

# **Appendix 4: Noise Peer Review prepared by Neil Savoury Acoustics**



6<sup>th</sup> June 2024

Ally van Kuijk  
Matamata Piako District Council  
PO Box 266  
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Dear Ally

## **Re: Matamata Sports Stadium Noise Assessment – Peer Review**

### **1. Introduction**

Savory Acoustics Limited has been engaged by Matamata Piako District Council (MPDC) to peer review the noise assessment contained within the application for the new Matamata Sports Stadium.

This review has referenced the following documents.

- a) Marshall Day Acoustics Rp 002 20211117 6 September 2023 (MDA Report)
- b) MPDC Operable District Plan
- c) Submission breakdown spreadsheet supplied by BBO
- d) Submission from Lesley Ann Johnston
- e) NZS 6801-2008 Acoustics - Measurement of Environmental Sound
- f) NZS 6802-2008 Acoustics - Environmental Noise
- g) National Planning Standards 2019 (updated 2022)

As this is a peer review, I have not visited the site or conducted noise logging of the current environment at the site and surroundings. I have used aerial data on the MPDC site and other sources such as Google Earth.

## 2. Summary

To summarise, I largely agree with the noise assessment made in the MDA Report. There are however a couple of comments.

- Neither the Operative District Plan nor the Applicant's proposed rules contain  $L_{AFMAX}$  limit at night. This must be added to the noise rules. A Level of  $L_{AFMAX}$  65dB is recommended.
- The applicant's proposed noise rules remove the lower daytime limit on Saturdays and Sundays (and public holidays), and it introduces an evening period of 7pm to 10pm. This change is expected to be minor given the measured ambient levels in the area.
- The MDA Report indicates that compliance with the noise rules can be met through suitable building façade construction, noise barriers and traffic movement controls. To ensure compliance, I suggest that acoustic design reports covering these items be submitted to MPDC as part of the building consent documentation.

### 3. Noise Rules

The Applicant is seeking to obtain consent based on noise rules proposed in the MDA Report. These are different from the noise rules in the Operative District Plan. The properties surrounding the site are zoned Residential. Below is a summary and my comments on the existing rules and the Applicant’s proposed rules as they apply to Residential Zones.

#### 3.1 Operative District Plan Noise Rules (ODP)

Section 5.2.2 of the Operative district Plan has this noise rule Residential Zones

**5.2.2 Residential zone**

(i) Home occupations.  
The noise level (L10) as measured within the boundary of an adjacent residentially zoned site shall not exceed the following:

Monday to Friday	8.00am to 6.00pm	45dBA
At all other times including Saturdays, Sundays and Public Holidays		35dBA

(ii) Discretionary activities and education facilities up to a maximum of 10 pupils.  
The noise level (L10) as measured within the boundary of an adjacent residentially zoned site shall not exceed the following:

Monday to Friday	8.00am to 6.00pm	50dBA
At all other times including Saturdays, Sundays and Public Holidays		40dBA

(iii) Residential activities  
The requirements of Section 16 of the Resource Management Act states that at all times the best practicable option must be taken to reduce the noise. In terms of the Resource Management Act any noise must be kept to a reasonable level.

<b>Objectives/Policies</b>		
3.5.2.3	O1, O2, O3	P1, P3

#### 3.2 Applicant Proposed Noise Rules (ANR)

The MDA Report recommends that the noise rule for this development be:

- L<sub>AEQ</sub> 50dB 7am to 7pm
- L<sub>AEQ</sub> 45dB 7am to 10pm
- L<sub>AEQ</sub> 40dB at all other times.

#### 3.3 Noise Rule Comments

I agree with the MDA Report that:

- It is appropriate to use the L<sub>AEQ</sub> descriptor in the noise rules. This brings the rule in line with National Planning Standards.
- That the daytime noise rule for Saturdays and Sundays of L<sub>A10</sub> 40dB is very stringent.

- The 8am to 6pm daytime period is different from other zone rules and a 7am to 10pm is a more common period.
- The daytime noise limit of  $L_{Aeq}$  50dB is appropriate.
- The night-time noise limit of  $L_{Aeq}$  40dB is appropriate.
- Construction noise be controlled by NZS6803:1999.

There is an omission of an  $L_{AFMAX}$  control in the night-time noise rule in the ODP and in the ANR. I recommend that one must be included to protect the sleep of the neighbours. I recommend a limit of  $L_{AFMAX}$  65dB be added to the night-time period.

The ANR introduces an evening period from 7pm to 10pm during which a level of  $L_{Aeq}$  45dB applies. This reflects the data from the ambient noise survey and addresses the change of the night-time period from 6pm in the OPD to 10pm in the ANR. In my opinion, this is a reasonable approach given the ambient noise levels.

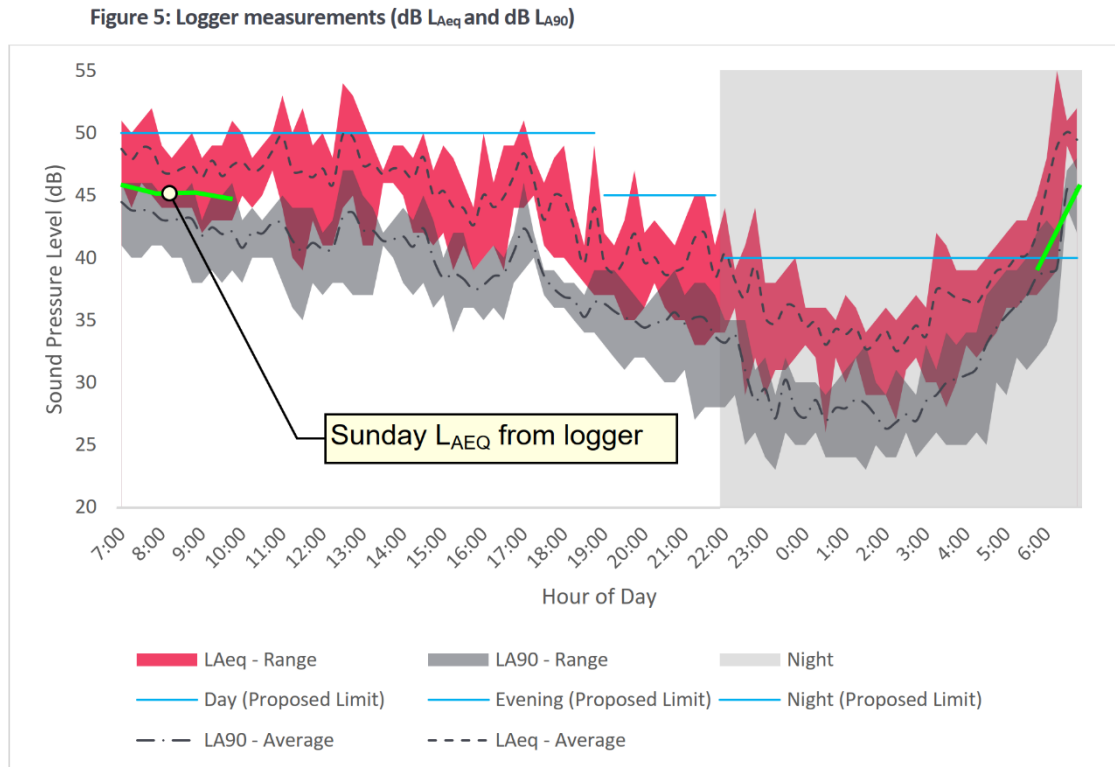
I agree that a daytime limit level of  $L_{A10}$  40dB overly stringent and is no longer appropriate given the weekend ambient noise levels. The ANR seeks to no longer make a distinction between weekday daytime limits and weekend (and public holiday) limits. It also changes the onset of the daytime limit from 8am to 7am. I agree with this approach given the higher ambient level during weekends from such sources as traffic flows. In my opinion, the 7am daytime period onset is appropriate Monday to Saturday.

The noise limit applicable for Sunday (and public holiday) mornings was considered as ambient noise level on Sunday mornings may not be as high as other days of the week. Noise logging data from Sunday mornings was extracted to see if a 7am transition from a night-time to daytime limits is suitable or if a later time of 8am or 9am is more appropriate.

The Sunday morning data provided is shown below (*ref Boffa Miskell email 21 June 2024*).

<i>dB Laeq(1hr)</i>					<i>dB Laeq for the period</i>
<i>5am-6am</i>	<i>6am- 7am</i>	<i>7am- 8am</i>	<i>8am- 9am</i>	<i>9am- 10am</i>	<i>5am-10am</i>
36	46	45	45	44	44

Inserting this data into Figure 5 of the MDA report gives:



The Sunday morning LAEQ(1 hour) levels appear to be around 2-3dB lower than the average weekly levels for this time period. In my opinion, the measure ambient levels at this site do not support a separate period for Sunday mornings. A separate period on Sunday mornings would be a departure from the recommendations in NZS6802:2008.

## 4. Activities

The MDA Report has assessed the likely noise emissions from indoor activities, traffic movements and mechanical plant for compliance with noise rules.

### 4.1 Internal activities

Table 4 of the MDA Report summarises the expected noise levels from internal activities. This shows predictions for a 'Proposed Design' and a 'Recommended Design'. The 'Proposed Design' is predicted to be non-compliant with nighttime noise rules and Kapa Haka non-compliant daytime and night-time. The noise level of the 'Recommended Design' is  $L_{Aeq}$  32dB for indoor sports activities and  $L_{Aeq}$  44dB for Kapa Haka activities. Thus, for this construction, sports activities would always comply, but Kapa Haka activities would need to be limited to periods outside where a  $L_{Aeq}$  40dB limit applies.

Noise rule compliance depends on the final building façade design. MPDC should require an acoustic design report as part of a building consent documentation to ensure compliance with the applicable noise rules.

### 4.2 Traffic

The traffic noise assessment in the MDA Report recommends that noise barriers be installed, and traffic movements be limited to 12 vehicle movements per hour (VMPH) to obtain compliance with the proposed night-time noise rules.

Noise rule compliance depends on the final traffic design and traffic management procedures. MPDC should require an acoustic design report as part of a building consent documentation to ensure compliance with the applicable noise rules.

### 4.3 Mechanical Plant

Noise rule compliance depends on the HVAC design. MPDC should require an acoustic design report as part of a building consent documentation to ensure compliance with the applicable noise rules.

## 5. Submissions From Neighbours

I am advised that these submitters have raised noise and traffic noise as a concern:

- 6 Station Road                      Kerry Lynne Dean and Edward David Dean - Noise
- 16A Kowhai Street                Hayden Mathew Aiken and Iona Mae Morris – Traffic Noise
- 22 Sylvan Place                    Lesley Ann Johnston - Noise

My comments regarding these submissions are:

- In my opinion, the proposed noise rules (ANR) are appropriate for Residential Zones once the  $L_{AFMAX}$  limit is added. I note that the proposed rules are 5dB lower than the Table 3 guidelines in NZS6802:2008.

- The MDA report indicates that compliance with these noise rules can be achieved with suitable building construction, noise barriers and traffic movement limitations. Acoustic design reports are recommended as part of the building consent documentation. This is to ensure that suitable construction methods and traffic management procedures are in place to achieve compliance. If noise issues arise post construction, then this would be dealt with by enforcement procedures.
- In my opinion, construction noise is expected to be adequately mitigated by the application of the controls in NZS6803:1999.

I trust this report provides the required peer review of the Applicant's Noise Assessment. If you have queries, please contact me.

Yours sincerely

**Savory Acoustics Limited**



Neil Savory BE(Hons) MASNZ  
*Principal*