

Eastern Beaches Protection Association

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CHAP Beach Erosion Probability Clarification

Thank you for your time in recent meetings, individually and with other Councillors, to discuss Council's draft Coastal Hazards Adaptation Plan (CHAP).

After our most recent discussion, we felt it was important to clarify some possible confusion about the probability of risk from a 1 in 100 year event impacting coastal erosion. This is prompted by your comment that there can potentially be more than one 1:100 events in a year suggesting it's more than a 1% probability. We hope the note below assists – using the Council's CHAP models and assumptions, to ensure the risk inferred by the presentation of erosion overlays in the draft CHAP isn't overstated, or that there is any suggestion such a risk exists now – which of course it doesn't.

As you know, EBPA has consistently pointed out that the draft CHAP is proposing current draconian planning restrictions for *events that have less than 1% probability of occurring 50-80 years from now*.

That is quite true and the probability is from Council's own CHAP and background documentation.

Importantly, unlike observed and measured data from historical events like floods, which can be more accurately modelled and inform current planning requirements that homes must be built above the 1 in 100 flood level - there is no current 1:100 erosion risk on our coastal beaches that remotely affects homes. The CHAP and its background materials specifically recognise that our coastal dunes and beaches are currently "*dynamically stable*" (Phase 3 Report pp 11,15) and to the extent there is likely future erosion, it is known to be less than the minimum 10 metre erosion rate that DEHP requires as the minimum to be applied in its model. (Ph 3 Report pp 14,16, 31, Tech Memorandum p3)

It's worth reinforcing this - the CHAP acknowledges, and Council officers know that the actual erosion rate is less than the minimum rate modelled in the draft hazard overlays. But there is more.

What the draft coastal hazard overlays show is a less than 1% risk - even in the future.

Even in 50-80 years, it requires a theoretical, cumulative impact of several things before a "design storm erosion event" could cause even a *potential* erosion issue. The hazard overlays cumulate:

- Allowance and impacts of rising sea levels of up to 0.8 metres (CHAP p11); **plus**
- Modelled erosion over 20, 50 and 80 years, using an assumed 10m erosion rate which is greater than actual local erosion (noting in some places dunes are accreting or growing and nor is there allowance for vegetation that further reduces erosion); **plus**
- Including a 40% extra safety margin due to the acknowledged "uncertainties and limitations of the adopted methods and assumptions" (Phase 3 Report p28, Tech Memorandum p 3); **plus**
- The possible impact of a "design storm erosion event" – which is acknowledged in the model as "rare" (Phase 3 Report p 18) - and characterised as a coincident 100 year Average Recurrence Interval (ARI) storm tide and 100 year ARI wave conditions. The CHAP background material specifically confirms that the probability of this two-pronged "design" storm event alone is "less than one percent" (Phase 3 Report p 28).

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So, even if 1:100 year events can occur more regularly - as you suggested - it's a moot point in this context. There is no current 1:100 erosion risk at play for existing local homes at all - but rather the modelled risk in this case relates to two coinciding 100 year events (storm tide and wave) well in the future - on top of the three other cumulated but as yet uncertain occurrences. Even by the model, the risk of such an event is "rare" and simply says that IF a "design storm erosion event" occurs - a less than 1% probability - in 50- 80 years and ONLY IF all of the cumulated risks above occur as well, there might then be a potential issue.

That's also why EBPA, and indeed Council, can accept the need to plan for climate change without accepting the need for extreme planning prescriptions now (if ever.) The CHAP model doesn't mandate it nor support it in this particular case. This is less a flaw in the acknowledged uncertainties of the model and more a flaw in Council's pre-empted planning responses - wrongly and secretly foreshadowed to the State Government seven months ahead of public consultation.

While this reinforces that there is no 1:100 coastal beach erosion risk to local homes, it is worth noting that even where there are current 1:100 hazard risks, such as in flood overlays, Council doesn't preclude development or improvements in that flood zone and nor should it. If it did, it would shut down much of the Shire. Council and the planning regime simply require those buildings to be engineered accordingly (e.g on a pad above the 100 year flood line).

We hope this clarifies any confusion on what the hazard overlays portray and shows why - even in the future, our *less than 1% probability* figure is supported by Council's own reports. That's why we continue to urge you oppose the egregious proposals in the draft CHAP that would unnecessarily impose planning and development restrictions on homes that do not actually face a current coastal hazards erosion risk and might not ever.

The real priorities.

What is more certain though, is a much greater probability of short and intermediate term erosion risk to the community's beaches and waterways for which Council is trustee, and indeed in many locations, is caused by Council's own stormwater for which the Council is proposing to do nothing.

To that end the CHAP process should more properly justify practical work on erosion control and inundation particularly on public assets like our beaches and waterways while using the intervening period to monitor, observe, measure and mitigate other impacts to inform the future evolution of a more moderate CHAP. There is plenty of time to do this well before Councillors should ever consider costly, draconian impacts on local residents' family homes, built properly within the urban footprint.

As we have said previously, EBPA agrees with a sensible and balanced approach to climate adaption and we want to help improve the CHAP, so it does more to address the known and more likely risks, and so that Council's own draft and unjustified planning prescriptions don't become more economically and environmentally harmful than the actual climate risk we are adapting to.

Because stepping out these issues might also assist other Councillors with a similar question, we have cc'd them so they understand collectively what we are saying to all Councillors on this matter.

Kind regards

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