



Noise & Vibration Monthly Report

Barangaroo Cutaway Cultural Facility
3847.05_R02

NoiseNet Operations Pty Ltd

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Customer Name: FDC Construction

Report Number: 3847.05_R02

Reporting Period 26/09/2024 to 25/10/2024

Issue Date: 31/10/2024

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Reviewed By Jake Donovan Parker

1 Executive Summary

Noise and vibration associated with construction activities were monitored between 26th September and 25th October 2024. There were six 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 was one instance where vibration levels exceeded established alerting or alarming levels, but this was an isolated event that occurred near the site level vibration sensor. A period of elevated vibration was measured at the street level sensors, associated with movement of plant and equipment at the site ground level, though levels were well below warning or alerting thresholds. Therefore, the vibration levels are not expected to pose a potential threat to nearby residential or heritage buildings.

Settings were updated on selected noise monitors to allow measurement of both dB(A) and dB(C) across the site, ensuring low frequency noise is properly accounted for. Noise levels at sensitive receivers along Merriman Street will continue to be monitored closely to ensure a reasonable acoustic amenity is maintained.

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 six instances where noise exceeded the established levels for high emission.

There were extended periods on the 26th, 27th and 30th of September where noise levels exceeded the threshold for high emission, for up to 3 hours typically between 9am and 12pm. Noise was typically observed to be from movement of plant and equipment, rock bolting activities, as well as general construction noise such as reverse beepers and power tools. In all cases, noise levels reduced to well below the threshold for high emission after approximately 12pm and remained low for the remainder of the day.

Another two more isolated periods of high emission noise were observed on 2nd and 11th October in the morning.

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.

Weighting filters were updated on selected noise monitors (and receiver adjustments recalculated) to allow for measurement of both dB(A) and dB(C), ensuring impacts from low frequency noises can be properly measured.

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)
2024-09-26T08_25_00.mp3	26/09/2024	07:58-09:12	Movement of plant and equipment on site ground level.	84	90	66	77
2024-09-26T13_27_00.mp3	26/09/2024	13:35-13:40	Movement of plant and equipment on site ground level.	77	91	-	-
2024-09-27T10_19_00.mp3	27/09/2024	09:00-12:00	Rock bolting works in skylight 4. Heavy Machinery, impact drivers, reverse beepers.	85	90	59	86
2024-09-30T10_08_00.mp3	30/09/2024	09:00-12:00	Scaffold installation in skylight 4. Heavy machinery, power saws, reverse beepers	84	93	66	77
2024-10-02T09_53_50.mp3	02/10/2024	09:00-09:10	Scaffold installation in skylight 4. Impact drivers, drilling and grinding.	78	90	-	-
2024-10-11T07_54_00.mp3	11/10/2024	07:45-09:45	Power tools.	76	88	-	-

Table 1: Most notable noises during the reporting period.

3 Vibration

Over the reporting period, there was one instance where vibration from construction activities at the Barangaroo Cutaway exceeded warning or alarm levels, at 1:27 pm 26/09/2024 and was due to movement of a steel beam directly next to vibration sensor 1004v at the site ground level. The extreme magnitude of vibration measured at device 1004v is attributed to the proximity of the activity to the vibration monitor. Another notable vibration event was an extended period of consistent vibration recorded on street level sensors between 7:58am and 9:12am on 26/09/2024, reported to be movement of plant and equipment at site ground level. The magnitude of these vibrations were well below alerting and alarming thresholds. The vibrations during this reporting period 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.

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
26/09/2024	07:58-09:12	Movement of plant and equipment at site ground level.	0.63	0.44
26/09/2024	13:27	Movement of a steel beam directly next to sensor 1004v at site ground level.	0.27	36.5
30/09/2024	07:24	Unknown isolated vibration at street level, potentially associated with scaffold installation in skylights.	0.25	1.5
09/10/2024	10:24	Unknown isolated vibration at street level potentially associated with scaffold installation in skylights.	0.43	-
11/10/2024	07:48	Unknown isolated vibration at street level potentially associated with scaffold installation in skylights.	0.48	-

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	25/09/2024

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