

ENTRANCE BEACH MANAGEMENT

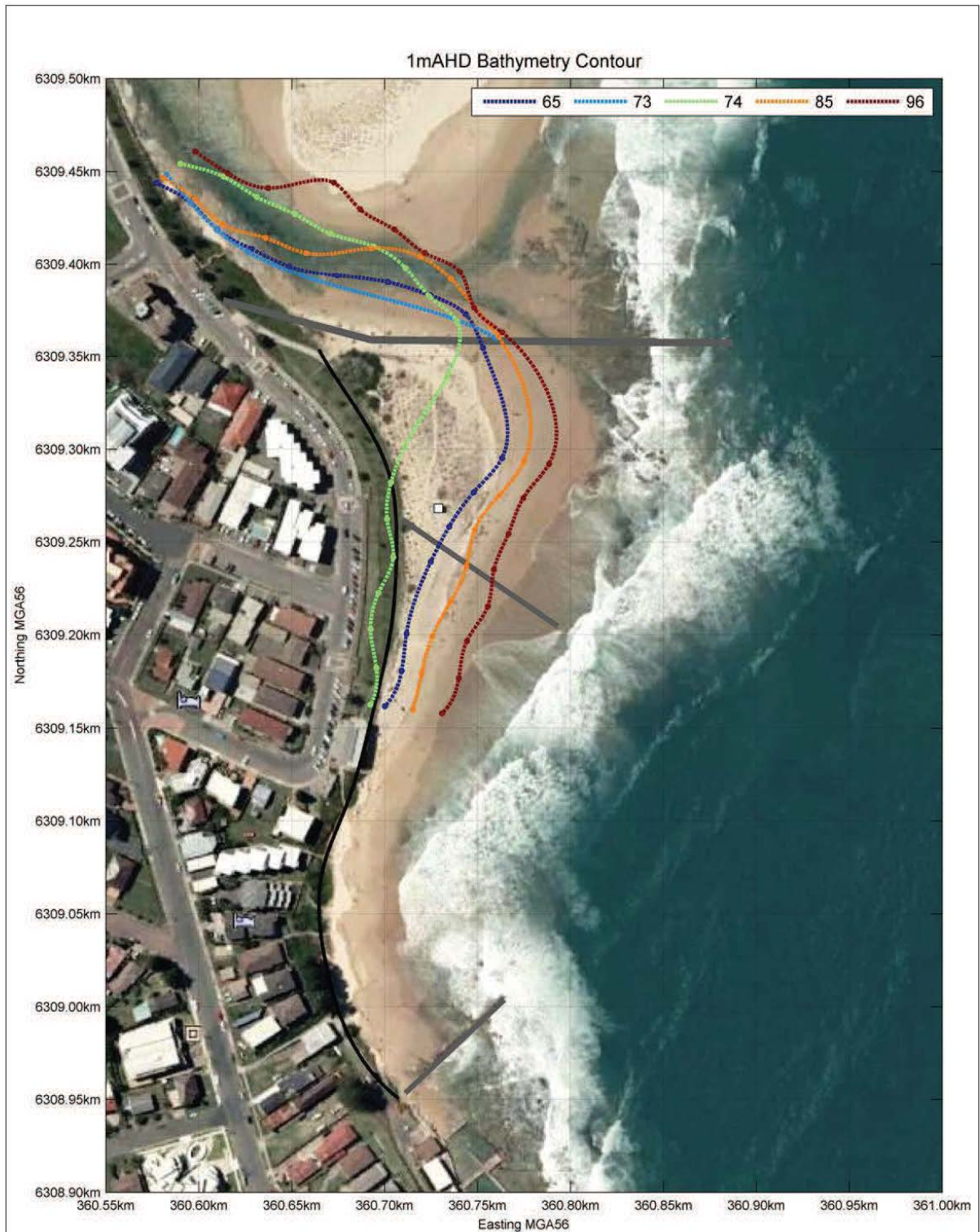
Several different coastal structures have been proposed to provide solutions to the issues facing South and North Entrance Beaches.

These are (see Figure 6.1):-

- Small groyne of 100m length at 2m AHD crest level
- Long groyne of 130m length at 2m AHD crest level
- A Northern Training Wall, including a revetment wall running north to The Entrance Bridge.
- A fully trained entrance. Training walls of approx. 230m long at 4.5 to 5m AHD crest level. Spacing would need to be more than 150m apart as per Cardno (2013).



The State Government are currently designing a short groyne for the southern side of The Entrance channel, with likely construction to occur in 2016.



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Tuggerah Lakes - The Entrance Morphodynamic Modelling
 Coastline Evolution - 1 m AHD Elevation Contour
 Years: 1965, 1973, 1974, 1985 and 1996

Figure 5.3

Groynes are structures that extend from the shore into the active zone of littoral drift transport and control the natural movement of beach material and are analogous to natural headlands. They alter the orientation of the beach to be more in line with incident wave crests and intercept longshore currents, reducing littoral drift transport and promoting sediment accretion on their updrift side. Groynes do not directly counter erosion and recession, but provide assistance in developing a more stable shoreline and sand buffer, or transfer the processes to other locations.

South Beach Short Groyne Structure

This option would consist of a 100m long groyne located just to the south of the SLSC tower. The landward end of the structure would begin at the existing revetment wall, and from there it would extend seaward out to approximately 0.6mAHD (the approximate mean low water spring level). The intent of the short groyne would be to increase the length of time that sand is retained on South Entrance Beach post beach nourishment by several years, meaning that sand re-nourishment would be required less often than would be the case without such a structure. Essentially, it would result in a wider beach for longer period of time post nourishment. As the crest level of the structure would be 2mAHD, the landward end of the structure would be buried in the back beach dune system, limiting its impediment upon pedestrian traffic in the back beach region. The cons of such a structure include the impact of its construction on the community ([see Section 9](#)), as well as the visual impact of the structure itself. Additionally, it is unlikely that the short groyne would accumulate sand in the long term, and so would still require periodic sand re-nourishment (albeit less often than would be required with no structure in place).¹



Site Inspection Photographs – 6 June 2013 Prevelant Rock Sill at South Entrance Beach

¹ Tuggerah Lakes– The Entrance Morphodynamic Modelling

<http://www.friendsoftuggerahlakes.com.au/TUGGERAH%20LAKES%20ENTRANCE%20STUDY%20CARDENO%202013/2013%2011%2000%20Tuggerah%20Lakes%20The%20Entrance%20Morphodynamic%20Modelling%20-%20Entrance%20Beach%20Management%20Report.pdf>



Kirra Point Groyne, Qld (Photo 07/07/2013,