



Noise & Vibration Monthly Report

Barangaroo Cutaway Cultural Facility
3847.08

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Customer Name: FDC Construction
Report Number: 3847.08
Reporting Period: 27/11/2024 to 18/12/2024
Issue Date: 18/12/2024

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Reviewed By: Stuart Clough

1 Executive Summary

Noise and vibration associated with construction activities were monitored between 27th of November and 18th of December 2024 (inclusive).

Prior to this period of monitoring, we were informed that demolition works in the skylights and other skylight works would be taking place.

There were eight instances where noise levels exceeded the alarm level for high noise emission, with levels reducing significantly after 3 hours of activity. All respite periods were observed.

There were eighteen instances where vibration levels exceeded established alerting or alarming levels. These instances were all isolated to one vibration sensor. Therefore, the vibration levels 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. 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 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, movement of plant and equipment as well as general construction noise such as reverse beepers and power tools.

High noise emissions after site hours was found to be rain and thunder, insects or helicopters not related to activities being carried out by FDC.

Any periods of high noise emission were within allowable hours and appropriate respite periods were observed.

It should be noted that skylight noise monitor 5037 has been offline since 10:00 pm 25/11/2024 and 5038 has been offline since 9:00 5/12/2024. We are working with FDC Construction to resolve this.

All periods of high noise emissions are outlined in Table 1.

Noise impacts are primarily to sensitive receivers along Merriman Street, with relatively little impact to commercial receivers near Munn Street. In all cases, noise levels returned to acceptable levels within a reasonable time and all required respite periods were observed.

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)
2024-12-01T14_53_42.wav	1/12/2024	14:40-15:05	Rain and thunder.	69	95	75	102
2024-12-04T15_29_47.wav	4/12/2024	15:00-16:50	Drilling, heavy machinery and other general plant movement.	76	85	-	-
2024-12-04T17_50_36.wav	4/12/2024	17:51-18:06	Helicopter passing by.	69	85	79	96
2024-12-08T20_29_51.wav	8/12/2024	20:18-20:47	Insect noise close to microphone.	-	-	77	80
2024-12-13T15_50_45.wav	13/12/2024	15:42-16:01	Drilling, heavy machinery, hammering and other general plant movement.	77	88	-	-
2024-12-13T20_38_53.wav	13/12/2024	20:27-21:16	Insect noise close to microphone.	-	-	77	81
2024-12-15T20_38_59.wav	15/12/2024	20:30-21:07	Insect noise close to microphone.	-	-	76	87
2024-12-17T020_12_03.wav	17/12/2024	20:11-20:24	Rain and thunder.	75	102	61	89

Table 1: Most notable noises during the reporting period.

3 Vibration

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

All warning/alarms were isolated to a single vibration sensor and the readings above 10 mm/s peak velocity are expected to be from works being conducted nearby in the skylights.

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

It should be noted that the site level vibration sensor (1004V) was not online for the entire period covered by this report. We are working with FDC Construction to resolve this.

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
4/12/2024	8:25	1000v.	3.72	-
4/12/2024	8:43	1002v.	2.76	-
4/12/2024	9:21	1000v. Skylight works.	17.58	-
4/12/2024	9:34	1000v. Skylight works.	12.08	-
4/12/2024	10:05	1000v. Skylight works.	76.89	-
5/12/2024	10:39	1000v. Heavy Machinery.	49.78	-
5/12/2024	13:20	1000v.	2.98	-
5/12/2024	14:45	1000v.	5.13	-
6/12/2024	13:36	1000v. Metal banging, general plant movement.	45.93	-
11/12/2024	9:38	1000v.	2.27	-
12/12/2024	10:02	1000v.	3.69	-
13/12/2024	8:00	1000v.	3.18	-
13/12/2024	10:45	1000v.	2.93	-
13/12/2024	11:24	1000v.	2.09	-
13/12/2024	13:42	1001v. Heavy Machinery.	42.80	-
13/12/2024	13:46	1001v. Heavy Machinery.	26.57	-
13/12/2024	13:48	1001v.	2.76	-
13/12/2024	15:01	1000v.	2.26	-

Table 2: Most notable vibrations 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	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

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