



Noise & Vibration Monthly Report

Barangaroo Cutaway Cultural Facility
3847.12

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Customer Name: FDC Construction
Report Number: 3847.12
Reporting Period: 27/3/2025 to 26/4/2025
Issue Date: 29/05/2025

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Reviewed By: Stuart Clough

1 Executive Summary

Noise and vibration associated with construction activities were monitored between 27th of March and 26th of April 2025 (inclusive).

A site visit was conducted on 3/4/2025 from 8:00-15:00 in which time skylight noise monitors and all vibration sensors were moved and/or reconnected to power. One device had to be replaced due to damage from construction activities.

There were seventy-eight instances where noise levels exceeded the alarm level for high noise emission. Respite periods were observed on some days.

There were twenty-one instances where vibration levels exceeded established alerting or alarming levels and reached extreme magnitudes. All instances were reviewed and found to either be from localised activity in the direct vicinity of the sensor or were isolated to a single vibration sensor. Therefore, these events are not expected to pose a threat to nearby residential or heritage buildings.

It should be noted that the skylight noise monitors and vibration sensors all had to be turned off at various times over the monitoring period due to power not being available during final glass installation. Noise monitor 5048 and vibration sensor 1001V went offline at 9:00 on 16/4/2025, noise monitor 5050 and vibration sensor 1000V went offline at 15:00 on 14/4/2025, noise monitor 5037 went offline at 15:30 on 9/4/2025 and vibration sensor 1002V went offline at 15:30 on 15/4/2025. After being turned off all noise monitors and vibration sensors remained off for the remainder of the monitoring period. We are working with FDC to restore power to these devices.

NoiseNet must be consulted prior to relocation of sensors or any changes to power configurations. Failure to meet suitable install conditions or monitoring locations will result in any data being null and void and may result in failure to meet DA conditions.

NoiseNet should be informed in advance of any planned activities likely to cause high levels of vibration, such as piling or rock breaking. Key personnel should continue to observe alerting and alarming via email and SMS, as established in installation report reference [*3847_Installation_Report_Barangaroo_Cutaway_FDC_Construction_R02*](#).

2 Noise

Over the reporting period, there were seventy-eight instances where noise exceeded the established levels for high emission.

Noise during general work hours was typically observed to be from drilling and/or jackhammering, music, talking, movement of plant and equipment as well as general construction noise such as reverse beepers and power tools.

High noise emissions after site hours were from things such insect, rain and aviation noise and not related to activities being carried out by FDC (according to FDC activity logs).

A site visit was conducted on 3/4/2025 from 8:00-15:00 in which time monitors were moved and reconnected to power. Noise alerts before 15:00 3/4/2025 from monitor 5037, 5048 or 5050 will be disregarded for this report as these devices were either offline or not correctly installed prior to this. Upon concluding the site visit several responsibilities were transferred to FDC in regard to device set up including moving 5037 slightly and securing with additional zip ties. NoiseNet is still waiting for a photo confirming this has been completed but will run under the assumption that it was completed the following day (4/4/2025) as advised during the site visit.

It should be noted that the skylight noise monitors all had to be turned off at various times over the monitoring period due to power not being available during final glass installation. Monitor 5048 went offline at 9:00 16/4/2025, monitor 5050 went offline at 15:00 14/4/2025 and monitor 5037 went offline at 15:30 9/4/2025. All three monitors then remained offline for the remainder of this reporting period. We are working with FDC to restore power to these devices.

All periods of high noise emissions are outlined in Table 1. A selection of events was chosen to be manually analysed by NoiseNet and these files are the bolded lines with accompanying audio files in Table 1.

Noise impacts are primarily to sensitive receivers along Merriman Street, with some impact to commercial receivers near Munn Street as it appears some works were carried out near noise monitor 5039. In most cases, noise levels returned to acceptable levels within a reasonable time and most required respite periods were observed. There were some instances where construction activity was observed either before 9:00 am or during the respite period from 12:00-2:00 pm with most instances being due to general plant movement, heavy machinery and power tools.

A selection of notable noises that were observed over the reporting period are showed in Table 1 below, with reference recordings provided.

Filename	Date	Time	Description	Merriman Street Receiver Levels		Munn Street Offices Receiver Levels	
				LA _{eq} (dB)	LA _{max} (dB)	LA _{eq} (dB)	LA _{max} (dB)
2025-04-01T09_41_26.wav	1/04/2025	9:45	Monitor 5039. Leaf blower and passers-by.	-	-	71	86
Audio available on request.	3/04/2025	17:00-17:10	Monitor 5048. General movement around the monitors - skylight team packing up.	63	76	-	-
2025-04-04T00_02_28.wav	4/04/2025	0:30-2:00	Monitor 5050. Cricket noise.	59	62	-	-
2025-04-04T07_18_07.wav	4/04/2025	6:50-9:00	Monitor 5048. Heavy machinery and general plant movement.	70	83	-	-
2025-04-04T12_50_49.wav	4/04/2025	12:00-14:00	Monitor 5048. Heavy machinery, power tools and general plant movement.	68	85	-	-
Audio available on request.	4/04/2025	19:09-19:34	Monitor 5050. FDC site not operational, further investigation can be performed on request.	54	68	-	-
Audio available on request.	5/04/2025	1:18-2:10	Monitor 5050. General movement around the monitors - skylight installation.	59	62	-	-
Audio available on request.	5/04/2025	6:50-7:00	Monitor 5050. General movement around the monitors - skylight team setting up.	47	72	-	-
Audio available on request.	5/04/2025	8:05-9:00	Monitor 5048. General movement around the monitors - skylight team setting up	64	77	-	-
Audio available on request.	5/04/2025	12:00-14:40	Monitor 5048. General movement around the monitors - skylight installation	67	82	-	-
Audio available on request.	5/04/2025	22:00-22:55	Monitor 5048. FDC site not operational, further investigation can be performed on request.	53	67	-	-
Audio available on request.	6/04/2025	6:45	Monitor 5050. General movement around the monitors - skylight team setting up.	47	58	-	-
2025-04-06T09_11_40.wav	6/04/2025	9:00-9:15	Monitor 5048. Aviation noise not related to FDC.	56	73	-	-
Audio available on request.	6/04/2025	22:00-22:15	Monitor 5048. FDC site not operational, further investigation can be performed on request.	48	63	-	-
Audio available on request.	7/04/2025	6:25-7:00	Monitor 5048. General movement around the monitors - skylight team setting up.	51	74	-	-
2025-04-07T08_38_38.wav	7/04/2025	7:10-9:00	Monitor 5048. Heavy machinery, metal banging and general plant movement.	70	82	-	-
Audio available on request.	7/04/2025	8:45-9:00	Monitor 5050. General movement around the monitors - skylight team setting up.	68	80	-	-
Audio available on request.	7/04/2025	12:00-14:00	Monitor 5048. General movement around the monitors - skylight installation.	69	78	-	-
Audio available on request.	7/04/2025	22:35	Monitor 5050. FDC site not operational, further investigation can be performed on request.	47	71	-	-

Audio available on request.	8/04/2025	0:00-3:40	Monitor 5050. FDC site not operational, further investigation can be performed on request.	61	93	-	-
Audio available on request.	8/04/2025	0:55-1:15	Monitor 5048. FDC site not operational, further investigation can be performed on request.	48	79	-	-
Audio available on request.	8/04/2025	6:50-7:00	Monitor 5048. General movement around the monitors - skylight team setting up.	50	62	-	-
Audio available on request.	8/04/2025	6:50-7:00	Monitor 5050. General movement around the monitors - skylight team setting up.	51	82	-	-
Audio available on request.	8/04/2025	7:05-9:00	Monitor 5048. General movement around the monitors - skylight team setting up.	73	88	-	-
2025-04-08T08_56_15.wav	8/04/2025	7:50-10:20	Monitor 5050. Heavy machinery, power tools and general movement.	79	91	-	-
2025-04-08T013_23_54.wav	8/04/2025	12:00-14:00	Monitor 5048. Heavy machinery, power tools and music noise.	73	82	-	-
2025-04-08T13_20_48.wav	8/04/2025	12:40-13:35	Monitor 5037. Heavy machinery, music and general plant movement.	64	86	-	-
Audio available on request.	8/04/2025	13:35-15:05	Monitor 5050. Skylight installation.	77	103	-	-
Audio available on request.	8/04/2025	18:00-18:40	Monitor 5050. FDC site not operational, further investigation can be performed on request.	56	59	-	-
Audio available on request.	8/04/2025	20:55-21:15	Monitor 5048. FDC site not operational, further investigation can be performed on request.	54	82	-	-
Audio available on request.	8/04/2025	20:30-21:45	Monitor 5050. FDC site not operational, further investigation can be performed on request.	66	97	-	-
Audio available on request.	8/04/2025	22:30-0:00	Monitor 5048. FDC site not operational, further investigation can be performed on request.	63	90	-	-
2025-04-08T23_23_38.wav	8-9/4/2025	22:30-2:20	Monitor 5050. Rain noise.	80	102	-	-
Audio available on request.	9/04/2025	3:20	Monitor 5048. FDC site not operational, further investigation can be performed on request.	49	82	-	-
Audio available on request.	9/04/2025	7:00-9:50	Monitor 5050. General movement around the monitors - skylight installation.	79	98	-	-
Audio available on request.	9/04/2025	7:00-8:00	Monitor 5037. General movement around the monitors - skylight installation.	69	82	-	-
Audio available on request.	9/04/2025	12:00	Monitor 5039. General movement.	-	-	70	100
Audio available on request.	9/04/2025	13:25-16:30	Monitor 5050. General movement around the monitors - skylight installation.	78	95	-	-
Audio available on request.	9/04/2025	18:00-19:40	Monitor 5048. FDC site not operational, further investigation can be performed on request.	59	66	-	-
Audio available on request.	10/04/2025	0:00-0:45	Monitor 5050. FDC site not operational, further investigation can be performed on request.	60	65	-	-
2025-04-10T07_39_08.wav	10/04/2025	7:00-8:45	Monitor 5050. Power tools.	75	92	-	-
Audio available on request.	10/04/2025	6:25-7:00	Monitor 5050. General movement around the monitors - skylight team setting up.	51	81	-	-
Audio available on request.	10/04/2025	8:20-9:00	Monitor 5048. General movement around the monitors - skylight team setting up.	70	89	-	-
Audio available on request.	10/04/2025	12:10-14:00	Monitor 5048. General movement around the monitors - skylight installation.	71	80	-	-
2025-04-11T10_08_14.wav	11/04/2025	7:20-11:00	Monitor 5050. Power tools.	81	93	-	-
Audio available on request.	11/04/2025	8:05-9:00	Monitor 5048. General movement around the monitors - skylight installation.	68	78	-	-
Audio available on request.	11/04/2025	12:00-14:00	Monitor 5048. General movement around the monitors - skylight installation.	69	85	-	-
2025-04-11T13_17_40.wav	11/04/2025	13:15-13:35	Monitor 5039. Power tools.	-	-	73	89
Audio available on request.	11/04/2025	15:00-15:25	Monitor 5039. Power tools, general plant movement, talking and bird noise.	-	-	78	93
Audio available on request.	11/04/2025	15:40-16:10	Monitor 5048. General movement around the monitors - skylight installation.	82	99	-	-
Audio available on request.	11/04/2025	16:20-16:40	Monitor 5039. General movement around the monitors - skylight installation.	-	-	75	93
Audio available on request.	11/04/2025	22:00-23:35	Monitor 5048. FDC site not operational, further investigation can be performed on request.	50	64	-	-
Audio available on request.	11-12/4/2025	23:50-1:00	Monitor 5050. FDC site not operational, further investigation can be performed on request.	62	66	-	-
Audio available on request.	12/04/2025	6:20-7:00	Monitor 5048. General movement around the monitors - skylight team setting up.	49	60	-	-
Audio available on request.	12/04/2025	7:30-9:00	Monitor 5048. General movement around the monitors - skylight team setting up.	71	91	-	-
2025-04-12T08_41_23.wav	12/04/2025	8:30-8:50	Monitor 5039. Power tools, general plant movement, talking and bird noise.	-	-	74	96

Audio available on request.	12/04/2025	12:00-14:40	Monitor 5050. General movement around the monitors - skylight installation.	73	97	-	-
2025-04-12T12_41_45.wav	12/04/2025	12:20-12:55	5048. Heavy machinery, power tools and banging.	66	85	-	-
Audio available on request.	12/04/2025	13:00-15:50	5048. Site pack-up.	60	85	-	-
Audio available on request.	12/04/2025	17:05-17:50	5048. Noise unrelated to FDC.	56	69	-	-
Audio available on request.	12-13/4/2025	20:05-0:35	5048. Planes and fireworks.	55	69	-	-
Audio available on request.	12-13/4/2025	23:50-0:25	Monitor 5050. FDC site not operational, further investigation can be performed on request.	55	60	-	-
Audio available on request.	13/04/2025	6:30-6:55	Monitor 5050. General movement around the monitors - skylight team setting up.	53	75	-	-
Audio available on request.	13/04/2025	18:30-22:15	Monitor 5048. FDC site not operational, further investigation can be performed on request.	56	69	-	-
Audio available on request.	14/04/2025	2:00-3:05	Monitor 5048. FDC site not operational, further investigation can be performed on request.	50	67	-	-
Audio available on request.	14/04/2025	5:45-7:00	Monitor 5048. FDC site not operational, further investigation can be performed on request.	54	64	-	-
Audio available on request.	14/04/2025	7:25-9:00	Monitor 5048. General movement around the monitors - skylight team setting up.	65	93	-	-
Audio available on request.	14/04/2025	6:00-7:00	Monitor 5050. General movement around the monitors - skylight team setting up.	52	77	-	-
Audio available on request.	14/04/2025	8:00-8:20	Monitor 5050. General movement around the monitors - skylight team setting up.	70	93	-	-
Audio available on request.	14/04/2025	12:00-14:00	Monitor 5048. General movement around the monitors - skylight installation.	67	84	-	-
Audio available on request.	14-15/4/2025	22:00-00:05	Monitor 5048. FDC site not operational, further investigation can be performed on request.	50	75	-	-
Audio available on request.	15/04/2025	1:00-3:15	Monitor 5048. General movement around the monitors - skylight team setting up.	60	90	-	-
Audio available on request.	15/04/2025	5:35-7:00	Monitor 5048. General movement around the monitors - skylight team setting up.	57	86	-	-
Audio available on request.	15/04/2025	7:10-9:00	Monitor 5048. General movement around the monitors - skylight team setting up.	67	95	-	-
2025-04-15T13_20_50.wav	15/04/2025	12:10-14:00	Monitor 5048. Heavy machinery, power tools and general plant movement.	83	87	-	-
Audio available on request.	16/04/2025	6:10-7:00	Monitor 5048. General movement around the monitors - skylight team setting up.	50	69	-	-
Audio available on request.	16/04/2025	7:00-9:00	Monitor 5048. General movement around the monitors - skylight team setting up.	80	103	-	-
2025-04-25T09_44_26.wav	25/04/2025	9:30-9:45	Monitor 5039. Bird noise and passers-by.	-	-	74	102

Table 1: Most notable noise events during the reporting period.

3 Vibration

Over the reporting period, there were twenty-one instances where vibrations from construction activities at the Barangaroo Cutaway exceeded warning or alarm levels.

There were extreme magnitudes of vibration measured on multiple occasions (many in exceedance of 50 mm/s), but all vibration events were investigated and confirmed to either be from highly localised activities directly adjacent to sensors and/or were isolated to one vibration sensor. Therefore, these activities are not expected to pose a potential threat to nearby residential or heritage buildings.

NoiseNet should be informed in advance of any planned activities likely to cause high levels of vibration, such as piling or rock breaking.

A site visit was conducted on 3/4/2025 from 8:00-15:00 in which time vibration sensors were moved and reconnected to power. All vibration alerts before 15:00 3/4/2025 will be disregarded for this report as these devices were either offline or not correctly installed prior to this. Upon concluding the site visit several responsibilities were transferred to FDC regarding device set up including providing a photo of 1002V with the lid off to confirm it is installed against the wall correctly, taking 1000V off the wall and removing rubble in-between base plate and wall and connecting the device to power. NoiseNet is still waiting for a photo confirming 1002V was installed correctly but will run

under the assumption that it was installed correctly pending the photo. NoiseNet will also assume the rubble was removed from under 1000V's baseplate and power was connected the following day (4/4/2025) as advised during the site visit.

It should be noted that the skylight vibration sensors all had to be turned off at various times over the monitoring period due to power not being available during final glass installation. Sensor 1001V went offline at 9:00 16/4/2025, sensor 1000V went offline at 15:00 14/4/2025 and sensor 1002V went offline at 15:30 15/4/2025. All three sensors have internal batteries so if the corresponding noise monitors are powered on again, it is likely that additional vibration data can be retrieved past the times noted here.

The most notable vibrations observed are reported in Table 2 below.

Date	Time	Description	Street Level Peak Vibration	Site Ground Level
			Velocity Peak mm/s	Velocity Peak mm/s
7/4/2025	12:43	Monitor 1000v. General movement around the monitors - skylight installation.	68.81	-
8/4/2025	9:16	Monitor 1004V. General plant movement in the BOH areas.	-	14.12
9/4/2025	7:30	Monitor 1001V. General movement around the monitors - skylight installation.	2.54	-
9/4/2025	8:11	Monitor 1001V. General movement around the monitors - skylight installation.	2.19	-
9/4/2025	9:20	Monitor 1004V. General plant movement in the BOH areas.	-	100.67
9/4/2025	10:06	Monitor 1001V. Skylight installation.	2.50	-
9/4/2025	11:16	Monitor 1004V. Skylight installation.	-	138.34
9/4/2025	15:00	Monitor 1000V. Skylight installation.	2.29	-
10/4/2025	10:02	Monitor 1001V. Skylight installation.	2.22	-
10/4/2025	12:01	Monitor 1002V. General movement around the monitors - skylight installation.	3.54	-
10/4/2025	15:48	Monitor 1001V. Skylight installation.	40.10	-
11/4/2025	7:12	Monitor 1001V. General movement around the monitors - skylight installation.	21.85	-
11/4/2025	8:43-8:55	Monitor 1002V. General movement around the monitors - skylight installation.	3.48	-
12/4/2025	11:20-11:25	Monitor 1002V. General movement around the monitors - skylight installation.	2.68	-
12/4/2025	14:58	Monitor 1001V. Skylight installation.	2.65	-
14/4/2025	8:16-8:20	Monitor 1002V. General movement around the monitors - skylight installation.	60.89	-
14/4/2025	10:27-11:04	Monitor 1000V. Skylight installation.	8.69	-
14/4/2025	14:12-14:24	Monitor 1002V. Skylight installation.	33.23	-
15/4/2025	9:01	Monitor 1001V. Skylight installation.	86.78	-
15/4/2025	11:49	Monitor 1002V. Skylight installation.	56.85	-
24/4/2025	11:36-16:53	Monitor 1004V. Numerous alerts scattered across the day, including many above 50mm/s. These were attributed to general plant movement in the BOH areas.	-	728.45

Table 2: Most notable vibration events during the reporting period.

4 Report Issue Log

Document Title	Reference	Reporting Period	Issue Date
3847_Installation_Report_Barangaroo_Cutaway_FDC_Construction_R01 (Superseded)	3847	13/06/2024	24/06/2024
3847_01_NVMR_Barangaroo_Cutaway_FDC_Construction_R01	3847_01	13/06/2024 to 24/06/2024	24/06/2024
3847_Installation_Report_Barangaroo_Cutaway_FDC_Construction_R02	3847	11/07/2024	25/07/2024
3847_02_NVMR_Barangaroo_Cutaway_FDC_Construction_R01	3847_02	25/06/2024 to 24/07/2024	25/07/2024
3847_03_NVMR_Barangaroo_Cutaway_FDC_Construction_R01 (Superseded)	3847_03	25/07/2024 to 26/08/2024	26/08/2024
3847_03_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_03	25/07/2024 to 26/08/2024	26/08/2024
3847_04_NVMR_Barangaroo_Cutaway_FDC_Construction	3847_04	26/08/2024 to 25/09/2024	25/09/2024
3847_05_NVMR_Barangaroo_Cutaway_FDC_Construction (Superseded)	3847_05	26/09/2024 to 25/10/2024	25/10/2024
3847_05_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_05	26/09/2024 to 25/10/2024	31/10/2024
3847_06_NVMR_Barangaroo_Cutaway_FDC_Construction	3847_06	25/10/2024 to 11/11/2024	12/11/2024
3847_07_NVMR_Barangaroo_Cutaway_FDC_Construction (Superseded)	3847_07	12/11/2024 to 26/11/2024	26/11/2024
3847_07_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_07	12/11/2024 to 26/11/2024	27/11/2024
3847_08_NVMR_Barangaroo_Cutaway_FDC_Construction	3847_08	27/11/2024 to 18/12/2024	18/12/2024
3847_09_NVMR_Barangaroo_Cutaway_FDC_Construction (Superseded)	3847_09	19/12/2024 to 26/1/2025	27/1/2025
3847_09_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_09	19/12/2024 to 26/1/2025	28/1/2025
3847_10_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_10	27/1/2024 to 26/2/2025	27/2/2025
3847_11_NVMR_Barangaroo_Cutaway_FDC_Construction	3847_11	27/1/2024 to 26/2/2025	27/3/2025
3847_11_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_11	27/1/2024 to 26/2/2025	

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Reviewed By:

Stuart Clough

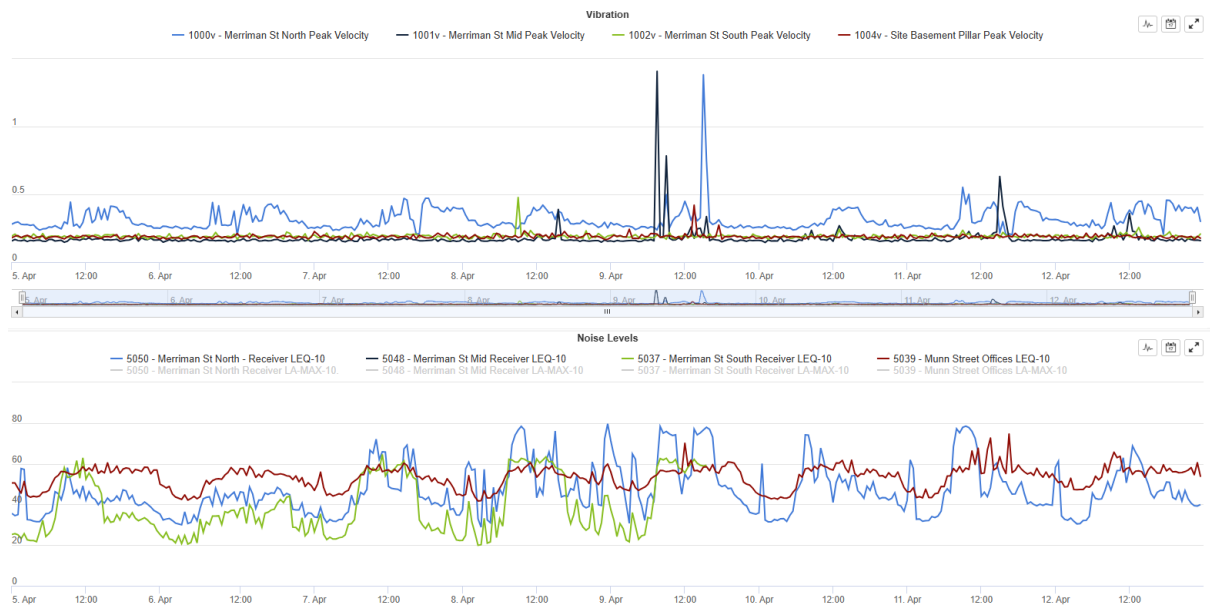


5 Noise and Vibration Data

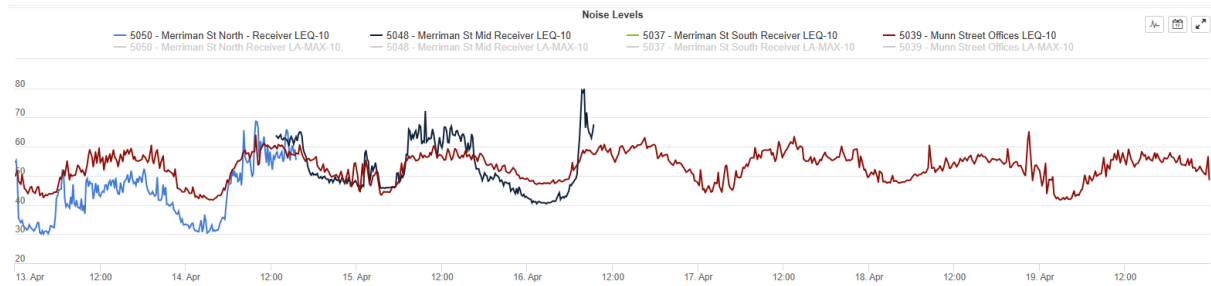
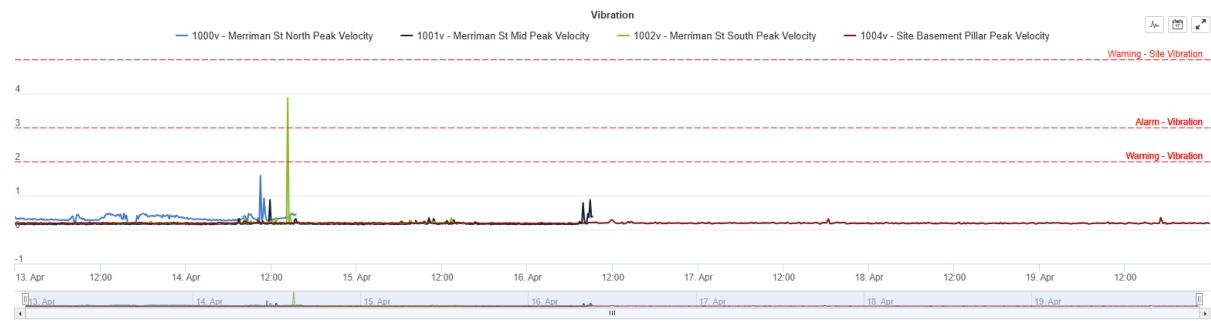
5.1 27/3/2025 – 4/4/2025



5.2 5/4/2025 – 12/4/2025



5.3 13/4/2025 – 19/4/2025



5.4 20/4/2025 – 26/4/2025

