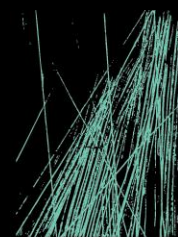


POST COMMENCEMENT NOISE EMISSION ASSESSMENT

GALUNGARA PUBLIC SCHOOL – STAGE 2



JHA

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DOCUMENT CONTROL SHEET

Project Number	210567
Project Name	Galungara Public School – Stage 2
Description	Post Commencement Noise Emission Assessment
Key Contact	Tom Hemmett

Prepared By

Company	JHA Consulting Engineers
Address	Level 23, 101 Miller Street, North Sydney NSW 2060
Phone	61-2-9437 1000
Email	@jhaengineers.com.au
Website	www.jhaservices.com
Author	Dean Hunter
Checked	Jorge Reverter, MAAS
Authorised	Marc Estimada

Revision History

Issued To	Revision and Date						
	REV	A	B				
Richard Crookes Constructions	DATE	31/03/2023	18/04/2023				
	REV						
	DATE						
	REV						
	DATE						
	REV						

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1 INTRODUCTION

JHA Consulting Engineers has been engaged by to provide post operational acoustic compliance testing for Galungara Public School in Schofields, NSW. Acoustic testing was conducted in response to address the SEARs requirements E7 and E8 of SSD.9368.

Items E7 and E8 are as follows:

“Operational Noise Limits

E7. The Applicant must ensure that noise generated by operation of the development does not exceed:

- a) the noise limits prescribed in Table 1 under standard meteorological conditions set out in Fact Sheet D of the Noise Policy for Industry (EPA, 2017); or*
- b) the noise limits prescribed in Table 1 plus 5dB under non-standard meteorological conditions set out in Fact Sheet D of the Noise Policy for Industry (EPA, 2017).*

Table 1: Project Noise Trigger Levels

Receiver Location	Noise limits dB(A)			
	$L_{Aeq, 15min}$		L_{Amax}	
	Day	Evening	Shoulder	Shoulder
Residential receivers to the north, west and east of the school site	43	43	43	60
Residential receivers to the south of the school site	44	42	42	58

E8. The Applicant must undertake short term noise monitoring in accordance with the Noise Policy for Industry where valid data is collected following the commencement of use of each stage of the development. The monitoring program must be carried out by an appropriately qualified person and a monitoring report must be submitted to the Planning Secretary within two months of commencement use of each stage of the development to verify that operational noise levels do not exceed the recommended noise levels prescribed in condition E7. Should the noise monitoring program identify any exceedance of the recommended noise levels referred to above, the Applicant is required to implement appropriate noise attenuation measures so that operational noise levels do not exceed the recommended noise levels or provide attenuation measures at the affected noise sensitive receivers.”

On site acoustic testing was conducted by JHA Engineers on 18th of November 2022 and 24th of February 2023. The results of the testing have been presented in this report and compared to the criteria in Acoustic Logic's Environmental Noise Assessment.

The following documentation has been used for the preparation of this report:

- Architectural drawings of the proposed development prepared by Group GSA Architects.
- Acoustic Specification Report by JHA Consulting Engineers, May 2022.
- Noise data collected on site using a hand-held sound level meter.

All noise assessment / measurements were undertaken in accordance with the NSW Noise Policy for Industry 2017.

This document and related work have been prepared following JHA Consulting Engineers Quality Management System, which is based on AS/NZS ISO 9001:2015 and ISO 14001:2015 Environmental Management Systems.

2 DESCRIPTION OF THE PROPOSAL

Galungara Public School (the site) is located at Farmland Drive in Schofields – legally known as Lot 1 and Lot 2 of DP1244925 being located within a residential area.

The site is surrounded by residential buildings to the north, an oval to the east, undeveloped lots to the south and west, in a residential environment. The proposed development will operate during general school hours of 8am to 4pm, Monday to Friday.

The noise sensitive receivers surrounding the site are a mix of residential and recreational. Figure 1 shows the site location (yellow shadow with lime green for stage 2), residential receivers (green shadow), recreational receiver (blue shadow).



Figure 1: Aerial view of site showing the location of the site and sensitive receivers.

3 PROJECT CRITERIA

Condition of Consent E7 of SSD.9368 provides the Project Noise Trigger Levels (PNTL) which form the noise criteria for this noise emissions assessment.

<i>Receiver Location</i>	<i>Noise limits dB(A)</i>			
	<i>L_{Aeq, 15min}</i>			<i>L_{Amax}</i>
	<i>Day</i>	<i>Evening</i>	<i>Shoulder</i>	<i>Shoulder</i>
Residential receivers to the north, west and east of the school site	43	43	43	60
Residential receivers to the south of the school site	44	42	42	58

Table 1: Project Noise Trigger Levels taken from SSD.9368 Development Consent Condition E7.

4 ATTENDED NOISE SURVEYS

Attended noise surveys were conducted by JHA Engineers as per the locations shown in Figure 2 in accordance with AS/NZS 1055:2018 'Acoustics – Description and measurement of environmental noise'.

Short-term noise measurements were carried out with a NTi XL-2 hand-held Sound Level Meter (SLM) (Serial Number A2A-13742-E0). The calibration of the SLM was checked before and after each use, and no deviations were recorded.

The SLM microphone was mounted 1.5 metres above the ground, and a windshield was used to protect the microphone. Measurements were undertaken in the free field – i.e., more than 3 metres away from any building façade or vertical reflective surface. Weather conditions were calm and dry during the attended noise monitoring.

The noise survey location "Mech 1" was selected for assessment of the noise emissions from the external mechanical plantrooms in the south of the site as it would be representative of the future western sensitive receivers. These receivers would have a clear line of sight to the plant rooms whereas the northern receivers are shielded by the other school buildings.

The noise survey locations "North", "East" and "South" were selected as they are representative of the noise levels received by the closest noise sensitive receivers.

It is important to note that no noise survey was undertaken to the West of the site as access to the area was restricted at the time of testing due to construction activities.

The results from these monitoring locations are shown below in Table 2 and Table 3.



Figure 2: Attended noise testing locations.

On Friday 18th November 2022, attended noise measurements were undertaken during the day-time period. These measurements were undertaken for separate mechanical noise assessment of the outdoor mechanical plantrooms on site. A summary of the results of the noise surveys is shown in the table below.

<i>ID</i>	<i>Location</i>	<i>Date and Time</i>	<i>Parameter</i>	<i>Overall dB(A)</i>	<i>Comments</i>
<i>Mech 1</i>	South-Western corner of school	18/11/2022 12.16pm – 12.31pm	L _{10,15min}	44	Site unoccupied Mechanical plant switched on. Mechanical noise NOT audible.
			L _{eq,15min}	43	
			L _{90,15min}	38	
<i>Mech 1</i>	South-Western corner of school	18/11/2022 12.40pm – 12.55pm	L _{10,15min}	46	Site unoccupied Mechanical plant switched off.
			L _{eq,15min}	44	
			L _{90,15min}	39	

Table 2: Results of the attended noise measurements of external mechanical plantroom.

Measurements at location “Mech 1” show that no noise from the mechanical plant was discernible in the measurements when comparing the noise levels when mech is switched on and off. The L_{Aeq} with the mechanical plant running is 43dB(A) which achieves the daytime criteria for the Western receiver as per the PNTLs.

On Friday 24th February 2023, attended noise measurements were undertaken during the day-time period. A summary of the results of the noise surveys is shown in the table below.

<i>ID</i>	<i>Location</i>	<i>Date and Time</i>	<i>Parameter</i>	<i>Overall dB(A)</i>	<i>Comments</i>
<i>North</i>	84 Farmland Drive (North of site)	23/02/2023 11.50am – 12.17pm	L _{10,15min}	47	Site occupied. Mechanical noise NOT audible from survey location.
			L _{eq,15min}	44	
			L _{90,15min}	39	
<i>East</i>	Path between school and oval (East of site)	23/02/2023 12.18pm – 12.33pm	L _{10,15min}	47	Site occupied. Mechanical noise NOT audible from survey location.
			L _{eq,15min}	43	
			L _{90,15min}	35	
<i>South</i>	Plot south of school (South of site)	23/02/2023 12.36am – 12.51pm	L _{10,15min}	62	Bush area / undeveloped lot Noise from cicadas prevalent noise source Mechanical noise NOT audible from survey location
			L _{eq,15min}	59	
			L _{90,15min}	42	

Table 3: Results of the attended noise measurements around the site.

Measurements at survey locations “North” and “East” show that the L_{Aeq} levels comply with the daytime criteria as per the PNTLs. Although there is a 1dB(A) exceedance in the L_{Aeq} levels at the “North” measuring location, this can be considered negligible as it would not be discernible to the average listener.

Recorded levels at the "South" survey location were completely dominated by noise from cicadas. Therefore, the exceedances of the PNTLs at this location should be disregarded as they are not representative of the environmental noise associated with the development.

Therefore, compliance with the PNTLs criteria within SSD.9368 Development Consent Conditions E7 and E8 has been achieved.

5 SUMMARY AND CONCLUSIONS

This statement of compliance is made in relation to the SEARs requirements E7 and E8 on the basis of the following general works undertaken by JHA Consulting Engineers:

- Design review and advice for mechanical services during all project stages.
- Acoustic Specification Report by JHA Consulting Engineers.
- On-site inspections of mechanical services during construction stage.
- Acoustic testing around the site on Friday 18th November 2022 and Friday 24th of February 2023.

Based on the above, we certify the following:

- The development consent conditions E7 and E8 are satisfied.

Full record of the acoustic testing is retained in our project files.

As a currently Member of Australian Acoustical Society (AAS), I am an appropriately qualified and competent acoustic engineer.

Full Name of Designer: Jorge Reverter
Qualifications: B.Eng. (Telecommunications), M.Sc., MAAS (Membership No: 1437)
Address of Designer: Level 23, 101 Miller Street
North Sydney NSW 2060
Business Telephone No: (02) 9437 1000
Name of Employer: JHA Consulting Engineers

Yours sincerely,



Jorge Reverter

Acoustic Group Manager, MAAS