

Malcolm Hunt Associates



Memo To: Max Dunn
Principal Planning and Policy Consultant
4Sight
Max Dunn <maxd@4sight.co.nz>

From: Malcolm Hunt, Malcolm Hunt Associates

Date: 21 February 2018

Re; *EPL Wharf 6/7 & Slipway Resource Consents – Future Port Noise*
Clarification of Future Port Noise Effects

Dear Max

Malcolm Hunt Associates (MHA) prepared, on behalf of Eastland Port Limited, the original Noise AEE report for Wharf 6 /7 Upgrade project entitled “*Assessment of Environmental Noise and Vibration Effects - Wharf 6 & 7 Redevelopment, Eastland Port*” dated September 2017 Ref: 974-12/004/10. In addition, we prepared a port noise memo attached to the 4Sight reply prepared in response to matters by Council in a s.92 request for further information. This MHA Memo was dated 24th November 2017.

At your request this memo has been prepared to formally record the requested amendment to Section 8.5 of the Noise AEE report for the above project, and to present an amended **Figure 8**.

We attach as **APPENDIX A** an amended page 17 of the MHA Noise AEE report for the Wharf 6 & 7 project, showing a text amendment within Section 8.5. We have corrected the wording error identified in previous correspondence with Council regarding the number of log vessels currently using the port. This was a typographical error which has not affected the conclusion that only small changes in noise from essential port activities will result from the planned long term development of the port.

APPENDIX A also includes page 18 which sets out an amended Figure 8 now including a legend to help with interpretation. The Noise AEE report did not include a legend to assist in understanding the meaning of the shaded areas shown within the diagram. This has now been rectified in the amended Figure 8 (attached). No changes have been made to the location of any of the noise contours shown. There are no changes to the text on this page.

Please do not hesitate to contact the writer should any further information be required.

Regards,

Malcolm Hunt B.Sc., M.E.(mech), Dip Noise Control

APPENDIX A

Amended Page 17 & 18:

MHA Noise AEE report

*“Assessment of Environmental Noise and Vibration Effects - Wharf 6 & 7
Redevelopment, Eastland Port”*

Dated September 2017 Ref: 974-12/004/10

Overall, ground born vibrations are not likely to be detected beyond the port boundary as the engineers have advised that sheet pile would only be vibrated down to the papa rock which is at the current seabed level, not driven to the papa rock. This is common for both W6&7. King piles of the Wharf 7 quay wall will likely to be socketed into pre-drilled holes however this is not likely to give rise to any significant vibration effects.

8.4 Special Audible Characteristics

Special audible characteristics within a received sound can cause additionally noise annoyance. The TRMP requires noise in the CMA to be assessed in accordance with the New Zealand Standards for environmental sound which recommends that the relevant L_{A10} performance standard be lowered by 5 dBA when the sound under investigation contains "special audible characteristics". This factor is important for taking into account the quality of the sound in terms of characteristics that may make the sound more annoying than it would otherwise be without that characteristic. In terms of noise from dredging and typical construction activities, these would mostly be motorised equipment sounds and would not normally be expected include prominent tones requiring adjustment as per NZS6802 for special audible characteristics.

8.5 Increase In Port Capacity

We have examined whether the proposed works would have the result of increasing the port handling capacity and thereby increasing overall operational port noise emission levels.

While upgrades to Wharf 7 may eventually allow greater throughput and potentially more ships visiting Eastland Port, it is not expected that the upgrade in itself will significantly increase ship numbers. Currently around ~~230~~ 150 log ships load at Eastland Port annually. Assuming these numbers continue, the imperfect nature of shipping schedules means some delays are experienced with vessels at times waiting to be loaded.

As a worst case we have developed a noise model for the port which is based on an increase in log ship visits by 25% per anum. The acoustic model has assumed (on average) five extra vessel visits per month which is considered an increase well beyond any improvement in handling efficiencies well beyond the expected improvements that will be brought about by the proposed works.

As the expected $L_{Aeq}(15 \text{ min})$ and L_{Amax} sound levels will likely remain the same during log vessel visits, the modelling has been carried out in terms of overall 5 day L_{dn} values. While the effects of terrain have been included in the modelling, we have no information on the built environment present in the area. Thus the acoustic screening by buildings have not been included.

The increase in vessel activity has been assumed to occur equally during both night time and daytime. The results are shown below in Figure 8.



Figure 8: Predicted 5 day average Ldn values for current port activity increased by 25%.

The extra vessel movements have slightly enlarged the contours over and above current day locations. The fundamental shape and location of the port noise boundaries. The areas of technical noncompliance remain as before, and are confined to within the Port Management Area. With the coming on stream of additional log storage areas, the additional activity assumed for the upper log yard may not occur to the extent shown here. Overall, the modelled slight improvement in vessel throughput has resulted in no real changes to the long term port noise contours (including technical non-compliance within the port management area already present in without the proposed works taking place).

Overall, the proposed works will likely improve vessel handling efficiencies at the port. This may or may not increase the vessel throughput of vessels at the port which is more influenced by a host of market factors including availability of logs and the market for logs. Assuming vessel throughput is increased, we have modelled an over-estimate of this effect (being five extra log vessels per month). This is considered a gross over-estimate of the improved efficiency caused by the wharf redevelopment anticipated by the port company.