Development Application No.2019.208

For Cattle Bay Marina

RESPONSE TO PUBLIC SUBMISSIONS

Submitted to Bega Valley Shire Council
by Eden Cattle Bay Marina Pty Ltd

16 October 2019

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APPENDICES

1. INTRODUCTION

This report has been prepared by Eden Cattle Bay Marina Pty Ltd being the applicant in Development Application (DA) No.2019.208 for a proposed marina at Cattle Bay Eden. This report addresses issues raised in public submissions on the DA that have been referred by Council to the applicant.

2. RESPONSE TO PUBLIC SUBMISSIONS

PUBLIC SUBMISSION AND ISSUE RAISED	APPLICANT COMMENT AND RESPONSE
JOHN BLAY	
No information to establish an economic basis for development of this scale.	The economic case and need for the proposed marina is in the Eden Marina Project Report prepared by Coriolis Marine in Appendix 4 of the EIS. The proposed marina provides an economic investment into a significant piece of boating and tourist infrastructure that will have benefits for the maritime and tourist industries in the locality. The proposed marina is to be staged with Stage 1 having 85 berths and Stage 2 a further 69 berths.
No need now or in the foreseeable future for 154 berth marina	
Marina and attenuator would restrict water circulation around the bay and contribute to algal blooms.	The marina is floating on the top of the water in the bay. Water circulation is retained under and around the marina. The wave attenuator is at the top of the water depth and has the function of attenuating near-surface wave energy from local wind waves, not water circulation. Water circulation is retained under and around the attenuator.
Owners spilling sewage into the bay.	The proposed marina includes a sewage disposal facility that includes pump out from vessels and disposal into Council's sewer system in Cattle Bay Road. Boat owners would be prohibited from spilling sewage into the bay at the marina, and this would be condition of a Marina Occupation Agreement.
Third pontoon arm and attenuator are an over development, and spoil natural beauty and amenity of the locality including Cocora Beach and its public use for recreation.	A visual impact assessment of the proposed marina is provided in Section 16 of the EIS and in the Review and Assessment of Potential Visual Impacts in Appendix 20 of the EIS. The visual character of the proposed marina is consistent with the historic and established maritime character of Eden and Twofold Bay, the existing cluster of vessels on swing moorings in Cattle Bay, and the other swing moorings and maritime facilities in the adjacent Snug Cove. The increase in visual density of moored vessels from the proposed marina will not be unreasonably obtrusive given it is a relatively narrow section of wide panoramic views across and over Twofold Bay, will be ameliorated to a degree by the visual backdrop of dominant natural peninsula landscape of tree vegetation, and will be absorbed to a degree by the presence of existing maritime facilities in Snug Cove.

PUBLIC SUBMISSION AND ISSUE RAISED	APPLICANT COMMENT AND RESPONSE
	Public access is addressed in Section 18 of the EIS. The proposed marina development retains and improves public access to the foreshore reserve on Lot 4, the beach, the existing jetty wharf, car parking for the public at the beach, and on Cattle Bay Road. The reduction in area available for public use within the waterway at Cattle Bay to the extent it is taken up by the water based component of the marina is reasonable given the extent of the waterway.
Reduction to below 100 berths would reduce problems with noise and pollution.	The proposed marina is to be staged with Stage 1 having 85 berths and Stage 2 a further 69 berths to give the full 154 berths. Sections 6 to 20 of the EIS provide a comprehensive assessment of the potential environmental impacts and mitigation measures (including noise and pollution) which are within relevant standards and acceptable limits.
BVSC's landscaping and maintenance of the foreshore is to be commended.	The landscaping of the foreshore was carried out by the applicant and marina proponent Eden Cattle Bay Marina Pty Ltd. It was not carried out by BVSC.
The old pedestrian track from Bay Street to the west has eroded such as to be impassable and requires work to enable access to Cattle Bay.	The land from the end of Bay Street to Cattle Bay is not owned or managed by the applicant. The proposed marina does need pedestrian access from Bay Street. Access to the marina is provided off Cattle Bay Road.
JACK DICKENSON	
Marina will impinge on amenity particularly with boat movements at night, vehicle movements, voice carriage over the water, and normal industry of boat mooring and repair work.	Potential noise issues associated with the marina are addressed in Section 12 of the EIA and in the specialist acoustic report at Appendix 18 of the EIS. The specialist acoustic report addresses all the potential noise sources associated with the marina and finds that the noise associated with the marina will meet relevant noise standards at potential sensitive receivers subject to certain restrictions on the marina operation and users which are included in Section 12 of the EIS and the proposed Operational Environmental Management Plan and Construction Environmental Management Plan for the marina which are in Appendices 9 and 10 of the EIS.
Cattle Bay Road is hazardous and has traffic safety issues.	The proposed marina development includes the widening and upgrading of Cattle Bay Road as previously agreed with Council.
The landowner's beautification of the beach foreshore has presented a traffic hazard where the existing track meets Cattle Bay Road.	The existing track to the beach off Cattle Bay Road is located to the east of the land in this DA. The existing track is predominantly on land that is not owned or managed by the applicant, not on the land which is the subject of this DA, and is not needed or proposed to be used for marina access. The existing track for public access to the beach and its intersection with Cattle Bay Road is a matter for Council.

PUBLIC SUBMISSION AND ISSUE RAISED	APPLICANT COMMENT AND RESPONSE
CHRIS BOYTON	
One mobile sewer pump out cart is not adequate. Who is to police pump-out compliance?	The proposed development is for two mobile sewage pump-out carts. The project engineers Royal Haskoning DHV have provided data in the previous DA on the capacity of the proposed sewage pump-out carts and on sewage generation from marinas demonstrating that the two sewage carts can cater for the demands of the proposed marina. The data on marinas and the sewage pump out cart is below: Marinas generate 1 to 1.3 litres of sewage per berth per day on average, equating to a total 154 to 205 litres per day in the proposed marina on average. Each of the proposed sewage pump out cart holds 90 litres, and has a pump flow rate of 19 litres per minute meaning it takes 5 minutes each to fill and empty. Given the above data, the proposed two sewage pump out carts can readily cater for sewage from vessels in the proposed marina. Indeed one sewage cart can cater for the sewage, and a second cart is proposed as a back-up for the first. The sewage pump-out units are to be operated by trained marina management staff only, and are to be subject to ongoing monitoring and reporting.
On-shore shower and laundry are below what is thought suitable.	The proposed shower and laundry are appropriate.
Reservations about effects of attenuator on aquaculture lease in the bay.	Cardno prepared the Mussel Farm Impact Assessment statement in Attachment A for the previous DA which analyses wave modelling results at locations in the vicinity of aquaculture in Twofold Bay. The modelling results by Cardno have shown that the proposed wave attenuator would have only minimal effects on wave heights, wave directions and wave energy at the location of the mussel farm primarily due to the large distances of 470m from the proposed attenuator to the mussel farms over which reflected waves off the attenuator would be able to disperse over the intervening and surrounding waterway area.
Potential impact of dredging / piling during construction.	No dredging is proposed in the DA. The potential impacts of piling and the range of measures to manage water quality are addressed in Section 10 of the EIS and in the Water Quality Management Plan in Appendix 11 of the EIS, and also in the Construction Environmental Management Plan in Appendix 10 of the EIS.
Drainage of the land site will need to be managed.	The proposed development includes a pollutant control trap to manage stormwater quality from the land base of the marina.

PUBLIC SUBMISSION AND ISSUE RAISED	APPLICANT COMMENT AND RESPONSE
Anecdotal comments from locals is that there is debris and polluted silt next to the wharf and land base.	Any existing debris will be removed during the marina construction as part of the normal construction waste management. A Sediment Contamination Statement prepared by Royal Haskoning DHV is included at Appendix 15 of the EIS reporting on the testing of sediment samples and found that there are no contaminants exceeding relevant guidelines.
Potential for marina pests and algae from overseas vessels.	An Introduced Marine Species Management Plan is agreed to be prepared if the DA is approved as described in supplementary advice by Dr Katie Smythe of Ocean Environmental Consulting responding to the same query from NSW Fisheries.
CLAIRE AND PAUL MIDDLETON	
Pedestrian connection between the marina, Eden township and Cocora Beach is needed.	The proposed development includes the widening and upgrading of Cattle Bay Road as previously agreed with Council as the main access road for the marina.
Potential pollution of Cattle Bay and Twofold Bay including litter.	The EIS provides a comprehensive environmental assessment including on water in the bay in Section 10 of the EIS, and with water management measures included in the Water Quality Management Plan, Operational Environmental Management Plan and Construction Environmental Management Plan for the marina in Appendices 9 to 11 of the EIS.
The Eden Marina Project Report appended to the EIS relies heavily on boat owners from Canberra and ignores that Eden is at the same driving time as the Hawkesbury River and Broken Bay which provides the best recreational boating areas in Australia. Boat maintenance costs are also cheaper in Sydney. Boat licensing and boat registration figures are out of date in the report.	The Eden Marina Project Report included in Appendix 4 of the EIS provides a robust case for the need for the proposed marina prepared by Coriolis Marine being experts in the boating industry. It provides a broad and comprehensive evidence based report on supply and demand for marina berths, and identifies demand for a 148 berth marina. Eden currently has limited facilities for accommodating berthing of cruising vessels. The Eden Marina Project Report provides a reasonable assessment of potential demand for boating facilities from Canberra noting correctly that the south coast is a popular and close tourist and recreational destination for residents of Canberra, with data showing 60% of boat owners in Batemans Bay on the south coast are Canberra residents. The report reasonably suggests a much lower 32% demand from Canberra for the proposed marina berths at Cattle Bay.
Twofold Bay is not a good port for a cruising boat base. Average stay is 48 hours.	
Economic benefits are attributable to the aspirational development of hotel, residential and shops which are not part of the proposed marina.	The proposed marina provides an economic investment into a significant piece of boating and tourist infrastructure that will have benefits for the maritime and tourist industries in the locality. It will be a catalyst for further investment into tourist facilities at Cattle Bay.

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Concern that temporary buildings on the land base will be for the long term and become an eyesore.	The proposed marina will be a catalyst for further investment into tourist facilities on the land base at Cattle Bay.
Refute suggestion of public benefit from more secure and protected berths.	The proposed marina will provide berths that are more secured and more protected from wave action compared to existing swing moorings. Existing swing moorings in the footprint of the marina will be relocated as described in the relocation strategy in the EIS.
There is no government funding commitment for the proposed wave attenuator. Government funds should be spent on Snug Cove.	The means of funding the proposed marina development is not a matter for consideration in the environmental impact assessment of the DA.
Additional moorings in Quarantine Bay outside the protection of the breakwater are proposed in the swing mooring relocation strategy. Quarantine Bay is less safe, less secure, less sheltered and less convenient. Boats have been lost from Quarantine Bay.	The implementation of swing mooring relocation strategy will be carried out in conjunction with NSW Roads and Maritime Services and the Port Authority of NSW, and in consultation with mooring lessees / licensees to ensure the new locations of swing moorings are safe and reasonable.
The intention to consult with swing mooring lessees / licensees about relocation of swing moorings prior to construction of the marina is too late.	The proposed marina has been the subject of extensive consultation with the community and relevant government agencies as outlined in Section 20 of the EIS including again with the public notification and exhibition of this DA. Further consultation on relocation of swing moorings is appropriately carried out after DA consent and prior to any relocation of swing moorings and marina construction, as discussed with NSW Roads and Maritime Services.
There should be no relocation of swing moorings until there is positive funding for the wave attenuator, and agreed, appropriate, secure, safe and convenient alternative locations for the 24 boats on swing moorings affected.	The applicant agrees.
CHRISTINE COOLEY AND JOHN QUILTER	
Concerned with a proposal that fails to consider integration with surrounding infrastructure of Eden township including pedestrian and road networks.	The proponent of the marina development is making substantial contributions to integrating with surrounding infrastructure. In particular, the proposed marina development includes the widening and upgrade of Cattle Bay Road. The proponent has previously dedicated the foreshore at Cattle Bay as a public reserve and recently completed landscape works on the foreshore for public recreational use.
Observation is less optimistic than the Project Report in the EIS on demand for marina. At any time in peak holiday time there are less than 10 visiting yachts / cruisers.	The Eden Marina Project Report included in Appendix 4 of the EIS provides a robust case for the need for the proposed marina prepared by Coriolis Marine being experts in the boating industry. It provides a broad and comprehensive evidence based report on supply and demand for marina berths, and identifies demand for a 148 berth

PUBLIC SUBMISSION AND ISSUE RAISED	APPLICANT COMMENT AND RESPONSE
	marina. Eden currently has limited facilities for accommodating berthing cruising vessels which constrains the number of visiting vessels.
No approval for a marina development should be granted until funding for a wave attenuator is secured.	The means of funding the proposed marina and wave attenuator is not a matter for consideration in the assessment and determination of the DA.
MICK HAREWOOD	
Photos of similar wave attenuators would assist in assessing its visual impact.	Photos of a similar wave attenuator are shown in Attachment B.
More intensive storms associated with a changing climate could damage the wave attenuator.	The wave attenuator will be designed and constructed according to structural engineering standards, such as Australian Standard AS 4997-2005 *Guidelines for the design of maritime structures*. This standard includes reference to climate change.
The force of The marina has implications for disposal of effluent from Eden sewerage treatment plant (STP. BVSC is urged to delay the approval of the marina until adequate treatment of effluent from the Eden sewerage treatment plant has been achieved.	The proposed marina berths have a relatively low volume of sewage generation, less than that of an equivalent tenement (ET) house and will not have a significant impact on the Eden STP effluent.

3. CONCLUSION

This report provides additional supplementary information on the proposed marina development in Development Application No.2019.208 to address matters raised in public submissions.

The EIS lodged with the Development Application together with the additional supplementary information in this response provide the basis of environmental planning merit on which the Development Application can proceed to be supported and granted development consent by planning authorities.

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16 March 2015

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CATTLE BAY MARINA – MUSSELL FARM IMPACT ASSESSMENT

Dear Sir,

Introduction

In 2014, Cardno was commissioned by Royal Haskoning DHV (RHDHV) to undertake numerical wave and current modelling for a proposed marina layout at Cattle Bay, situated in northern Twofold Bay, NSW (Cardno, 2014) – see **Figure 1**. The proposed marina layout included a cranked wave attenuator which was designed to reflect some swell wave energy to the south of Cocora Point in order to obviate adverse impacts at Cocora Beach. Cardno (2014) concluded that the cranked wave attenuator successfully achieved this design aim.

RHDHV has advised that the NSW Mussel Growers Association has prepared a submission expressing concern that the proposed wave attenuator will result in increased swell energy at the site of the Twofold Bay mussel farm, which is situated to the south of Cocora Point, and approximately 470 m south-west of the proposed wave attenuator. Consequently there is a need to undertake an assessment of the effects of the wave attenuator on the wave climate in the vicinity of the mussel farm. In March 2015 Cardno was commissioned by RHDHV to undertake this study, utilising the results of wave modelling conducted as part of the previous investigation (Cardno, 2014).

The aim of the study is to assess the wave climate in the vicinity of the mussel farm before and after the installation of the proposed wave attenuator, and highlight any potential changes.

Methodology

The work was comprised of the following tasks, as outlined below.

Wave Climate

As part of Cardno (2014), Cardno conducted wave hindcast modelling for both sea and swell waves. As the SWAN model implemented for this task also covered the mussel farm region, results from the previous modelling exercise were extracted and analysed - but at new locations in the vicinity of the Mussel Farm. These locations are depicted in **Figure 1**.

Using these model results, an assessment of the design wave heights and directions for local sea waves, swell waves and a combined sea and swell case were determined in the study area for both pre and post wave attenuator scenarios.

Figure 1 – Approximate Extent of Mussel Farm (red outline) and most relevant SWAN Model output locations.

Further details of the SWAN Wave modelling conducted previously can be found in Section 7 of Cardno (2014).

Wave Spectra

As part of Cardno (2014), MIKE21 Boussinesq Wave (BW) modelling was conducted in order to validate the SWAN swell modelling results, and assess potential changes to swell wave spectra in the study area. Figure 9.1 of Cardno (2014) shows that the MIKE21 BW model set-up doesn't cover the mussel farm in its entirety, with the western and south-western extent of the mussel farm buoys outside the model domain. However, as the eastern and north-eastern extents of the mussel farm are within the model domain, wave spectra can be assessed for these regions. Theoretically, if the results show that the effects of the attenuator in these regions are minimal, then it would be reasonable to assume that the regions outside the model domain would be similarly or less affected.

Further details of the MIKE21 BW modelling conducted previously can be found in Section 9 of Cardno (2014).

Results

Wave Climate

The effects of the wave attenuator on design wave criteria were assessed by estimating ARI wave heights from the modelled inshore wave data, for both the pre- and post-attenuator situations. This was achieved by fitting a Weibull distribution to independent peak storm wave heights exceeding the 98th percentile. **Table 1** shows the estimated 1-year ARI and 50-years ARI wave heights at the nominated output locations (see **Figure 1**).

Table 1 - Design Wave Heights for Local Sea and Swell (Pre- and Post-Attenuator)

Significant Wave Height, Hs (m)	Local Sea Waves				Swell Waves			
	Pre-Attenuator		Post- Attenuator		Pre-Attenuator		Post-Attenuator	
Output Location	1 year ARI	50 years ARI	1 year ARI	50 years ARI	1 year ARI	50 years ARI	1 years ARI	50 years ARI
MF1	0.76	1.07	0.78	1.09	1.75	2.33	1.75	2.33
MF2	0.79	1.10	0.80	1.11	2.20	3.32	2.20	3.32

These results show that the presence of the attenuator has only a minimal impact on the design significant wave heights in the mussel farm region. Design local sea wave heights post-attenuator are slightly higher for both output locations, in the order of 1 to 2%. This is beyond what could reasonably be discerned in the field through observation. The presence of the attenuator has little to no effects on the design swell wave heights, as is shown in **Table 1**.

Figures 2 to **4** present energy-weighted mean wave directions for swell waves, local sea waves and combined swell/local sea for both the pre- and post-attenuator situation. These figures show that the effect on energy-weighted mean wave directions is minimal, with changes of the order of half a degree, or less.

These results confirm that any reflected swell wave energy largely disperses before reaching the mussel farm region so that changes in wave conditions are minimal.

Figure 2 – Mean Energy-Weighted Wave Direction – Swell Waves

Figure 3 – Mean Energy-Weighted Wave Direction – Local Sea Waves

Figure 4 – Mean Energy-Weighted Wave Direction – Combined Swell and Local Sea Waves

Photo A: Construction of fixed panel wave attenuator – showing fixed panel being lifted into place by floating crane.

Photo B: Construction of fixed panel wave attenuator – showing fixed panel being positioned onto pile caps

Photo C: View along pile caps showing fixed panels in place.

Photo D: View of completed wave attenuator and floating marina.