

20200931.7/0707A/R0/SN

7/07/2021

ADCO Constructions Pty Ltd
Level 2
7-9 West Street
NORTH SYDNEY NSW 2060

Attn: Stefan Chalouhi

Multi-Storey Carpark, Liverpool Hospital - Stage 1 - Noise and Vibration Monitoring Report Summary

1 INTRODUCTION

Acoustic Logic has been engaged to undertake construction noise and vibration monitoring for the Stage 1 construction works conducted at Liverpool Hospital for the Multi-storey carpark.

The noise and vibration generated by the construction works were monitored by this office for the period between Friday, 29th January 2021 to Monday, 31st May 2021.

The noise management level and vibration criteria are nominated in section 2 below and exceedances of these has been identified in section 3 of this letter with comments provided to this office by ADCO constructions of works being undertaken during the period of exceedance.

2 CONSTRUCTION NOISE MANAGEMENT LEVEL AND VIBRATION CRITERIA

As the nearest sensitive receiver to the stage 1 construction site is the Liverpool Hospital Brain Injury Unit which is located adjacent to the construction zone, the unattended noise and vibration monitors were setup along the Brain Injury Unit southern façade, facing the stage 1 construction site.

Noise Management Level:

The internal noise management level of 45dB(A)_{Leq (15-min)} for hospital wards and operating theatres detailed in table 3 of the *'Interim Construction Noise Guideline'* (ICNG) was applicable to the Brain Injury Unit.

As the noise monitoring location was external to the Brain Injury Unit and the management level being an internal noise level, this office assumed the façade of the Brain Injury Unit would achieve minimum R_w30 and this has been used to determine the predicted internal noise level.

SYDNEY
9 Sarah St
MASCOT NSW 2020
(02) 8339 8000

ABN 98 145 324 714
www.acousticlogic.com.au

The information in this document is the property of Acoustic Logic Pty Ltd 98 145 324 714 and shall be returned on demand. It is issued on the condition that, except with our written permission, it must not be reproduced, copied or communicated to any other party nor be used for any purpose other than that stated in particular enquiry, order or contract with which it is issued.

Vibration Criteria:

Vibration criteria applicable to the Brain Injury Unit was determined using two relevant standards as this office was advised that the Brain Injury Unit Hospital Wards does not contain any sensitive medical equipment.

Given this, vibration monitoring data recorded at the façade of the Brain Injury Unit was assessed against the continuous vibration criteria for residences of the Environmental Noise Management 'Assessing Vibration – A Technical Guideline' 2006 Table C1.1 being a Peak Velocity of 0.56mm/s for humans' comfort and the German Standard DIN 4150, 'Vibration in Buildings (1999-02)' at a peak particle velocity of 20mm/s at 10Hz and below for building structure damage.

3 EXCEEDANCES DURING THE NOISE AND VIBRATION MONITORING PERIOD

Date of Exceedance	Exceedance Type (Noise/Vibration)	Cause of Exceedance (Activity)	Project Response
29/01/2021	Noise	Isolated activity in close proximity to monitor	Project team review of isolated activity, work methodology, the construction noise and vibration management plan and on-going noise monitoring
01/02/2021	Noise	Rock-Breaking	Project team review of rock-breaking construction activity, review work methodology and on-going noise monitoring
03/02/2021	Noise	Isolated activity in close proximity to monitor	Project team review of isolated activity, work methodology, the construction noise and vibration management plan and on-going noise monitoring
04/02/2021	Noise	Isolated activity in close proximity to monitor	
05/02/2021	Noise	Construction activity in close proximity to monitor	Project team review of work methodology, the construction noise and vibration management plan and on-going noise monitoring
09/02/2021	Noise	Construction activity in close proximity to monitor	
10/02/2021	Noise	Construction activity in close proximity to monitor	
11/02/2021	Noise	Construction activity in close proximity to monitor	
15/02/2021	Noise	Construction activity in close proximity to monitor	
17/02/2021	Noise	Discrete isolated event	Project team review of isolated activity, work methodology, the construction noise and vibration management plan and on-going noise monitoring
18/02/2021	Noise	Construction activity in close proximity to monitor	Project team review of work methodology, the construction noise and vibration management plan and on-going noise monitoring
23/02/2021	Noise	Construction activity in close proximity to monitor	
24/02/2021	Noise	Construction activity in close proximity to monitor	
25/02/2021	Noise	Construction activity in close proximity to monitor	
26/02/2021	Noise	Construction activity in close proximity to monitor	
27/02/2021	Noise	Rock-Breaking	Project team review of rock-breaking construction activity, review work methodology and on-going noise monitoring
01/03/2021	Noise	Construction activity in close proximity to monitor	Project team review of work methodology, the construction noise and vibration management plan and on-going noise monitoring
02/03/2021	Noise	Construction activity in close proximity to monitor	
08/03/2021	Noise	Construction activity in close proximity to monitor	

Date of Exceedance	Exceedance Type (Noise/Vibration)	Cause of Exceedance (Activity)	Project Response
15/03/2021	Noise	Construction activity in close proximity to monitor	Project team review of work methodology, the construction noise and vibration management plan and on-going noise monitoring
16/03/2021	Noise	Unknown Event	-
07/04/2021	Noise	Construction activity in close proximity to monitor	Project team review of work methodology, the construction noise and vibration management plan and on-going noise monitoring
13/04/2021	Noise	Construction activity in close proximity to monitor	
14/04/2021	Noise	Construction activity in close proximity to monitor	
15/04/2021	Noise	Construction activity in close proximity to monitor	
16/04/2021	Noise	Construction activity in close proximity to monitor	
17/04/2021	Noise	Construction activity in close proximity to monitor	
15/05/2021	Noise	Construction activity in close proximity to monitor	
19/05/2021	Noise	Construction activity in close proximity to monitor	
20/05/2021	Noise	Construction activity in close proximity to monitor	
26/05/2021	Noise	Construction activity in close proximity to monitor	
28/05/2021	Noise	Construction activity in close proximity to monitor	
29/05/2021	Noise	Construction activity in close proximity to monitor	
31/05/2021	Noise	Construction activity in close proximity to monitor	
03/02/2021 to 12/02/2021	Vibration	Construction activity in close proximity to monitor	
15/02/2021 to 19/02/2021	Vibration	Construction activity in close proximity to monitor	
22/02/2021 to 26/02/2021	Vibration	Construction activity in close proximity to monitor	
27/02/2021 to 02/03/2021	Vibration	Construction activity in close proximity to monitor	
05/03/2021 to 08/03/2021	Vibration	Construction activity in close proximity to monitor	
10/03/2021 & 11/03/2021	Vibration	Construction activity in close proximity to monitor	
13/03/2021	Vibration	Construction activity in close proximity to monitor	
19/03/2021 & 20/03/2021	Vibration	Construction activity in close proximity to monitor	
31/03/2021	Vibration	Construction activity in close proximity to monitor	
12/04/2021	Vibration	Construction activity in close proximity to monitor	
14/04/2021 & 15/04/2021	Vibration	Construction activity in close proximity to monitor	
27/04/2021 & 28/04/2021	Vibration	Construction activity in close proximity to monitor	
30/04/2021	Vibration	Construction activity in close proximity to monitor	

4 CONCLUSION

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

A handwritten signature in black ink that reads "S. Nichols". The signature is written in a cursive style with a large, looped 'S' and a stylized 'N'.

Acoustic Logic Pty Ltd
Shane Nichols