

## eTHEKWINI MUNICIPALITY

### Project Executive: Coastal Policy.

**Dr Andrew A. Mather. Pr. Eng. B.Sc (Civil Engineering).**

**Hons. B.Comm(Bus. Man.), PhD.**

**FSAICE, MIMESA.**

166 Old Fort Road  
Durban, 4001

PO Box 680  
Durban 4000

Tel: 031-3117281

Fax: 031-305 6952

Website: <http://www.durban.org.za>



25 August 2014

Dear Clint.

### **RESPONSE TO COMMENTS FROM COASTWATCH KZN: VIRGINIA BEACH** **PROPOSED BOMA: D/0033/014**

I have been asked to review the comments made by COASTWATCH KZN in regard to the above proposal for the development of a beach boma at Virginia Beach.

Firstly as I understand the ICM Act it is that it's a "people centered" Act which amongst other things **REQUIRES** government to provide access to the coast to all as well as provide amenities for these users.

Refer to ICM Act Clause 2 (a) (d)" *to secure equitable access to the opportunities and benefits of coastal public property*". Access read here as the wider benefits rather than just a simple right of way to the beach.

In the spirit of this Act the municipality has decided to look at creating an opportunity to provide not only access but also opportunities in the form of a facility. In this case the proposal is to put out a public tender to provide a restaurant/café facility.

The second issue is one of location. Where is the best place to provide this facility?. By its nature this facility needs to be located on the beach. When one looks at the current infrastructure on the site there are a range of possible development options. One might be to clear the site and erect new structures or one could work with the existing structures and the later approach is seen to be more environmentally sensitive. The issue now becomes one of risk appetite. The building fall within the area anticipated to be affected by future sea level rise. One has to trade off risk of damage/loss of the structures verse functionality and cost. The municipality has developed a table to guide these types of decisions and it is shown below in Table 1.



<b>Value of infrastructure</b>	<b>Life of infrastructure</b>	<b>Impacts of failure of the infrastructure</b>	<b>Planned amount of sea level rise</b>
<b>Low</b> <b>(up to R2 million)</b> i.e. Recreational facilities, car parks, board walks, temp beach facilities	<b>Short term</b>  Less then 20 years	<b>Low</b>  Minor inconvenience, alternative facilities in close proximity, short rebuild times	<b>0.3m</b>
<b>Medium</b> <b>(R2 million to R20 million)</b> Tidal pools, piers, recreational facilities, sewerage pump stations.	<b>Short to Medium Term</b>  Between 20 and 50 years	<b>Medium</b>  Local impacts, loss of infrastructure and property	<b>0.6m</b>
<b>High</b> <b>(R20 million to R200 million)</b> Beachfronts, small craft harbours, Residential homes, sewerage treatment works.	<b>Medium to Long Term</b>  Between 50 and 100 years	<b>High</b>  Regional impacts, loss of significant infrastructure and property	<b>1.0m</b>
<b>Very High</b> <b>(greater then R200 million)</b> Ports, desalination plants, nuclear power stations	<b>Long term</b>  In excess of 100 years	<b>Very High</b>  Major disruption to the regional and national economy, failure of key national infrastructure	<b>2.0m</b>

Table 1: Decision matrix for risk selection to sea level rise for coastal developments

In this case as a recreation facility it falls into the low short term category. This recognizes the short term of this type of infrastructure and the need to refurbish regularly as a result of the severe corrosion as well as the need to take on some additional risk, but moderated as these are not significant investments, in order to meet the ICM Act requirements of the enjoyment of the coast by all.

Based on an evaluation of the coastal processes operating at this site it was decided that the “risks” of establishing this facility were acceptable to the municipality given that this stretch of coast has been relatively stable for around 5 decades and that given the limited lease durations involved there will be ample time as sea level rise to reconfigure the facilities to respond to erosion and sea level rise.

Andrew Mather



Dr Andrew A. Mather Pr. Eng.  
Project Executive: Coastal Policy

