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30 September 2022

MAC221510-02LR01

Attention: Stuart Murray
Site R & D Pty Ltd
PO Box 134
Kotara NSW 2289

Dear Stuart,

Response to Request for Additional Information

Proposed Primary School Development

125 The Southern Parkway, Forster, NSW

1 Introduction

This letter provides a response to a Request For Additional Information from Midcoast Council (MC) pertaining to the Noise Assessment (ref: MAC221510-01RP1D1, March 2022) (NA) prepared by Muller Acoustic Consulting Pty Ltd (MAC) for the Proposed Primary School Development (the 'project') to be located at The Southern Parkway, Forster, NSW. The correspondence from MC and the MAC responses are outlined below.

2 Comments and Responses

Noise

The information provided in the Acoustic Report titled 'Proposed Primary School Development 125 The Southern Parkway Forster NSW' prepared by Muller Acoustic Consulting (March 2022) has been reviewed and the following further information is to be provided to assist in determining the predicted noise impact from the proposal.

Comment #1 – *To demonstrate that modelling was undertaken using 'worst case scenarios' the following information is requested:*

a. Location used to model sensitive receivers. NOTE: the project noise trigger level and maximum noise levels are to be assessed at the reasonably most-affected point on or within the residential property boundary or, if that is more than 30 metres from the residence, at the reasonably most affected point within 30 metres of the residence, but not closer than 3 metres to a reflective surface and at a height of between 1.2–1.5 metres above ground level

Response #1 – Table 1 of the NA report provides the coordinates of each off the receivers. MAC reviewed the location of the receivers following MC's query and noted that some receivers were within 3m of the façade. Notwithstanding, the predictive noise modelling did include the appropriate façade correction for buildings. However, to be in accordance with NPI guidance, updated noise modelling was completed with the receiver points located 3m from the façade of each assessed building. The results for the operational scenario and outdoor play scenarios. The updated results are presented in **Table 1** for outdoor activities (note these include incorporation of PA system) and **Table 2** for the operational scenario.

The updated noise predictions demonstrate compliance with the adopted trigger levels and noise criteria for the project.

Table 1 Updated Noise Predictions – Outdoor Activities				
Location	Period[1]	Predicted Noise Level dB $LA_{eq(15min)}$	Criteria dB $LA_{eq(15min)}$	Compliant
R01	Day	<35	45	✓
R02	Day	36	45	✓
R03	Day	37	45	✓
R04	Day	43	45	✓
R05	Day	44	45	✓
R06	Day	44	45	✓
R07	Day	44	45	✓
R08	Day	45	45	✓
R09	Day	43	45	✓
R10	Day	42	45	✓
R11	Day	39	45	✓
R12	Day	39	45	✓
R13	Day	41	45	✓
R14	Day	<35	45	✓
R15	Day	<35	45	✓
R16	Day	<35	45	✓
R17	Day	<35	45	✓
R18	Day	<35	45	✓
R19	Day	<35	45	✓
R20	Day	<35	45	✓
R21	Day	<35	45	✓
R22	Day	<35	45	✓

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining

Table 2 Updated Noise Predictions – Operational Scenario				
Location	Period[1]	Predicted Noise Level dB $LA_{eq(15min)}$	PNTL dB $LA_{eq(15min)}$	Compliant
R01	Day	<35	42	✓
R02	Day	<35	42	✓
R03	Day	<35	42	✓
R04	Day	<35	42	✓
R05	Day	<35	42	✓
R06	Day	<35	42	✓
R07	Day	35	42	✓
R08	Day	36	42	✓
R09	Day	37	42	✓
R10	Day	38	42	✓
R11	Day	<35	42	✓
R12	Day	<35	42	✓
R13	Day	38	42	✓
R14	Day	41	42	✓
R15	Day	42	42	✓
R16	Day	42	42	✓
R17	Day	42	42	✓
R18	Day	<35	42	✓
R19	Day	<35	42	✓
R20	Day	<35	42	✓
R21	Day	<35	42	✓
R22	Day	<35	42	✓

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Comment #2 – *Location of noise sources and distance to sensitive receivers used to model noise predictions;*

Response #2 – Section 6.2 of the NA report outlines the assumed location of the mechanical plant for the development. The NA states that AC units are assumed to be located on the north east of the administration and Block A buildings. This locates the units away from student play areas and the nearest residential receiver located to the north of the project site.

Parent/teacher car start up and drive off and cars travelling through the drop off area are located within the proposed car park. As there are numerous sources and receiver combinations included in the predictive modelling it is not practical to outline the offset distance from each source to each receiver. **Figure 1** below provide a visual synopsis of the operational noise model.

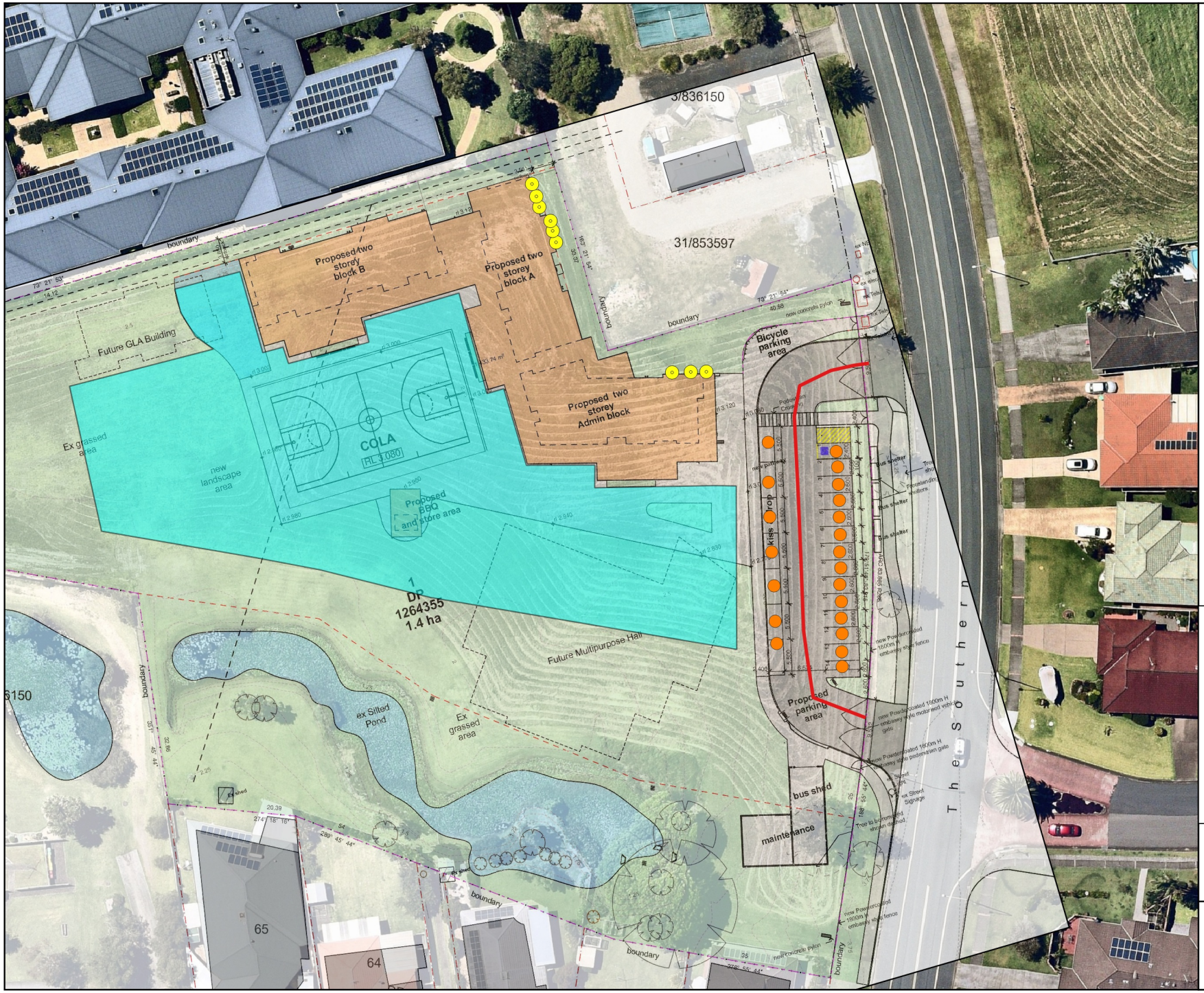

FIGURE 1

Noise Source Locations

MAC221510-01

Forster Primary School

KEY

- AC Units
- Car Start ups
- Car Movements
- Children at play areas

0 6 12 18 24 30 m

N

MAC Muller Acoustic Consulting

Comment #3 – *Onsite sources (excluding external activities) – Identify noise sources that were included in 'onsite sources' modelling? It is noted double storey buildings are proposed, did modelling include noise sources from increased height? Did modelling include windows to be open or closed in classrooms?*

Response #3 – The location and sources included in the predictive modelling were detailed in Sections 6.1 and 6.2 of the NA report. The heights above ground for the modelled sources were included. The AC plant were assumed to be at ground level with a height above ground of 1.8m. This is a typical approach given the size of the AC units used to ventilate such developments. No internal activities were modelled as internal activities would be acoustically insignificant compared to external sources which are located closer to the receiver.

Comment #4 – *External noise emission – was the use of cola (including a PA system) included in the noise modelling?*

Response #4 – Noise modelling did include outdoor activities in the cola area however did not include the use of PA system. Accordingly, the updated outdoor activities noise prediction results presented in **Table 1** includes a PA system with a sound power of 92dBA which is used for a total of 60 secs in a 15-minute period. It is reiterated that the noise prediction results comply with the adopted noise criteria.

Comment #5- *Table 13 Acoustically Significant Sources identifies 'Groups of 5 people talking with school outdoor areas (x34)' – Does this represent a 'worst-case' scenario i.e. 350 primary school children in the playground at once.*

Response #5 – The predictive noise modelling assumed one in two children speaking at once. This is a typical assessment approach for such a project, based on the assumption that not all children are speaking at once all time, thus adopting a 50% of children (or one in two) speaking at any one time for the entire 15 minute period is representative of onsite children's events. Furthermore, it unlikely that all children will be in the playground at one time with outdoor play broken up into smaller groups for supervision reasons.

Comment #6 – *As the measured rating background noise level was determined as 37 dB(A) and external noise predicted a noise level of 44 dB LAeq (15min) at R05,R07,R08, is it recommended that the use of the outdoor play area be limited to up to 4 hours per day so as to align with guidance provided in the AAAC Consultants Guideline for Child Care Centre Acoustic Assessment V.3*

Response #6 –The base criteria of 45dBA is derived based on a minimum background of 40dBA plus 5dBA. This allows for more than four hours play per day. If outdoor activities were restricted to less than four hours per day, the criteria would be adopted background level of 40dBA plus 10dB resulting in a 50dBA criteria. This is consistent with the methodology for deriving criteria where the background is measured as being higher than 40dBA. Therefore, is not recommended or required.

Comment #7 – *It is noted that there is a sewerage pump station is in close proximity to the proposed double storey classroom and administration building. Will there be any unacceptable noise or impacts from vibration as a result of the operation of the sewerage pump station on the proposed buildings?*
Council's Water Services Development Officer has advised that the 'pumps at the sewage pump station run pretty consistently' and that 'there will be some low vibration in the ground' when the pumps are on. Has the vibration of pumps running consistently been considered in the modelling?

Response #7 – The sewage pump house was not included in the assessment of the project site, however the sewage pump house is fully enclosed. Taking into account the attenuation providing by the pumphouse building, loss due to distance for the offset from the school and intrusion losses into the nearest classroom or the barrier effect provided by the school building to the external play areas, it is anticipated that the noise from the pump house will generally be inaudible within the school.

We trust the above responses are satisfactory for your current requirements. However, if you or Midcoast Council have any further questions which you would like to discuss, please contact the undersigned.

Yours sincerely

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Reviewed: OM