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Dear Victoria,

Mapua Boat Ramp - acoustic review

Tasman District Council (TDC) has engaged Styles Group to review the acoustic assessment prepared by Marshall Day Acoustics dated 15 January 2024 (the **MDA Report**). The MDA Report provides an assessment of the operational noise effects arising from a new recreational boat ramp in Mapua (the **proposal**). We understand the boat ramp facility will be available 24-hours per day.

This review is focussed on the operational noise effects associated with the proposal, particularly during the early morning period before 0700 hours and during the day on Sunday and Public Holidays when the lower night time noise limits apply.

We have visited the site and surrounds and we are familiar with the surrounding area.

This advice sets out our review of the MDA Report and the application

1.0 The MDA Report

1.1 Tasman Resource Management Plan noise standards

The MDA Report correctly identifies the operational noise standards applying to Mapua Wharf under the Tasman Resource Management Plan (**TRMP**).

The TRMP noise standards require compliance with the following noise limits at or within the Residential Zone site boundary:

- 55 dB L_{Aeq} between 0700 and 2100, Monday to Friday
- 55 dB L_{Aeq} between 0700 and 1800, Saturday
- 40 dB L_{Aeq} and 70 dB L_{AFMax} between 2100 and 0700, Monday to Friday
- 40 dB L_{Aeq} and 70 dB L_{AFMax} between 1800 and 0700, Saturday
- 40 dB L_{Aeq} and 70 dB L_{AFMax} all day Sunday and public holidays

MDA predict the daytime noise levels from the use of the boat ramp will be up to 53 dB L_{Aeq} at 13 Tahi Street. This is 13 dB L_{Aeq} higher than the noise limit of 40 dB L_{Aeq} that the TRMP applies at night time and on Sunday and Public Holidays. The application does not include the exceedance of the TRMP noise limits as a reason for consent.

We understand that written approval has been provided by Annette Walker, the landowner of 13 Tahi Street.

With respect to compliance with daytime TRMP noise limits, MDA state that:

Our analysis indicates that all activities can occur on site during the day and comply with the TRMP permitted daytime activity standards at all locations.

We consider that this is incorrect. The predicted daytime noise levels on Sundays and Public Holidays are 13 dB higher than the TRMP daytime noise limit of 40 dB L_{Aeq} .

MDA recommend a noise limit of 55 dB L_{Aeq} on Sunday and Public Holidays, which is 15 dB higher than the TRMP daytime noise limit of 40 dB L_{Aeq} . The predicted noise levels and proposed noise limits are discussed further in Section 2.0 of this review.

1.2 Proposed operating times

We understand that the proposed operational times of the boat ramp will be variable according to the time of year. The application states:

“Due to daylight hours being variable, and possible confusion, the easiest for boaties is to have fixed hours, which in this case will be 4.30am to 10pm (Summer- Daylight Saving Time) and 5.30-9pm (Winter- Non-Daylight-Saving Time) This gives surety to the boaties using the ramp at night.”

Section 4.1 of the MDA Report describes the timing of operations, including that the boat ramp will be used ‘occasionally’ during the night time period.

We do not agree that the use of the boat ramp between 0430 – 0700 should be limited to being “occasional”. We could only support a noise assessment for “occasional” use if there was a high degree of certainty that the proposal will never be popular or well used. We understand that this is unlikely.

Based on our personal experience and experience from other projects, we consider it likely that the boat ramp will be busy during the early-morning period between 0430 and 0700, in particular at the weekend during daylight saving summer months “night time” period according to the TRMP. Our experience is that boat ramps can be very busy in the early morning hours and that queues of cars and boats launching and retrieving (in the morning and afternoon respectively) should be provided for.

1.3 Receivers

Section 4.1 of the MDA Report correctly identifies the zoning of the site and surrounding environment.

Table 6 of the MDA Report only provides noise level predictions for the following receivers:

- 13 Tahi Street
- 27C Aranui Road

the following noise levels would be a reasonable representation of the noise environment at the nearest houses that have not provided written approval in calm meteorological conditions and in the absence of the proposal:

- 25-35 dB L_{A90} and 30-35 dB L_{Aeq} between 5am and 7am, and
- 30-35 dB L_{A90} and 35-45 dB L_{Aeq} from 7am to late evening.

2.0 Review of MDA noise level predictions

The MDA predicted noise levels for the boat ramp and car parks are reproduced in Tables 1 and 2 below.

Table 1: Predicted daytime noise levels from the proposed boat ramp and car park

Address	TRMP Zone	TRMP daytime noise limit	Predicted noise level	Compliance
13 Tahi Street*	Residential	55 dB L _{Aeq}	53 dB L _{Aeq}	Yes
27C Aranui Road	Residential	55 dB L _{Aeq}	36 dB L _{Aeq}	Yes
8 Aranui Road	Residential	55 dB L _{Aeq}	40 dB L _{Aeq}	Yes
3/1 Aranui Road	Commercial	55 dB L _{Aeq}	42 dB L _{Aeq}	Yes

*Written approval obtained

Table 2: Predicted night-time noise levels from the proposed boat ramp and car park

Address	TRMP Zone	TRMP night-time noise limit	Predicted noise level	Compliance
13 Tahi Road*	Residential	40 dB L _{Aeq}	50 dB L _{Aeq}	No
27C Aranui Road	Residential	40 dB L _{Aeq}	36 dB L _{Aeq}	Yes
8 Aranui Road	Residential	40 dB L _{Aeq}	40 dB L _{Aeq}	Yes
3/1 Aranui Road	Commercial	55 dB L _{Aeq}	42 dB L _{Aeq}	Yes

*Written approval obtained

Predicted noise levels have not been provided for any other receivers, including a number of receivers that abut noise-generating aspects of the proposal. We recommend that predicted noise rating levels are provided for all the receivers surrounding the proposed boat ramp and car park areas, including all the residential sites we have identified in Figure 1. This is discussed further in Sections 2.1 and 2.2 below.

plans submitted in the AEE. Noise level calculations should be provided for the dwellings immediately surrounding the car park areas, including:

- 18 Tahī Street
- 20 Tahī Street
- 20B Tahī Street
- 27B Aruni Road
- 27E Aruni Road

We consider that the predictions should be based on predominantly diesel vehicles and SUV's that are common for towing boats. We recommend that MDA confirm that the sound power level of 70 dB L_{AE} at 3 metres used in the noise model for vehicle noise predictions is based on diesel vehicles and SUV's.

2.2 Review of MDA predicted boat ramp noise levels

The AEE states that the boat ramp access will accommodate two-way vehicle movement and include a turn-around area. The ramp itself will enable two vehicles with boat-trailers at a time to access the water.

MDA have only provided predicted boat ramp noise levels at 13 Tahī Street. The noise levels from the boat ramp will be audible at the other residentially zoned sites to the south of Tahī Street, especially in the early morning periods.

We recommend that additional noise level predictions are provided for at least 15 Tahī Street and 17A Tahī Street.

We recommend that the noise level predictions also include the noise of people and crews talking to each other and the occasional raised voice as crews communicate during the launching and retrieval process. These effects could be observed and measured at other boat ramps if necessary.

MDA have calculated the noise of the boat ramp based on an assumption of one boat launch per 15 minutes before 0700 hours and two boat launches per 15 minutes after 0700 hours. It is our opinion that this assumption is too low during the night-time period between 0430 – 0700 hours. We consider that the predictions should be based on at least four or six launches in any 15 minute period before 7am, along with a queue of several vehicles waiting, unless it can be robustly demonstrated that this will not occur.

Relevant data could easily be obtained by reviewing boat launch frequencies at other boat ramps in the Nelson/Tasman area with appropriate scaling for likely future demand and ramp facilities and size.

3.0 Preliminary assessment of noise effects

This section provides a preliminary assessment of the noise effects from the use of the boat ramp and car park areas. We will be able to confirm if we can support the application once these matters raised in our review have been addressed by the applicant.

The applicant is proposing to increase the noise levels on Sunday and Public Holidays from 40 dB L_{Aeq} to 55 dB L_{Aeq} .

MDA consider the proposed 55 dB L_{Aeq} noise limit on Sunday and Public Holidays to be reasonable taking into account the guideline noise limits in NZS6802 and the WHO Guidelines. Section 3.2 of the MDA Report states:

Whilst these limits represent the permitted activity standards for the zone, reference to WHO and NZS6802 indicates that a more stringent noise limit is not required during the day on Sundays in order to provide appropriate residential amenity. In other words, a limit of 55 dB L_{Aeq} between 0700 and 2200 hrs each day, including Sundays and Public Holidays would provide an acceptable residential amenity in line with this guidance.

Both WHO and NZS6802 also suggest that up to 45 dB L_{Aeq} at night provides a reasonable standard for the protection of sleep which is 5 dB more lenient than the TRMP permitted activity standard of 40 dB L_{Aeq} .

We consider that the WHO guidelines are irrelevant in this case. We consider that the MDA Report has considered them out of the context that they were designed for.

The WHO guidelines were prepared as part of an effort to drive down the exposure to noise levels that are high enough to have an adverse effect on the health of people. This includes through long term annoyance. The guidelines are most relevant in cities and situations where people are exposed to noise from transport infrastructure, industry and other sources.

The preface to the guidelines states:

“The Guidelines for Community Noise have been prepared as a practical response to the need for action on community noise at the local level, as well as the need for improved legislation, management and guidance at the national and regional levels.”

The guidelines have a repeated, pervasive theme of reducing noise levels that are dangerous to the health and wellbeing of people.

Section 5 of the WHO guidelines states that:

“In all cases, noise should be reduced to the lowest level achievable in the particular situation.”

We are not aware of any part of the WHO guidelines that condone or support raising noise levels. There is no part of the WHO guidelines that are relevant to residential or rural amenity and they do not relate to and are not consistent with any relevant part of the TRMP. Accordingly, we

consider that the reference to the WHO guidelines is inappropriate in this context and should be disregarded.

The guidelines for residential noise limits set out in Table 3 of NZS6802:2008 are the recommendations for the 'upper' noise limits in the standard.

Clause 8.6.1 of NZS6802:2008 states that:

"The guideline limits indicate generally acceptable noise limits, but communities may wish to make these more or less stringent to suit their particular circumstances."

The current TRMP night-time rules apply all day on Sunday and Public Holidays. In our experience, we can advise that daytime noise limits of 40 dB L_{Aeq} and 70 dB L_{Amax} are very low and are not common in district plans. Furthermore, NZS6802 recommends that the L_{Amax} descriptor is used for sleep protection and not ideal for daytime noise limits.

MDA consider that a higher noise limit than 40 dB L_{Aeq} will be acceptable for daytime noise on Sunday and Public Holiday's. It is likely that we will be able to support a higher daytime noise level on Sundays and Public Holidays as well, but it may be too simplistic to simply refer to the upper guideline noise limits in NZS6802:2008 as a measure of acceptability. Our view is that the appropriate references are the permitted standards and the Objectives and Policies in the TRMP.

Providing a more detailed assessment of noise effects, including ambient noise measurements to show the existing noise environment, would further assist in determining whether the noise levels will be reasonable.

The following sections set out the relevant TRMP objectives and policies that we understand relate to noise effects in the zones where the boat ramp and car park areas are proposed to be located.

3.1 Residential Zone

The application states that a total of 78 trailer parks will be provided in the grassed area to the west of Tahī Street, which is located in the Residential Zone. It is our understanding that large vehicle parking areas are not anticipated in the Residential Zone. We understand that the following objectives and policies are relevant to the consideration of noise effects in the Residential Zone (underlining our emphasis):

Objective 5.1.2: *Avoidance, remedying or mitigation of adverse effects from the use of land on the use and enjoyment of other land and on the qualities of natural and physical resources.*

Policy 5.1.3.9: *To avoid, remedy, or mitigate effects of noise and vibration beyond the boundaries of the site generating the effect.*

Objective 5.2.2: Maintenance and enhancement of amenity values on site and within communities throughout the District.

Policy 5.2.3.4: To promote amenity through vegetation, landscaping, street and park furniture, and screening.

Policy 5.2.3.8: *To avoid, remedy or mitigate the adverse effects of traffic on the amenity of residential, commercial and rural areas.*

Objective 5.4.2: *Accommodation of a wide range of residential activities and accessible community facilities in urban areas.*

Policy 5.4.3.2: *To allow for health care, educational and cultural facilities and other local community activities, including in residential areas, providing these do not compromise the character or amenity of the residential neighbourhood.*

The MDA report does not provide an assessment of the noise effects from the proposed trailer park located in the Residential Zone. As set out in Section 2.1, we recommend that MDA provide the predicted noise levels based on the vehicle parking plans submitted in the application. The assessment of noise effects is required to determine if the level, character, and timing (including duration and frequency) of the noise is consistent with the objectives and policies for the Residential Zone.

We consider that Policy 5.4.3.2 is potentially most relevant to the proposal. We consider that the level, character, and timing of noise from the use of the proposed parking area should be compared to the character and amenity of noise that could reasonably be expected in the residential zone, especially in the early morning hours between 5am and 7am and on Sundays and Public Holidays when the noise standards for permitted activities are very low.

3.2 Recreation and Open Space Zones

The proposed boat ramp is located across both the Recreation Zone and the Open Space Zones. The relevant objectives and policies for these zones are in TRMP Chapter 14: Reserves and Open Space. The following objectives and policies are relevant to the control of noise effects in the Recreation Zone and the Open Space Zones (underlining our emphasis):

Objective 14.4.2: *The avoidance of significant adverse effects of activities and facilities on open space and recreational areas, and on the amenity values of surrounding areas.*

Policy 14.4.3.2: *To ensure that activities associated with open space and reserves do not give rise to adverse environmental effects (such as noise, glare, traffic, pesticide discharge) without adequate mitigation*

We understand that boat ramps are anticipated by the TRMP in the Recreational Zone, but are not anticipated in the Open Space Zone.

As set out in section 2.2, we recommend that an assessment of noise effects is provided based on a realistic level of use of the boat ramp and not be based on occasional use. The assessment must determine if the noise is consistent with the objectives and policies for the Recreation and Open Space Zones, and whether there is adequate mitigation to manage adverse noise effects.

3.3 Boat ramp in the Coastal Marina Area (CMA)

The MDA report does not provide predicted noise levels or any assessment of the noise effects from the use of recreational boats using the proposed boat ramp.

The AEE (p.49) does provide limited reference to boat noise in the coastal marine area, including:

The manoeuvring of boats within the launching area will generate some noise but the inshore speed limit of 5 knots, the noise should be low and in keeping with would normally be expected in a waterfront / wharf area.

There are no TRMP noise limits for the recreational use of boats on the water in the CMA, but the following sections of the TRMP set out clear objectives and policies that are relevant to this application:

- TRMP Chapter 20: Effects of craft using the surface of coastal waters
- TRMP Chapter 24: Noise emissions in the coastal marine area

Chapter 20 specifically relates to amenity effects from boats using coastal waters.

There are a number of relevant policies contained in Chapter 20, including Policy 20.1.3.3:

To avoid, remedy or mitigate adverse effects on amenity values and natural values, including:

(a) disturbance of wildlife or marine mammals;

(b) disruption to natural quiet;

(c) degrading the quality of experience of particular activities;

from the scale, intensity, frequency, duration or mix of activities using craft.

Chapter 24 specifically relates noise emissions in the coastal marine area and includes objective 24.1.2 to provide a coastal marine area in which noise levels do not adversely affect natural character, amenity values or wildlife in the coastal environment.

The following policy is relevant to the control of noise effects in the CMA:

Policy 24.1.3.1 *To avoid, remedy or mitigate adverse effects of noise from activities in the coastal marine area on the natural character of the coastal environment and in places where natural quietness contributes to the amenity value of a coastal locality.*

Figure 3 overleaf shows the location of two existing boat ramps located at Grossi Point reserve and Rough Island in relation to the proposed new boat ramp at Mapua.

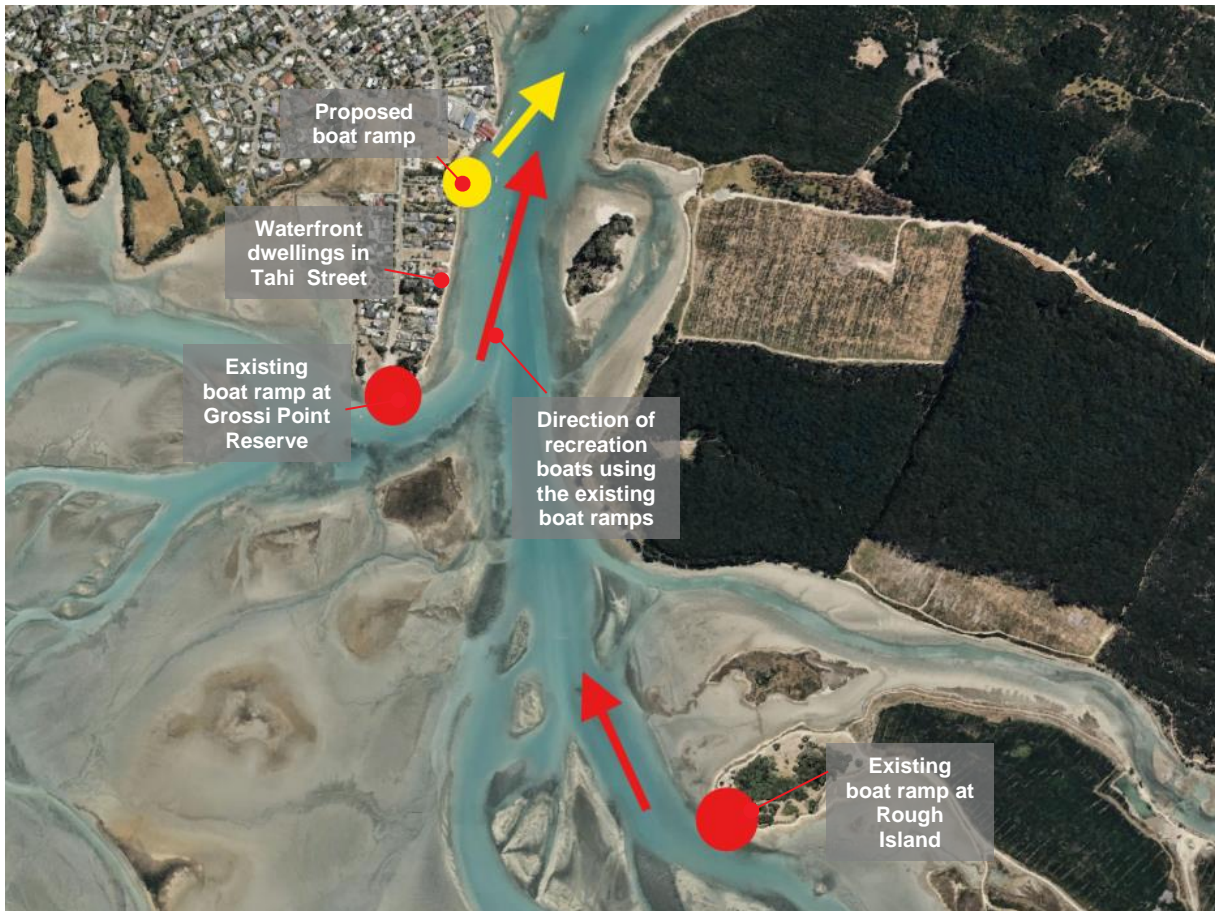


Figure 3: Location of the two existing boat ramps at Grossi Point reserve and Rough Island

The recreational boats that use the existing boat ramps at Grossi Point and Rough Island predominately travel north and past the dwellings located close to the waterfront in Tahi Street.

The proposed new boat ramp will access the channel at a point further north of the dwellings located close to the waterfront in Tahi Street. It is our understanding that the majority of the boats using the proposed new boat ramp will therefore not pass in front of the existing waterfront dwellings in Tahi Street.

A reduction in recreational boat noise in the area south of the proposed new boat ramp would be consistent with TRMP coastal marine area policy 24.1.3.1.

4.0 Review of mitigation options and resource consent conditions

MDA do not provide many mitigation options to control the noise from the use the boat ramp and car park areas, other than suggesting signage requesting consideration of neighbours. We consider that there are a number of additional noise mitigation options that could be considered, including:

- Acoustic screening along the residential zone site boundary of the boat ramp
- Acoustic screening along the residential zone site boundary of the car and trailer parks

- Vehicle speed limits
- Noise Management Plan (NMP) that includes methods and procedures for encouraging users to manage noise, a complaints procedure (including for identifying regularly noisy users) and potentially a plan to encourage the earliest morning users to park furthest from the residential receivers.

The draft NMP provided in Appendix B only applies to the Mapua Sea Scout and Community Building, which are no longer included in this application. We recommend that an NMP is implemented that is specific to the activities being applied for in this consent.

There are no recommend conditions provided in the AEE or MDA report.

5.0 Summary and conclusion

We have prepared a review of the MDA Report. Our key findings are summarised below:

1. The MDA assessment of noise effects does not include predicted noise levels at the following potentially affected receivers:
 - 15 Tahi Street
 - 17A Tahi Street
 - 18 Tahi Street
 - 20 Tahi Street
 - 20b Tahi Street
 - 27B Aruni Road
 - 27E Aruni Road

We recommend that the assessment of noise effects is updated to include the above receivers, and using predominantly diesel and SUV vehicles. Noise contour maps and the sound power level assumptions for the vehicle mix should be provided. The noise level predictions should also include the noise of people and crews talking to each other and the occasional raised voice as crews communicate during the launching and retrieval process.

2. The MDA vehicle noise level calculations appear to be based on 38 car parks but the AEE states that a total of 62 car and trailer parks are proposed. We recommend that predicted noise levels are calculated based on the most up to date vehicle parking plans submitted with the application.
3. The MDA noise model of the boat ramp is based on an assumption of one boat launch per 15 minutes before 0700 hours and two boat launches per 15 minutes after 0700 hours. It is our opinion that this assumption is too low during the potentially busy period between 0430 – 0700 hours. We recommend that the noise model should be informed by at least four or six launches in any 15 minute period before 0700 hours and include people noise and the noise from vehicles waiting to use the ramp.

4. MDA have not provided any noise measurements of the existing noise environment. Background noise measurements can be very useful as part of the assessment of noise effects, in particular where an application is seeking to exceed the applicable noise limits. We suggest that measurements are provided or that the assessment of effects is based on the levels we have assumed (in section 1.4).
5. MDA do not provide any noise mitigation options for the use the boat ramp and car park areas, other than suggesting signage requesting consideration of neighbours. We consider that there are a number of additional noise mitigation options that could be considered, including:
 - Acoustic screening along the residential zone site boundary of the boat ramp
 - Acoustic screening along the residential zone site boundary of the car park
 - Vehicle speed limits
 - Noise management plan (NMP)

We are unable draft conditions at this stage of the review due to the number of outstanding issues, which are summarised above. We will be able to provide a conclusion on the noise effects and confirm if we can support the application once these matters raised have been addressed by the applicant.

Please contact me if you require any further information.

Yours sincerely,



Daniel Winter, MASNZ
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