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Re: **Horongarara Community Group submission**

Waikato District Coastal Hazards Report: Response to Submissions on
Waikato District Plan Stage 2: Coastal Hazard Area Maps. March 2021.
Prepared by Bronwen Gibberd: 4D Environmental Ltd & Jim Dahm: Eco Nomos Ltd
Hereafter referred to as the 'WDC Report'

To whom it may concern

I am a qualified Engineering Geologist, as defined in the Waikato Local Authority Shared Services Regional Infrastructure Technical Specifications. My MSc research involved a study of calcareous rocks within the Aotea and Raglan Harbour region, 2 of which underly the Horongarara Peninsula. These are described in the WDC Report on the Ryan Rd foreshore.

Since graduation in 2003, I have conducted 84 geotechnical assessments in the Raglan region. Many of these required slope and erosion analysis. There have been no failures, disputes, or insurance claims, in relation to my work throughout my career as an Engineering Geologist.

I have been engaged by the Horongarara Community Group, Trish Waugh & Andrew Wilson to undertake a focused assessment of the potential for coastal erosion and slope failure effecting 2B, 2C, 2D & 2E Ryan Road. This will involve deep drilling, subsurface characterisation, and quantitative analysis.

I am currently engaged in a preliminary desk study taking into account the proposed zone boundaries displayed in the WDC Report. My initial impression is that the above report is based entirely on observation and is not supported by what I would define as focused field testing and analysis. In short, it lacks hard data.

Based on my experience and desk study, I anticipate that a focused field assessment will indicate that the proposed boundaries are overly conservative, and that slope stability analysis will demonstrate that appropriate factors of safety (taking into consideration climate change) will be significantly closer to the foreshore than the boundaries defined in report. However, my work is science-based and emphasise that a reliable conclusion is entirely dependent on an assessment of the standard regarded as appropriate within my profession.

Yours faithfully,



Michael Carter, MSc CMEngNZ(EngGeol) Reg no: 253333