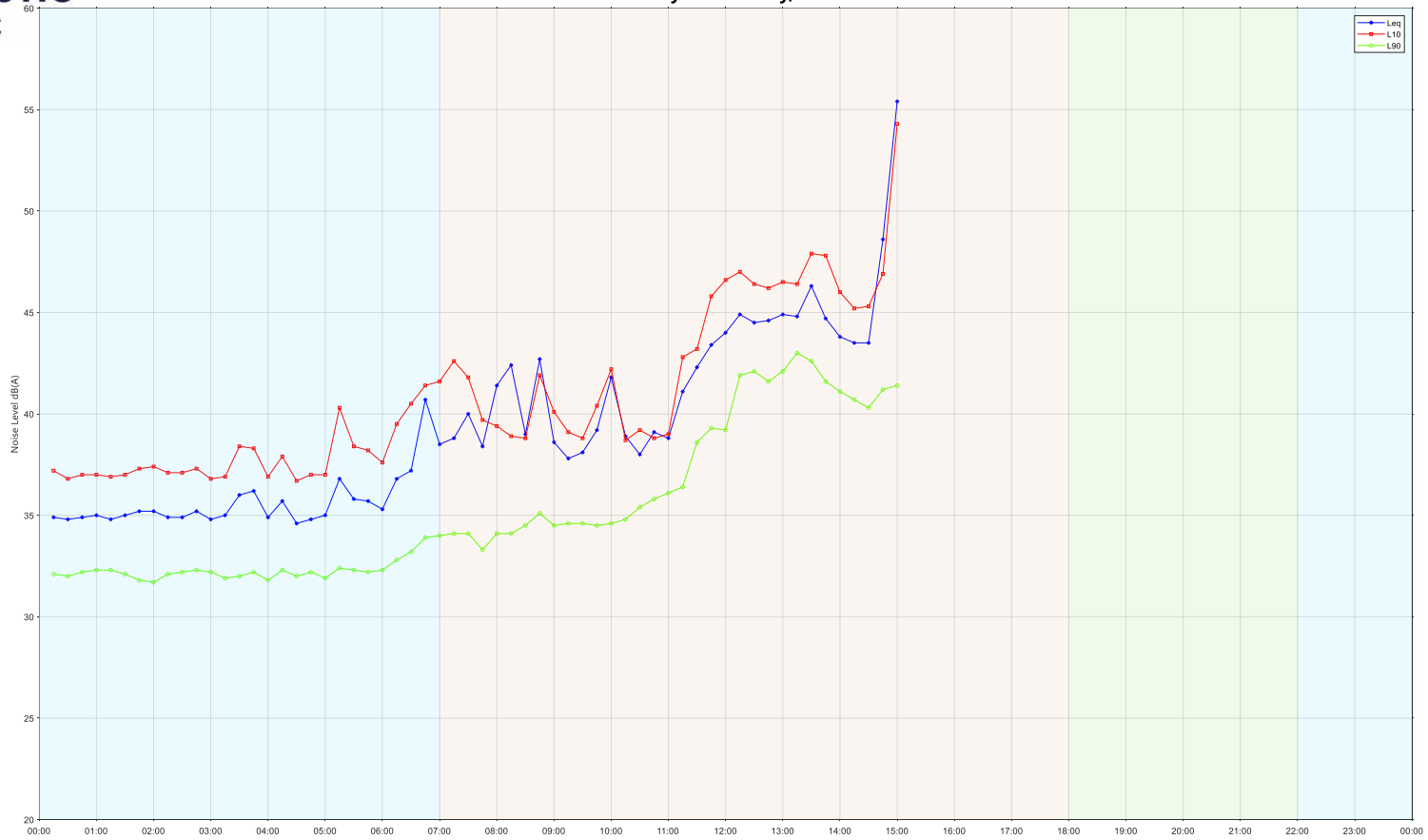


Nepean Hospital Stage 2 - TB1 Corridor Sunday 11 February, 2024





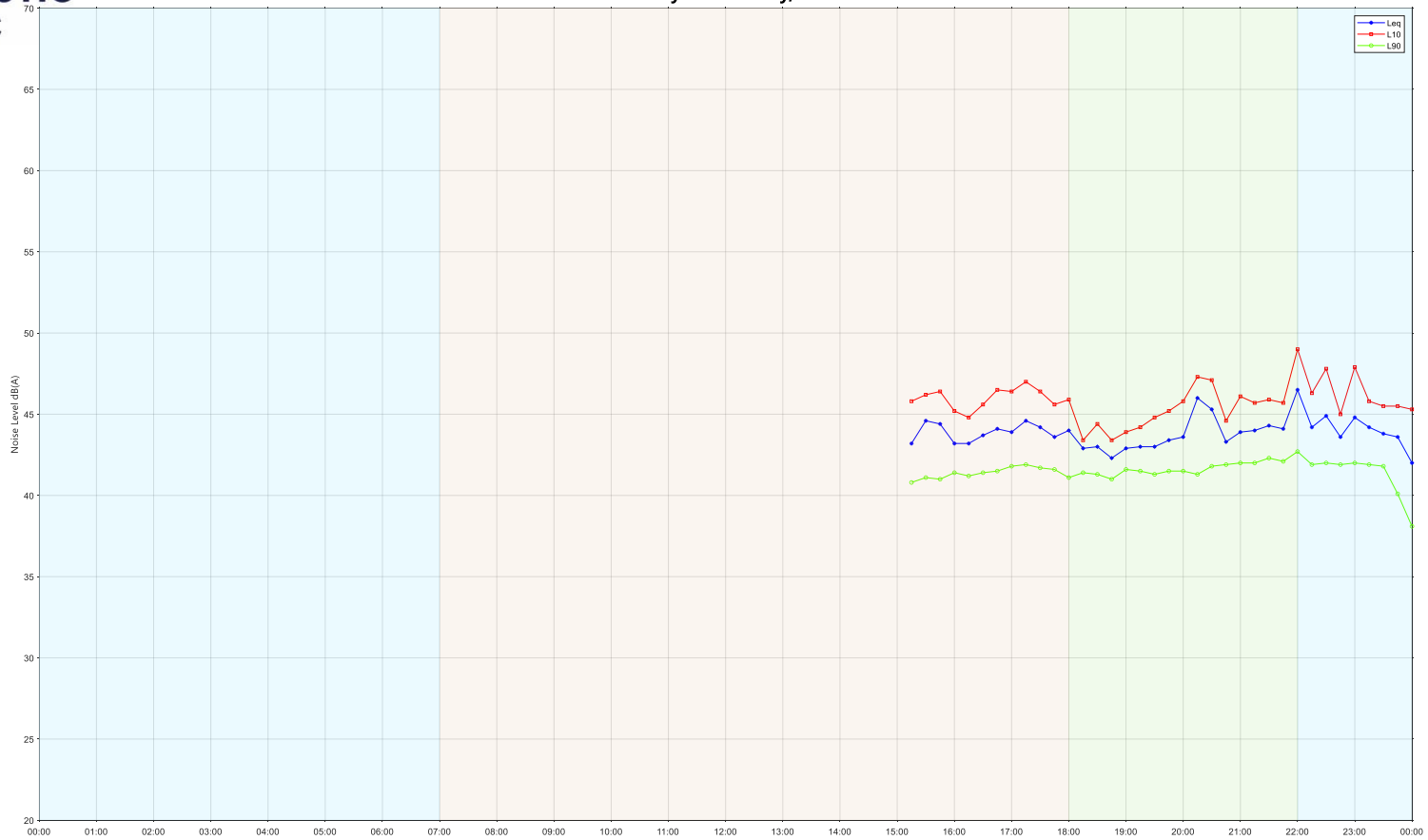
Nepean Hospital Stage 2 - TB1 Corridor Monday 12 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)



Nepean Hospital Stage 2 - TB1 Corridor Monday 12 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)



Nepean Hospital Stage 2 - TB1 Corridor Tuesday 13 February, 2024



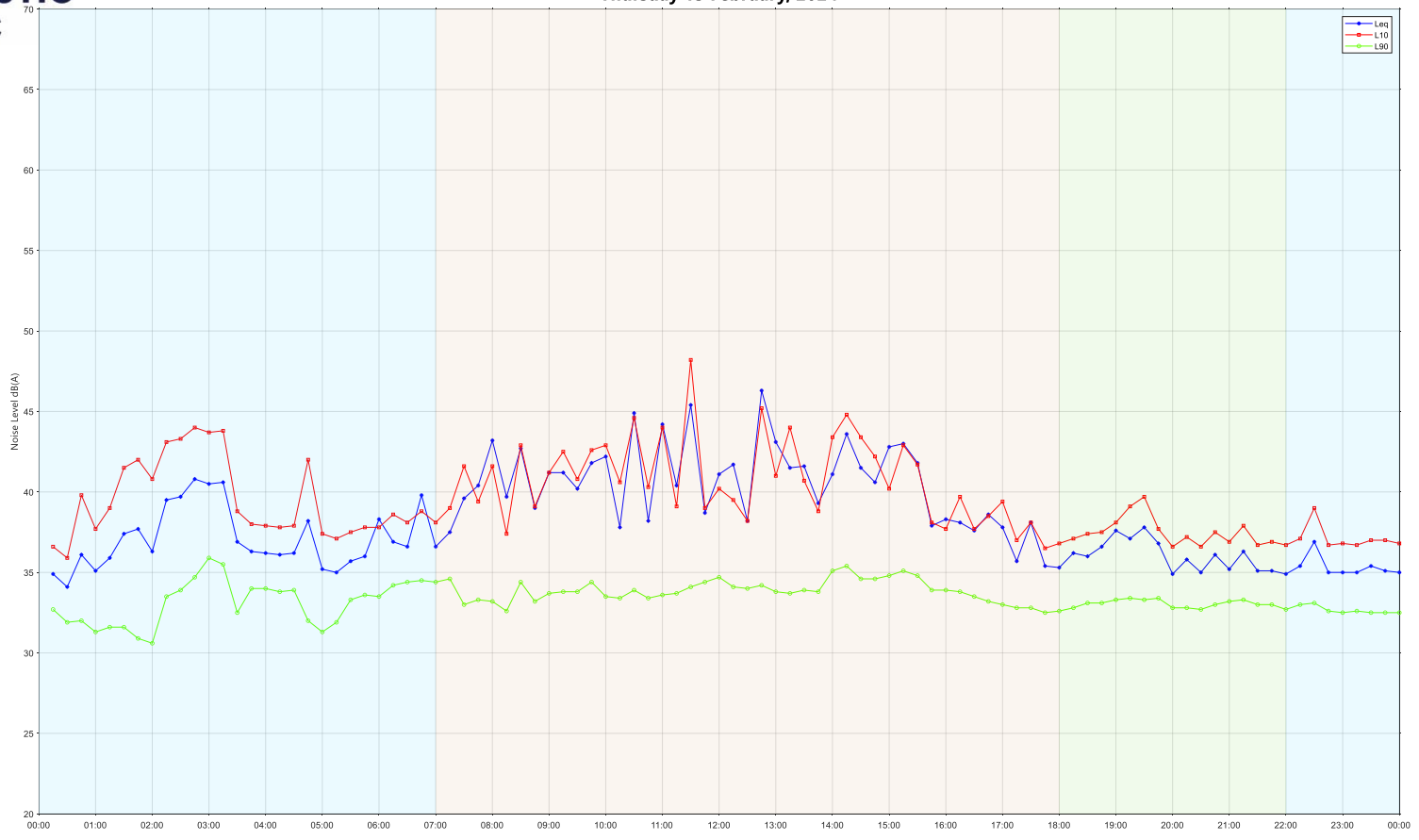


Nepean Hospital Stage 2 - TB1 Corridor
Wednesday 14 February, 2024





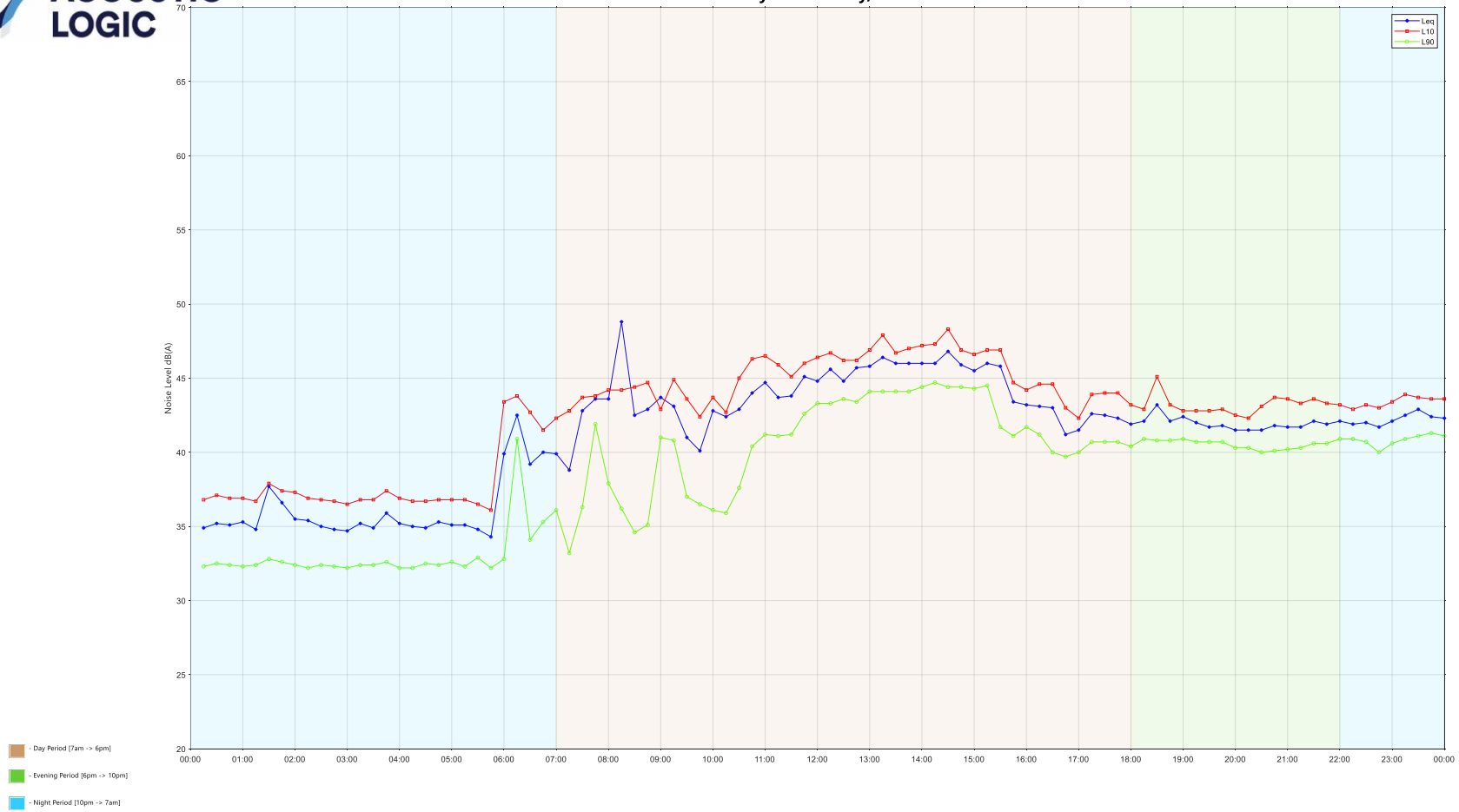
Nepean Hospital Stage 2 - TB1 Corridor Thursday 15 February, 2024



Day Period (7am -> 6pm)
Evening Period (6pm -> 10pm)
Night Period (10pm -> 7am)

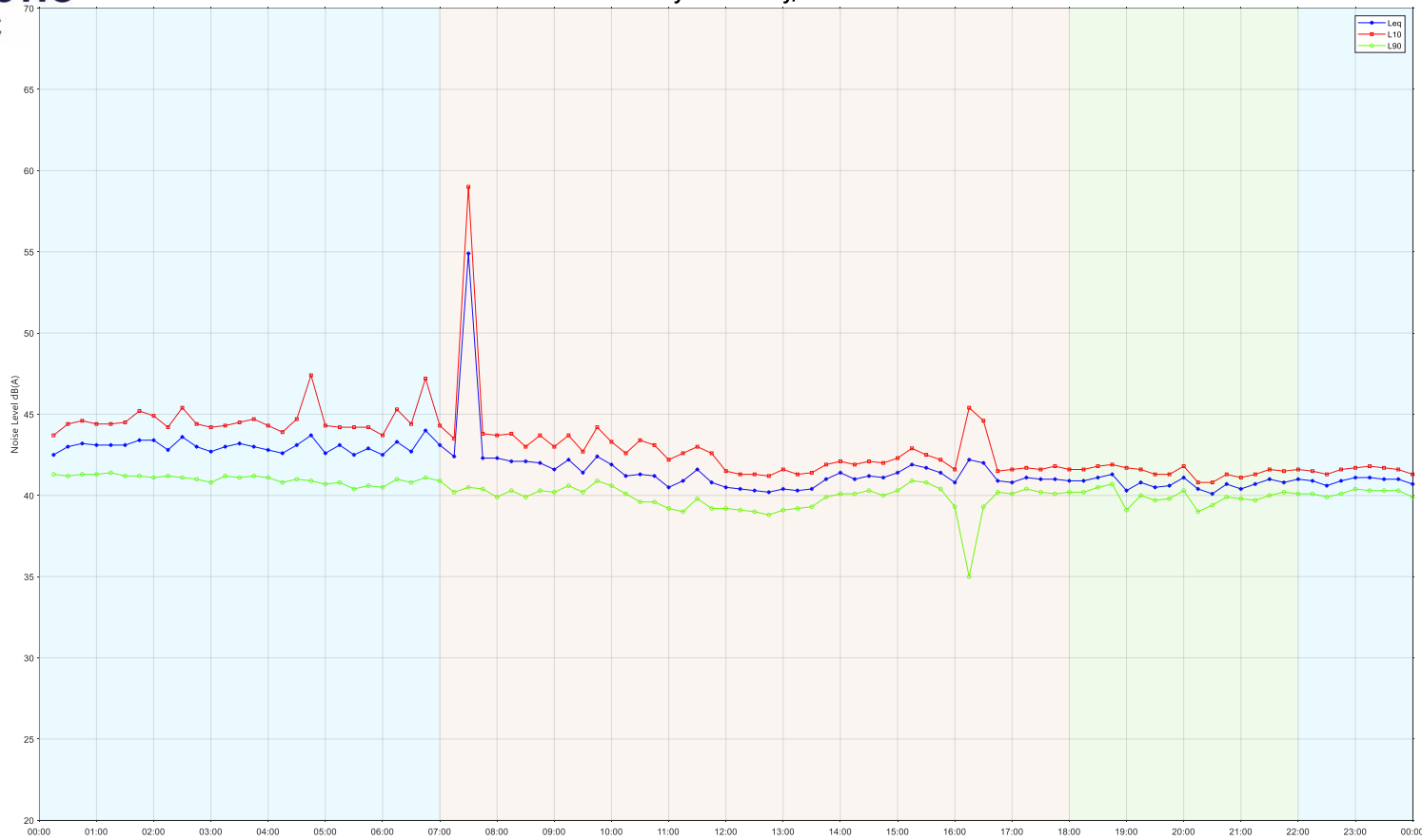


Nepean Hospital Stage 2 - TB1 Corridor Friday 16 February, 2024





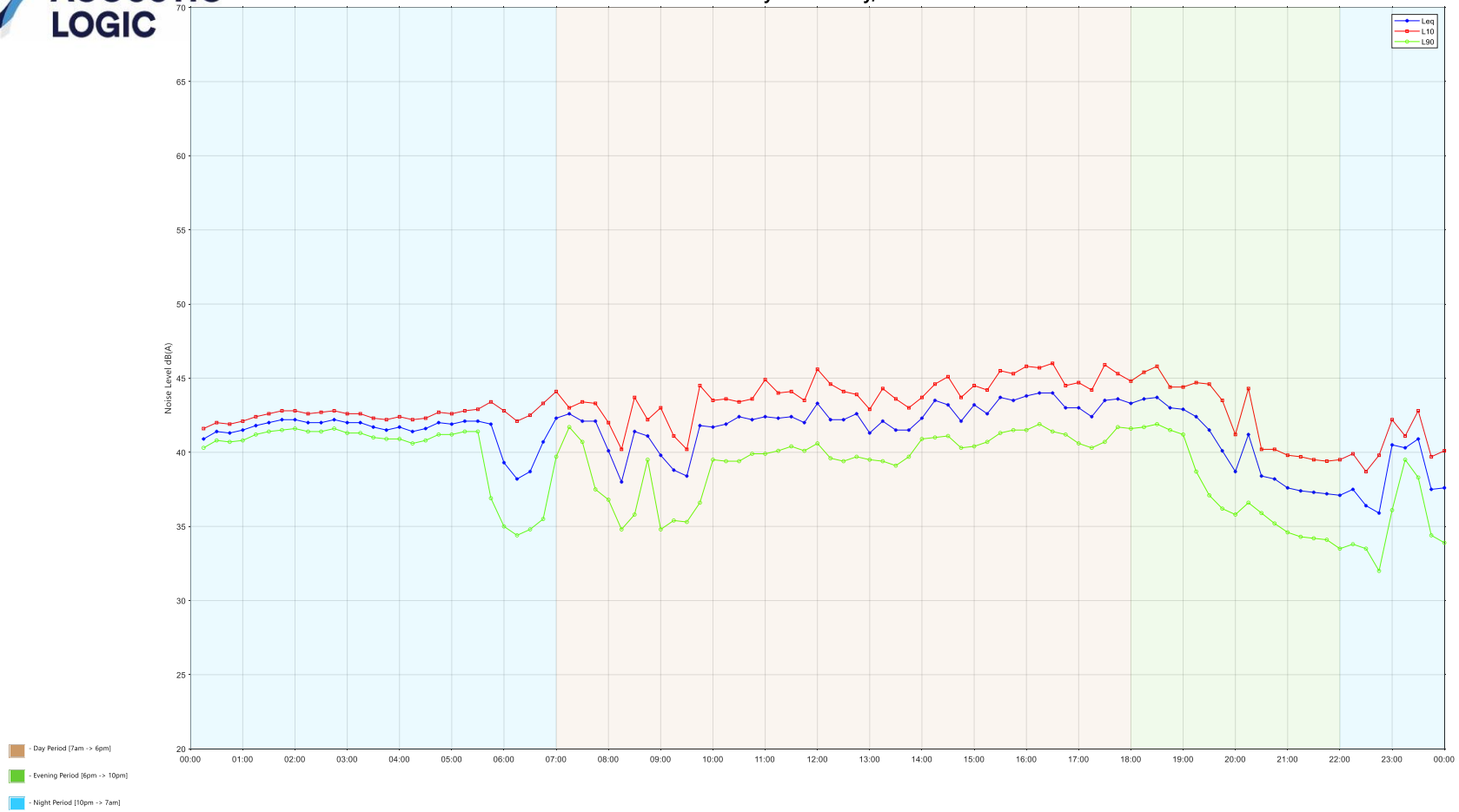
Nepean Hospital Stage 2 - TB1 Corridor Saturday 17 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)

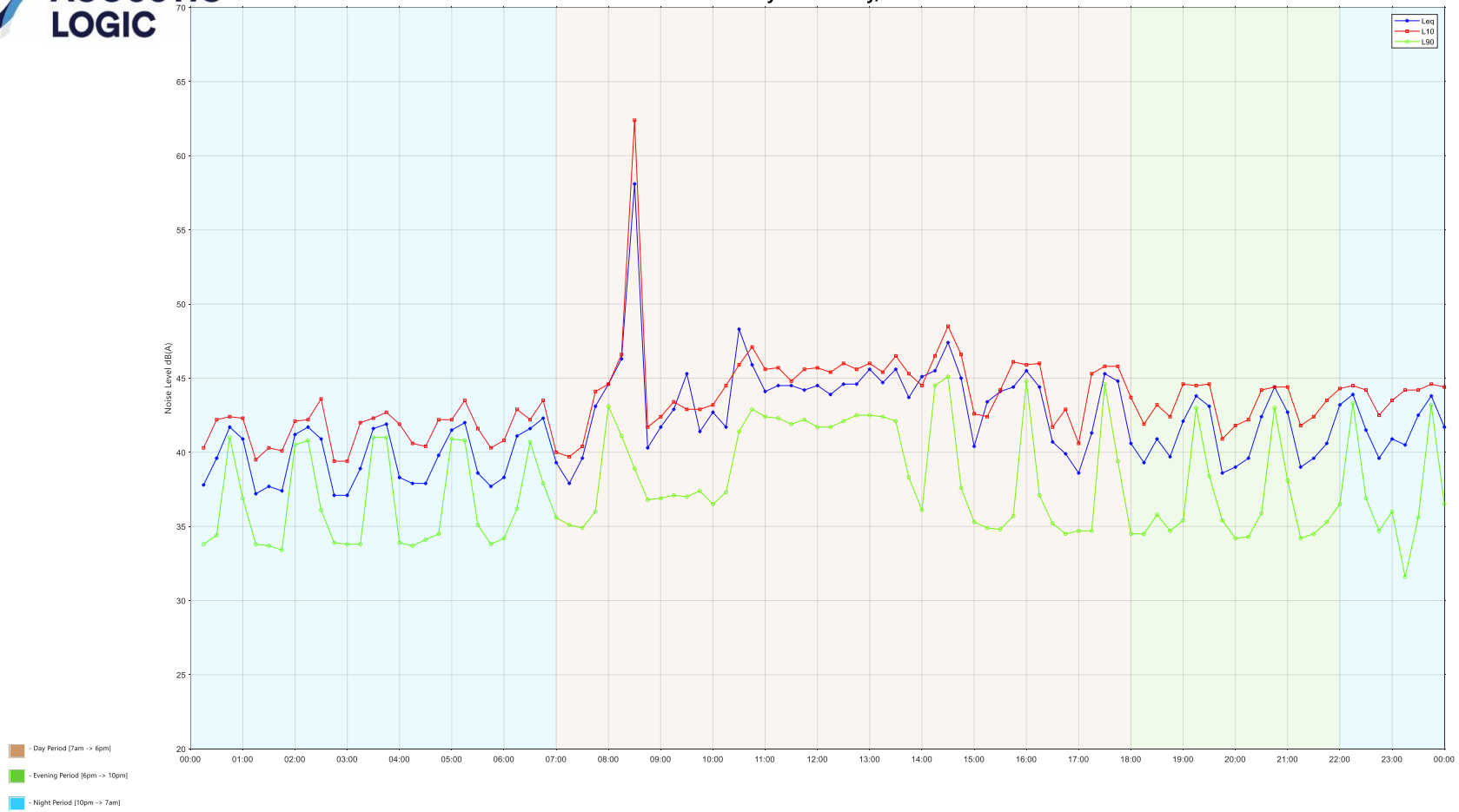


Nepean Hospital Stage 2 - TB1 Corridor Sunday 18 February, 2024



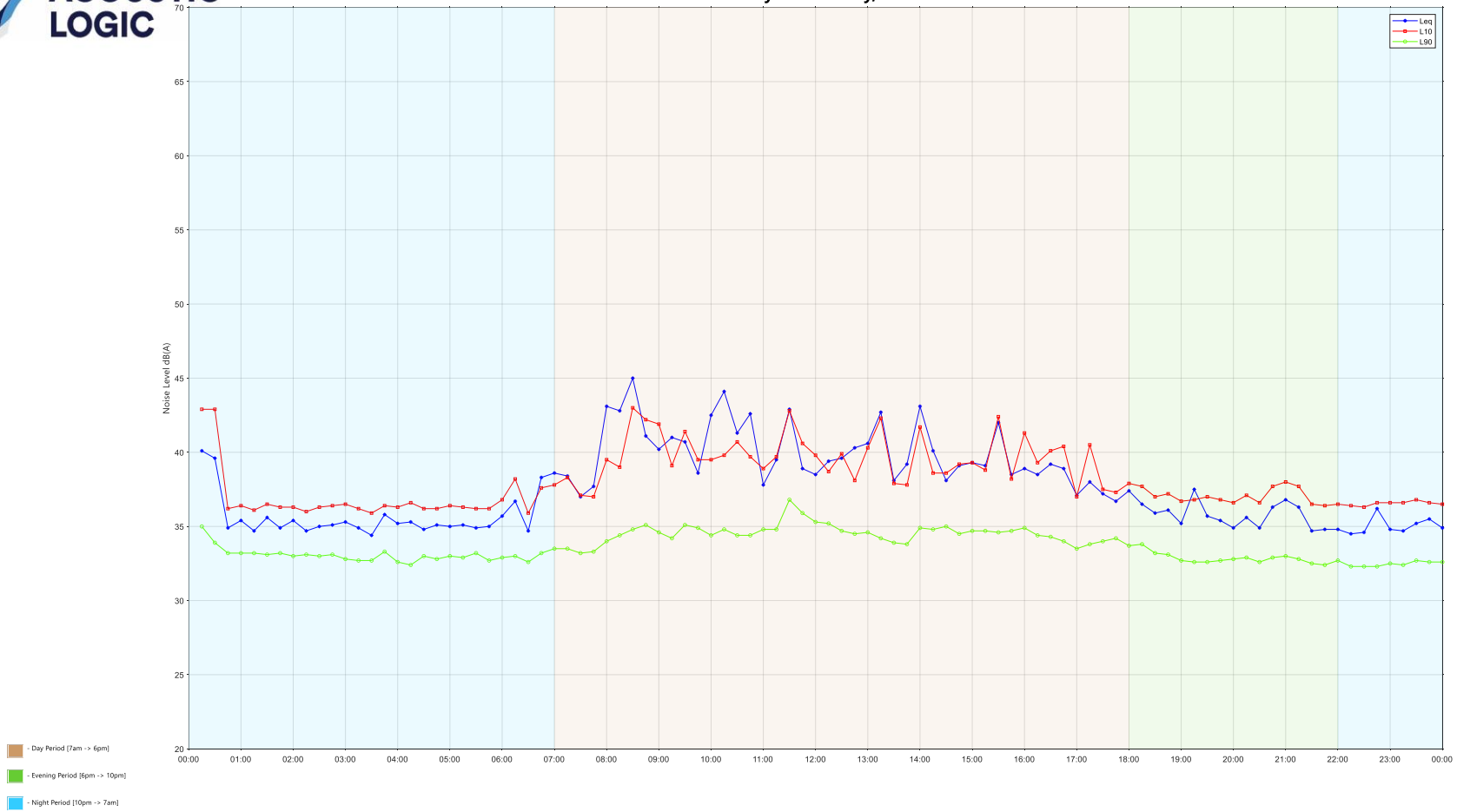


Nepean Hospital Stage 2 - TB1 Corridor Monday 19 February, 2024



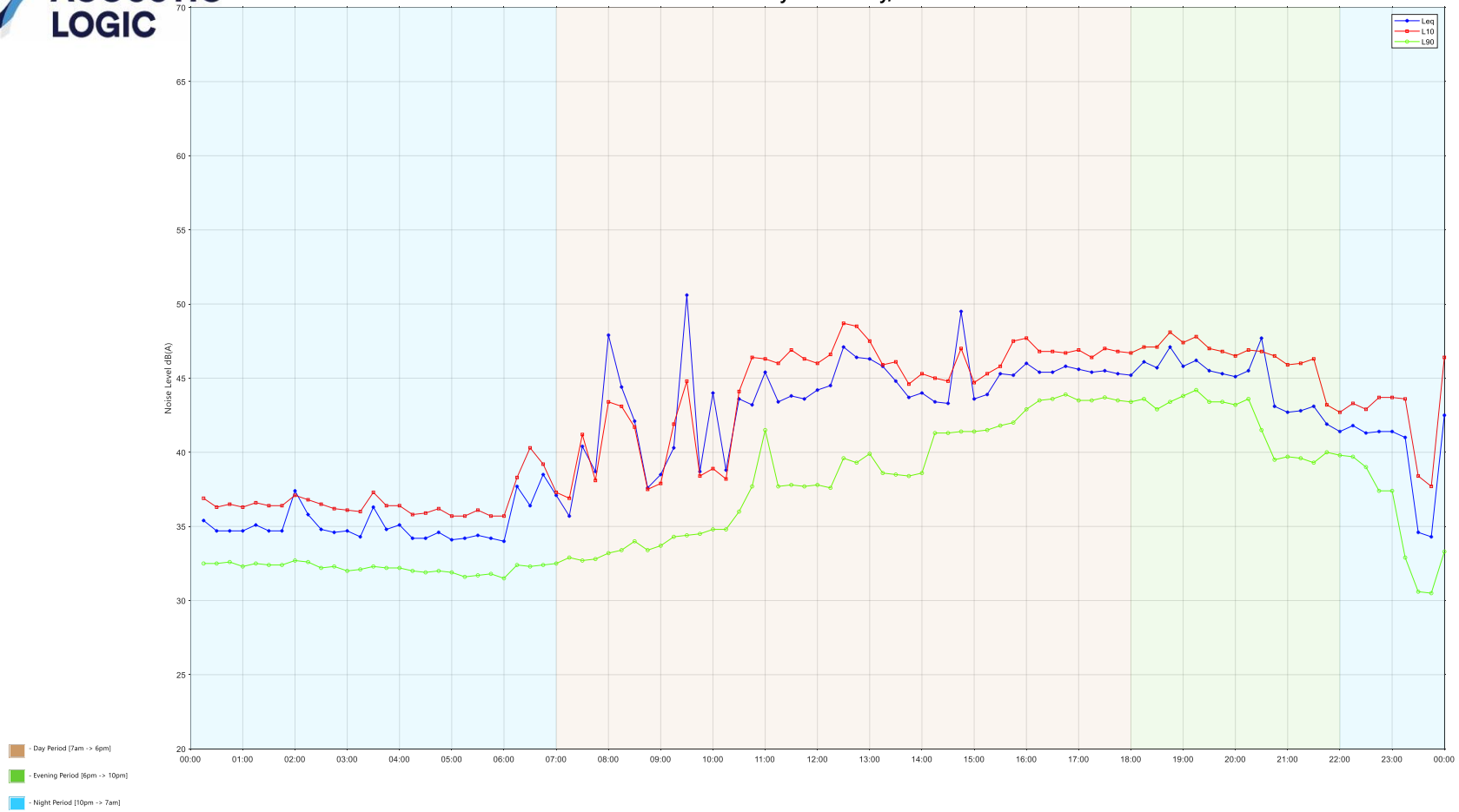


Nepean Hospital Stage 2 - TB1 Corridor Tuesday 20 February, 2024





Nepean Hospital Stage 2 - TB1 Corridor Wednesday 21 February, 2024





Nepean Hospital Stage 2 - TB1 Corridor Thursday 22 February, 2024



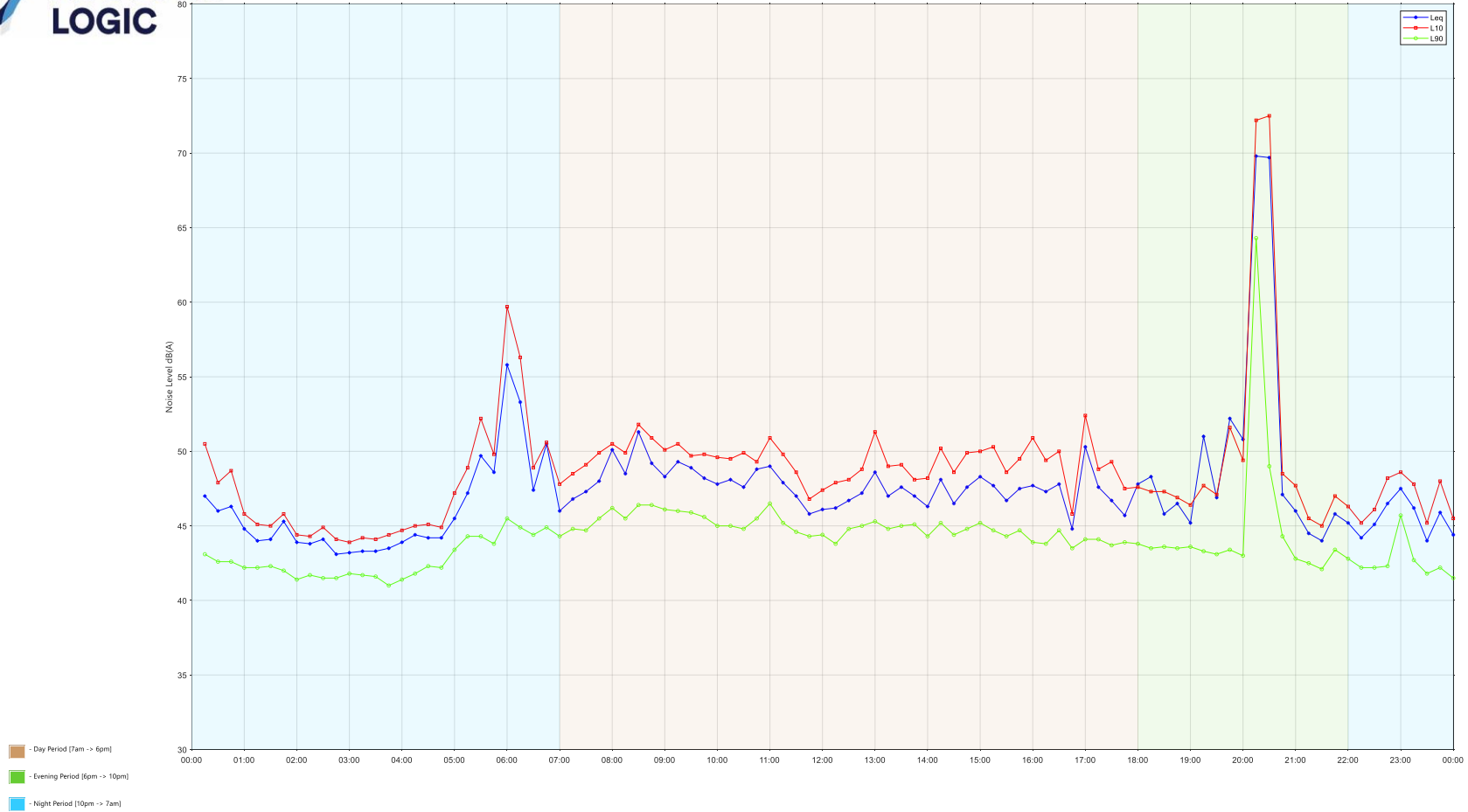


Nepean Hospital Stage 2 - TB1 Corridor Friday 23 February, 2024

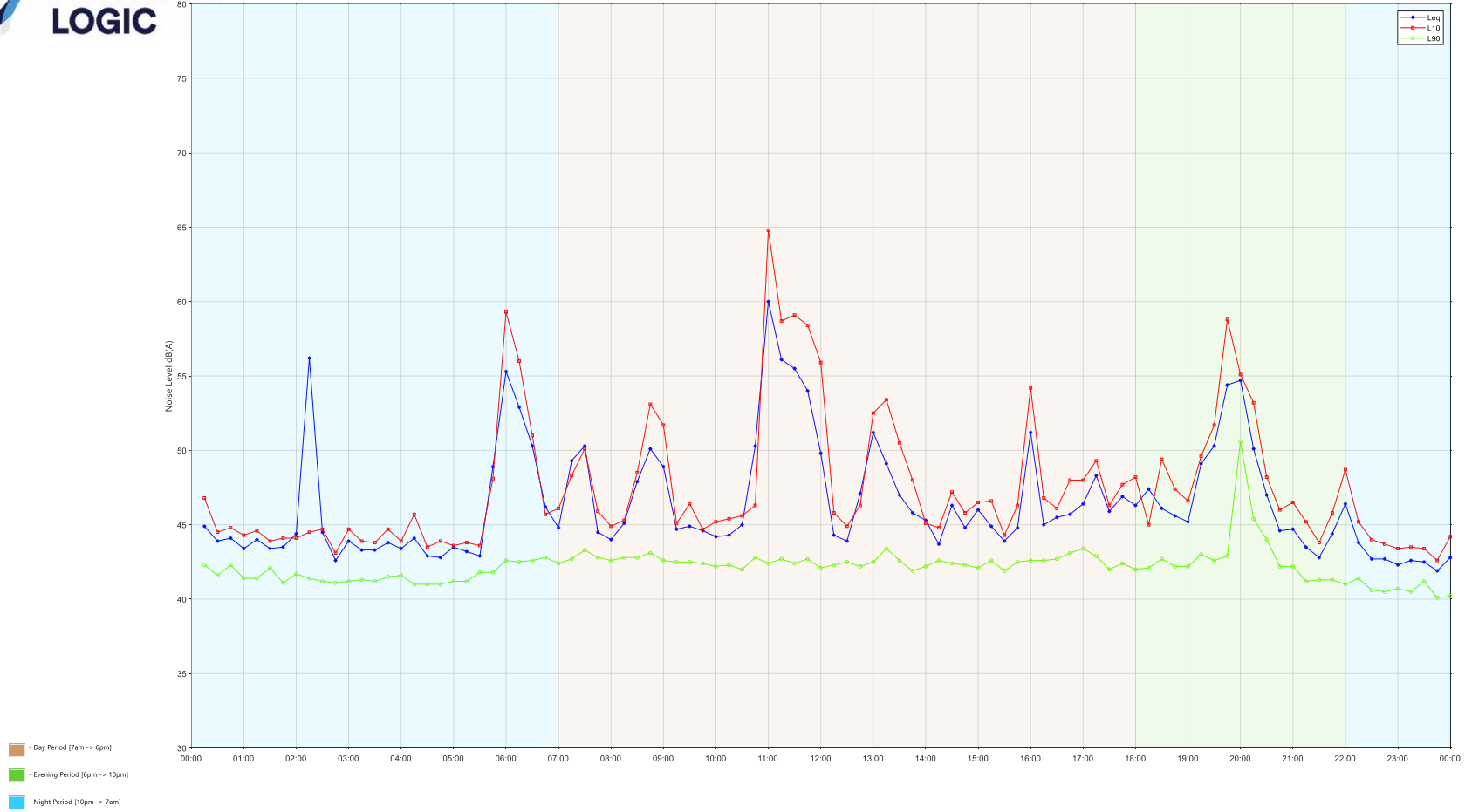


- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)

Nepean Hospital Stage 2 - Tresillian Building
Saturday 10 February, 2024



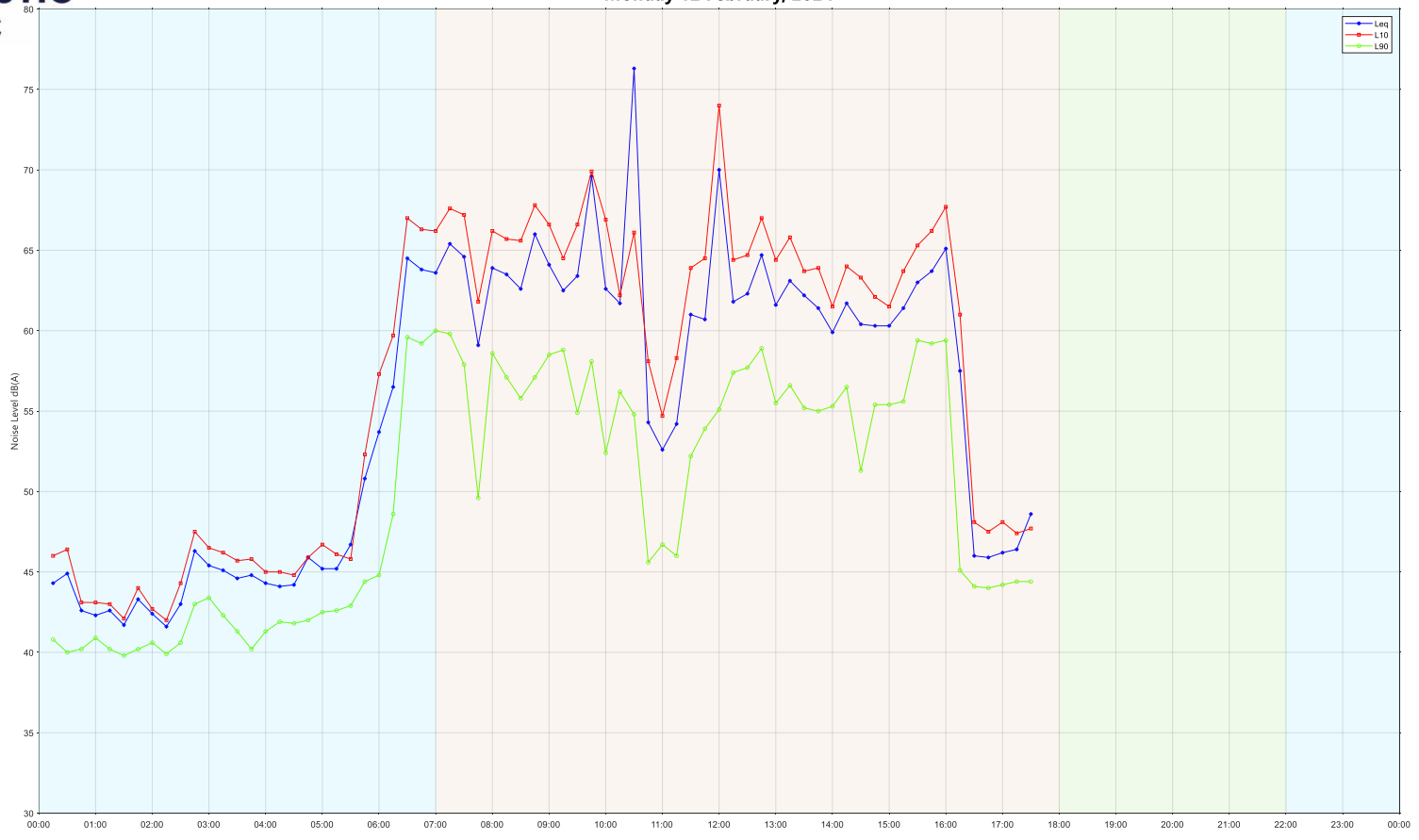
Nepean Hospital Stage 2 - Tresillian Building
Sunday 11 February, 2024



■ Day Period (7am -> 6pm)
■ Evening Period (6pm -> 10pm)
■ Night Period (10pm -> 7am)



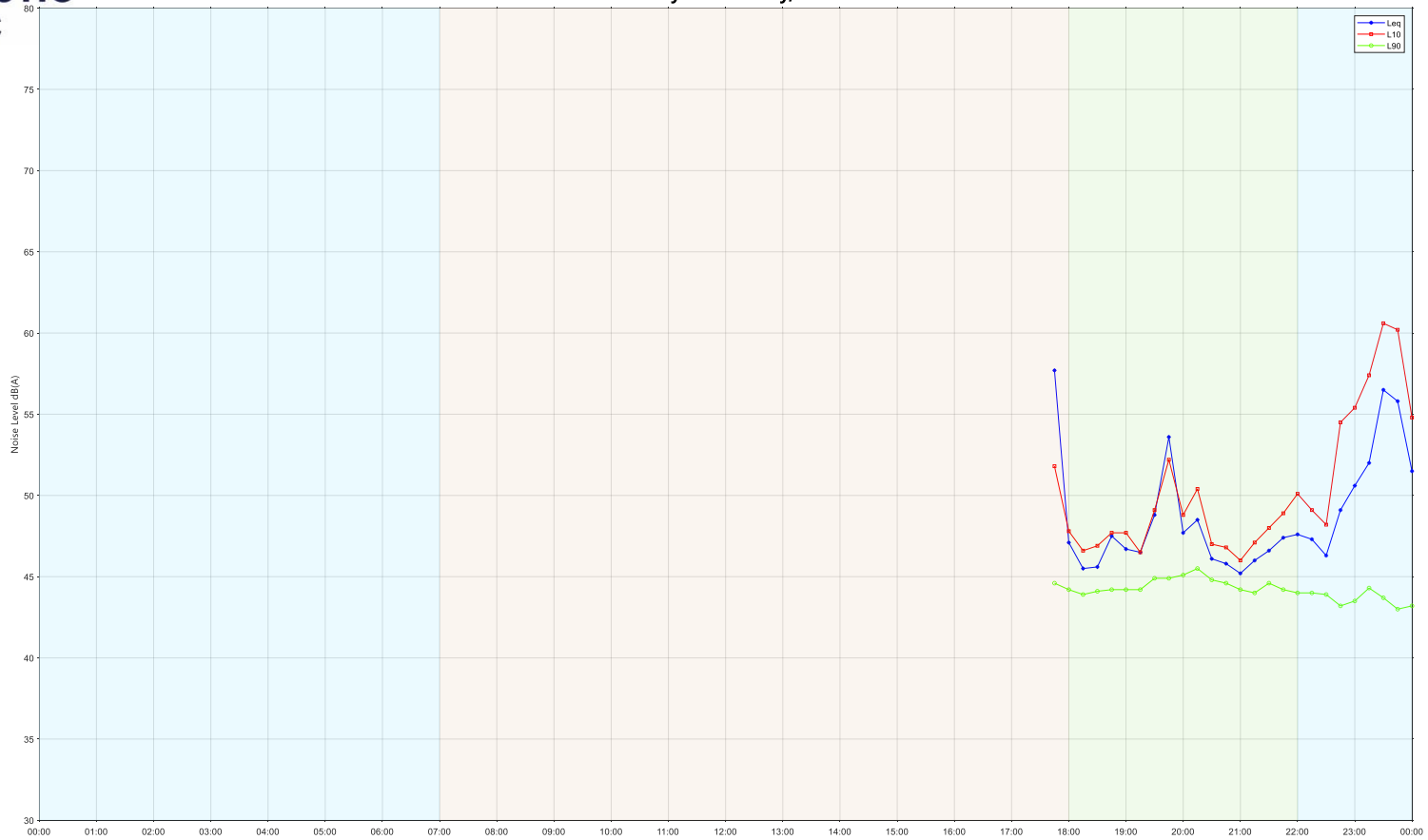
Nepean Hospital Stage 2 - Tresillian Building Monday 12 February, 2024



Day Period (7am -> 6pm)
Evening Period (6pm -> 10pm)
Night Period (10pm -> 7am)

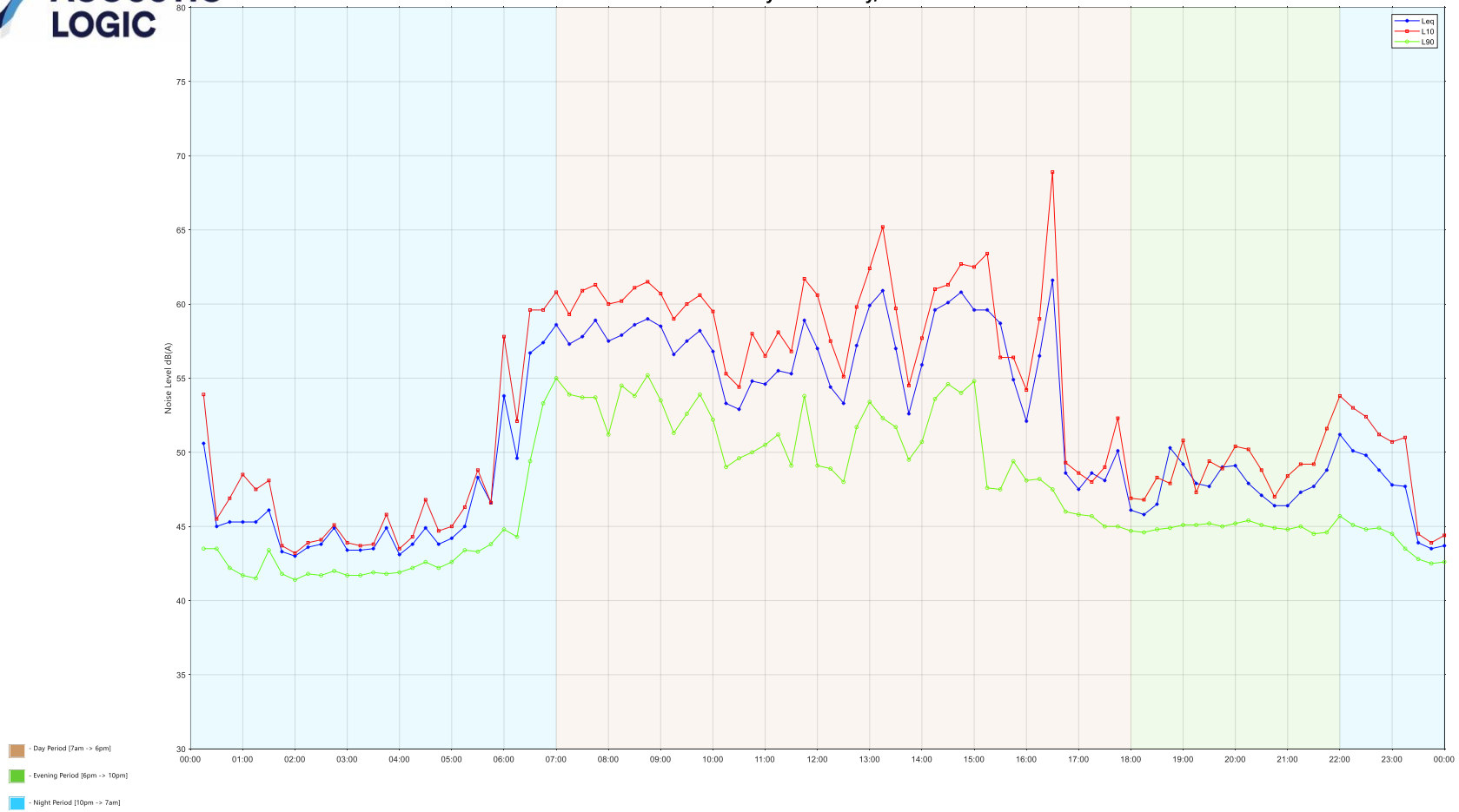


Nepean Hospital Stage 2 - Tresillian Building
Monday 12 February, 2024



- Day Period (7am -> 6pm)
- Evening Period (6pm -> 10pm)
- Night Period (10pm -> 7am)

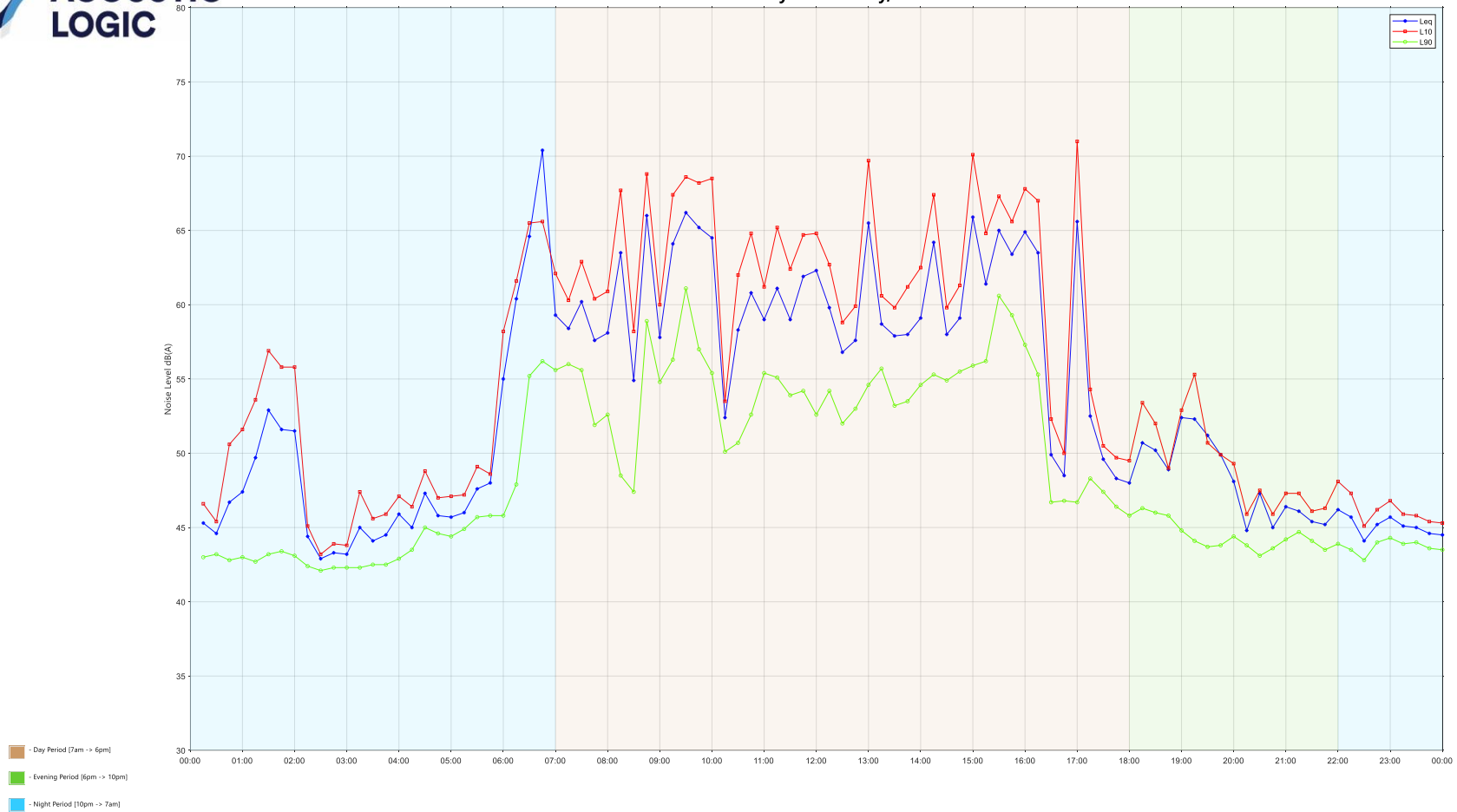
Nepean Hospital Stage 2 - Tresillian Building
Tuesday 13 February, 2024



■ - Day Period (7am -> 6pm)
■ - Evening Period (6pm -> 10pm)
■ - Night Period (10pm -> 7am)

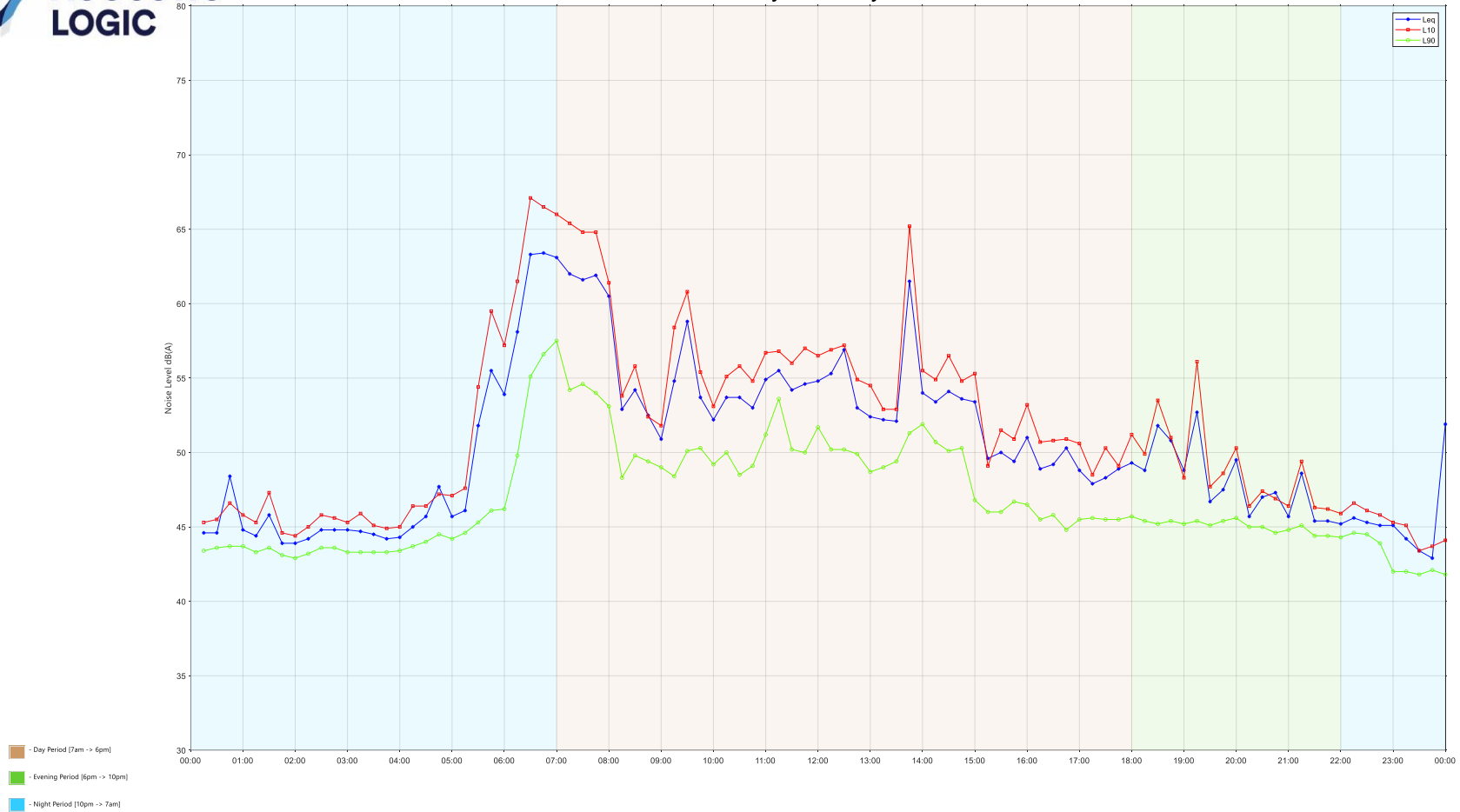


Nepean Hospital Stage 2 - Tresillian Building Wednesday 14 February, 2024



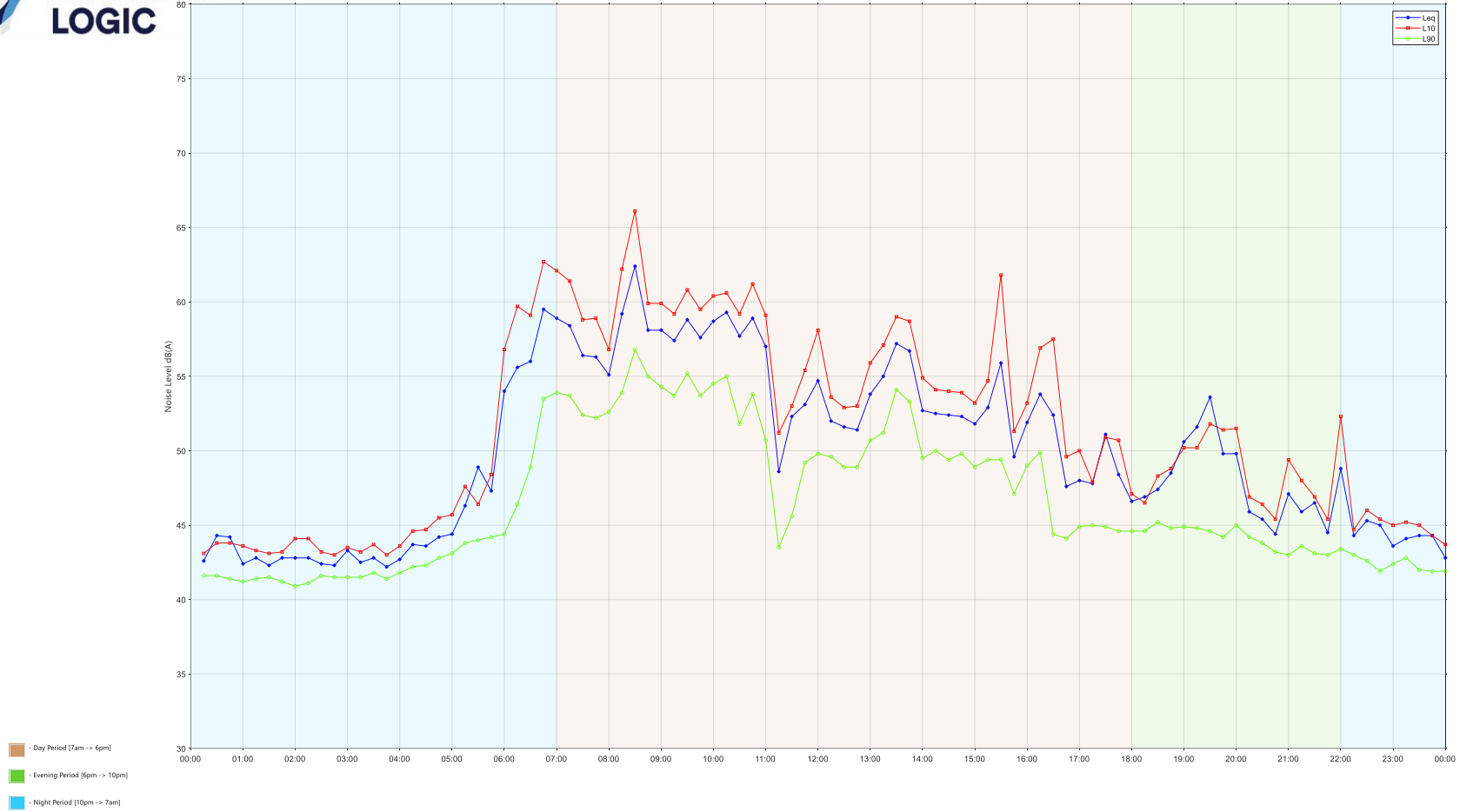


Nepean Hospital Stage 2 - Tresillian Building Thursday 15 February, 2024



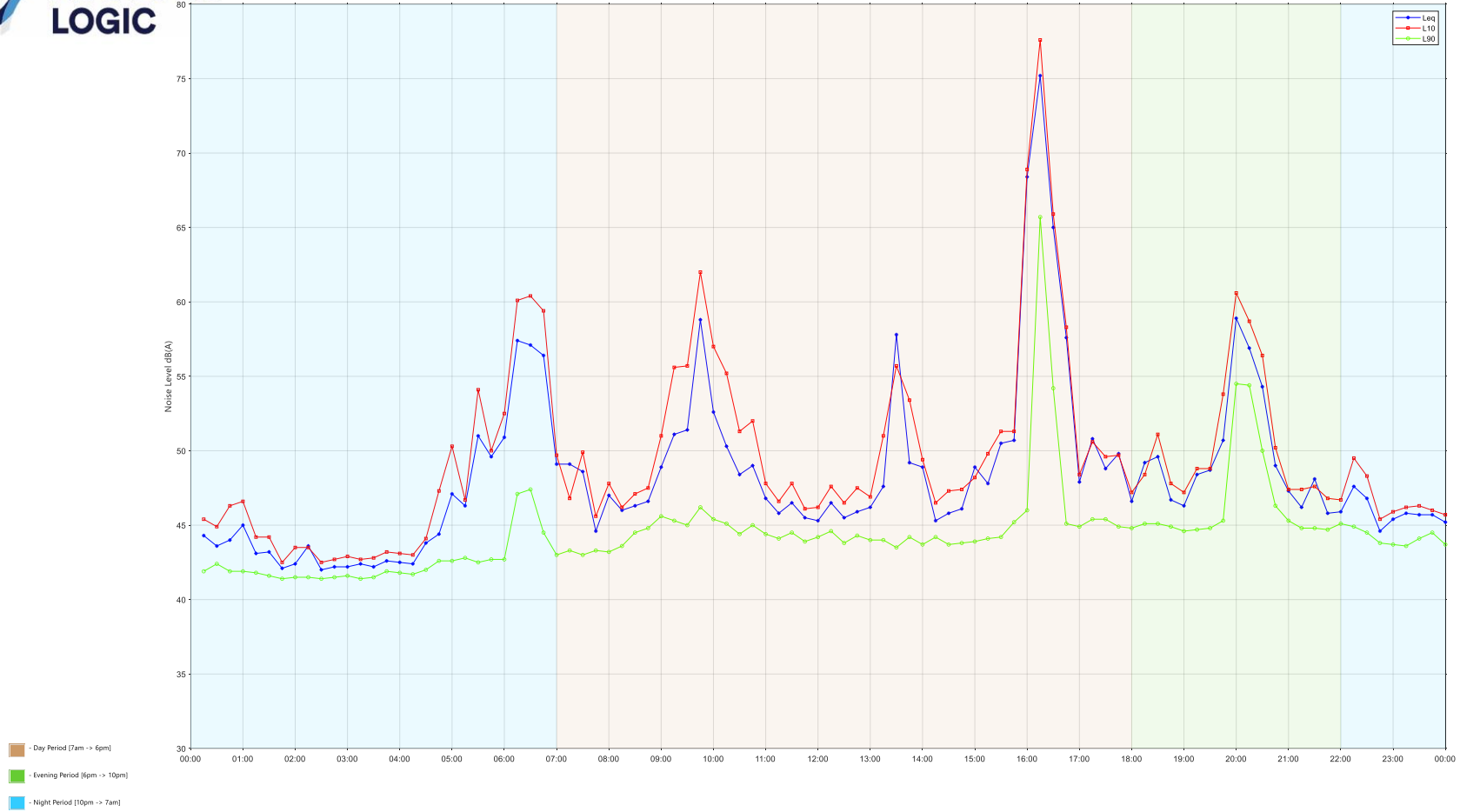


Nepean Hospital Stage 2 - Tresillian Building Friday 16 February, 2024



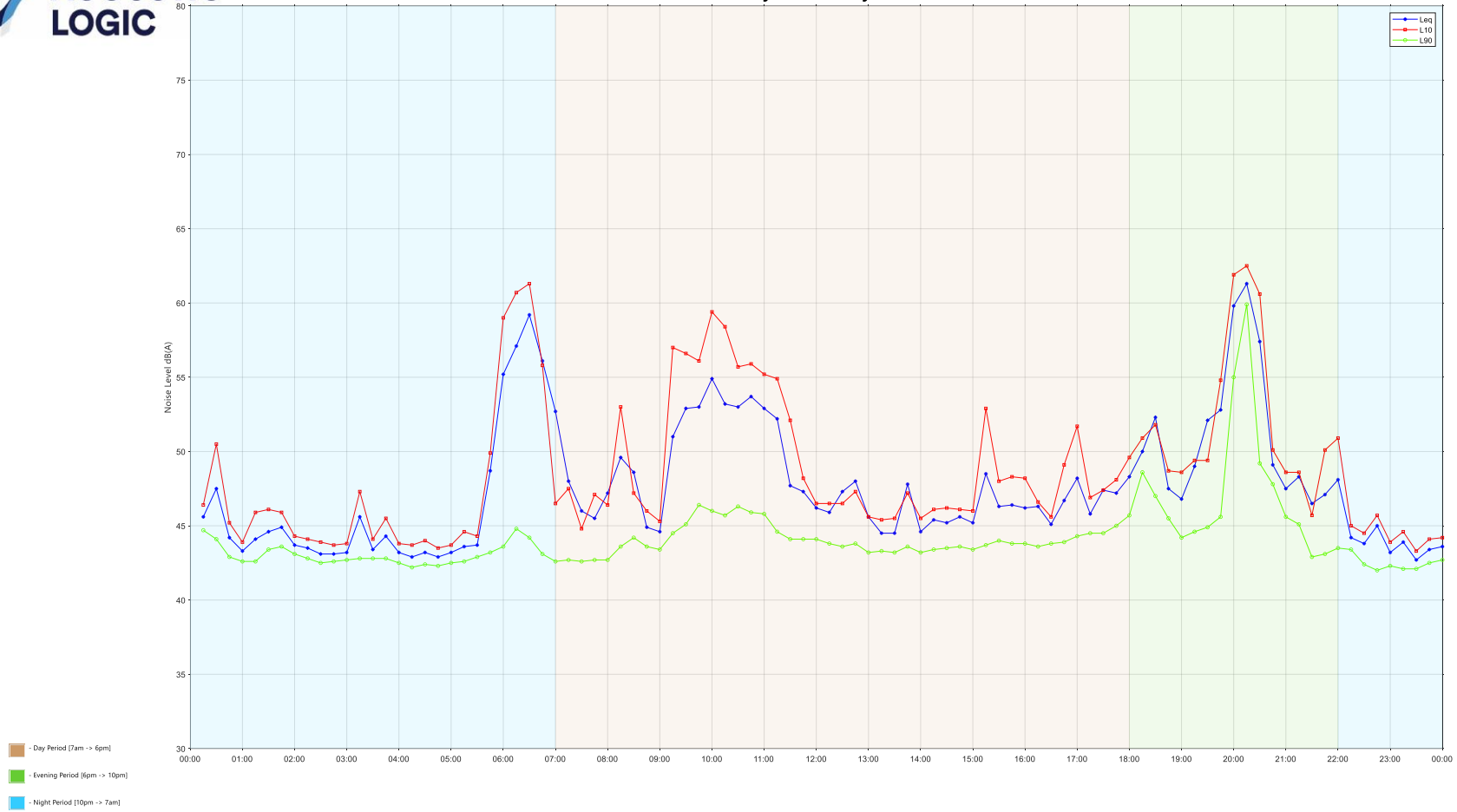


Nepean Hospital Stage 2 - Tresillian Building Saturday 17 February, 2024



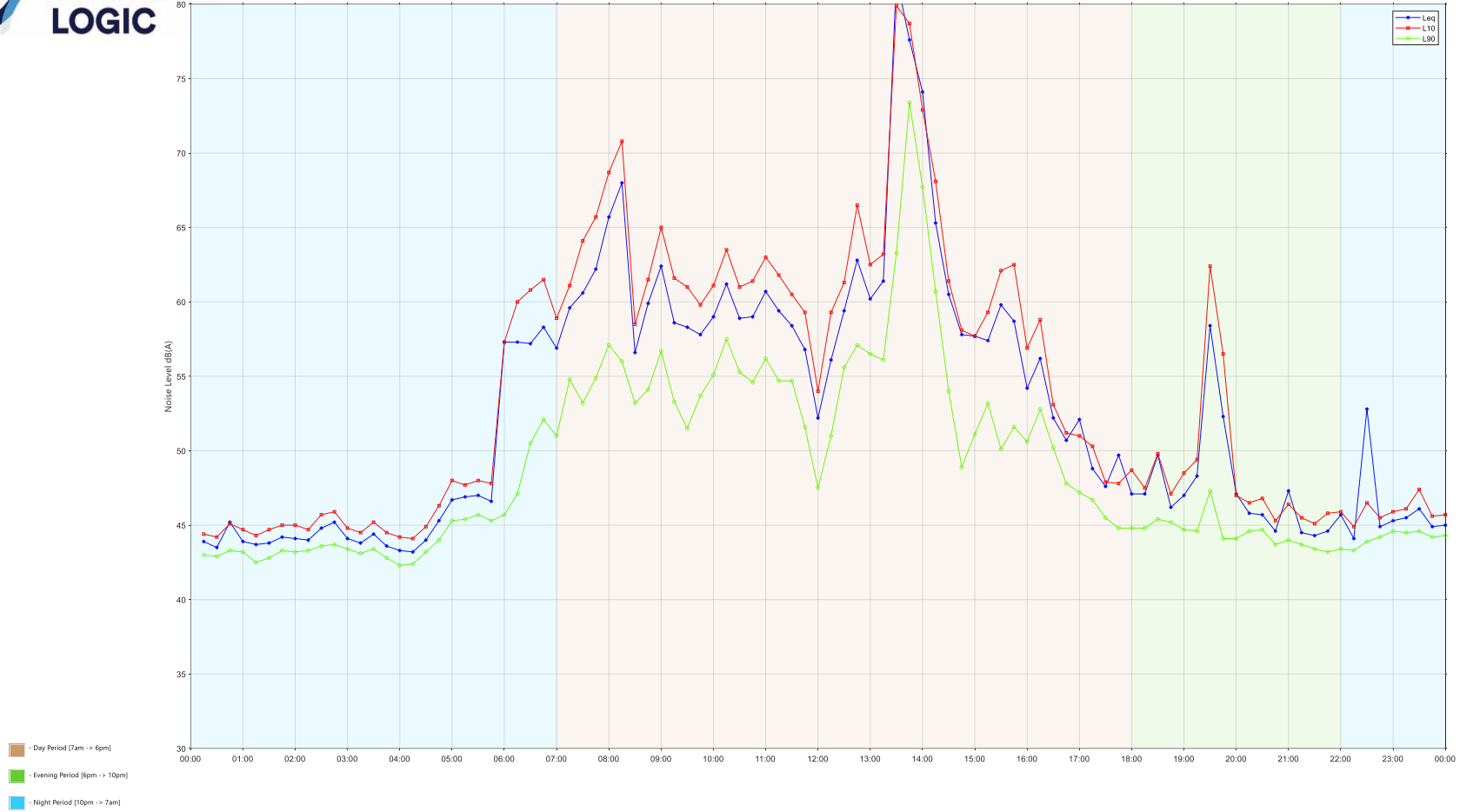


Nepean Hospital Stage 2 - Tresillian Building Sunday 18 February, 2024



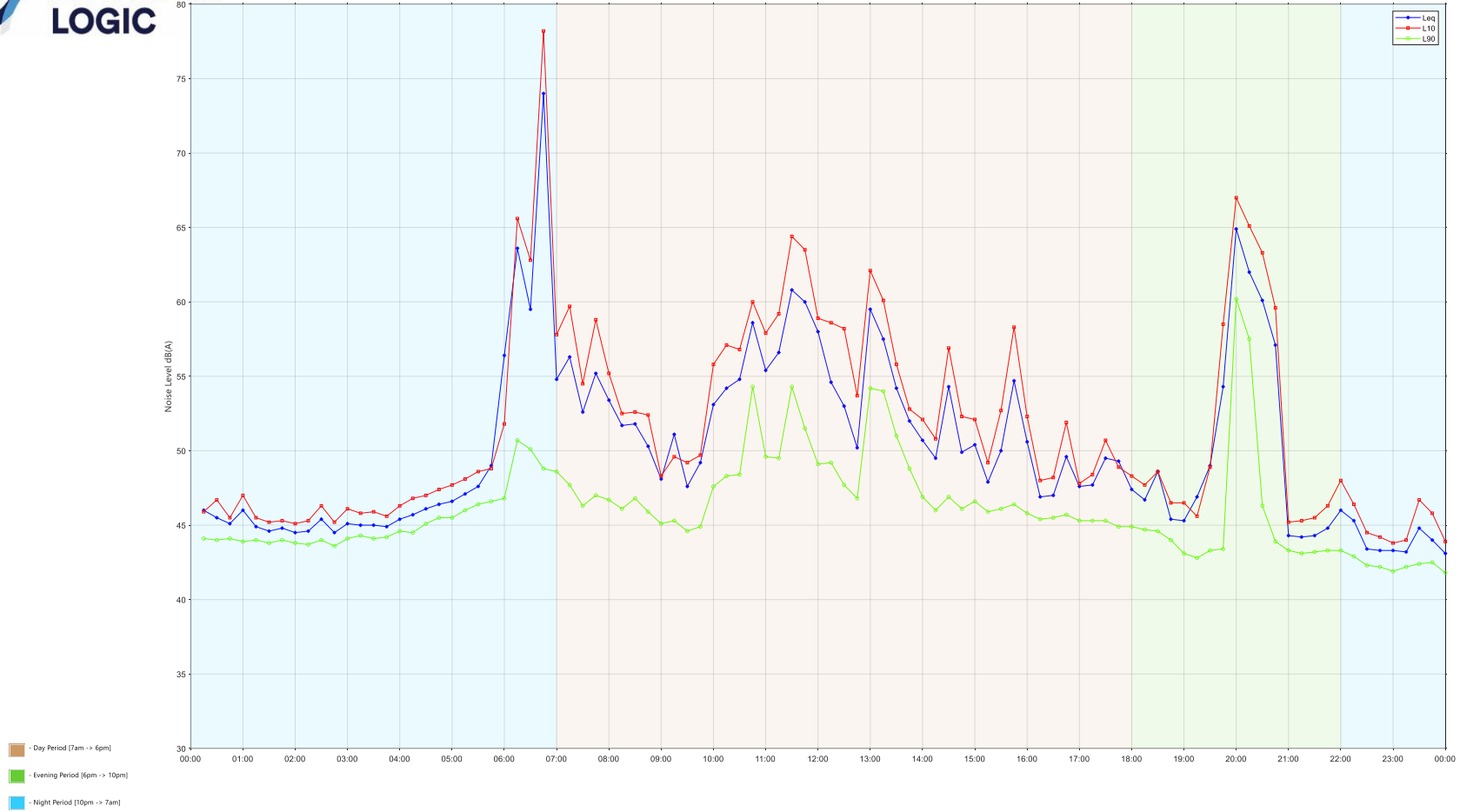


Nepean Hospital Stage 2 - Tresillian Building Monday 19 February, 2024



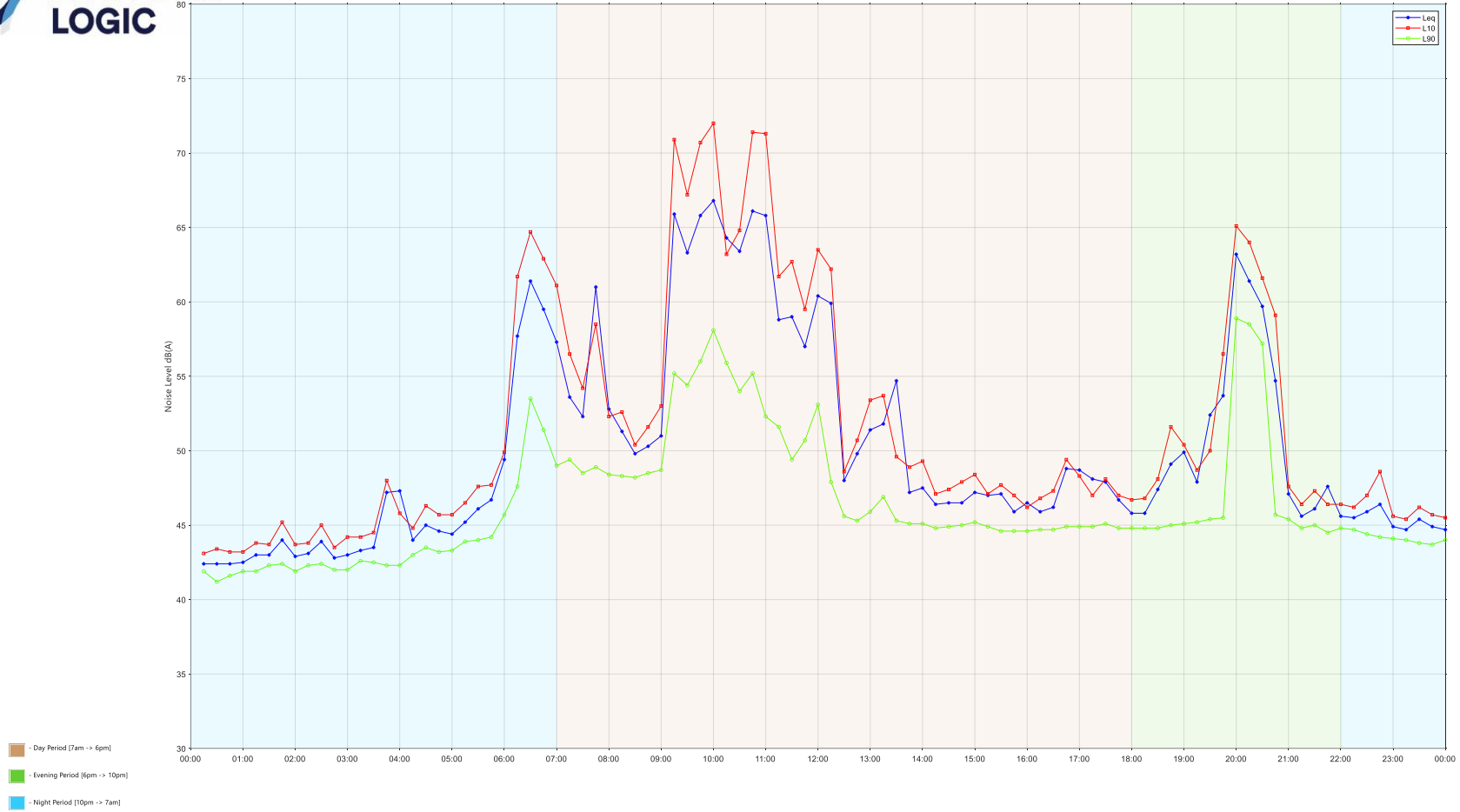


Nepean Hospital Stage 2 - Tresillian Building
Tuesday 20 February, 2024



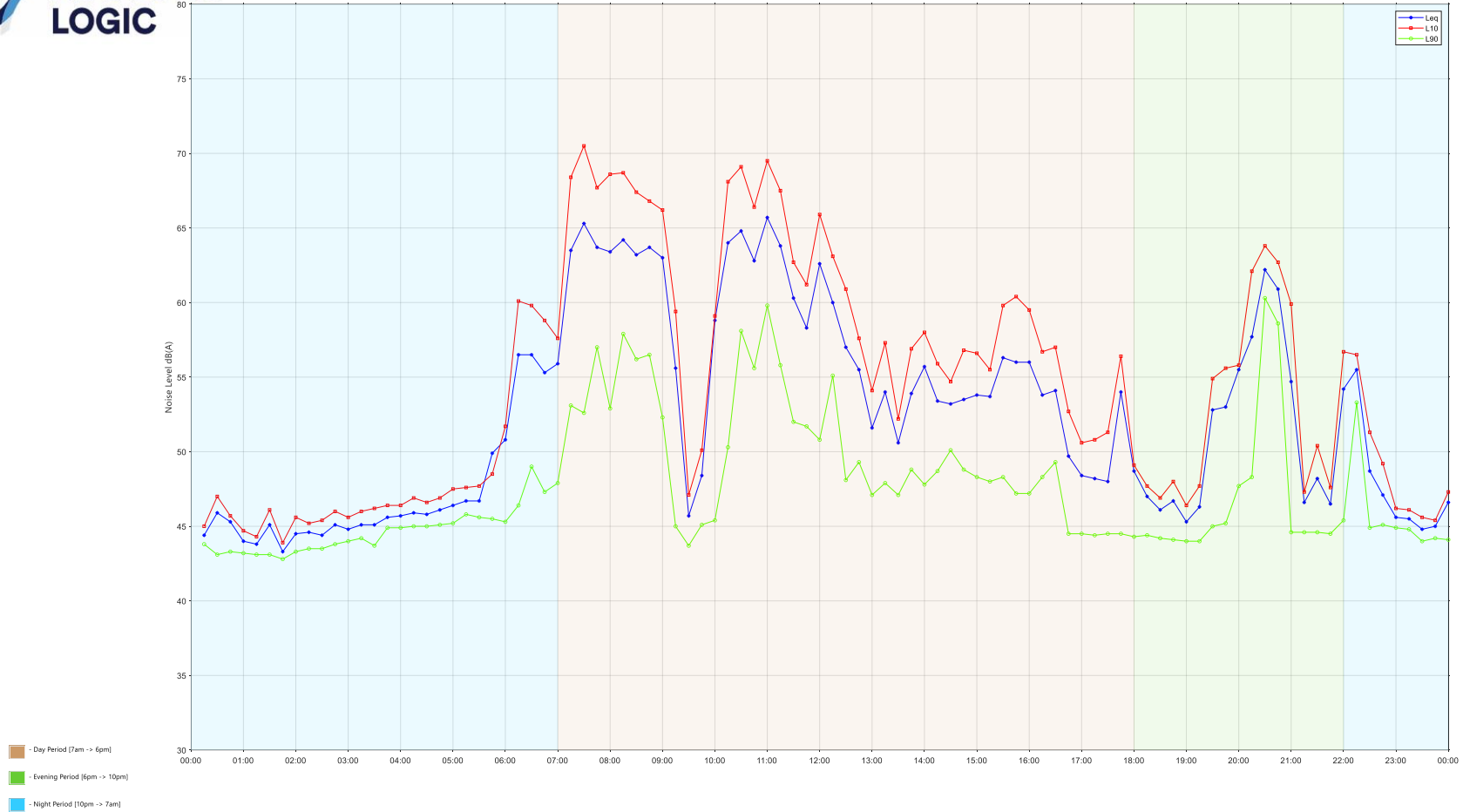


Nepean Hospital Stage 2 - Tresillian Building Wednesday 21 February, 2024





Nepean Hospital Stage 2 - Tresillian Building Thursday 22 February, 2024

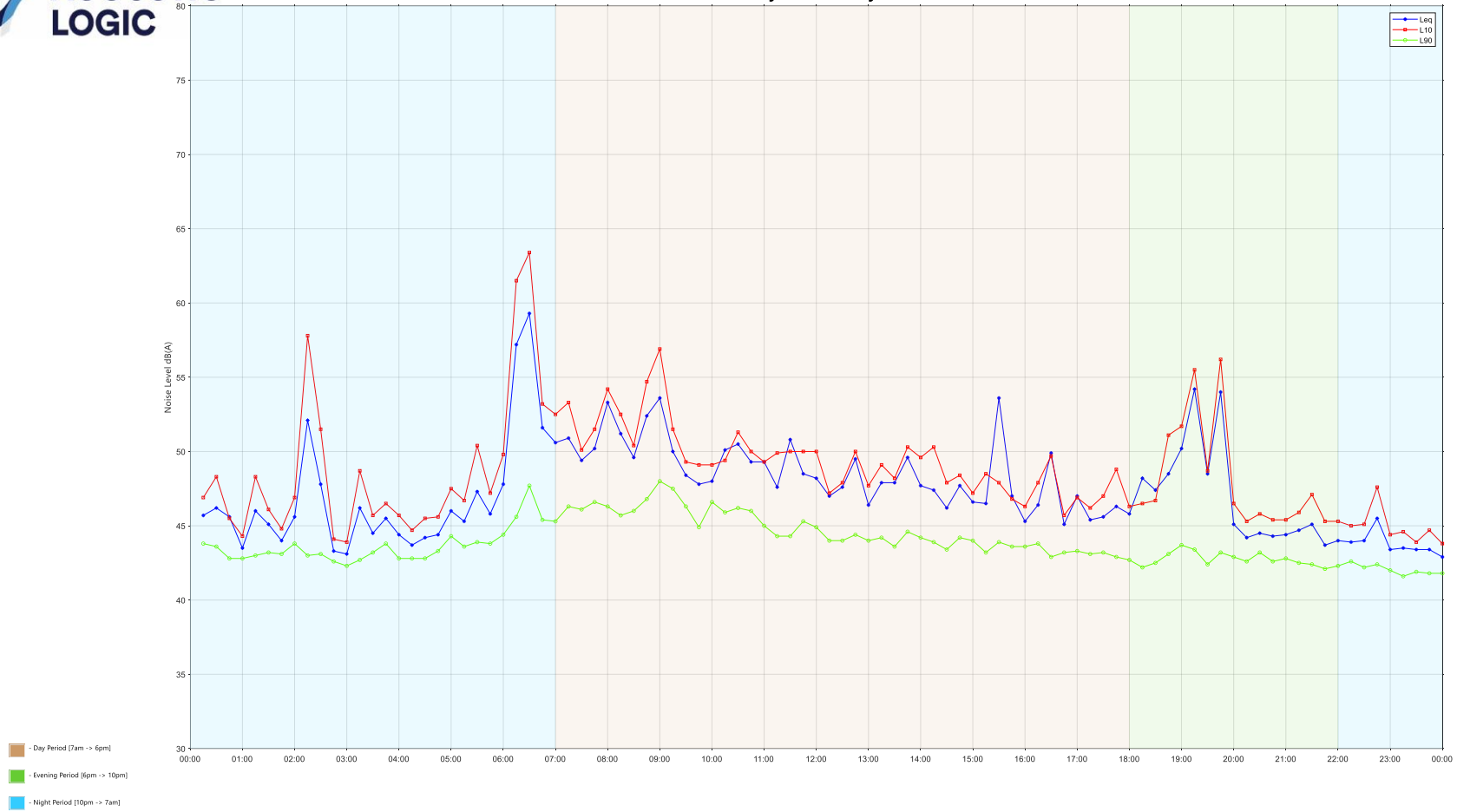




Nepean Hospital Stage 2 - Tresillian Building Friday 23 February, 2024



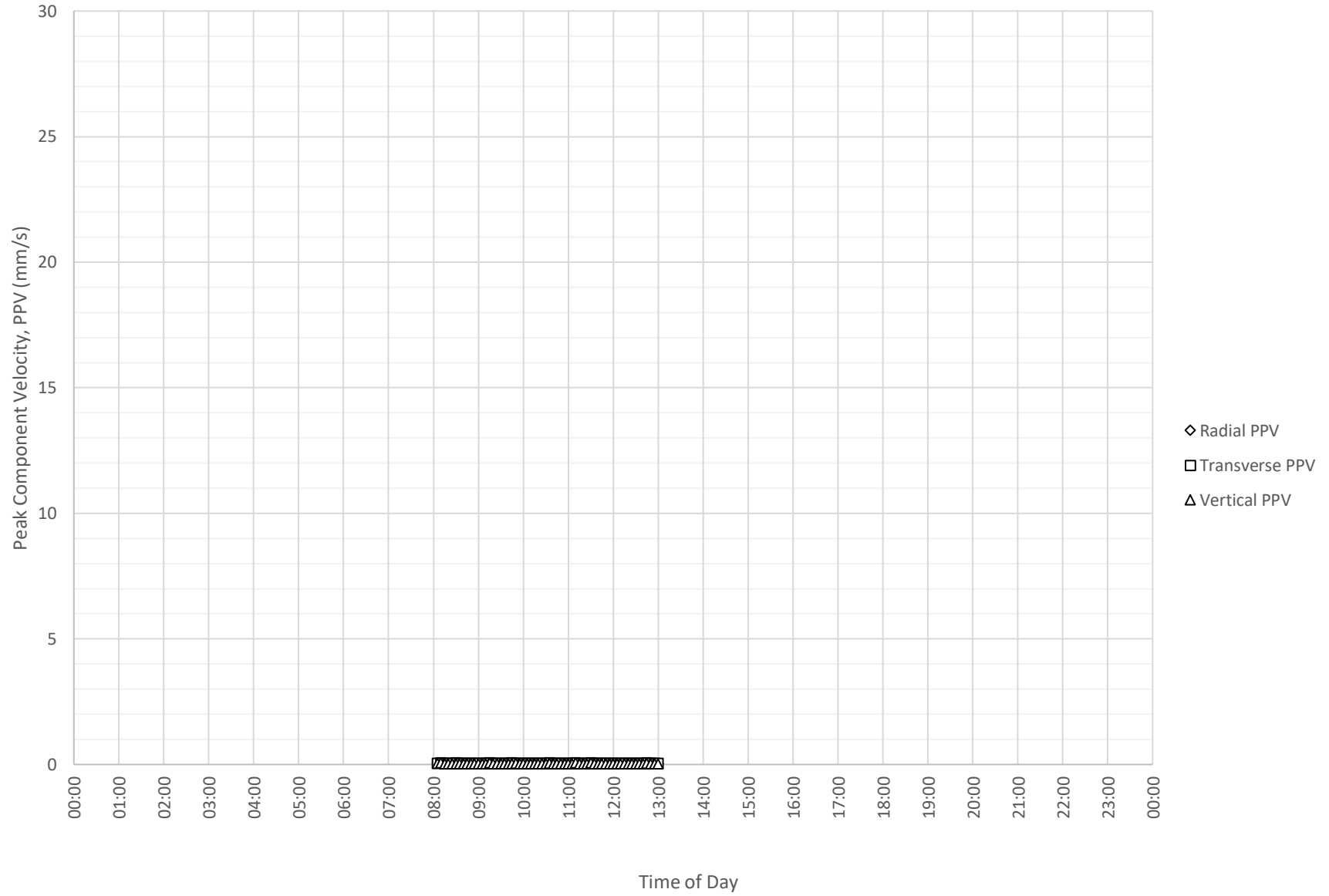
Nepean Hospital Stage 2 - Tresillian Building
Saturday 24 February, 2024



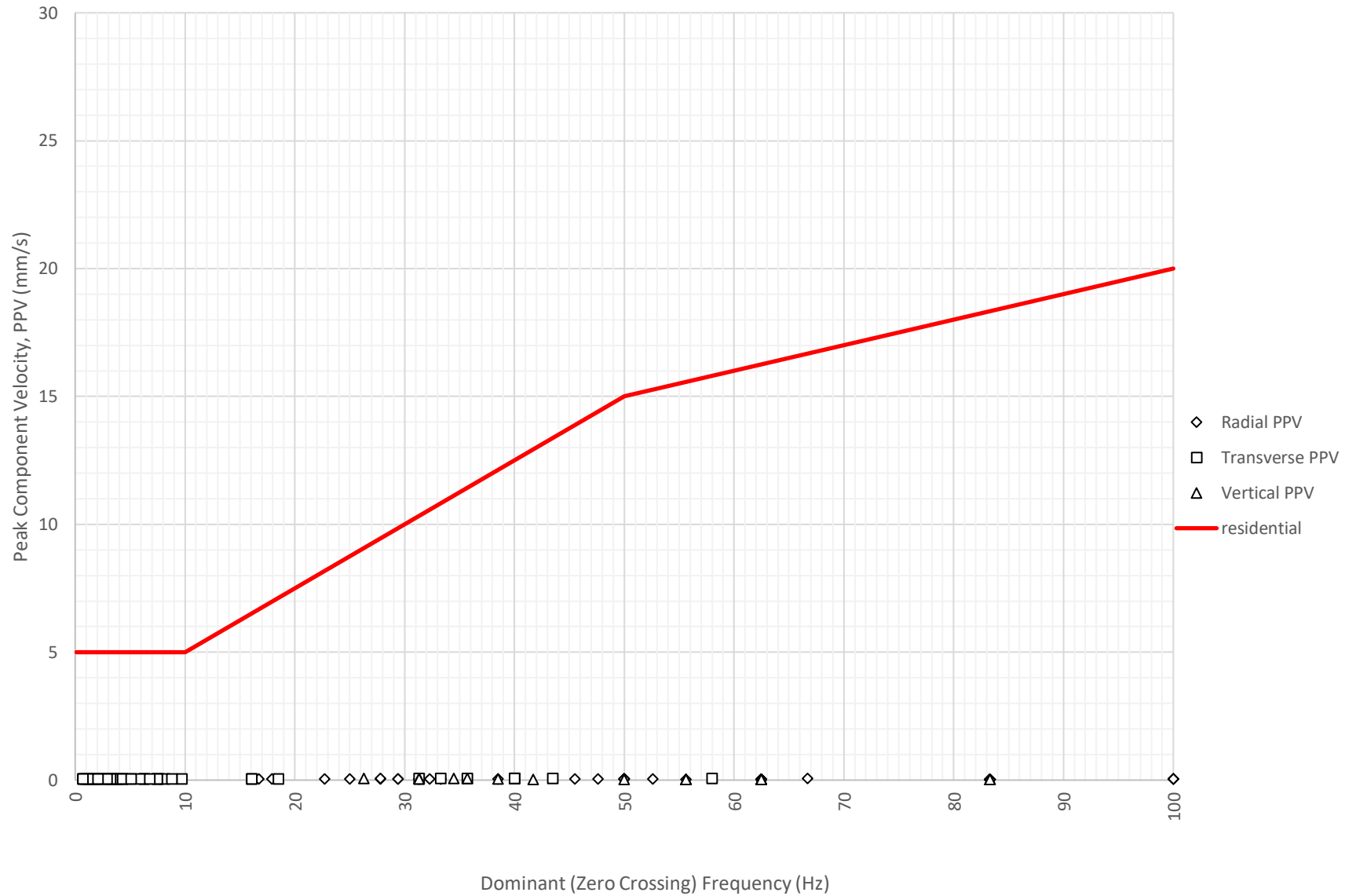
■ Day Period (7am -> 6pm)
■ Evening Period (6pm -> 10pm)
■ Night Period (10pm -> 7am)

APPENDIX B – VIBRATION MONITORING DATA

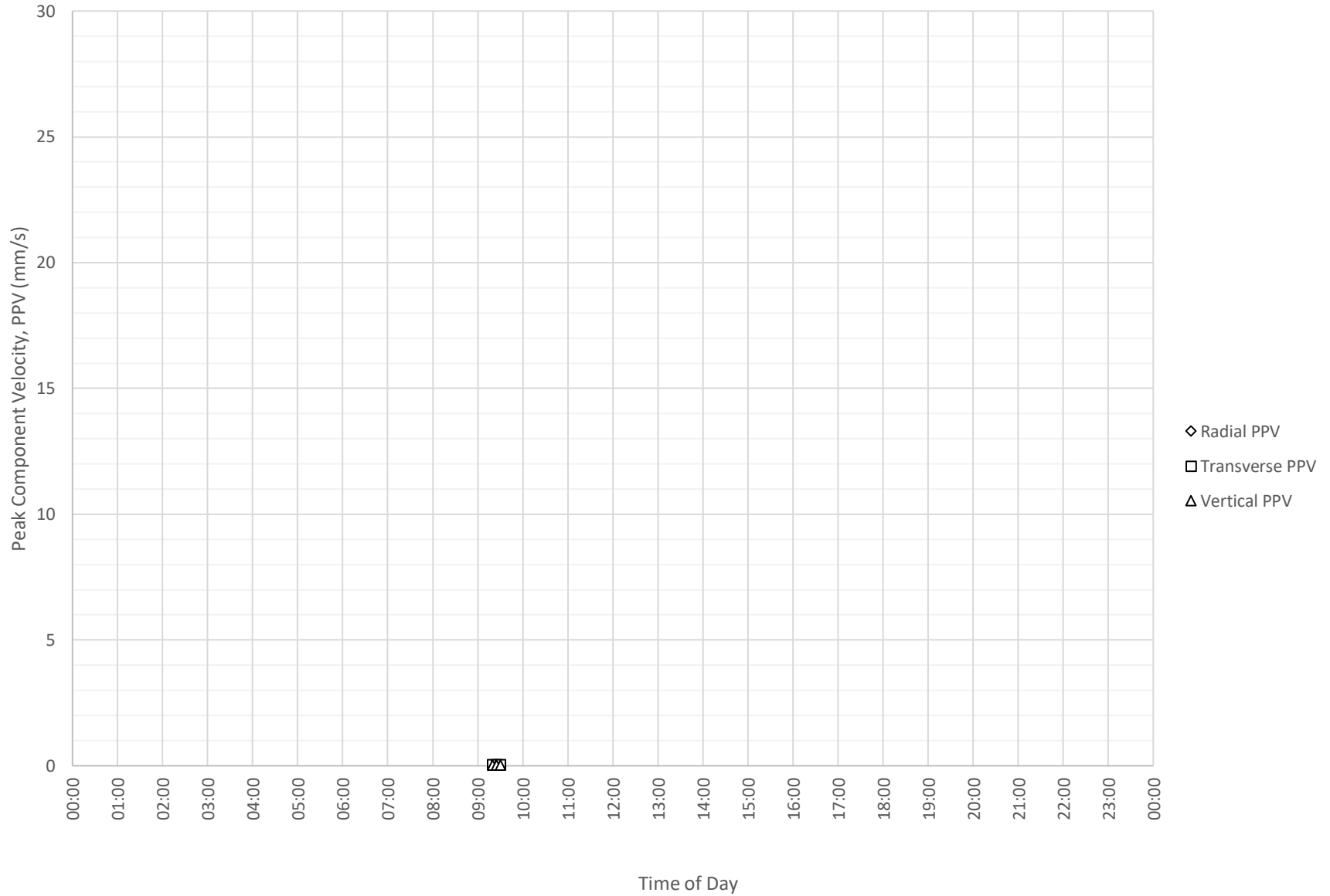
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 10-02-2024



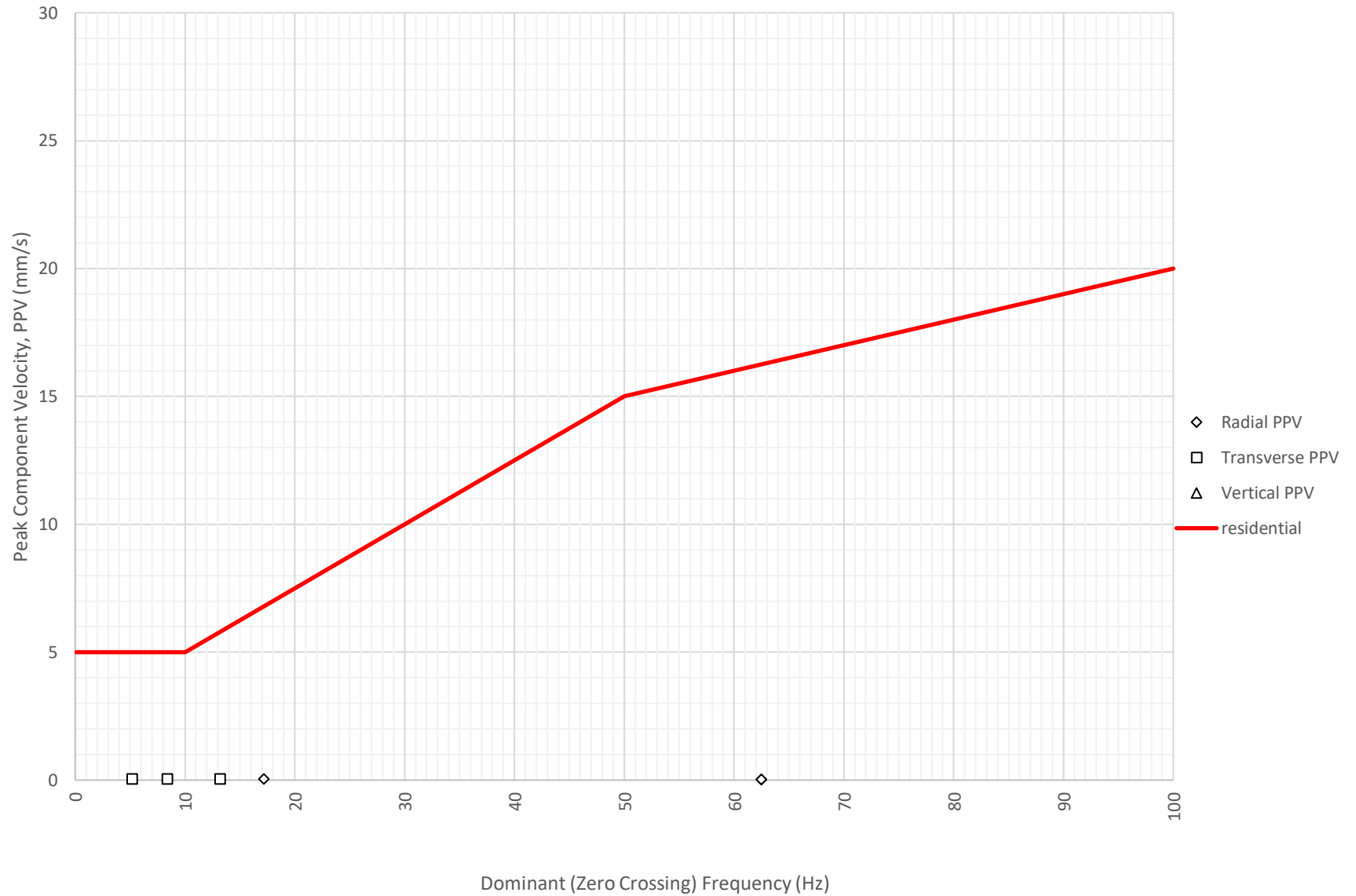
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 10-02-2024



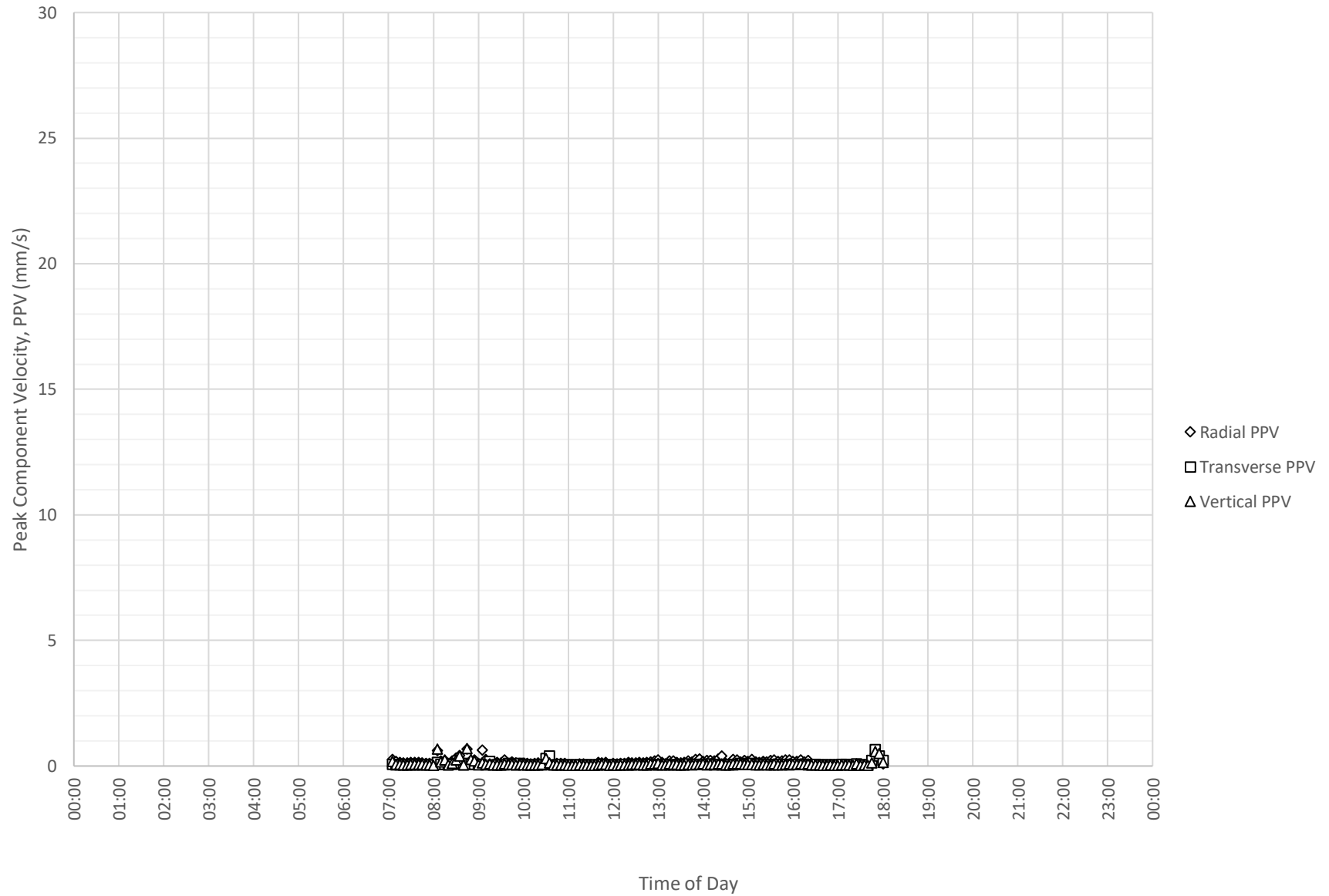
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 11-02-2024



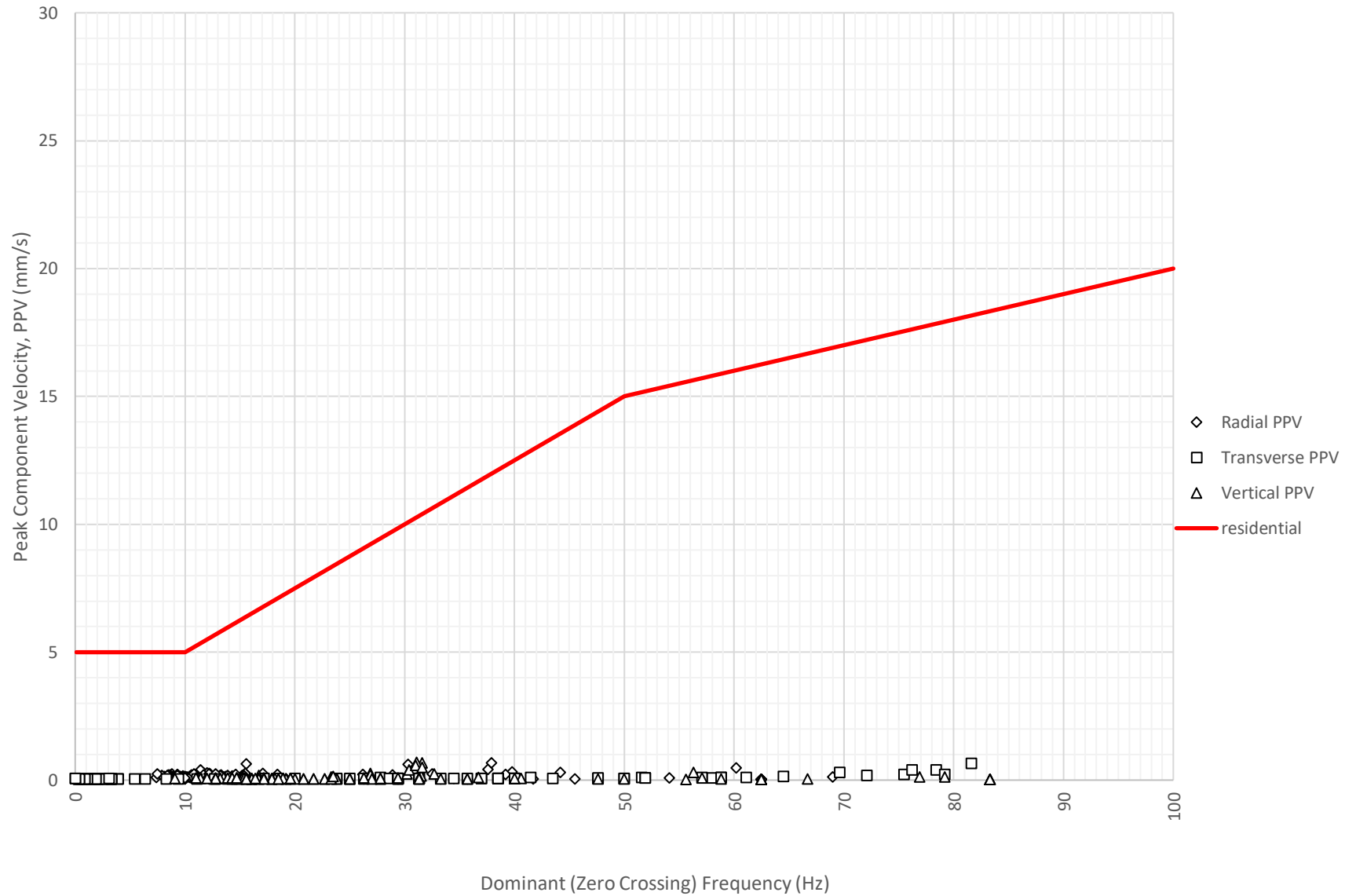
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 11-02-2024



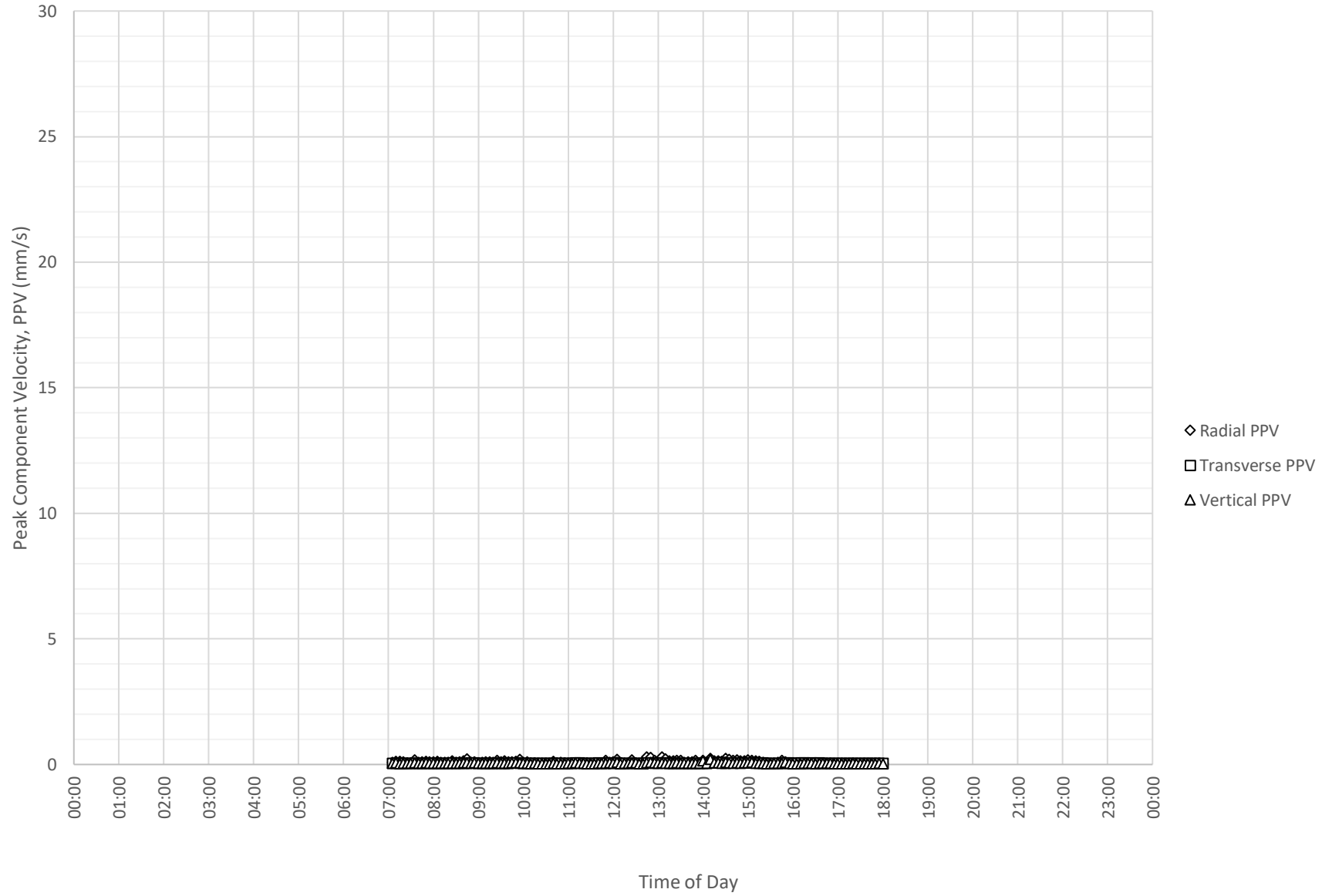
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on
12-02-2024



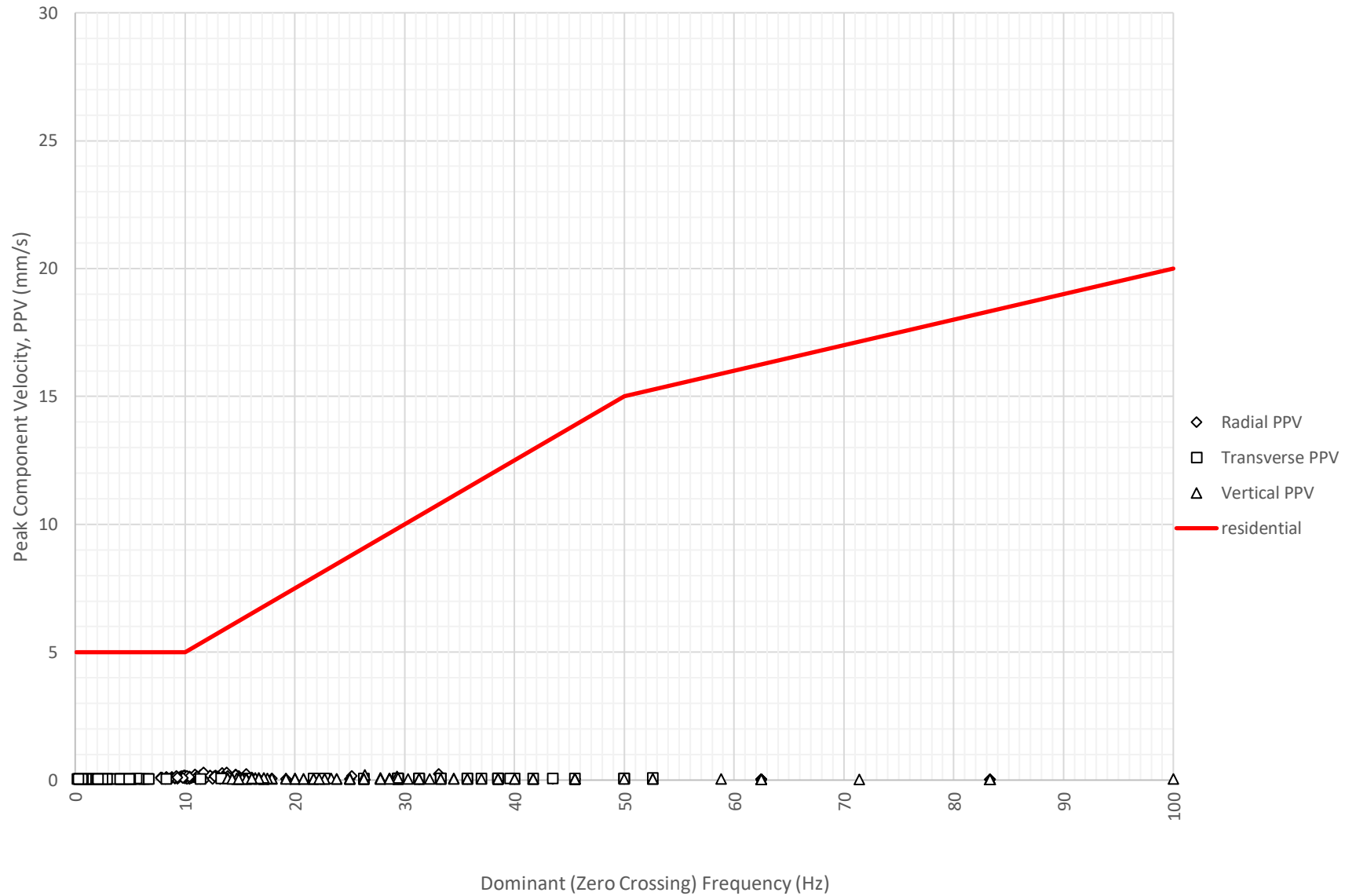
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 12-02-2024



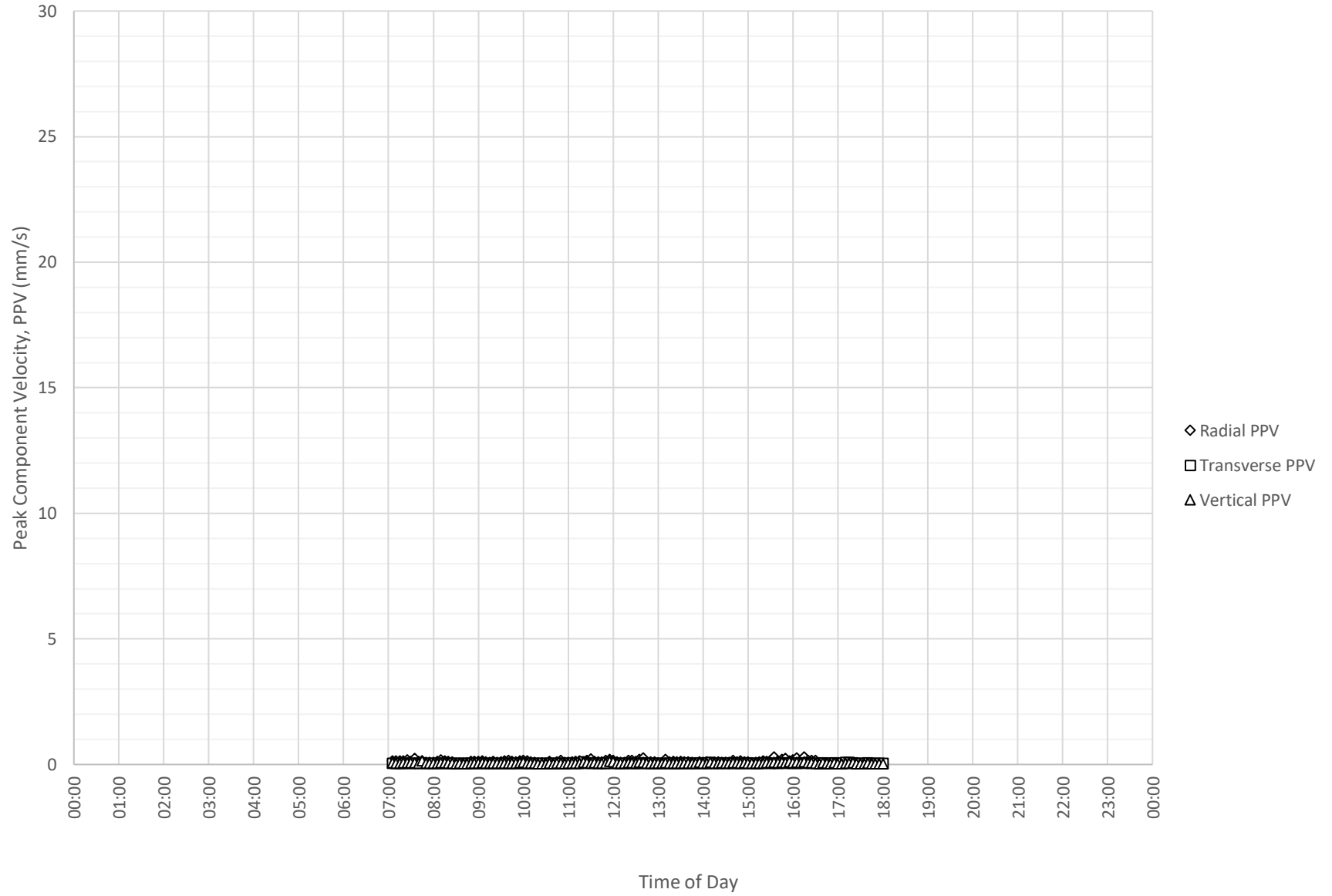
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 13-02-2024



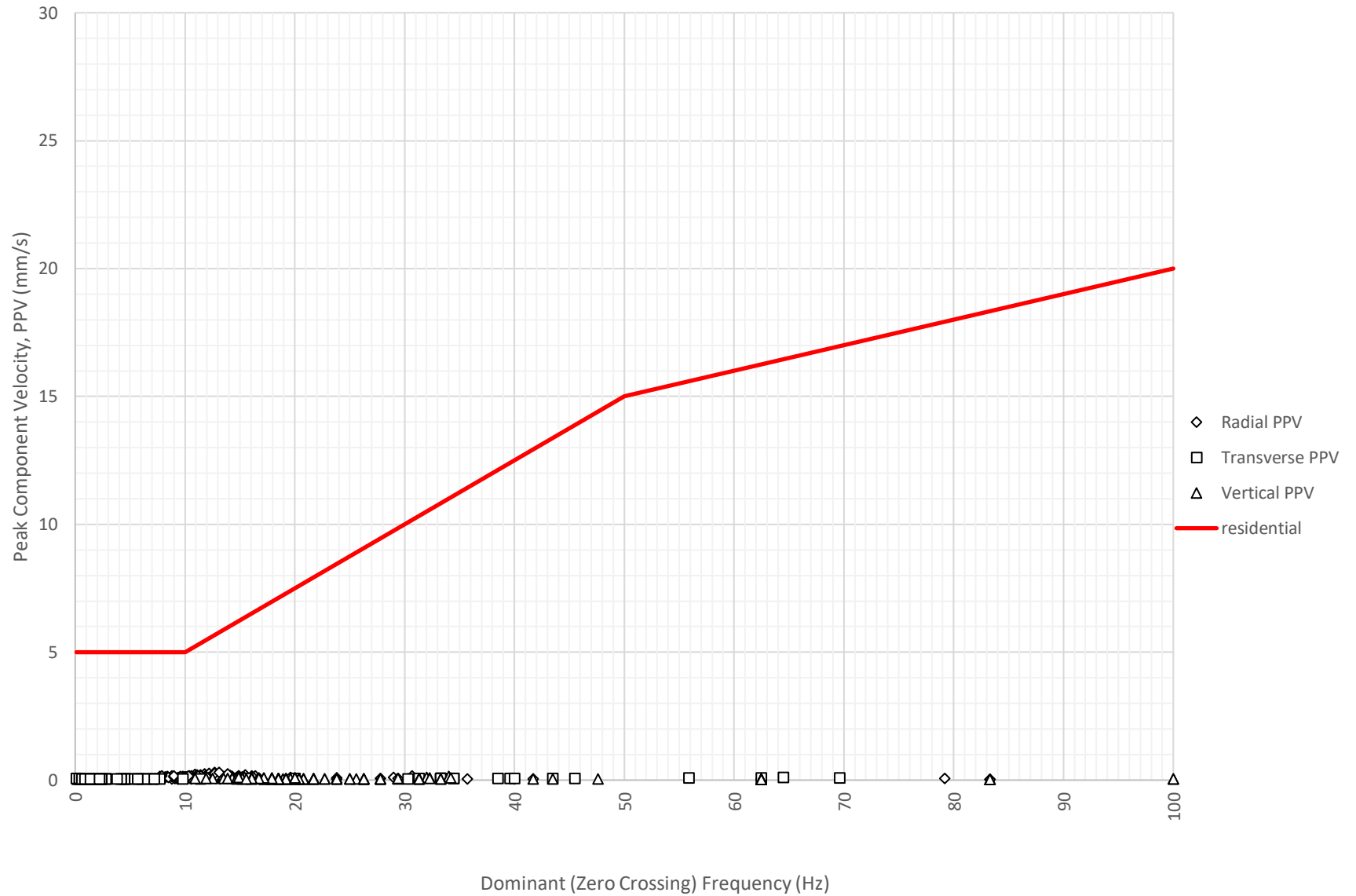
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 13-02-2024



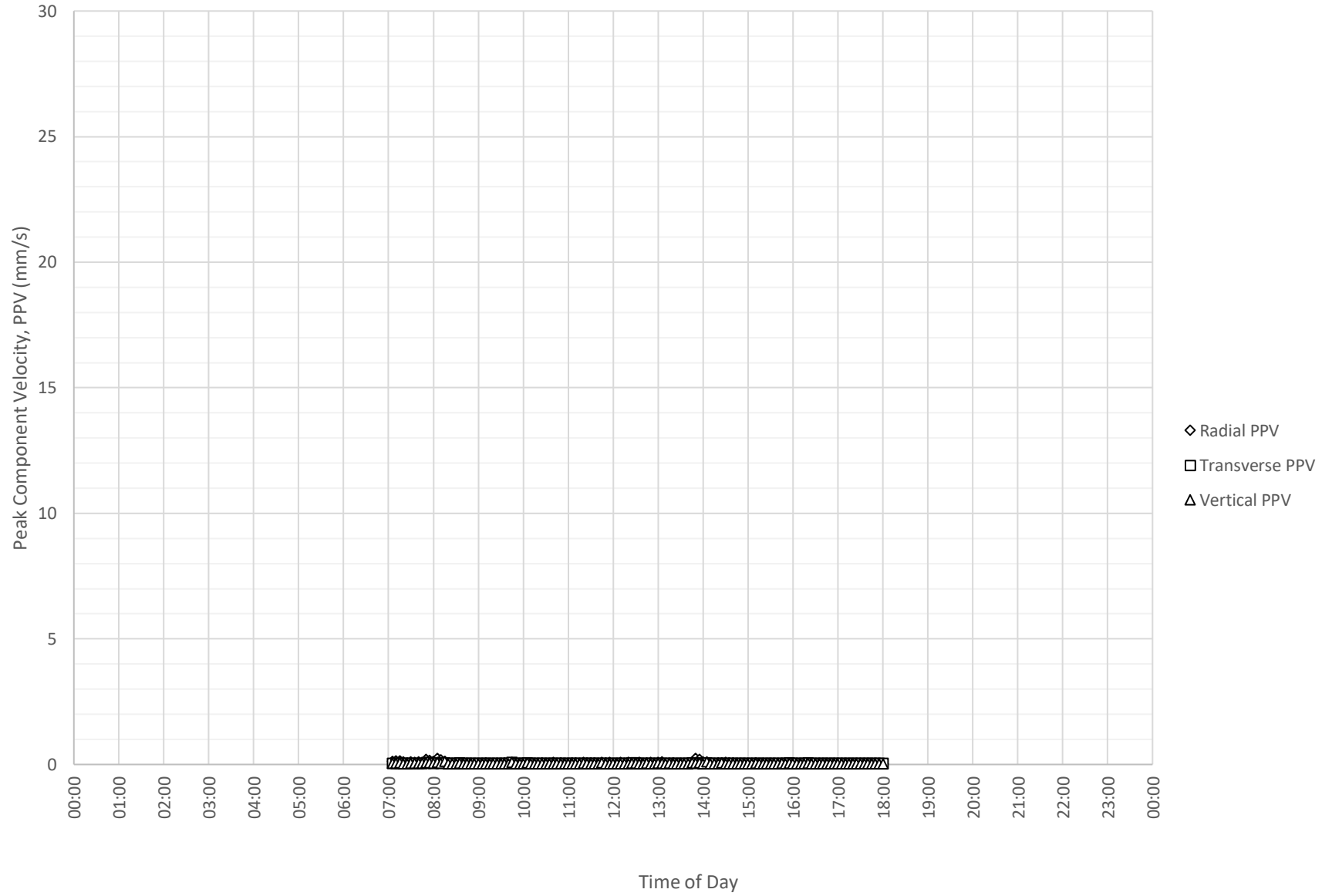
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on
14-02-2024



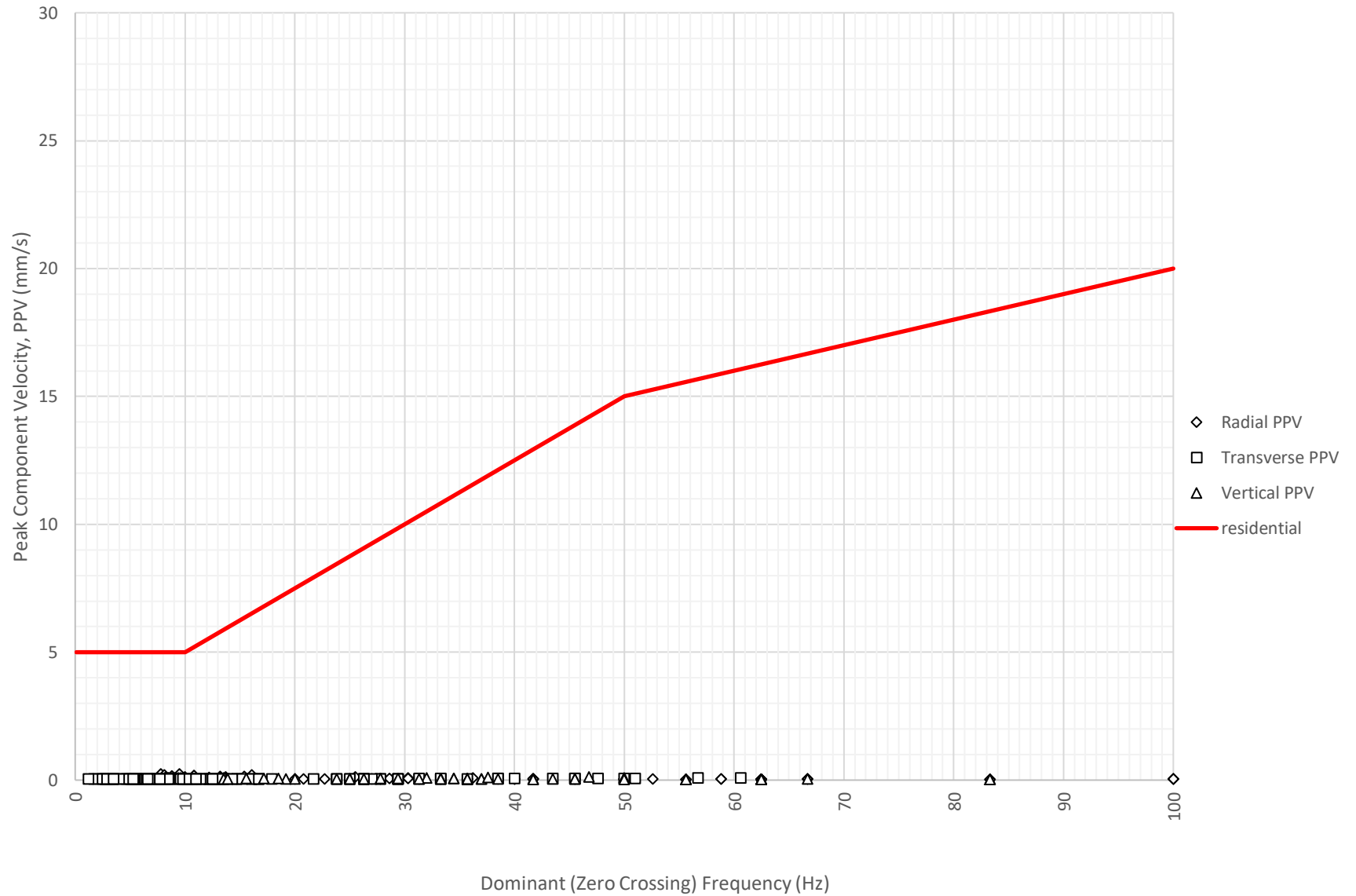
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 14-02-2024



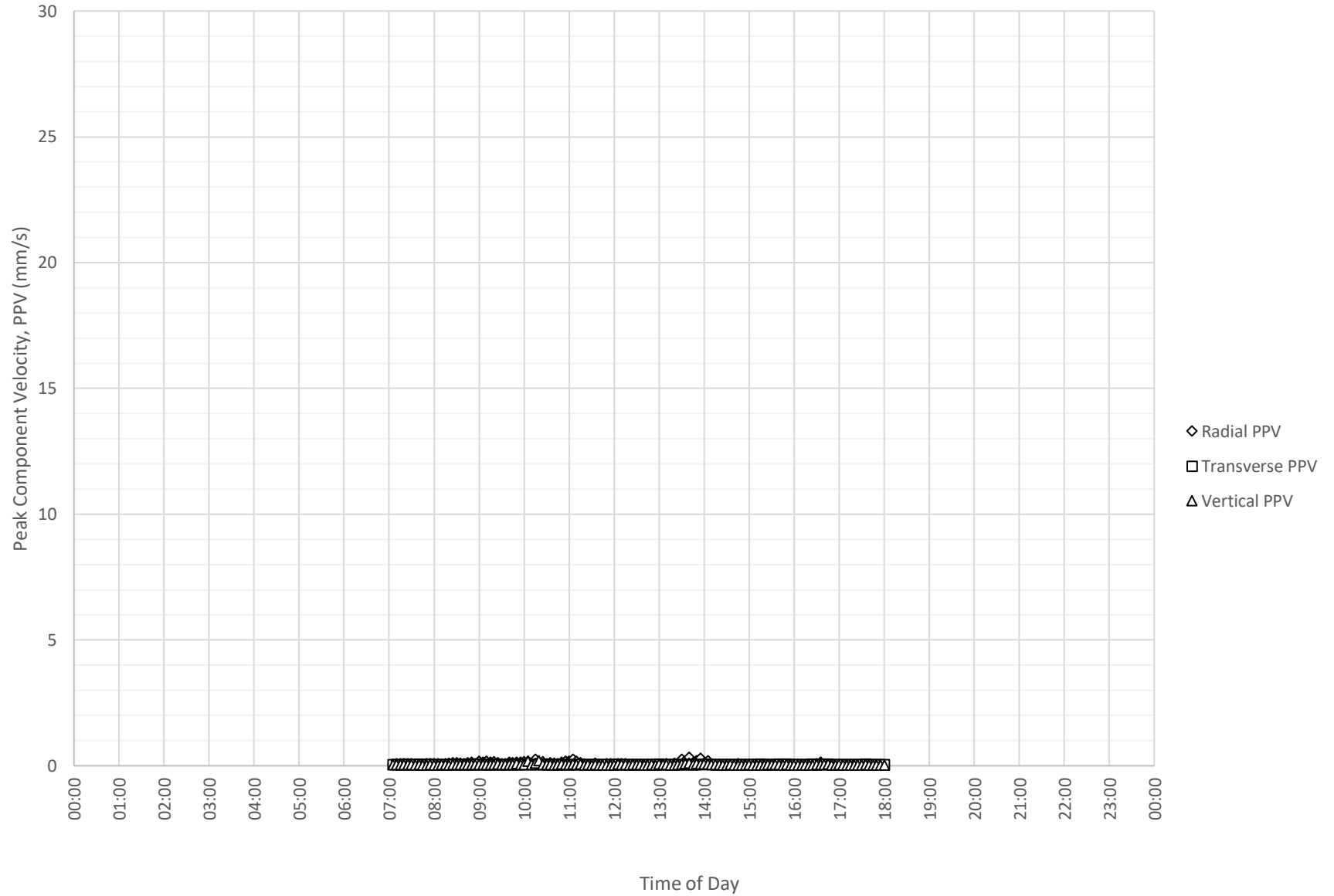
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 15-02-2024



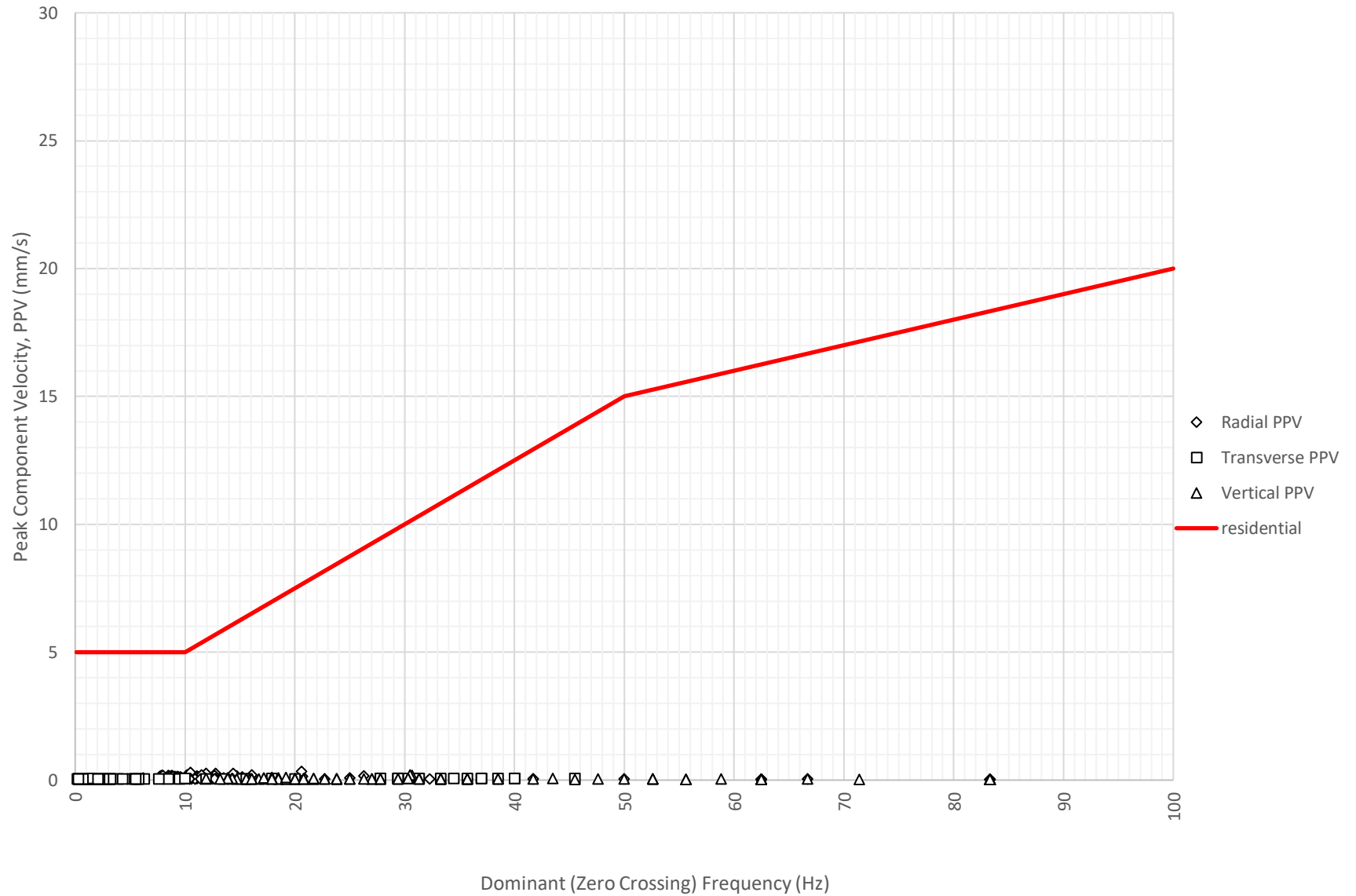
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 15-02-2024



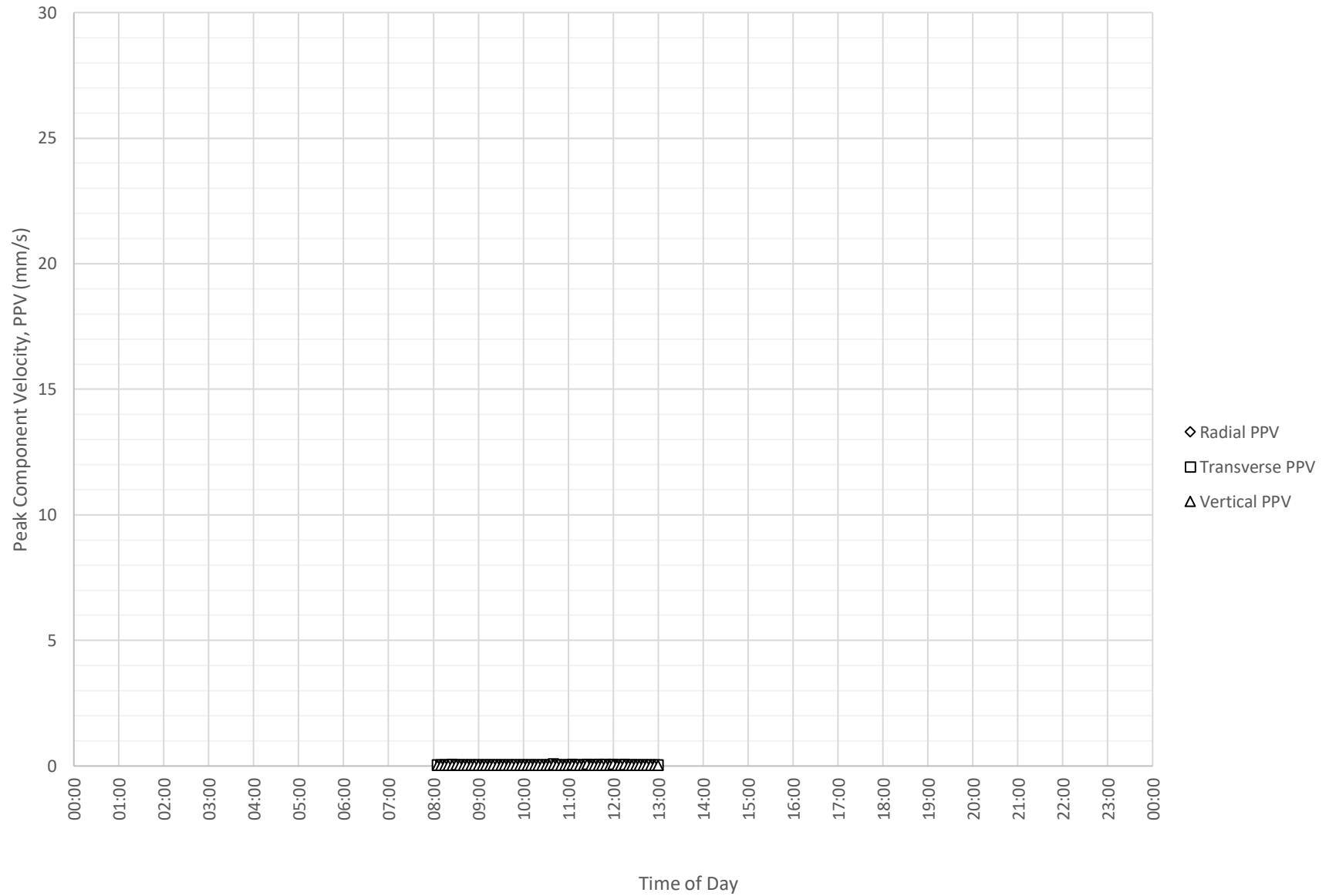
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 16-02-2024



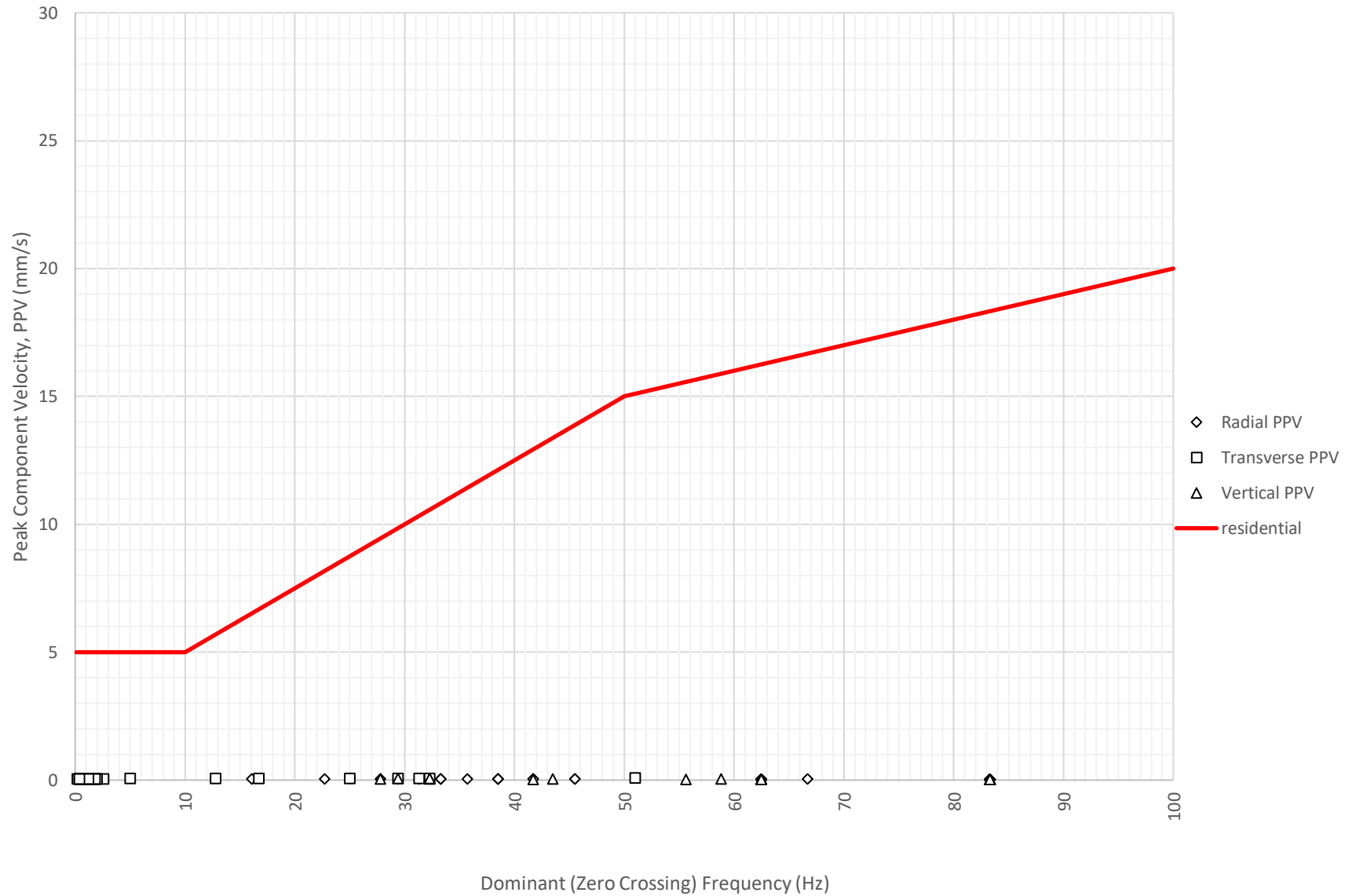
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 16-02-2024



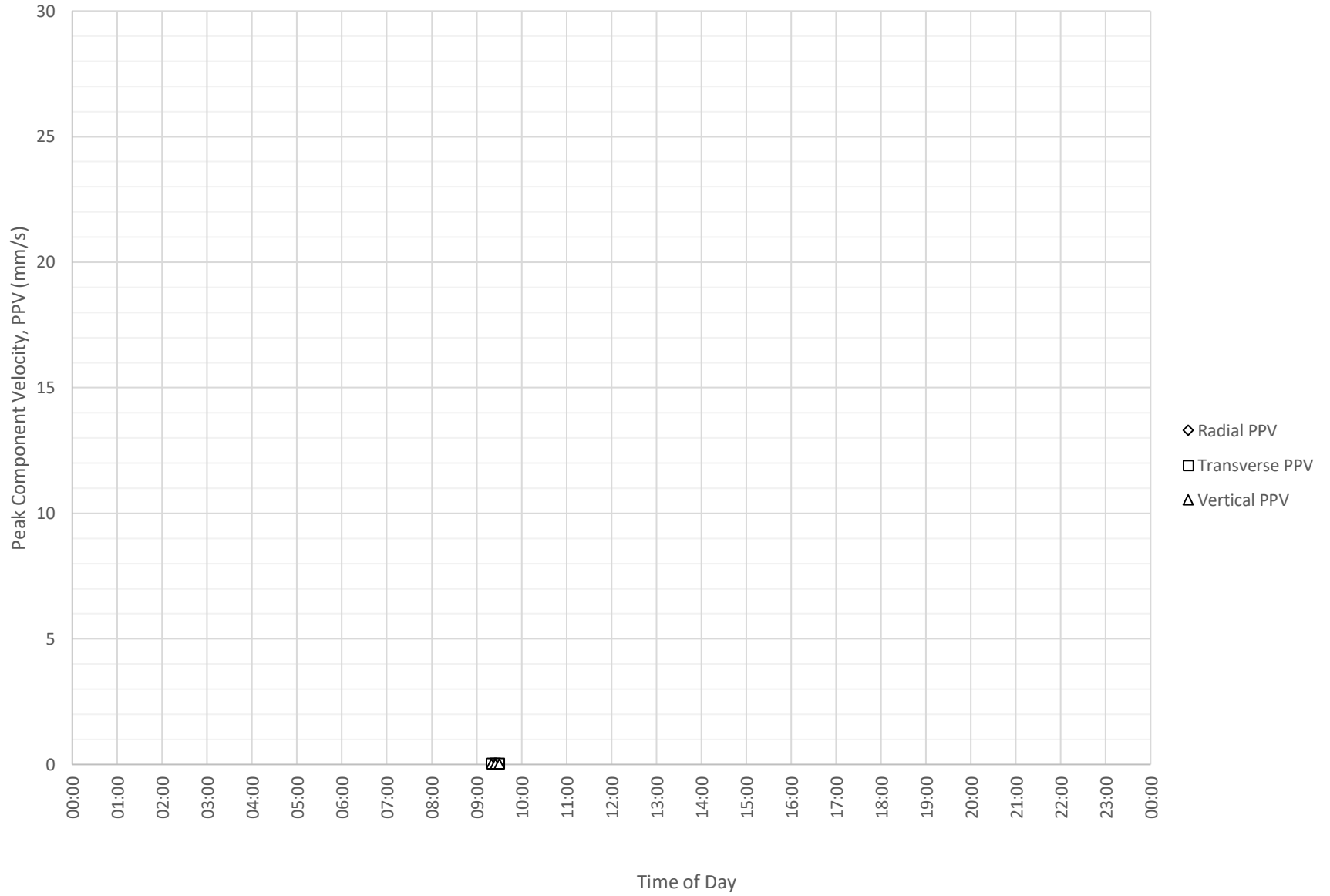
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 17-02-2024



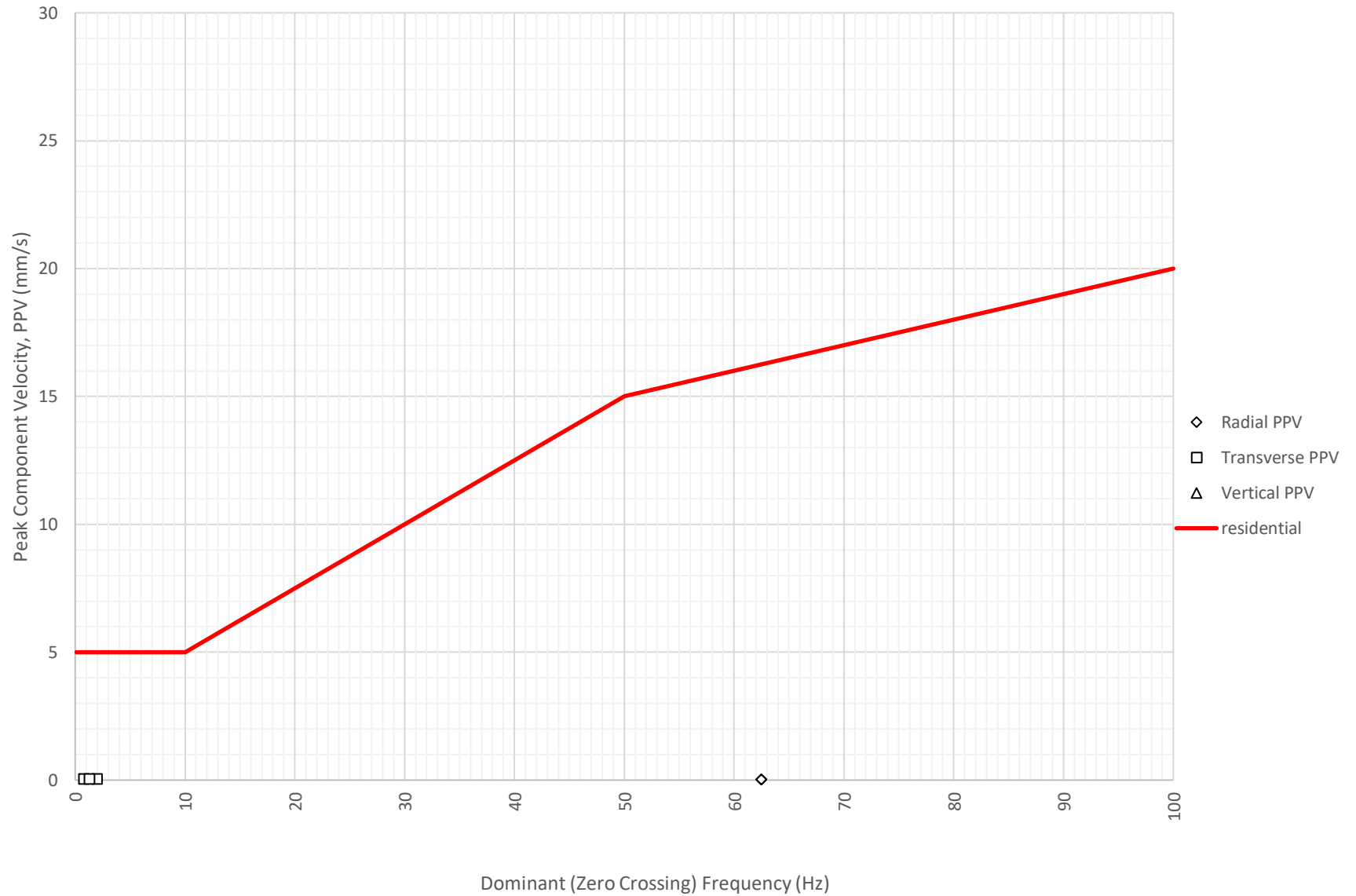
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 17-02-2024



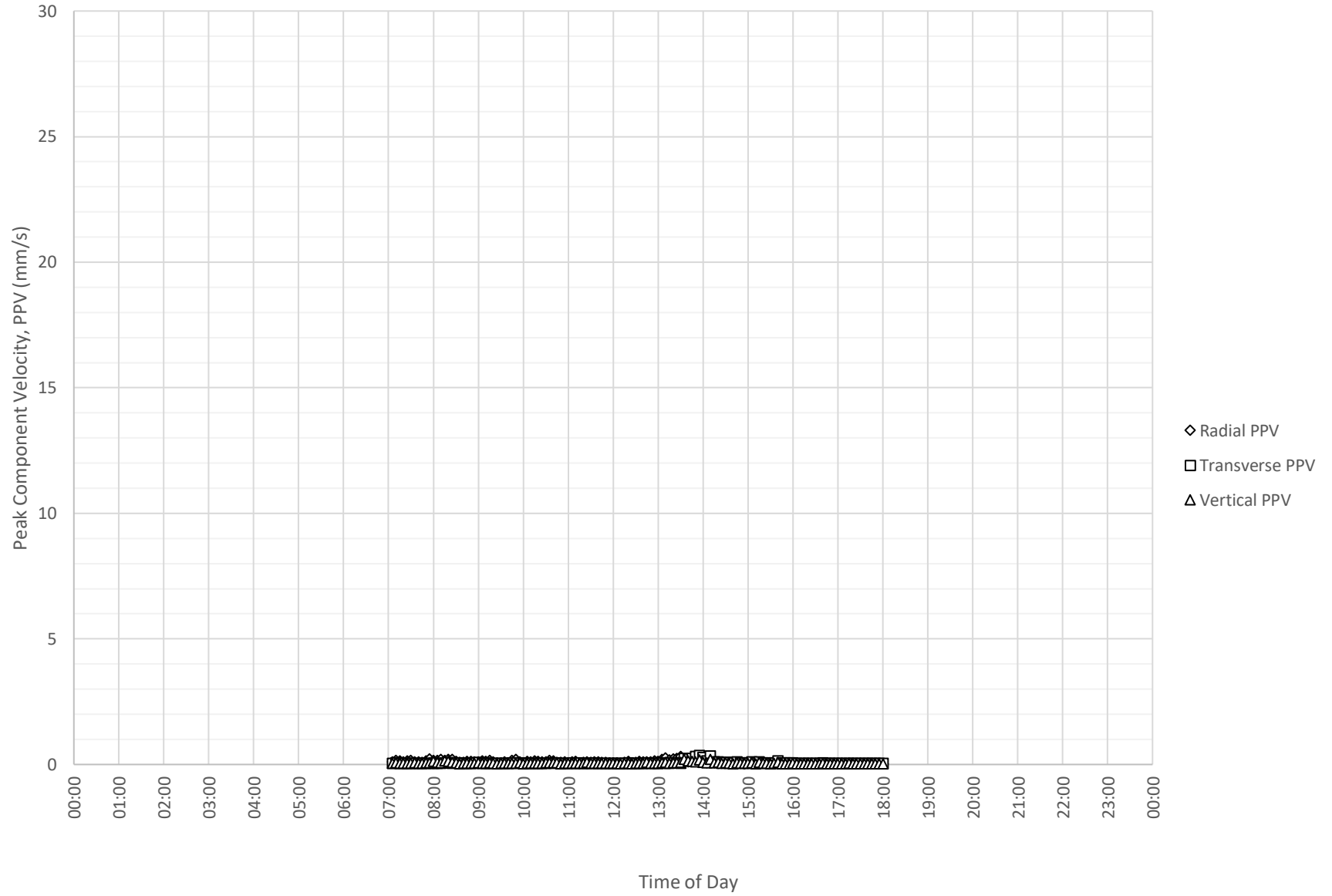
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 18-02-2024



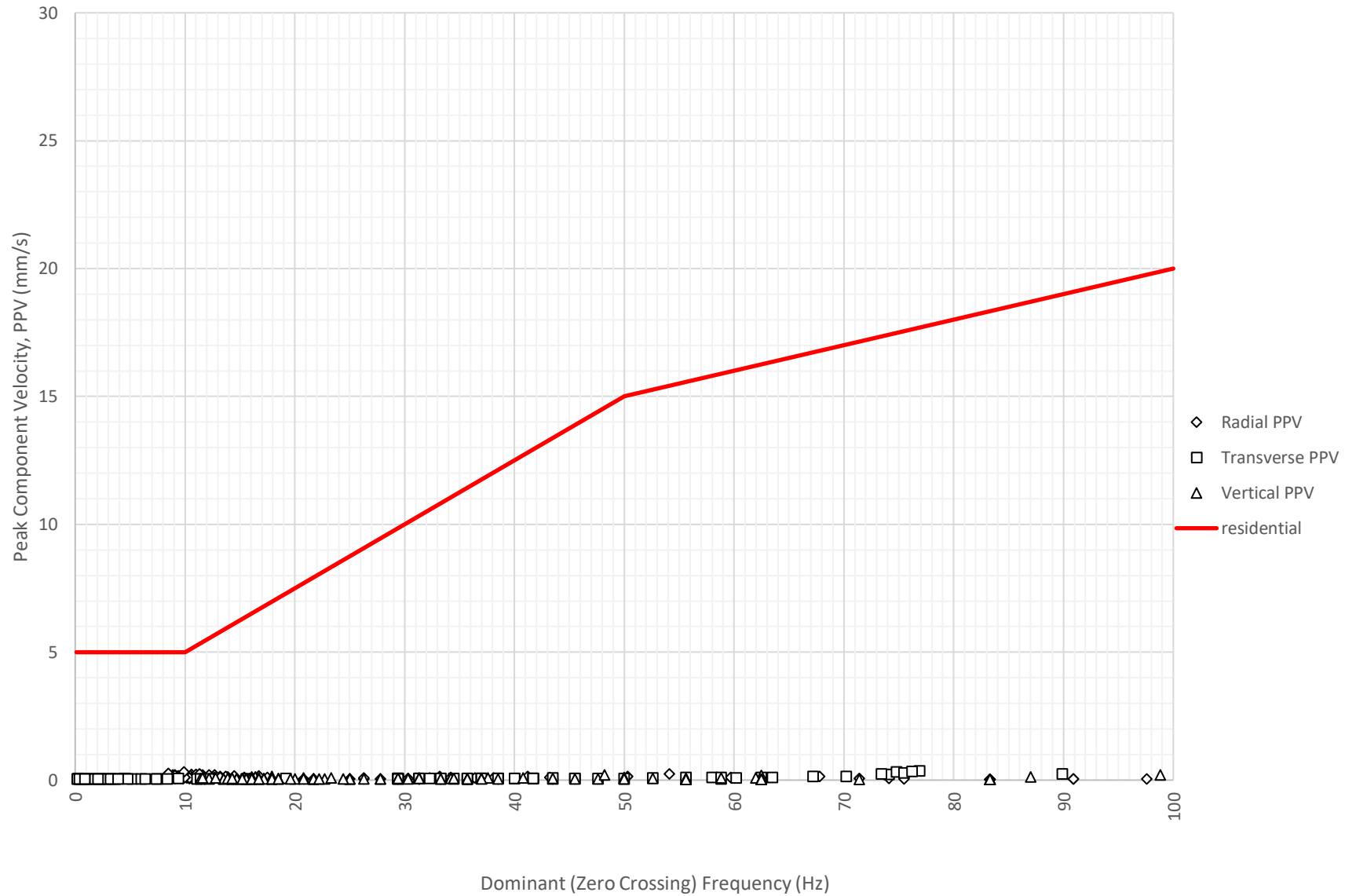
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 18-02-2024



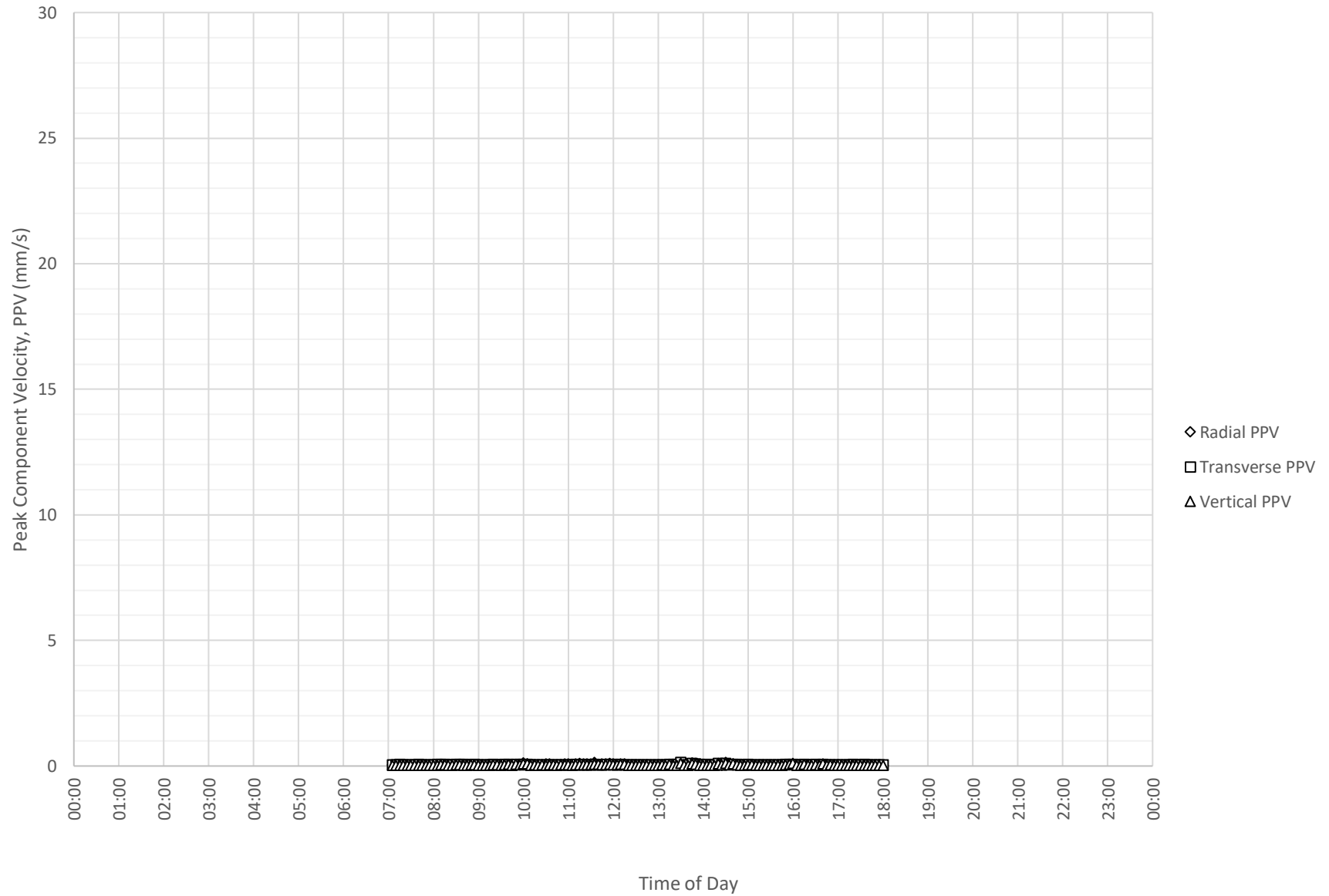
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 19-02-2024



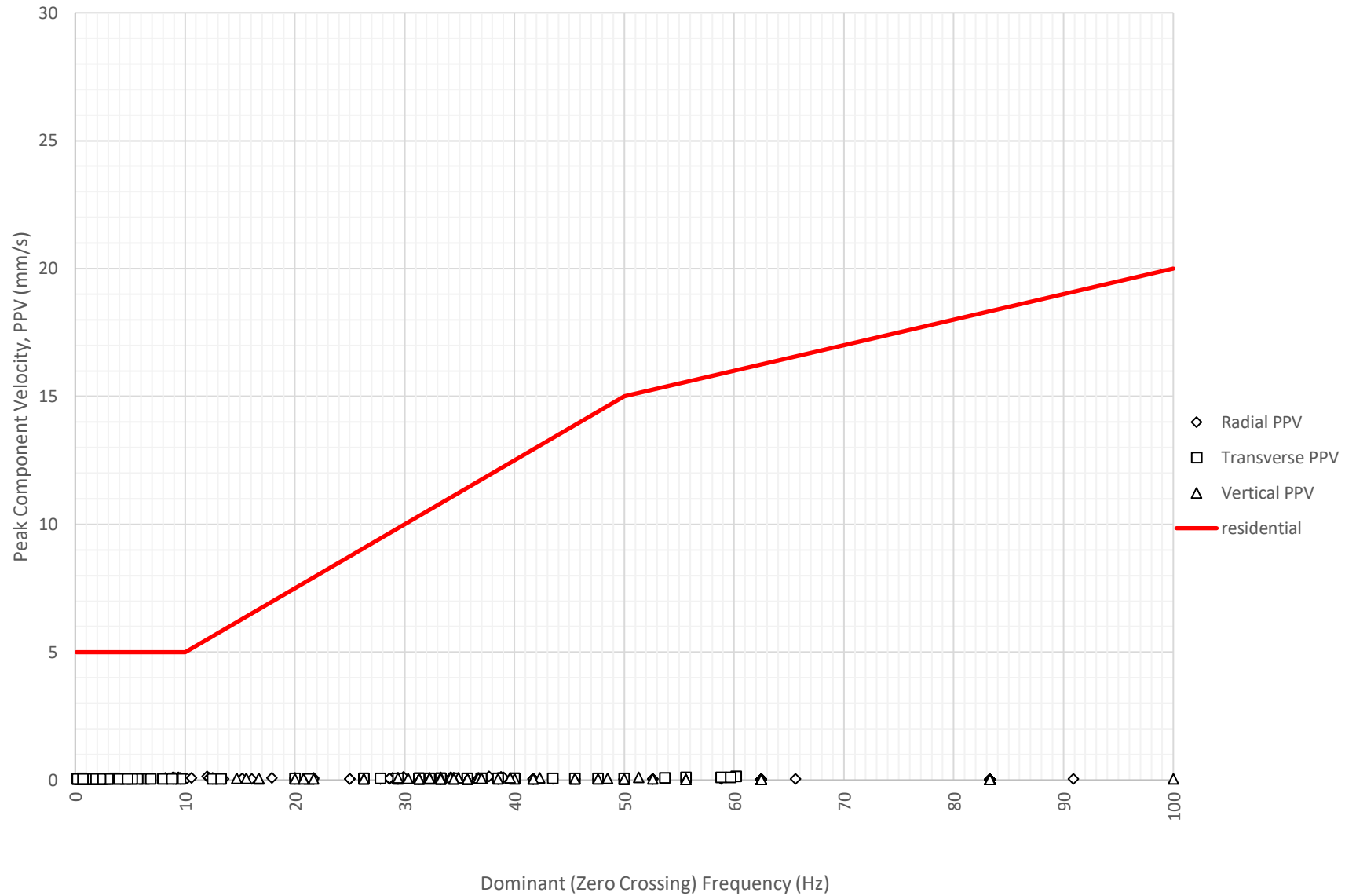
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 19-02-2024



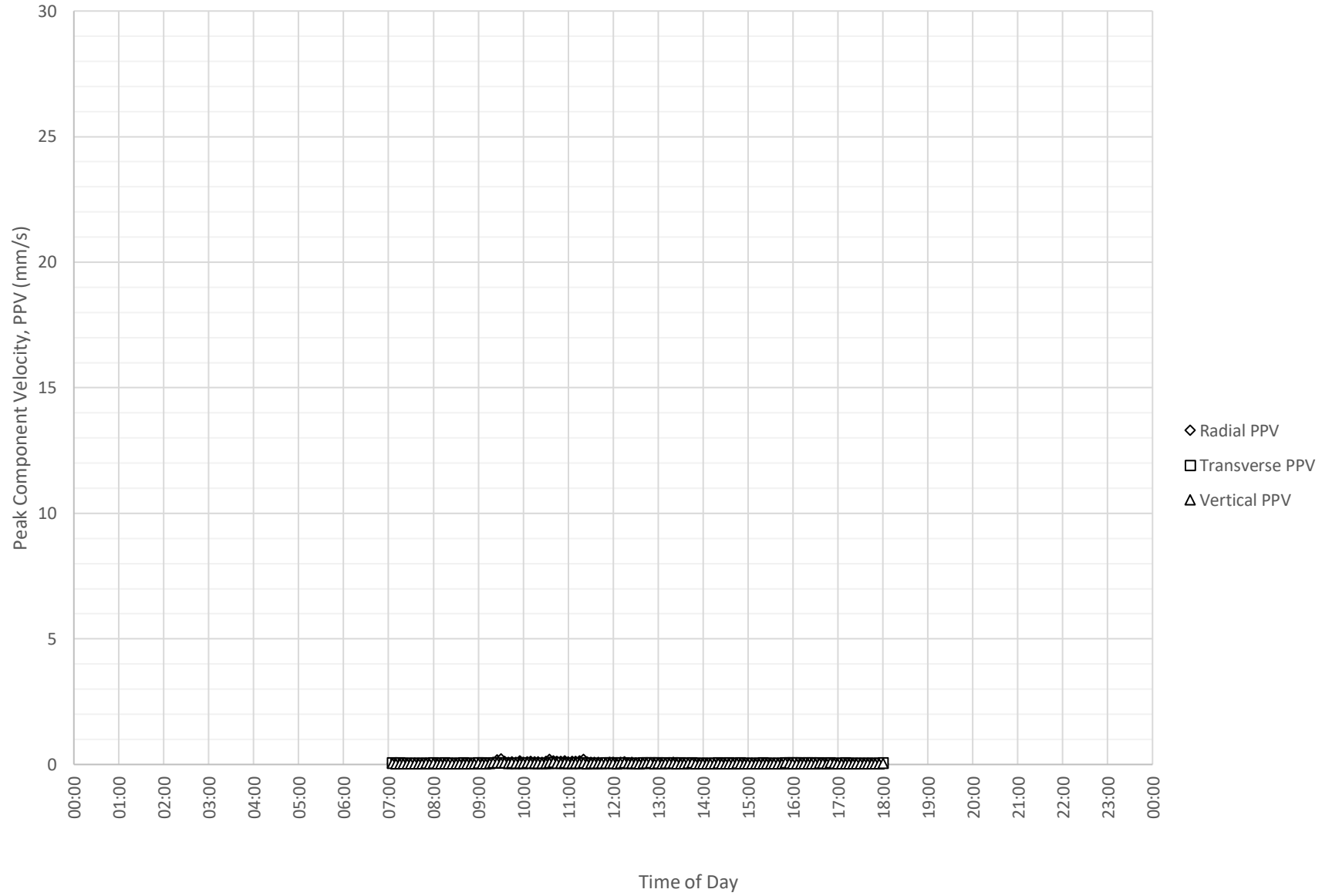
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 20-02-2024



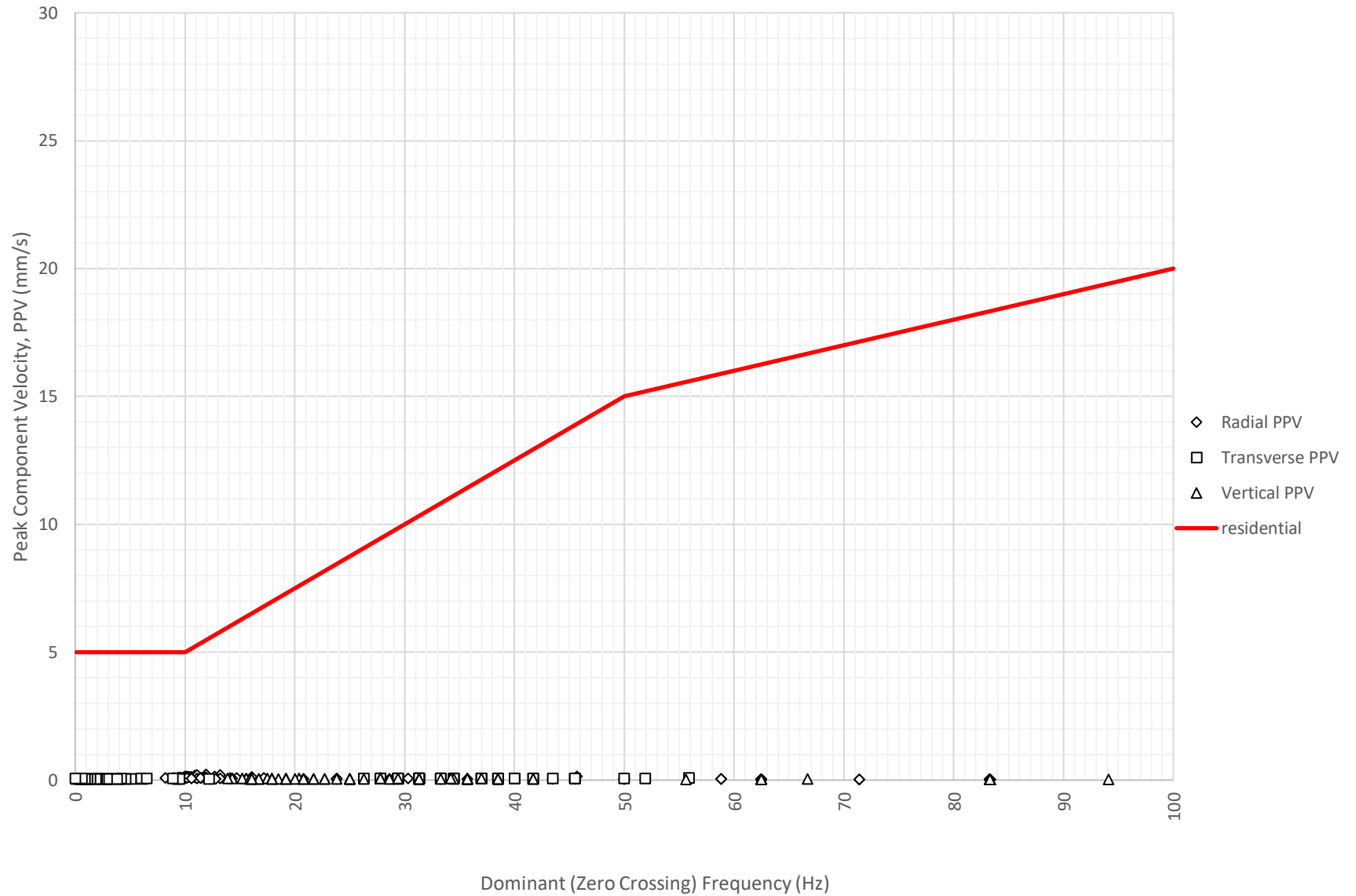
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 20-02-2024



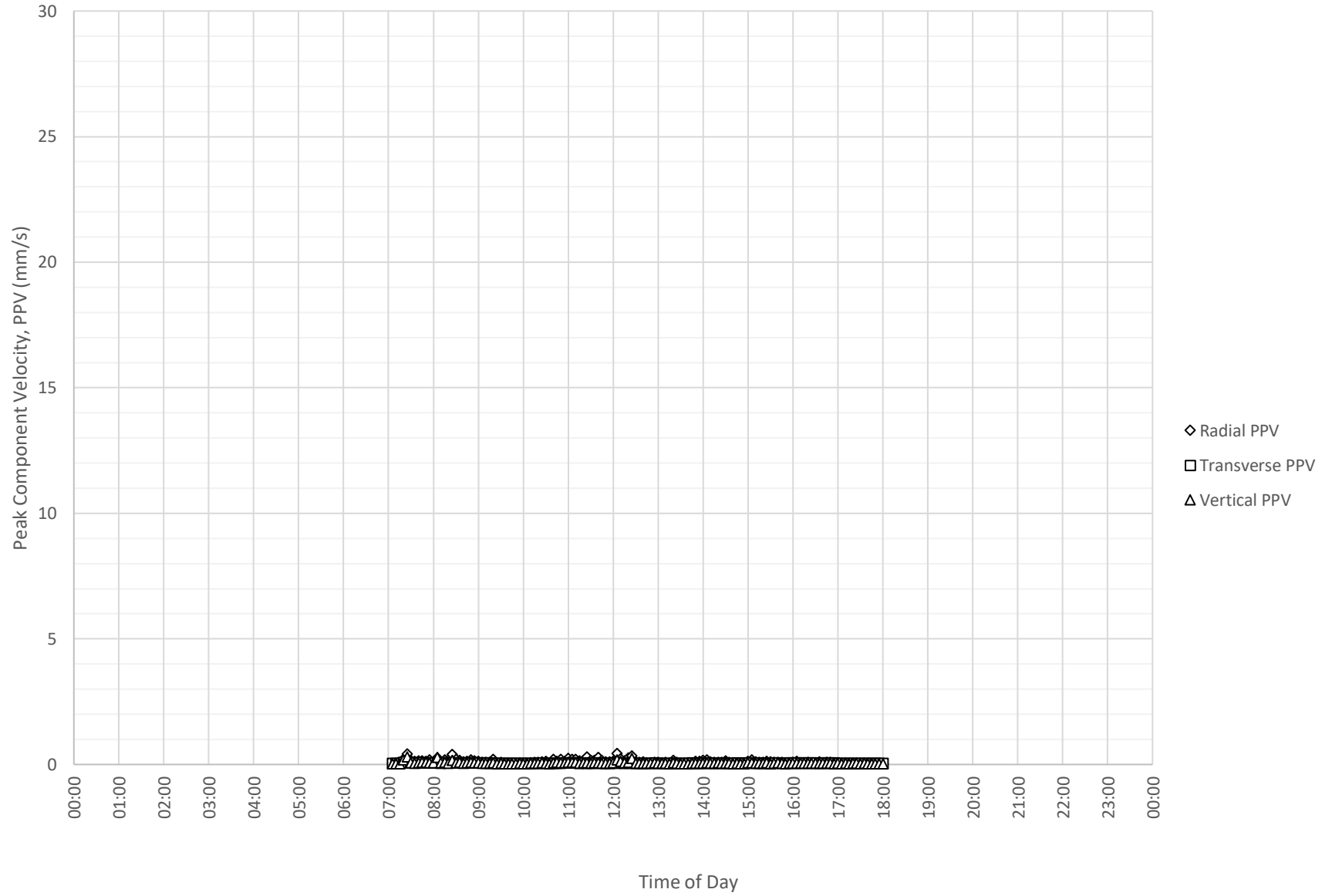
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on
21-02-2024



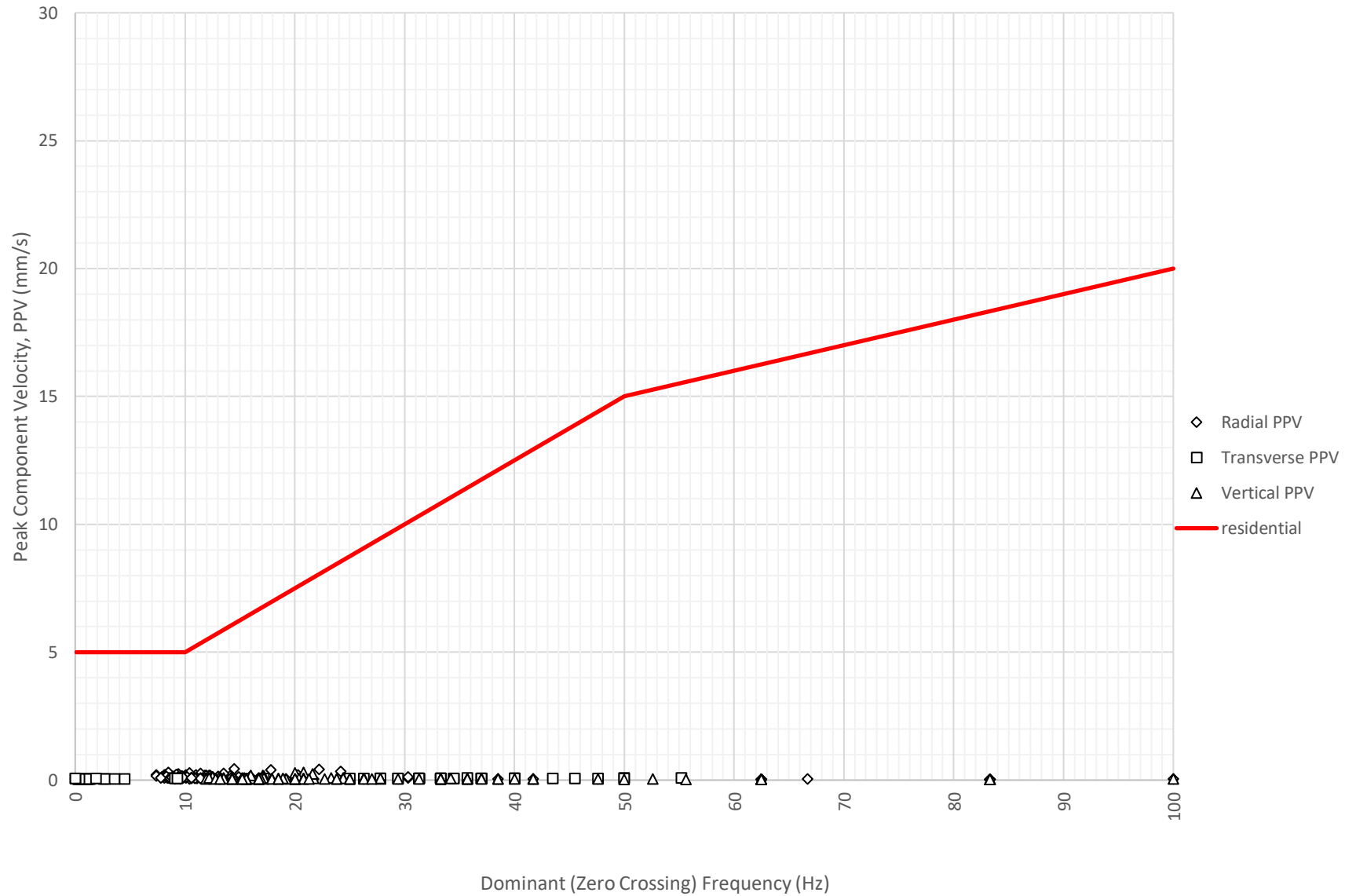
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 21-02-2024



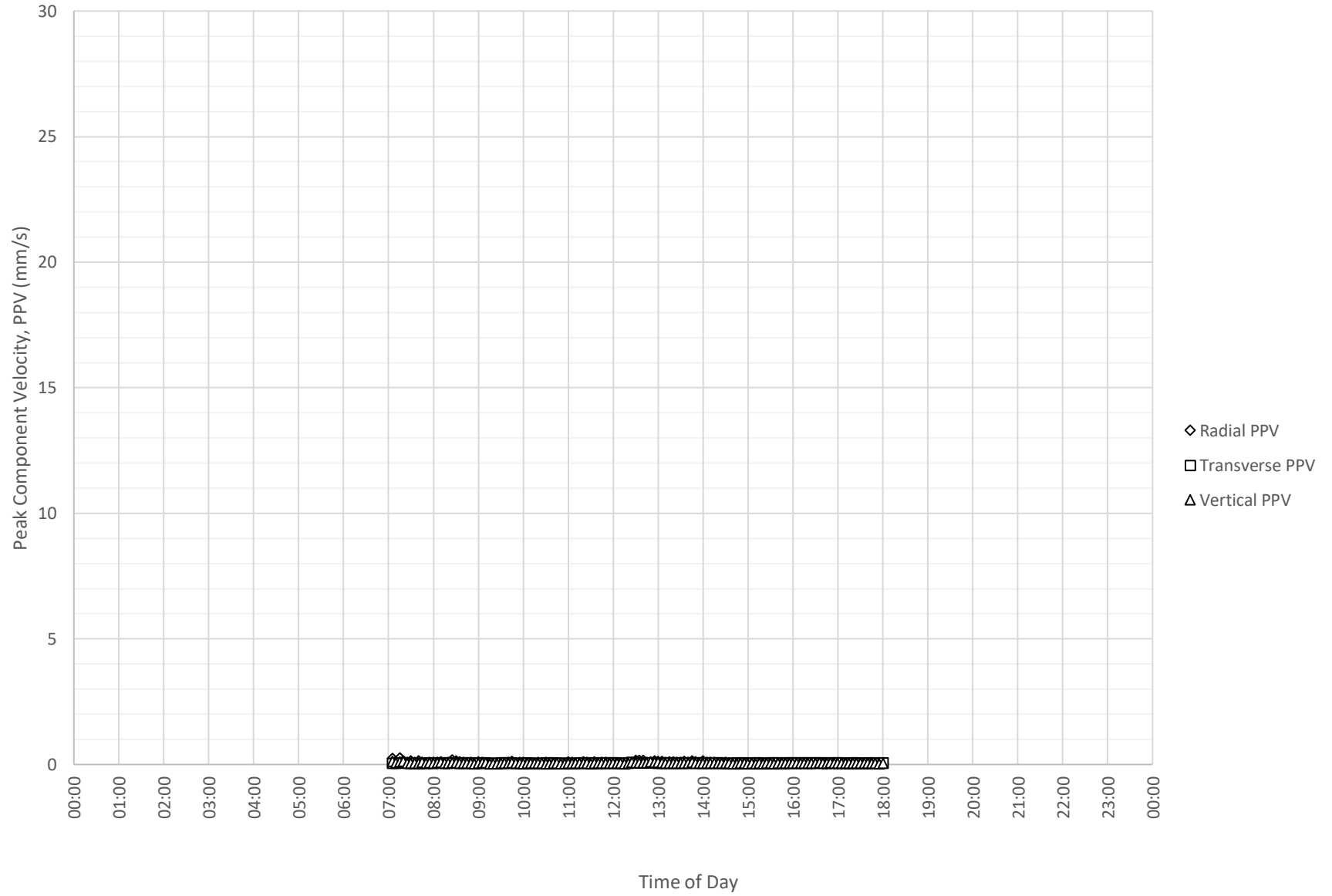
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 22-02-2024



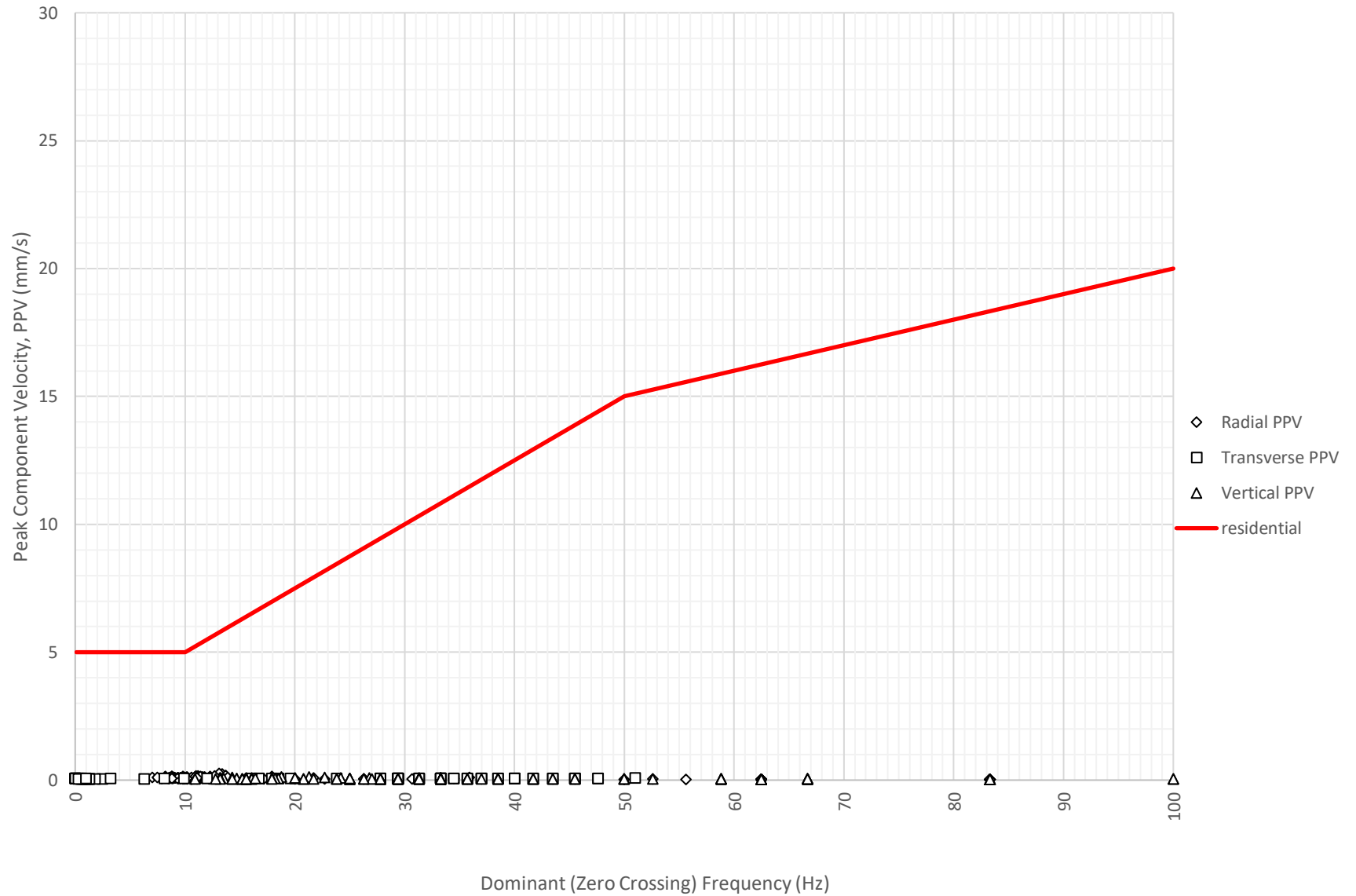
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 22-02-2024



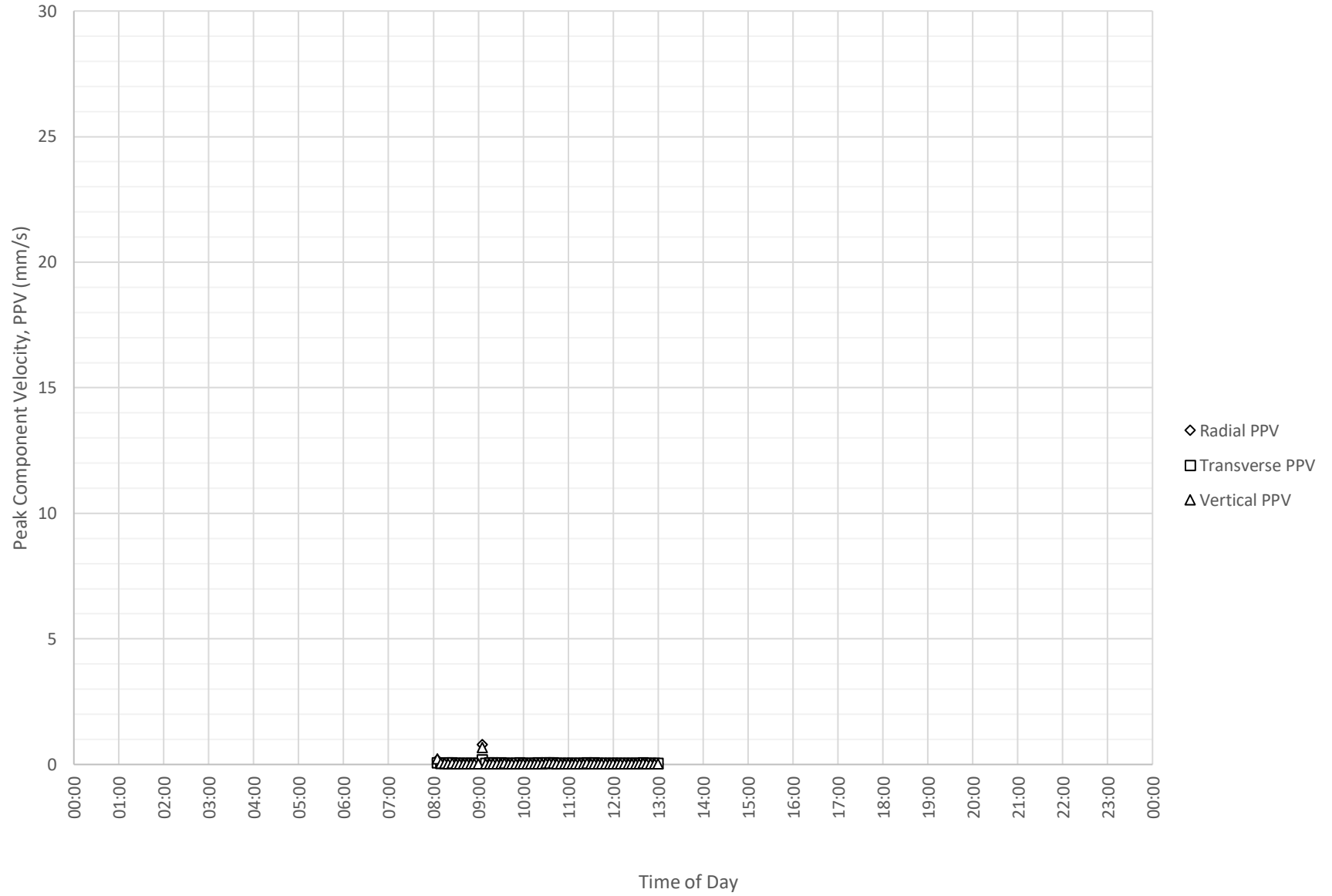
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 23-02-2024



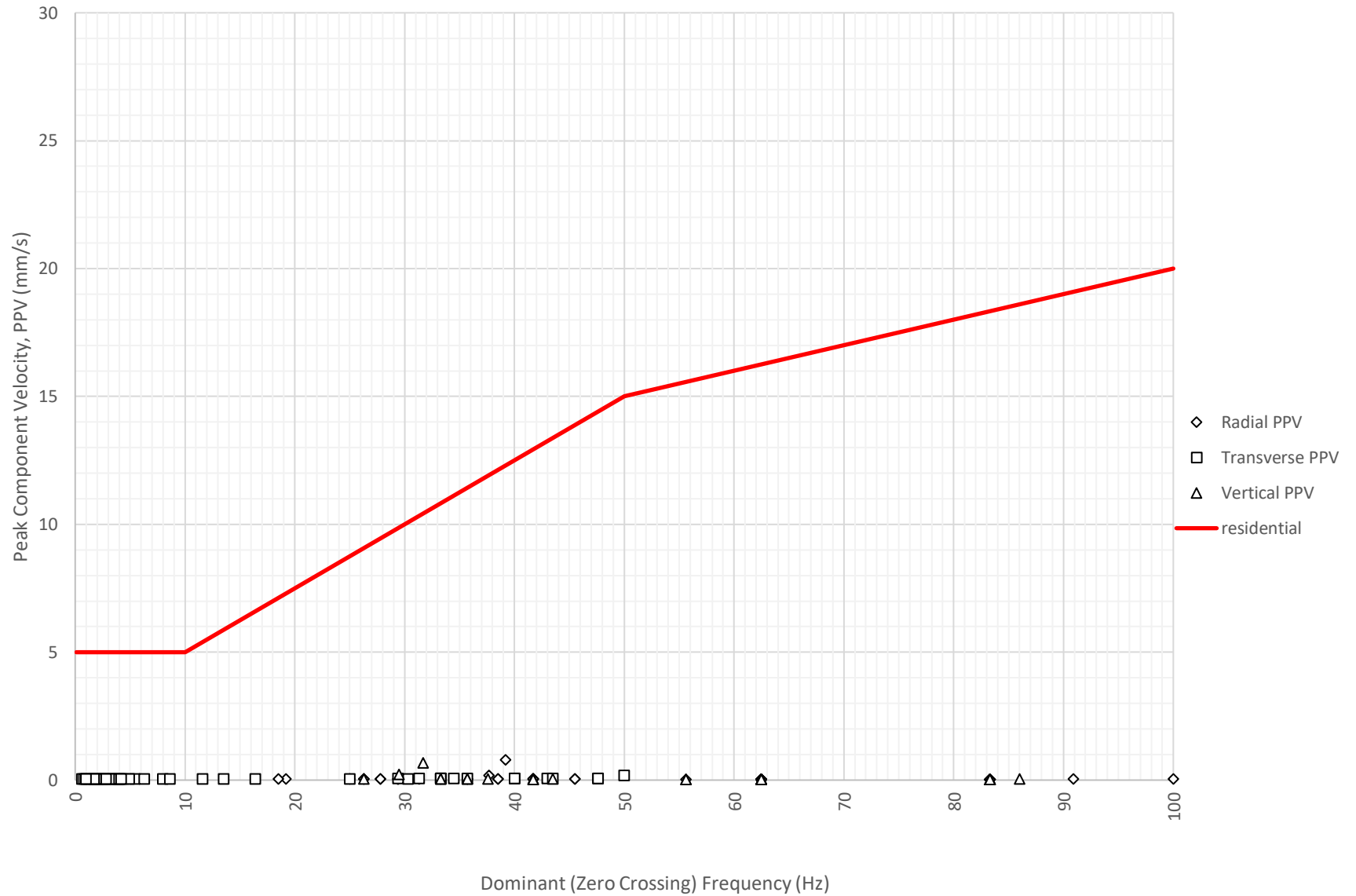
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 23-02-2024



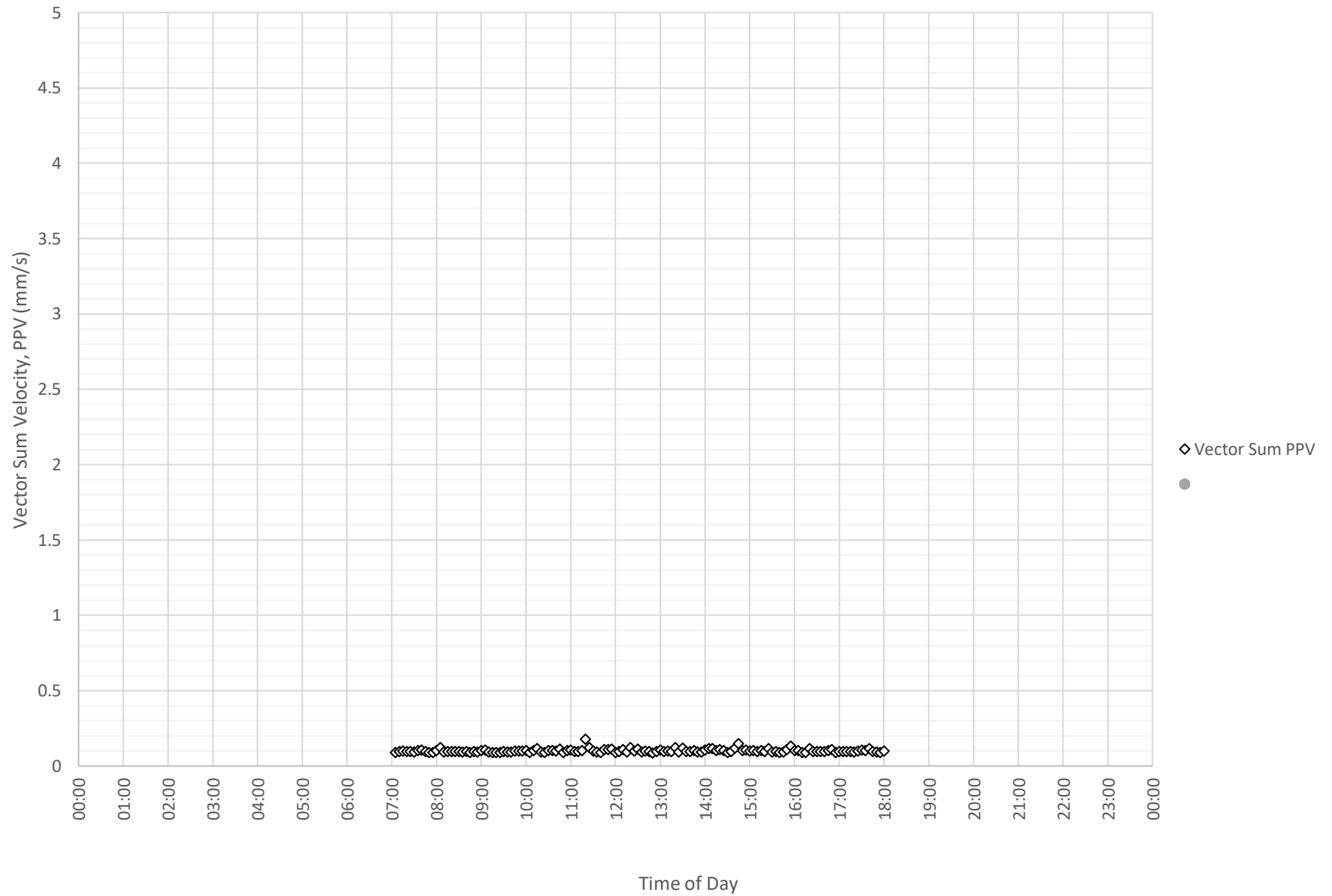
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building (ETM7426) on 24-02-2024



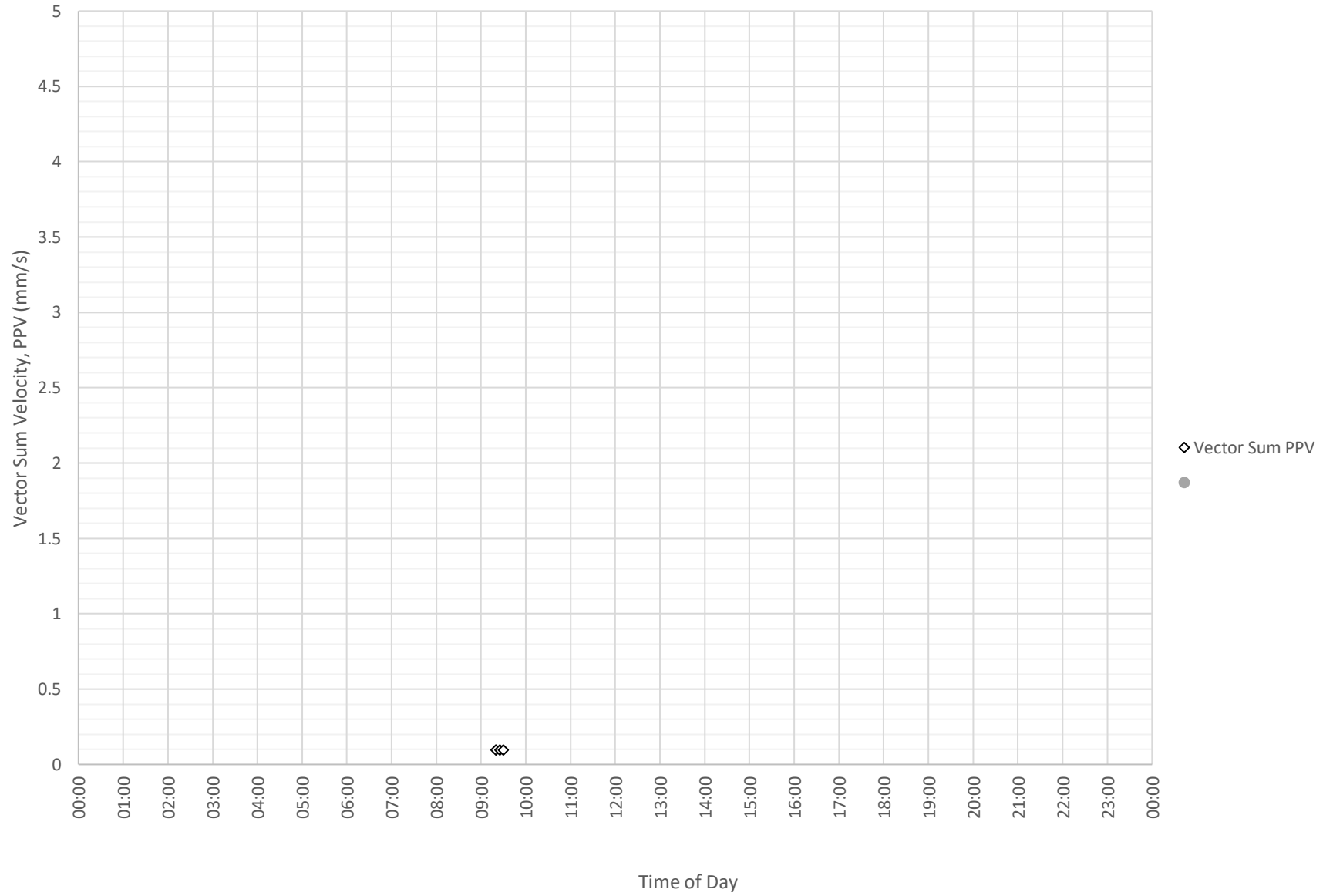
Frequency Content of Vibration Levels at Nepean Hospital Stage 2 - Tresillian Building
(ETM7426) on 24-02-2024



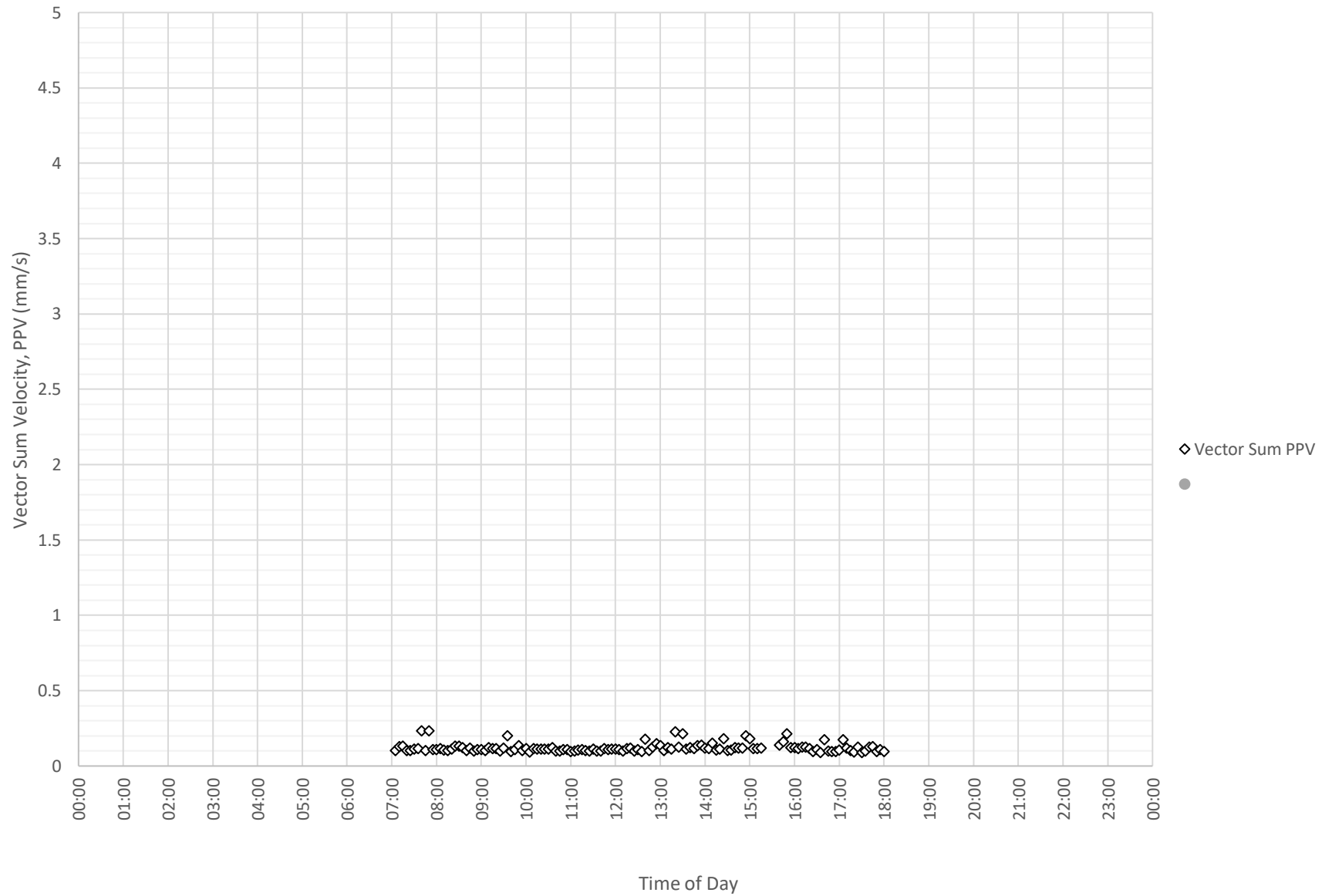
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 10-02-2024



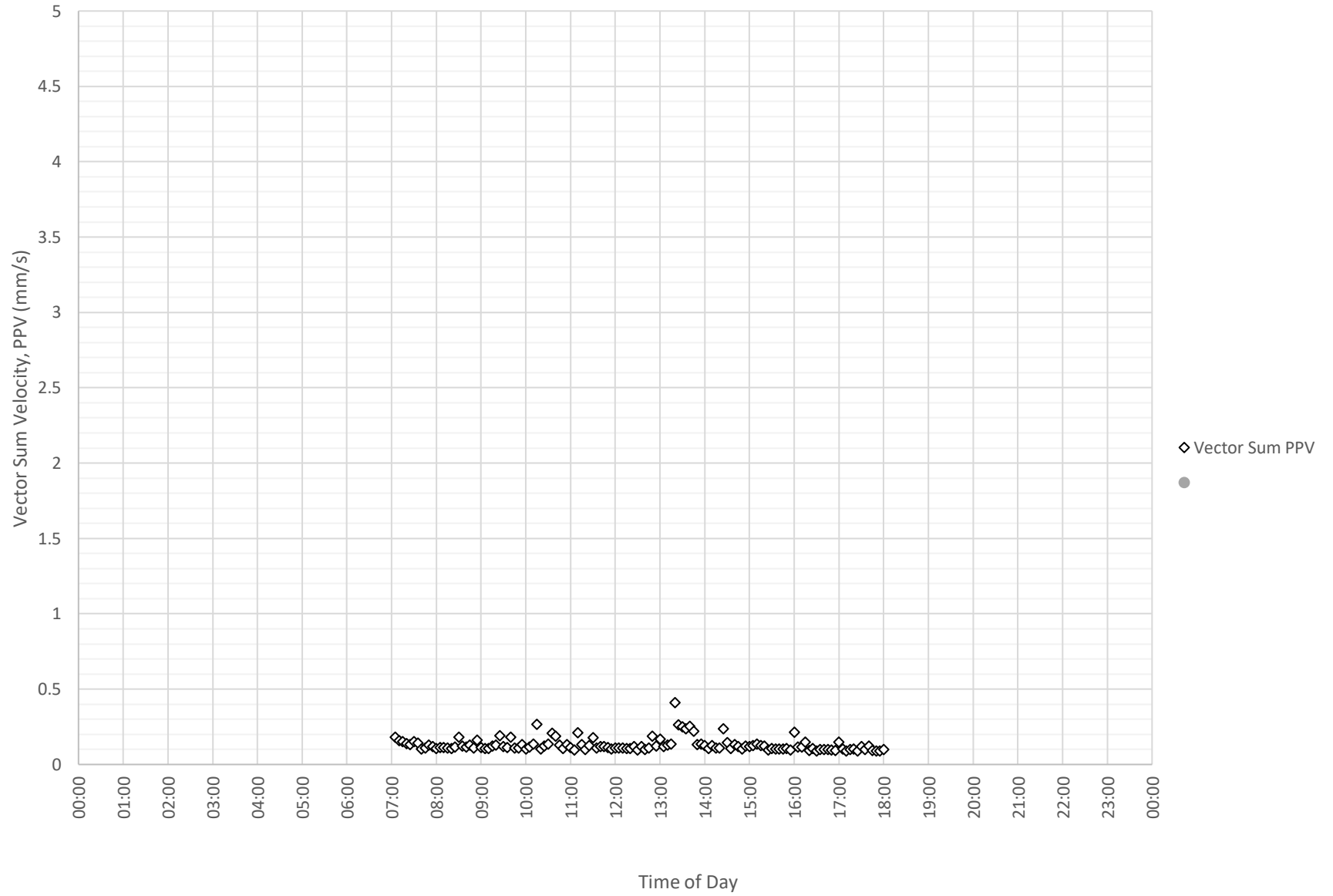
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381) on 11-02-2024



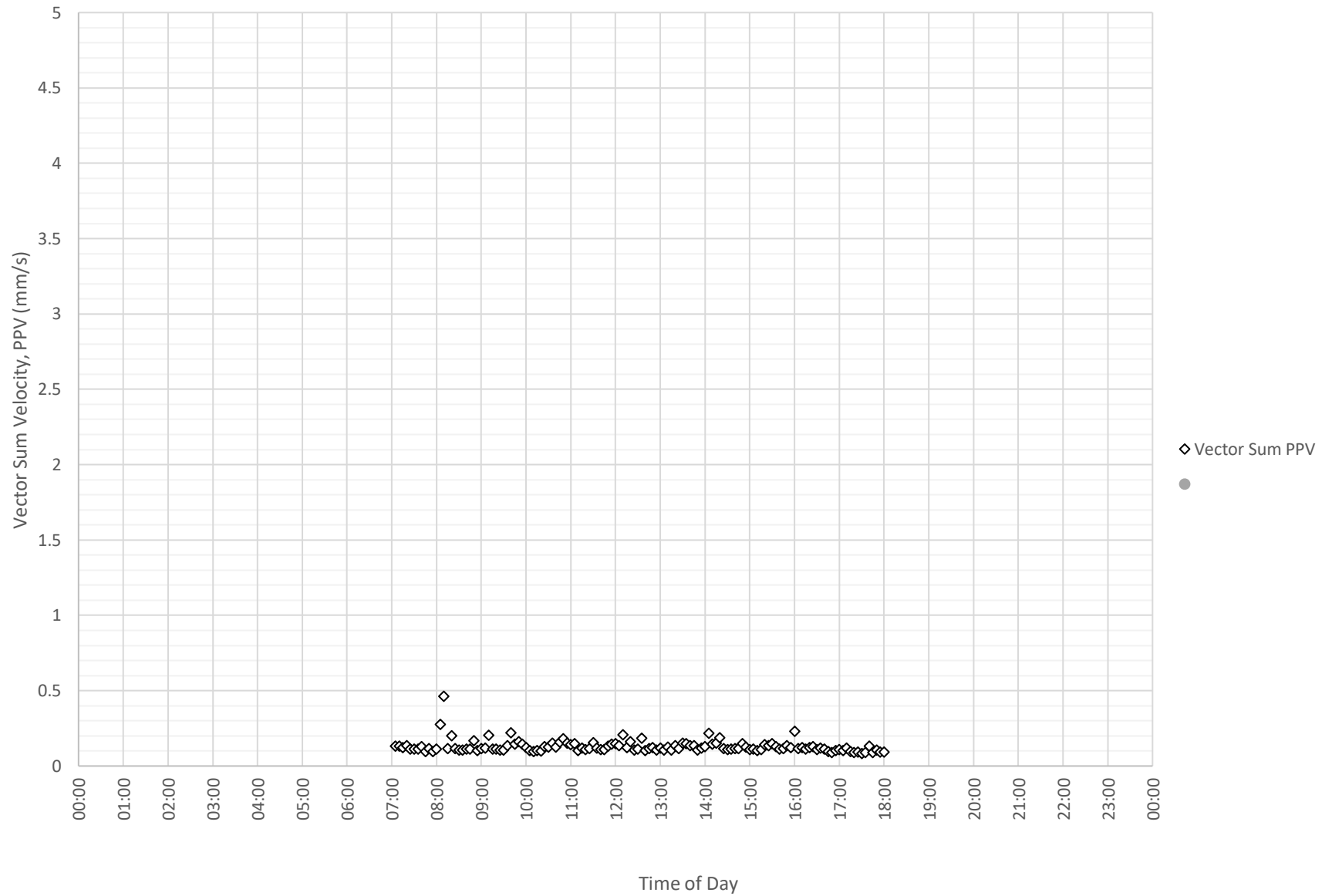
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 12-02-2024



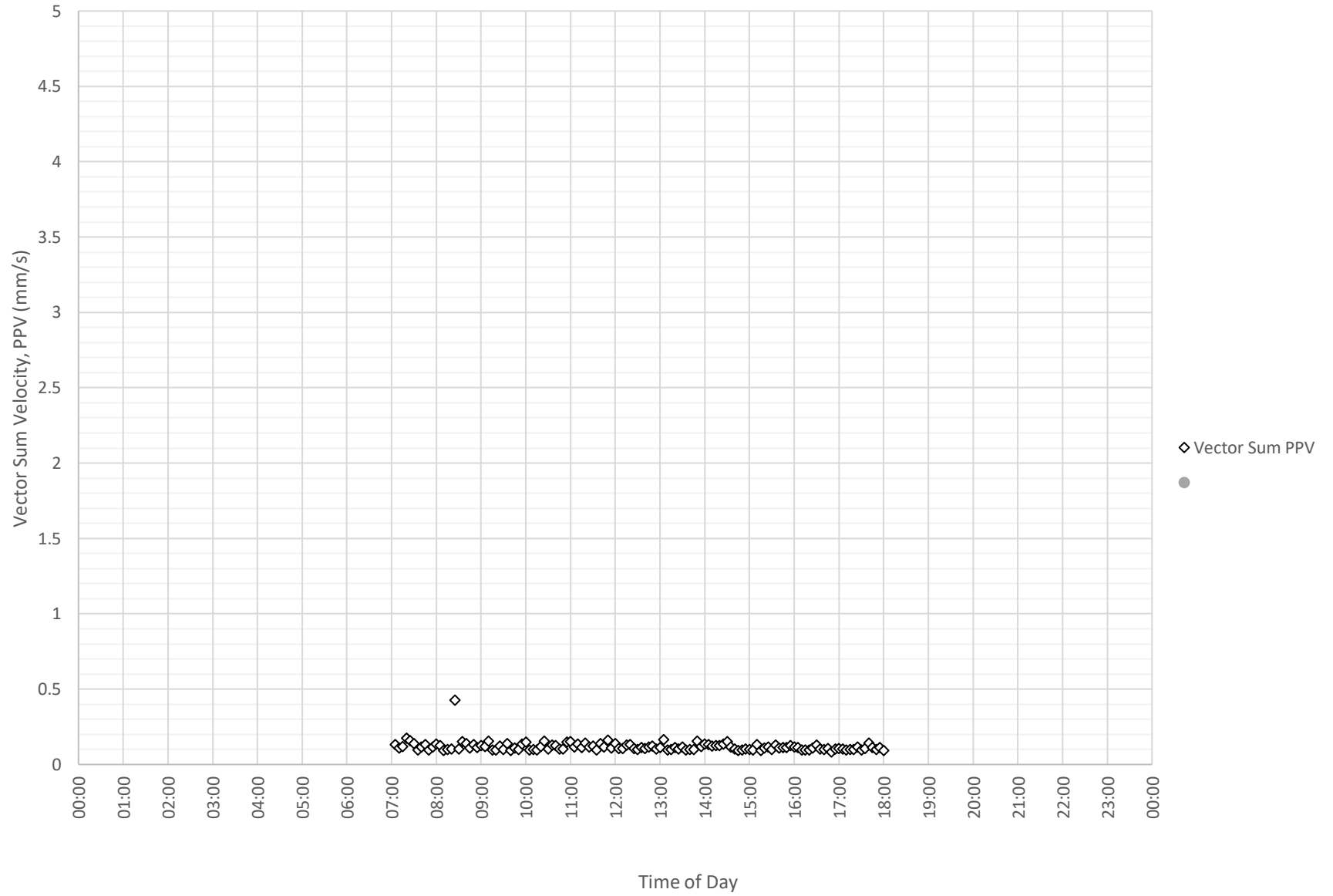
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 13-02-2024



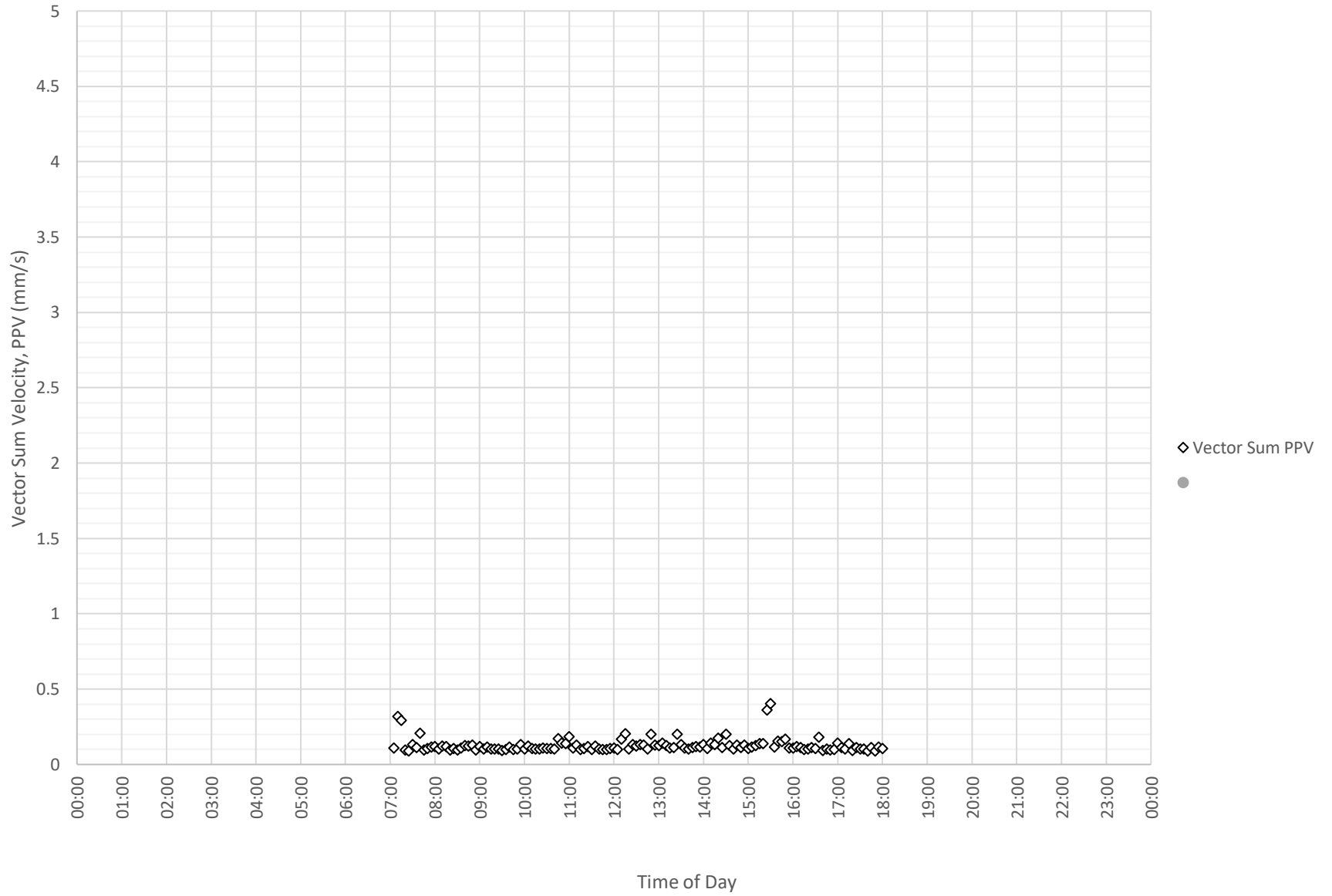
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 14-02-2024



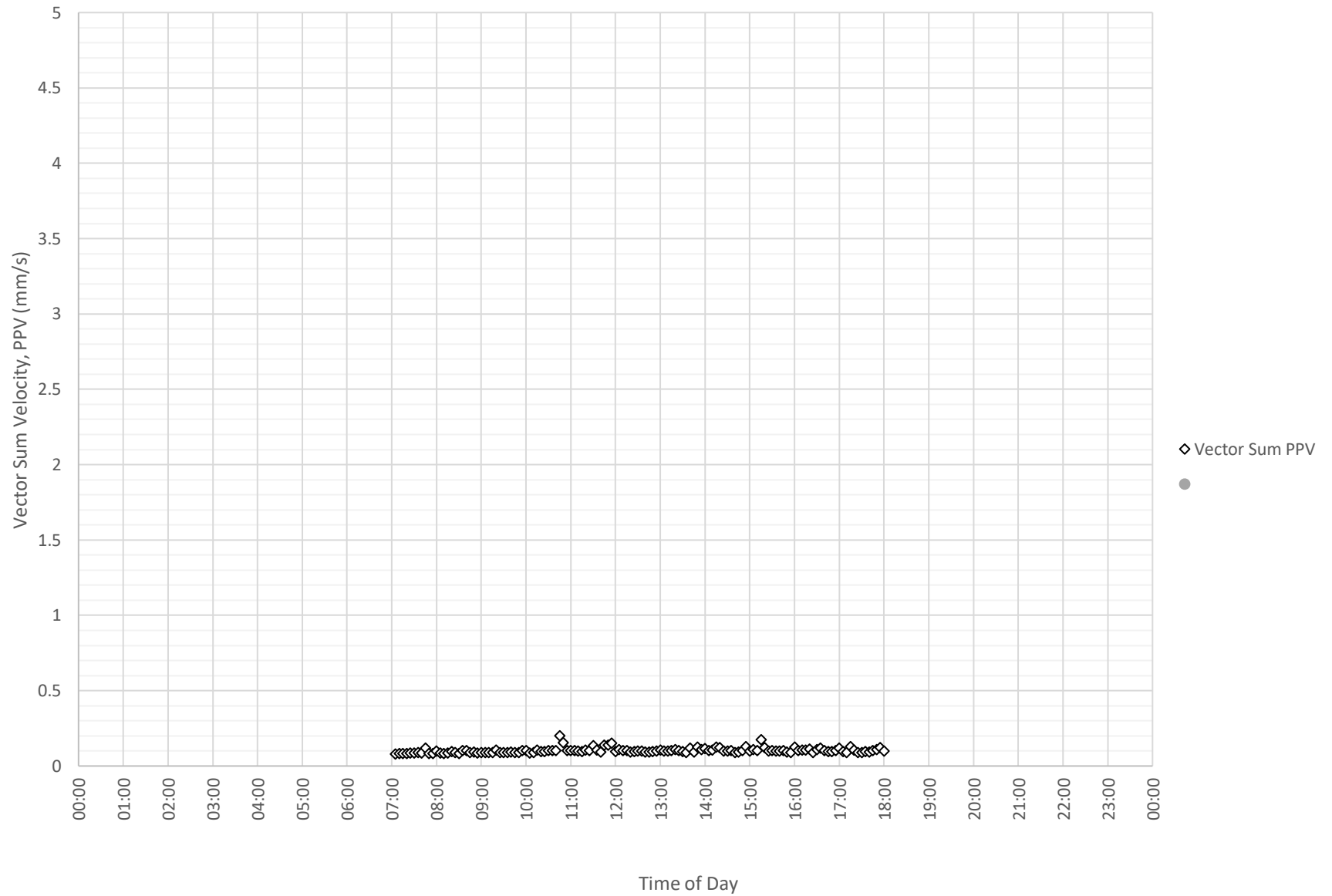
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 15-02-2024



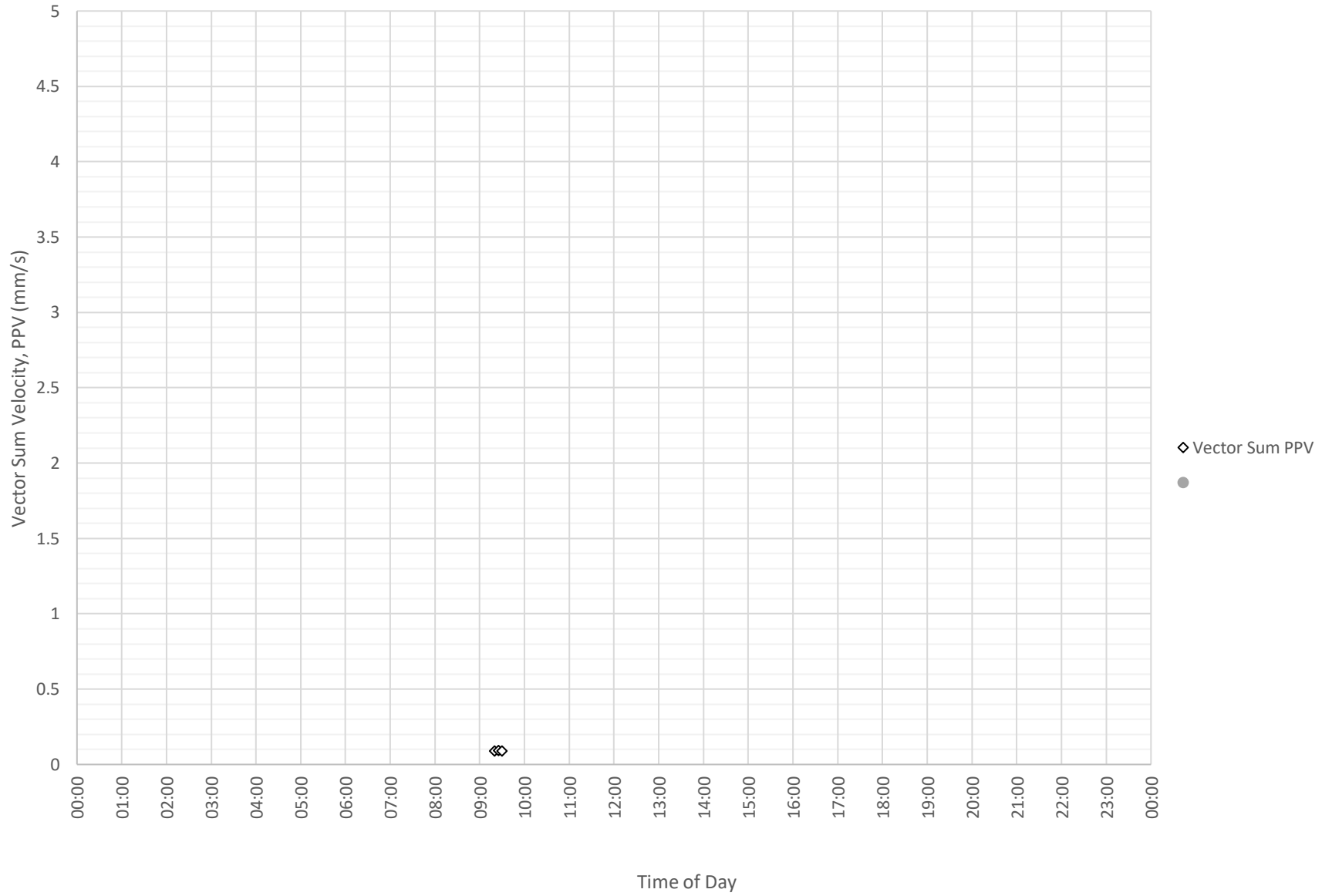
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 16-02-2024



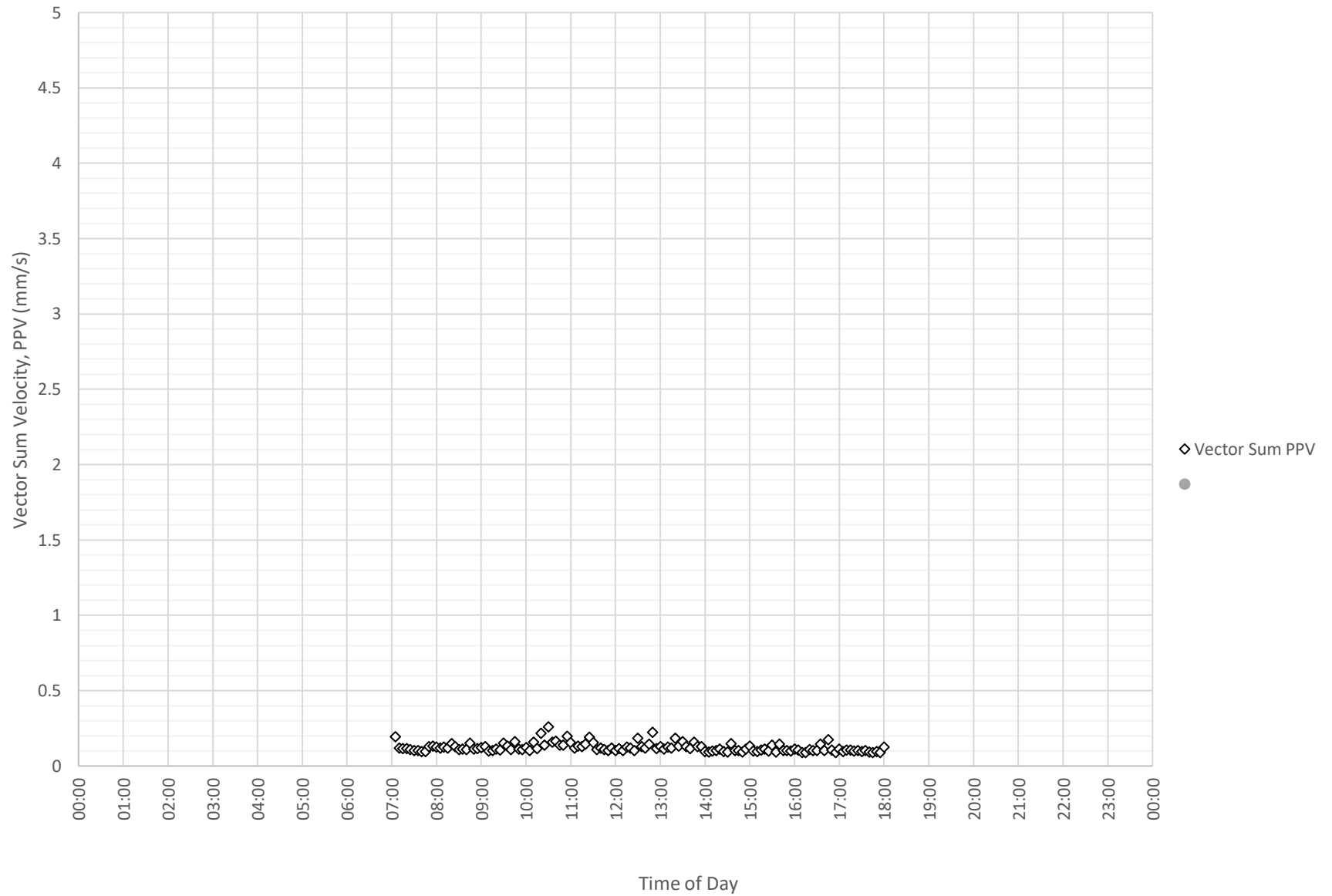
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 17-02-2024



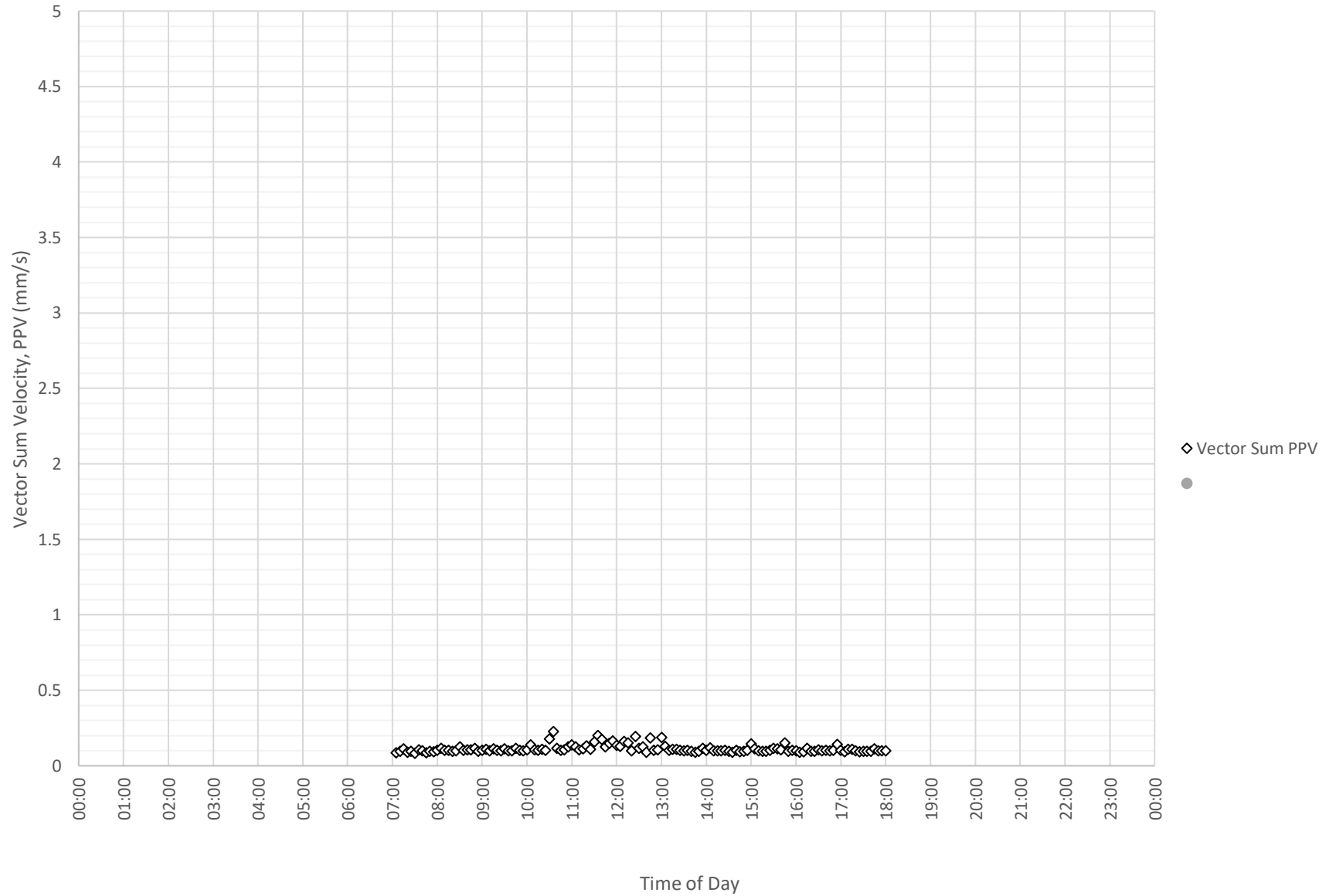
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 18-02-2024



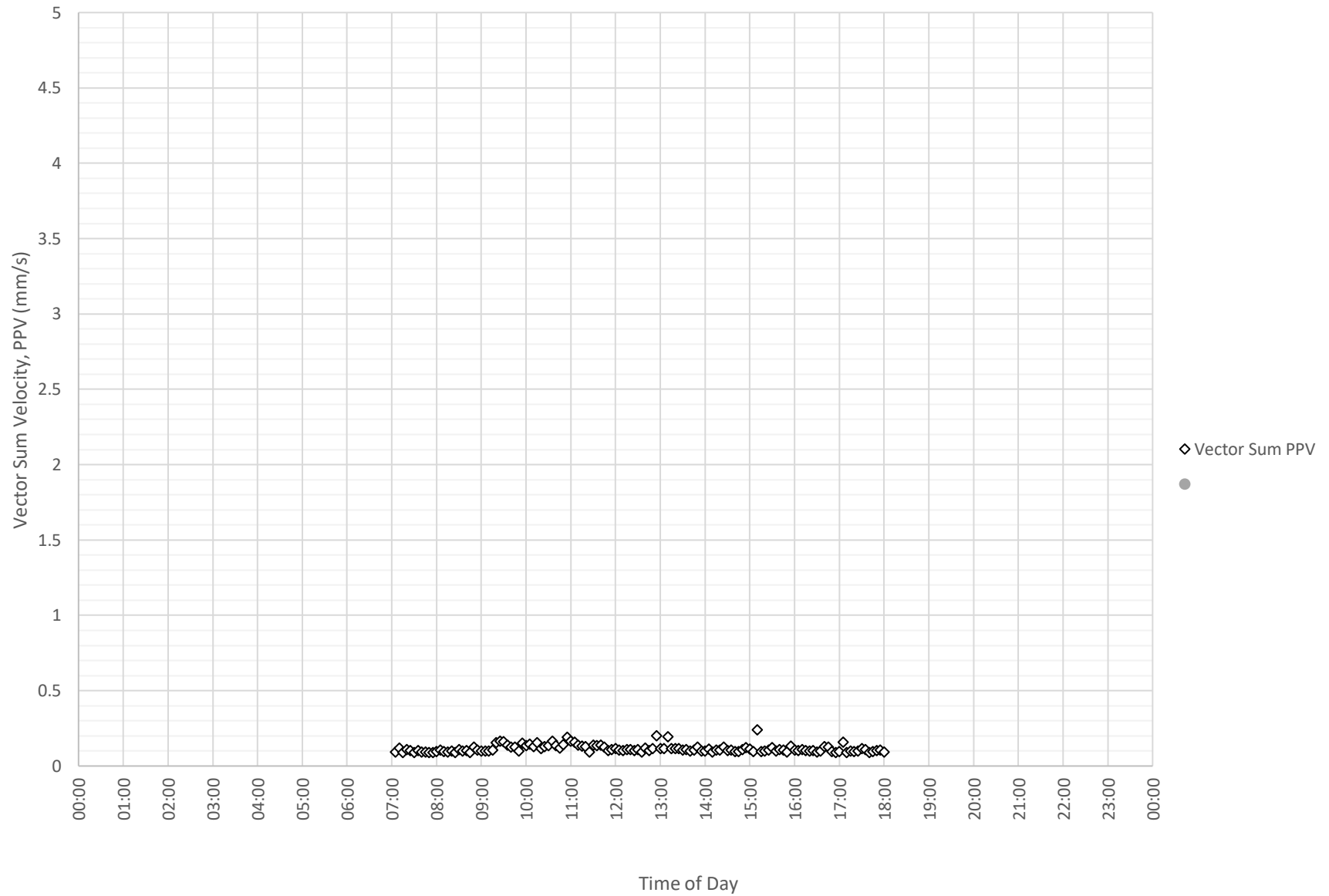
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 19-02-2024



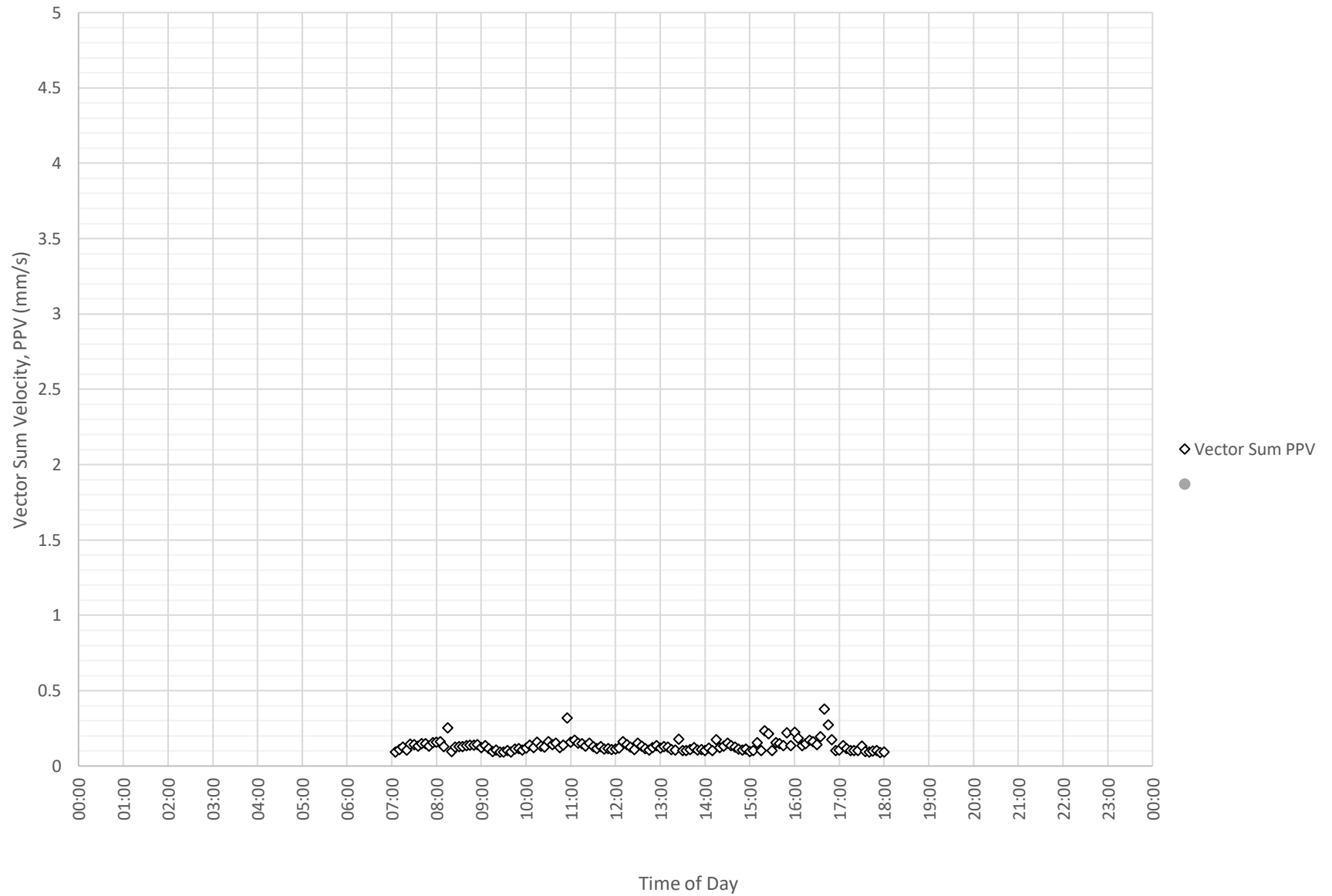
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 20-02-2024



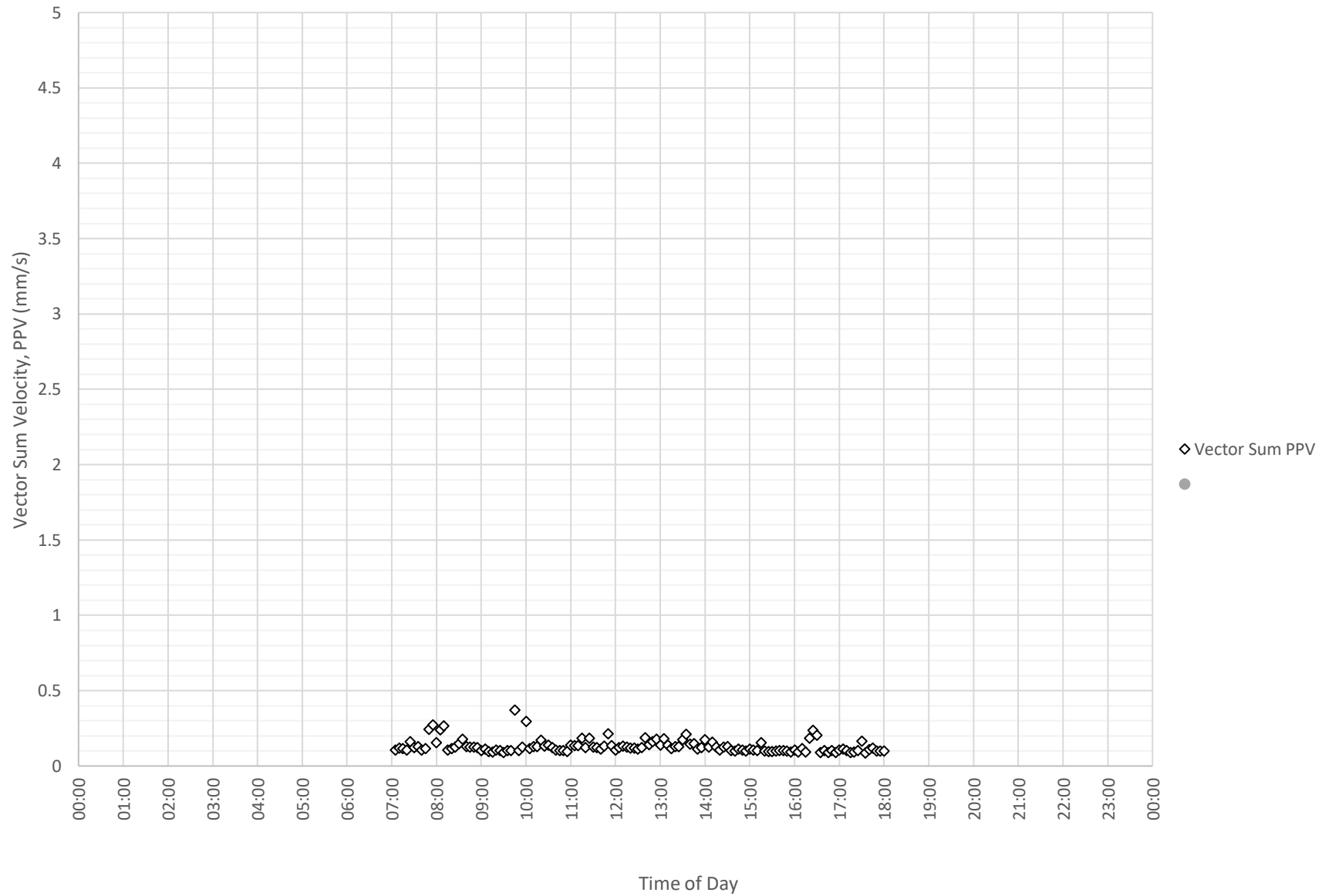
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381) on 21-02-2024



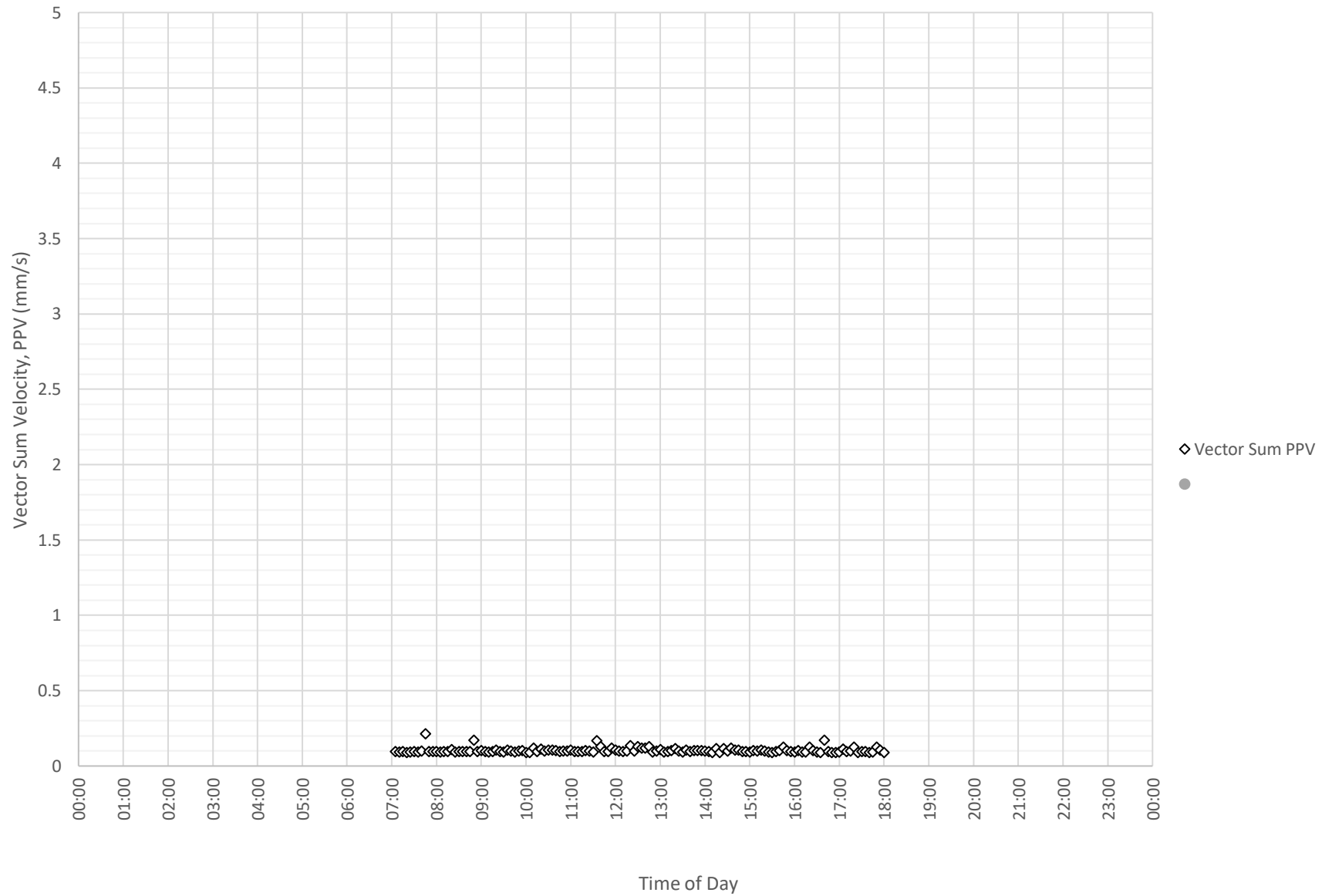
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 22-02-2024



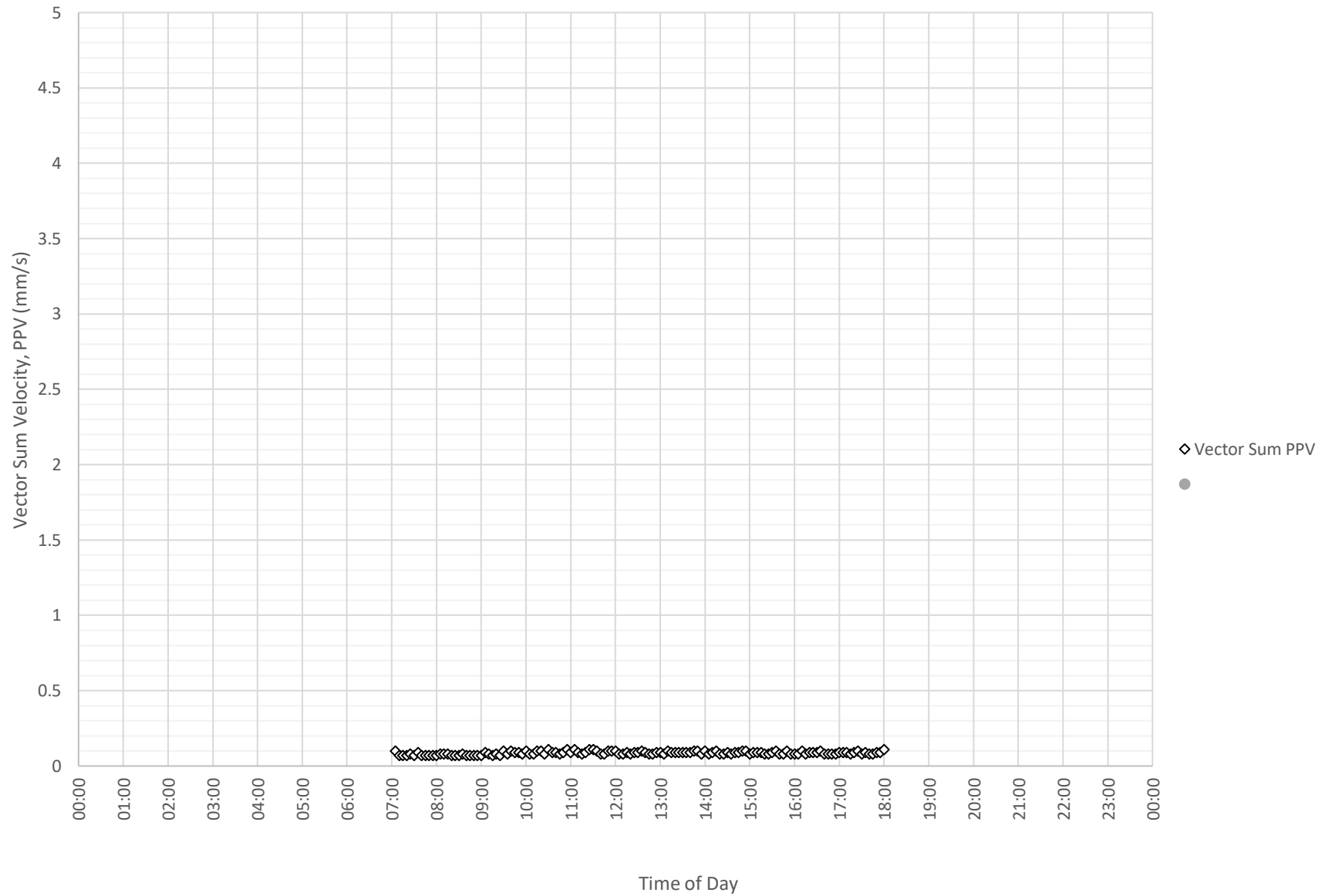
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 23-02-2024



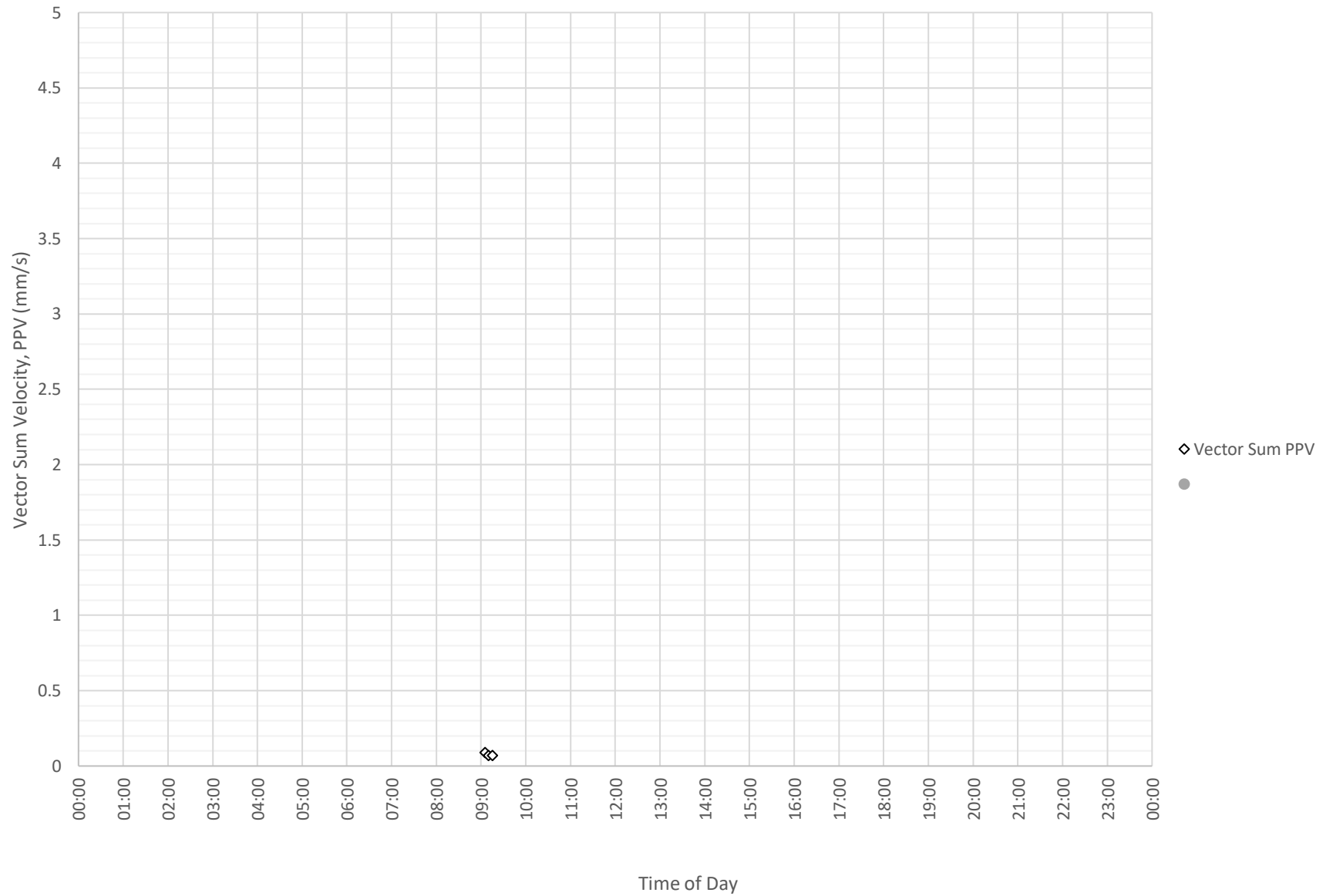
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - Level 2 Waiting Area (ETM7381)
on 24-02-2024



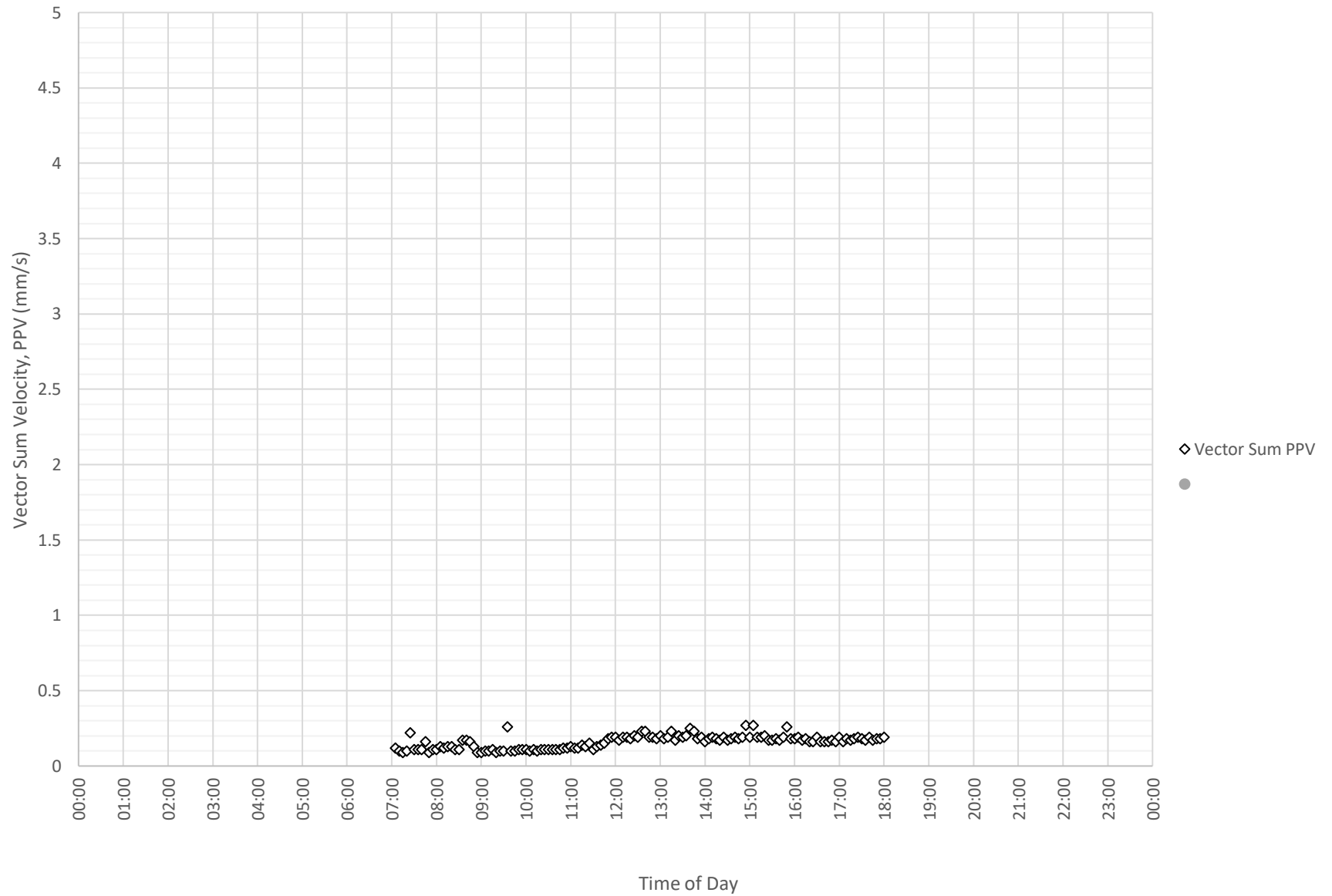
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 10-02-2024



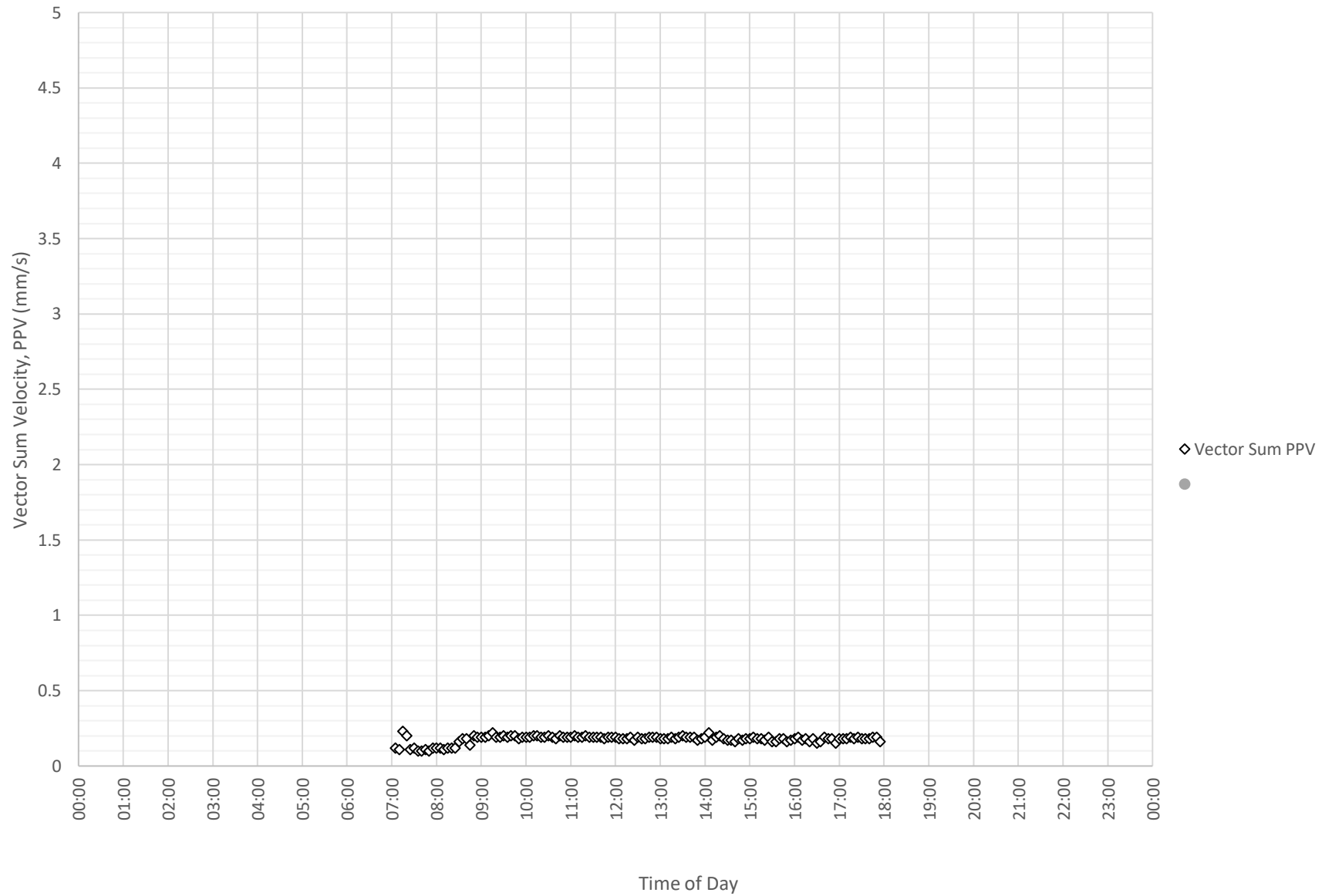
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 11-02-2024



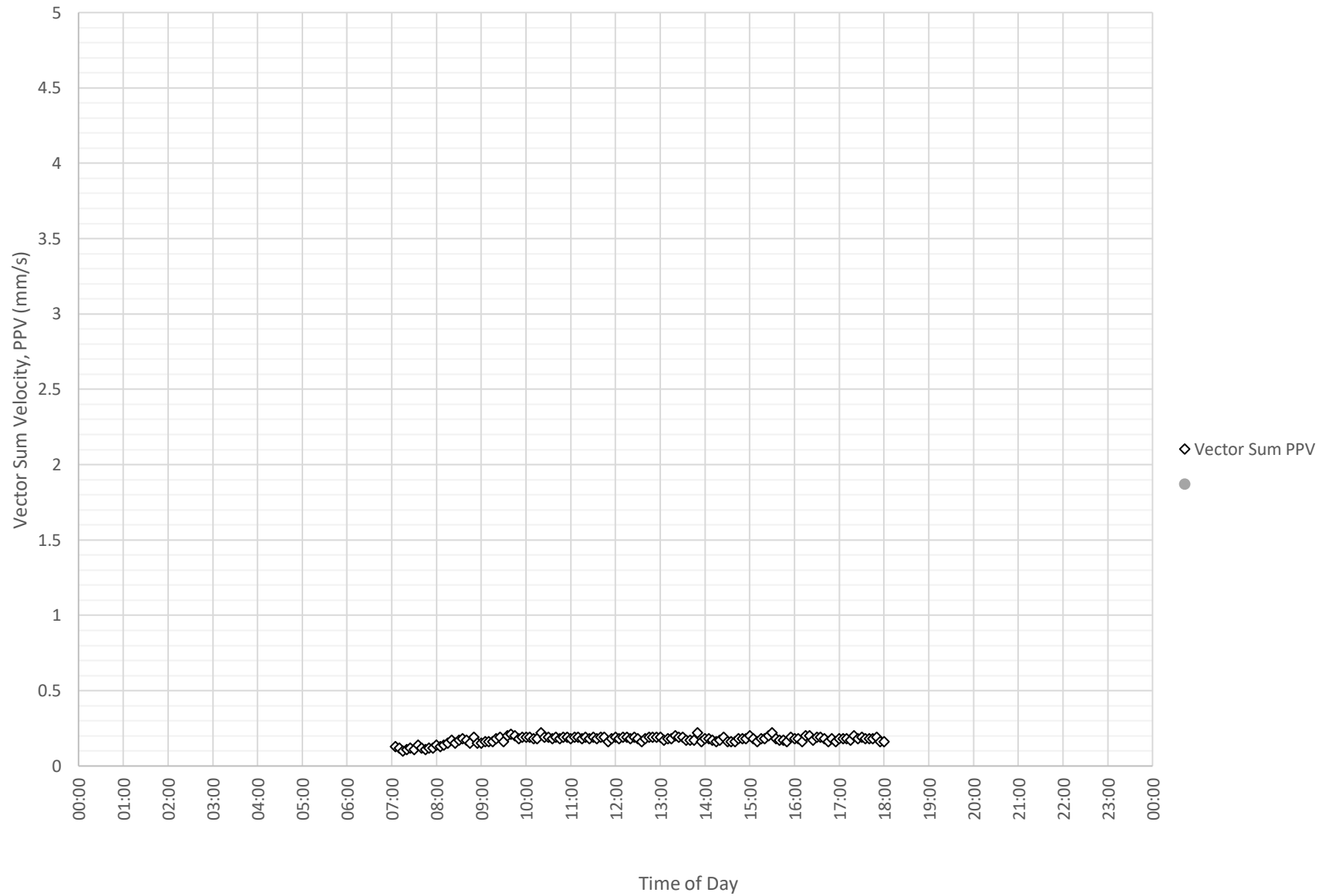
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 12-02-2024



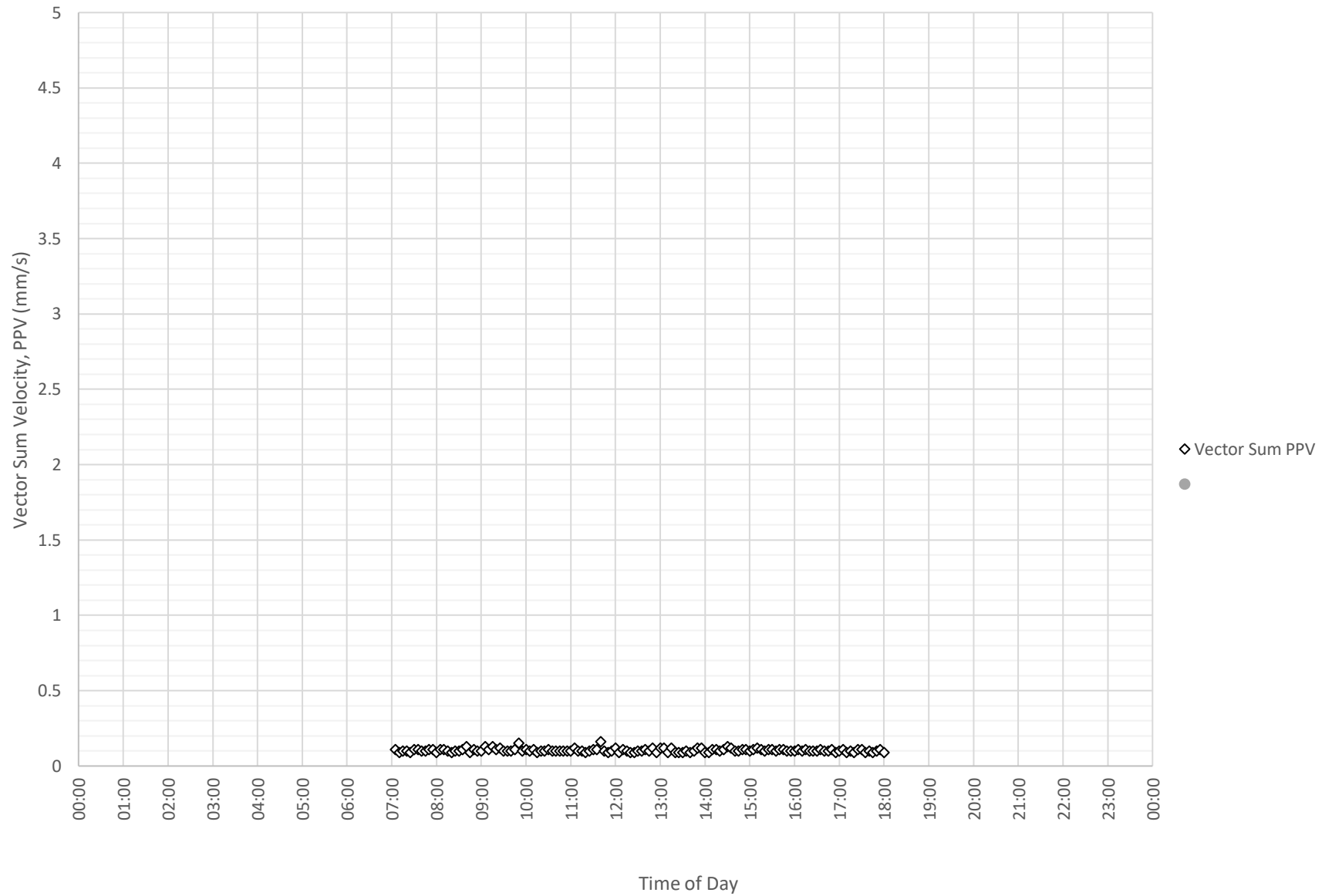
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 13-02-2024



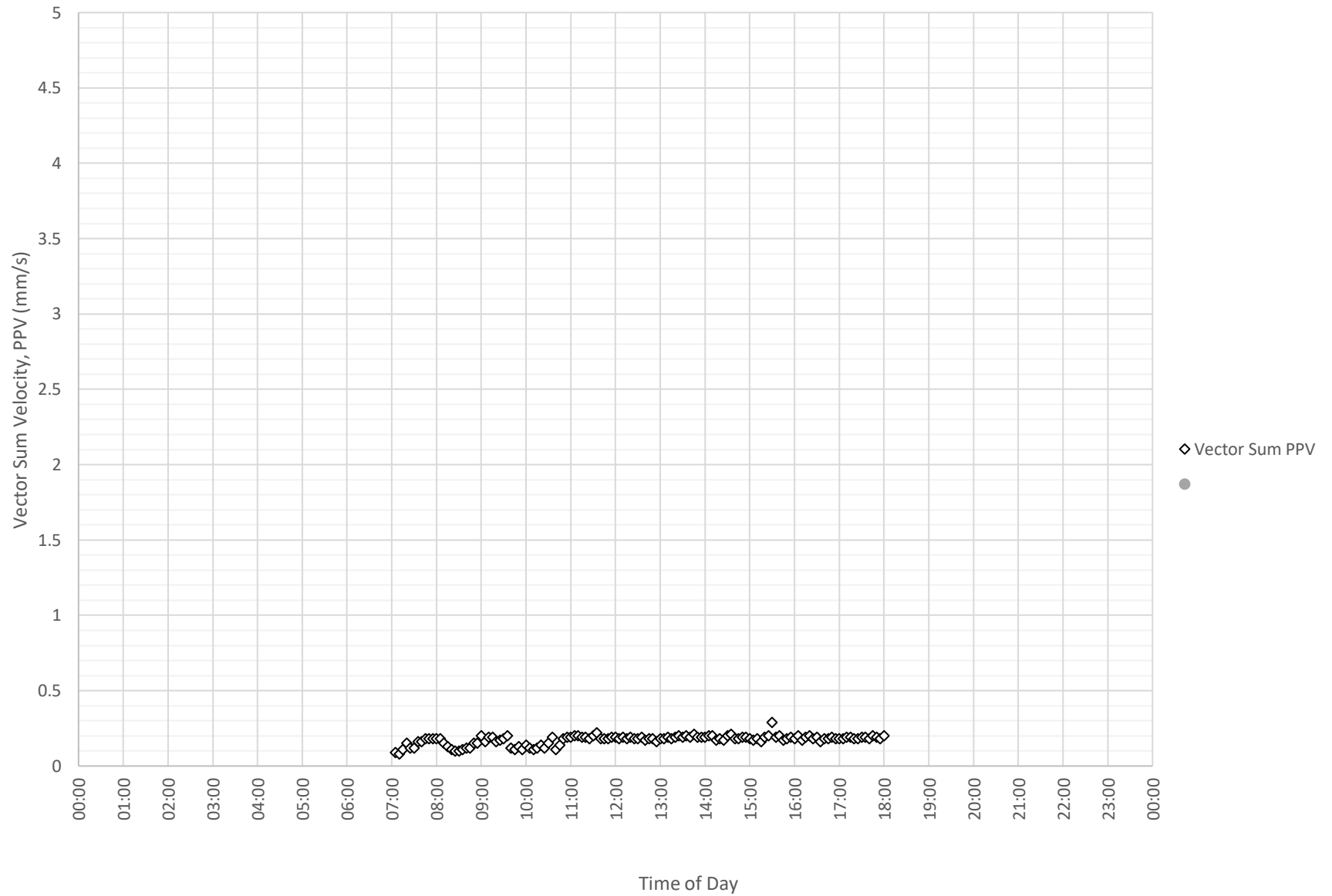
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 14-02-2024



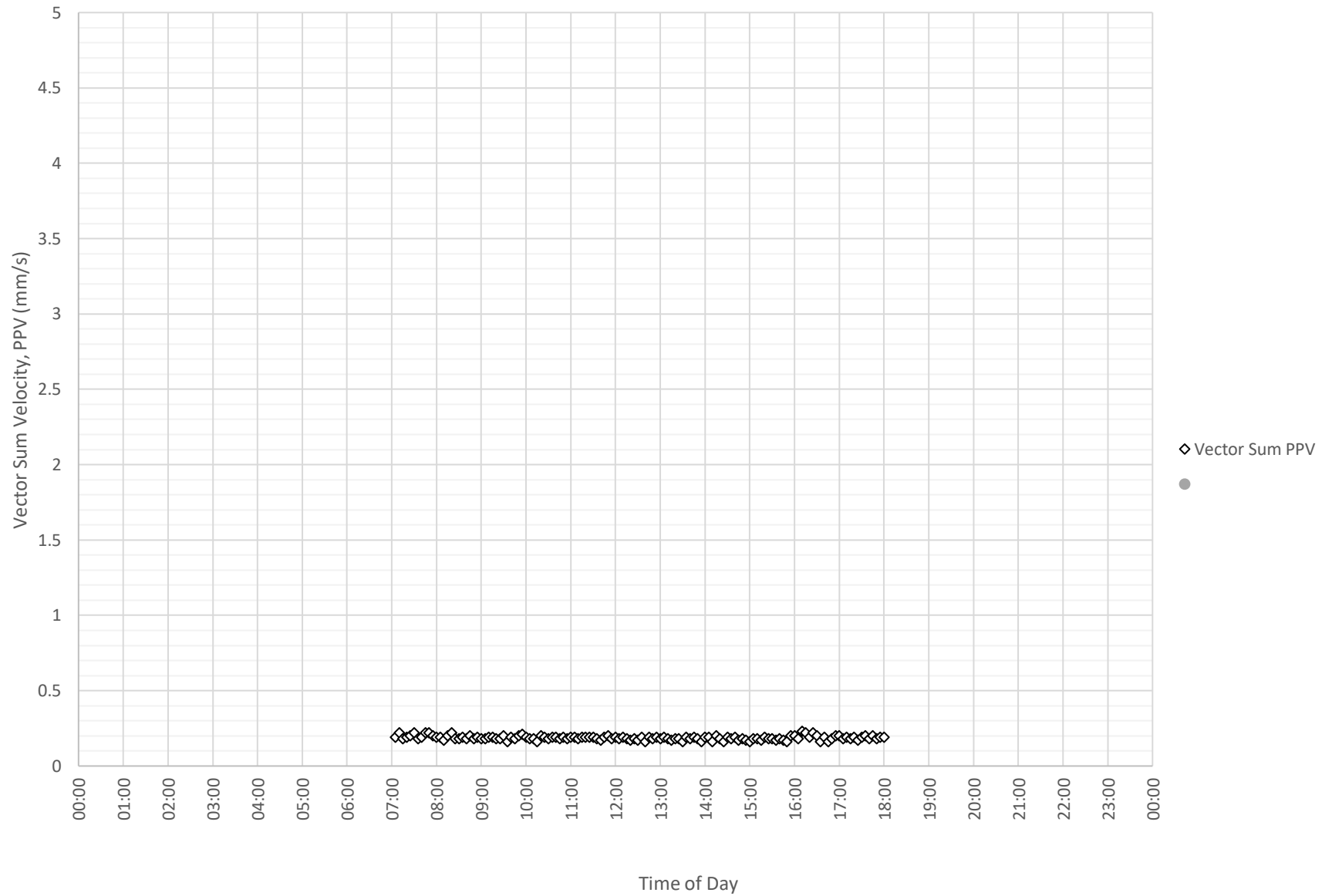
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 15-02-2024



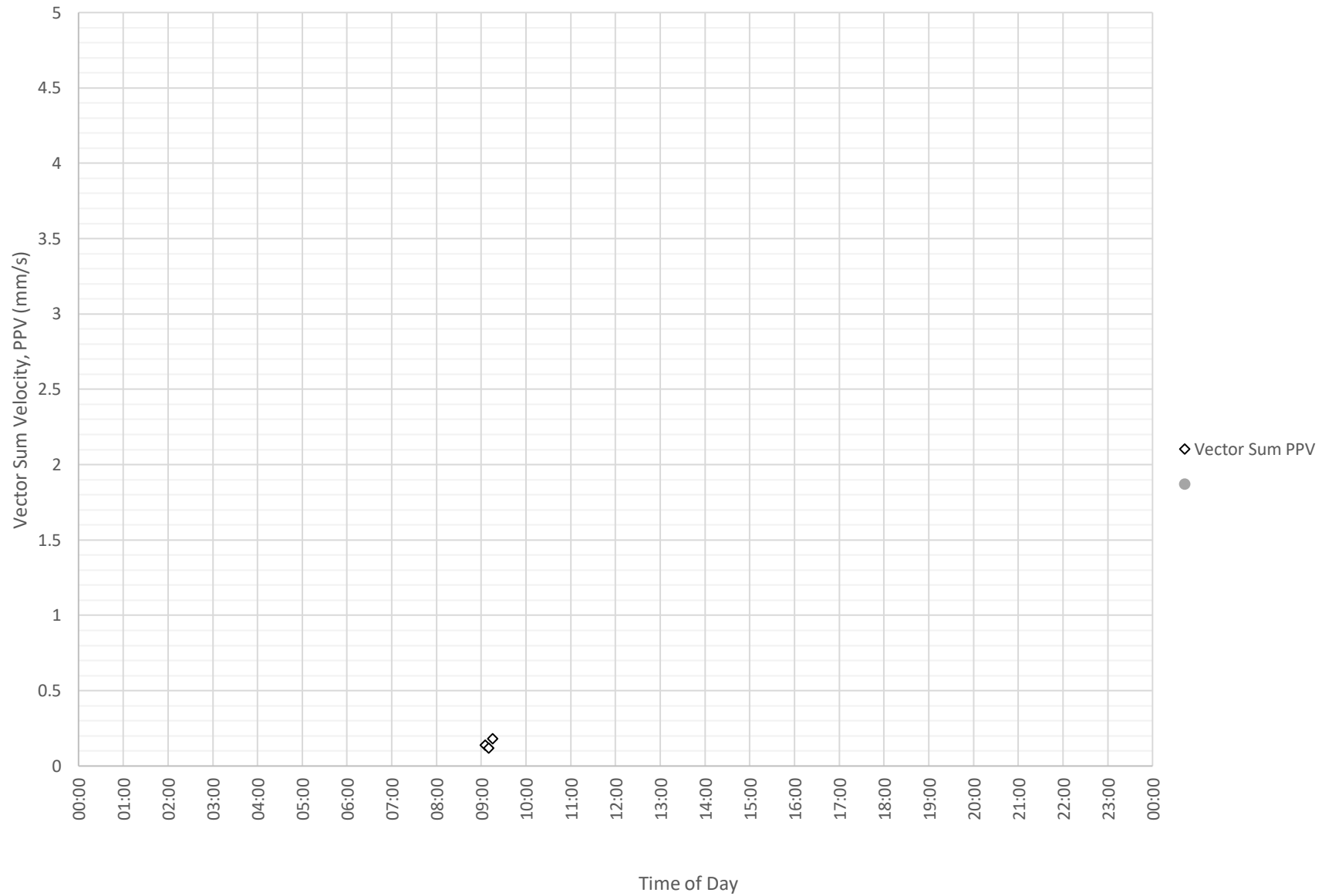
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 16-02-2024



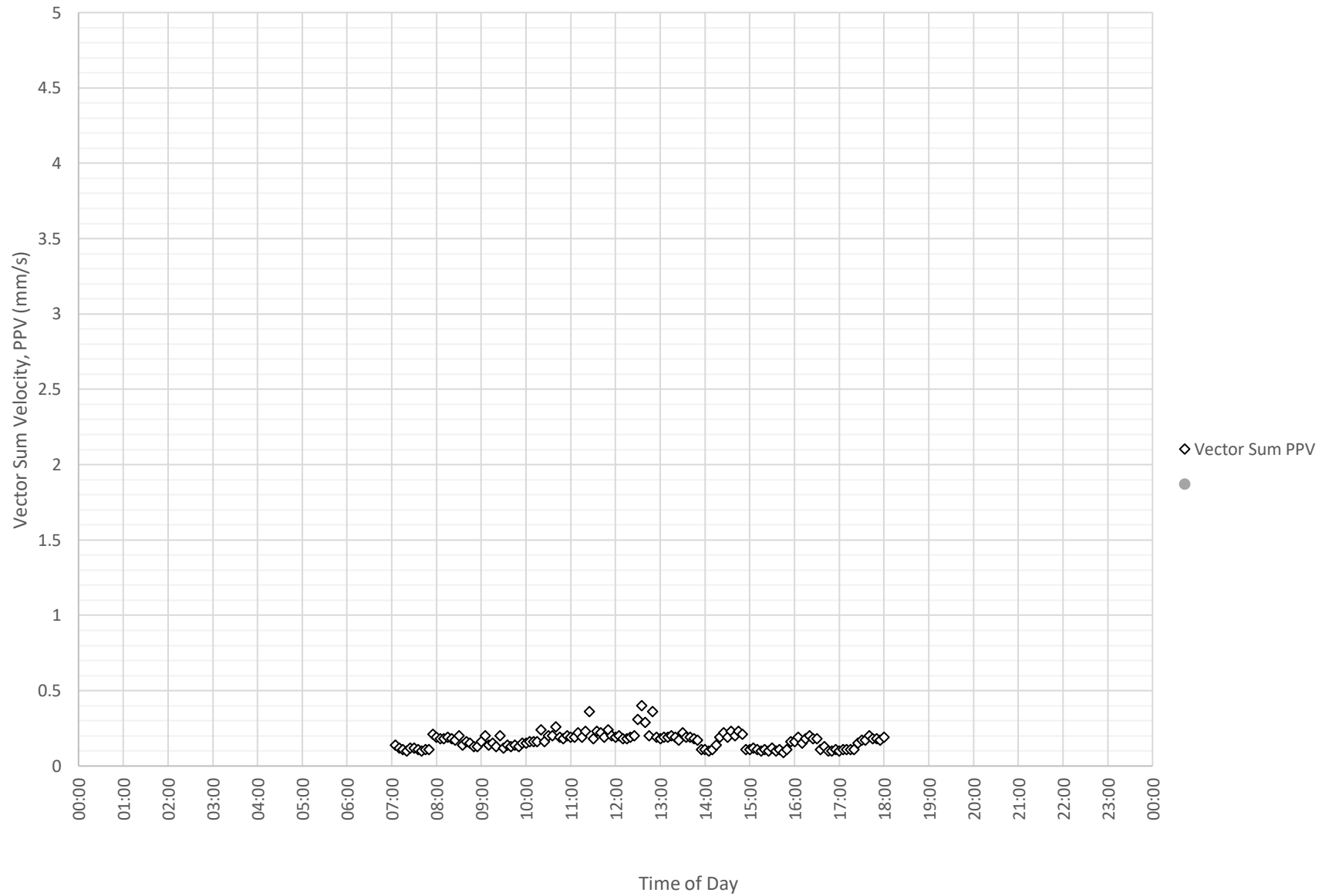
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 17-02-2024



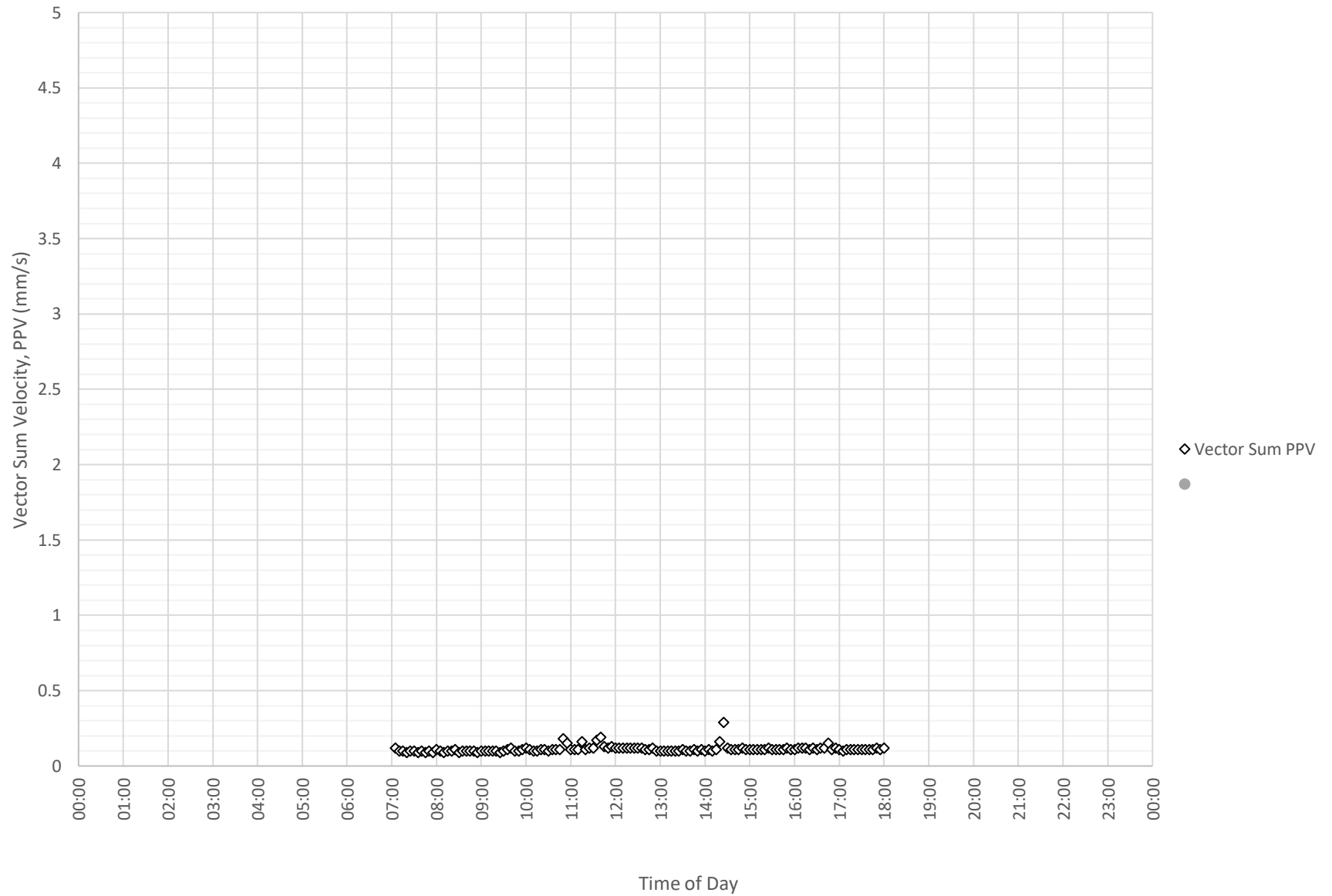
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 18-02-2024



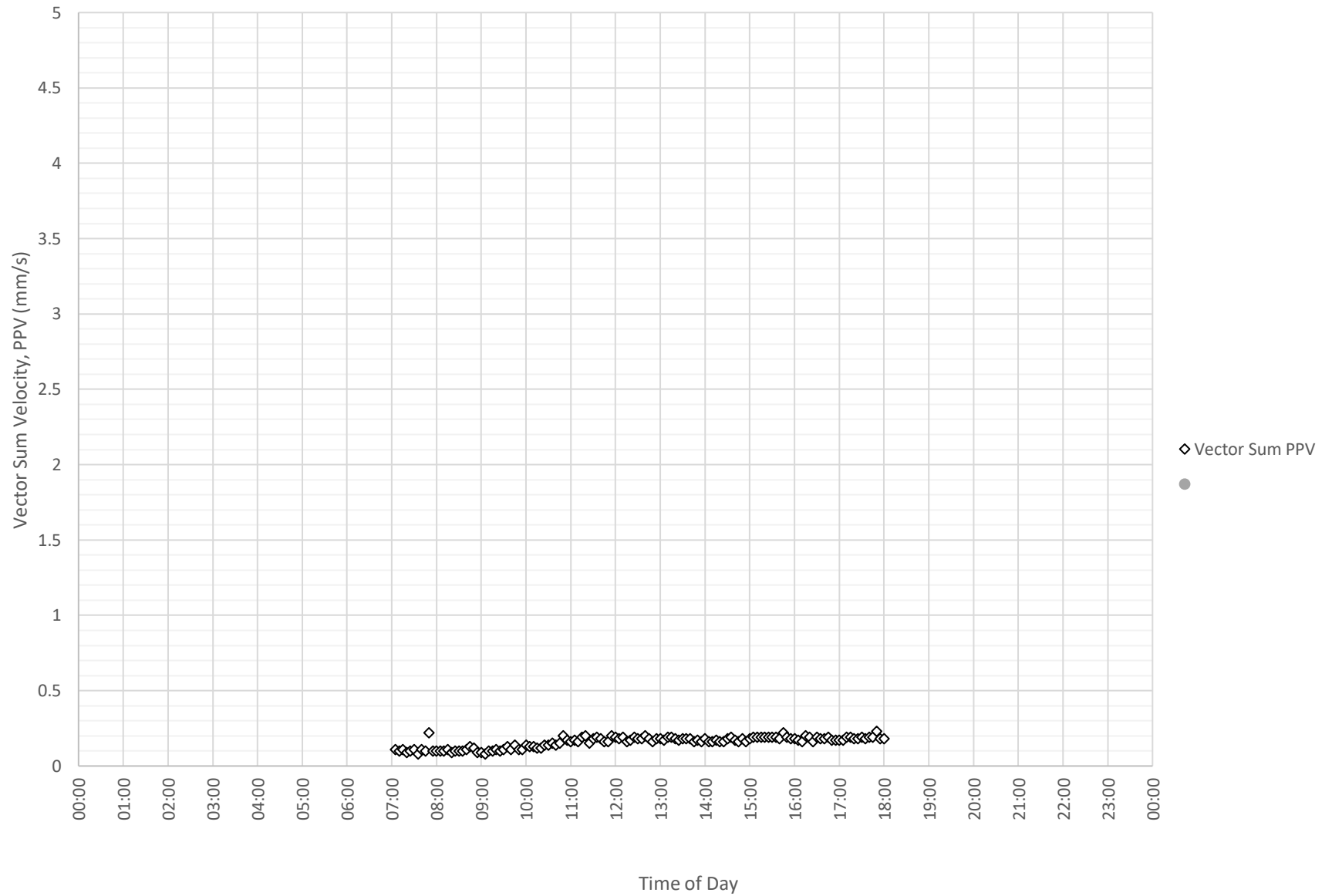
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 19-02-2024



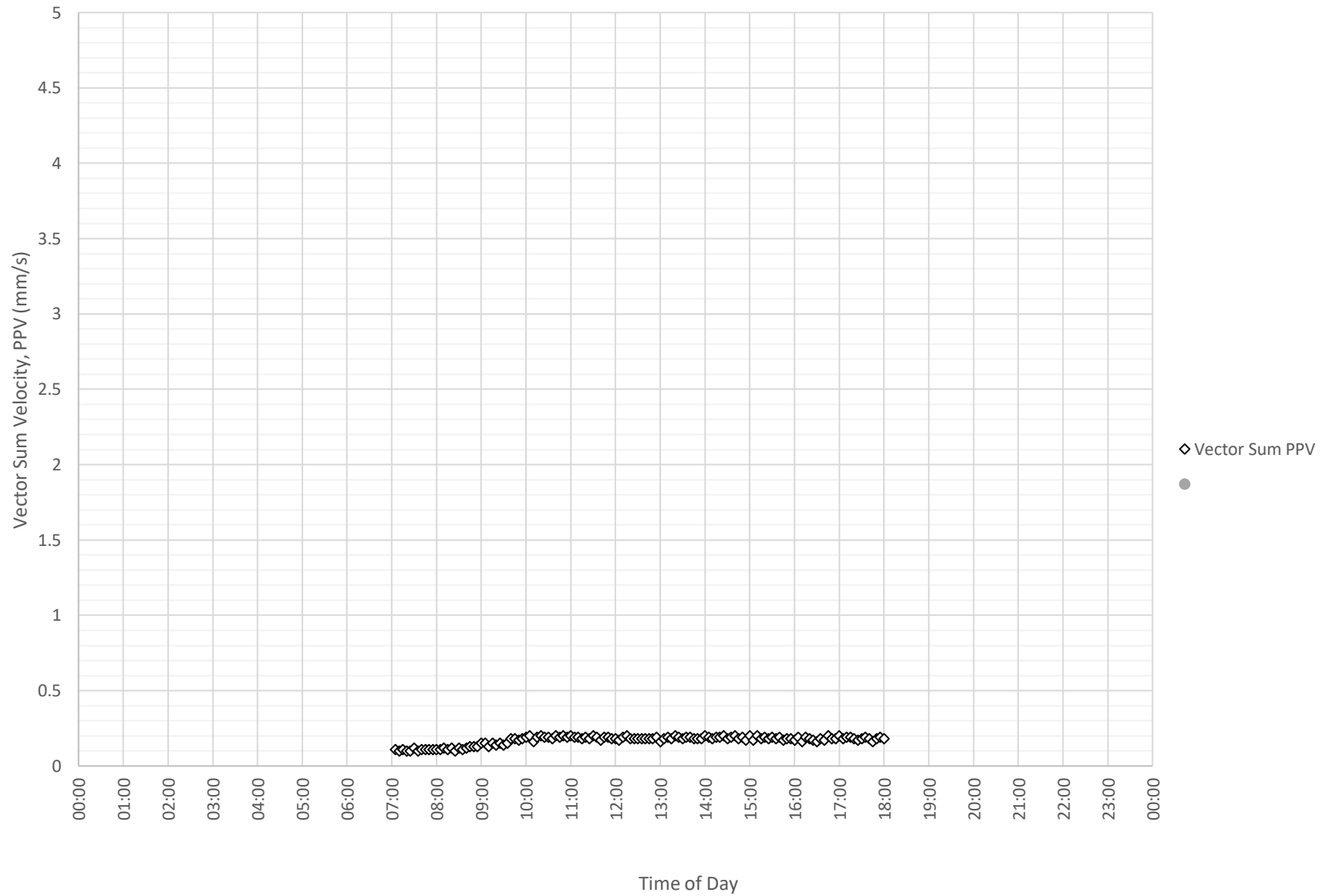
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 20-02-2024



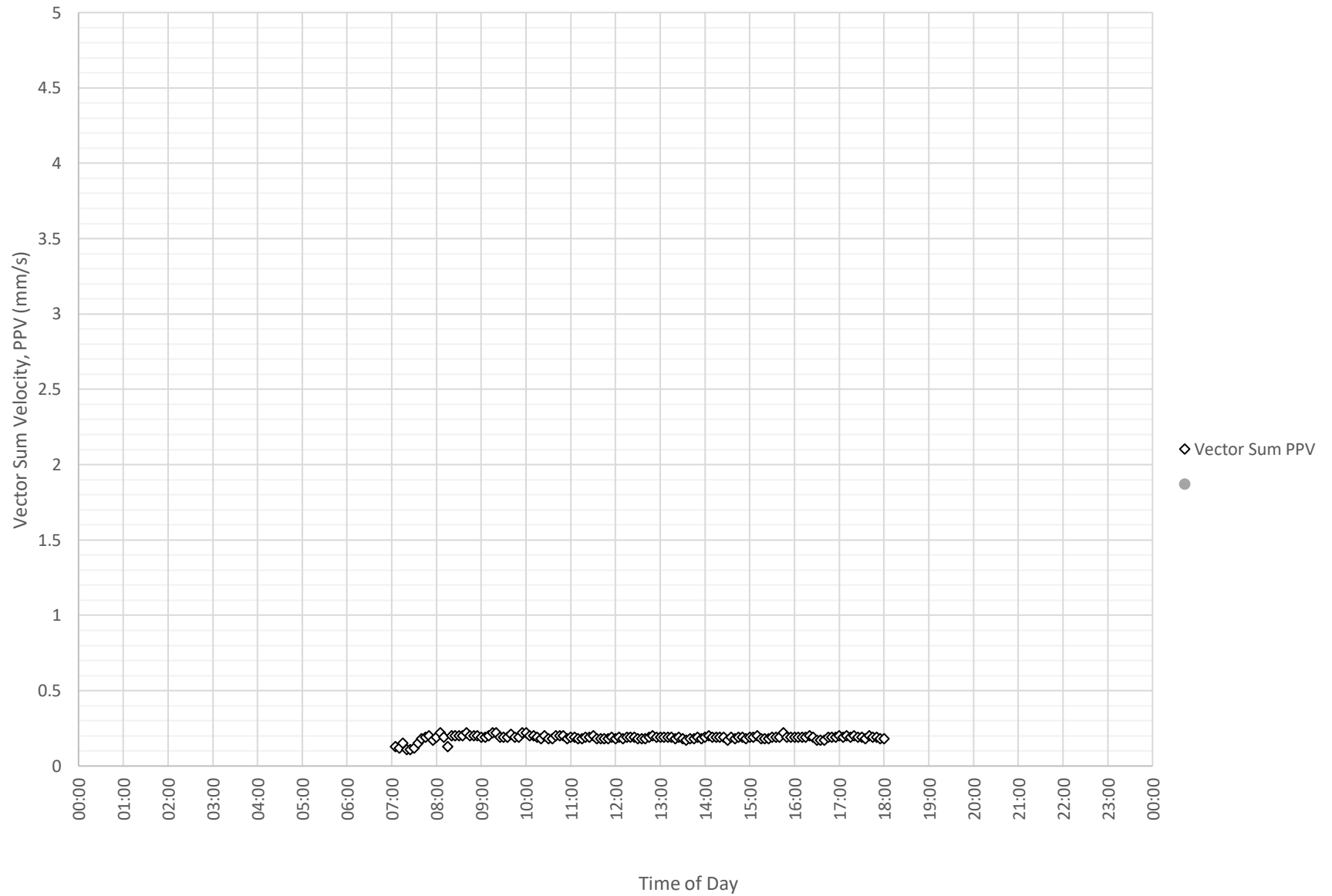
Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 21-02-2024



Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 22-02-2024



Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 23-02-2024



Daily Monitored Vibration Levels at Nepean Hospital Stage 2 - TB1 Corridor (ETM7280) on 24-02-2024

