15 August2017

Mr Ray Swadel Palmerston North City Council Private Bag 11034 Manawatu Mail Centre Palmerston North 4442

Manawatu Mail Centre Palmerston North 4442 File ref: PRD 05/35

> 2017 F 06 952 2929 PJ/JE www.horizons.govt.nz

Dear Sir / Madam

## ESPLANADE EROSION

As you are aware, the recent freshes in the Manawatu River and the continued wet weather has resulted in extensive bank slumping and erosion along the river, especially where there are high banks that are protected by willows. One particular site, which has received some recent publicity, is in the Esplanade Domain 50m downstream of the recently constructed rock lining.

This section of Manawatu River bank that has eroded is presently managed in terms of our river scheme objectives, by way of vegetation works. While there has been a number of minor erosion events in localised areas within the subject reach, the overall bank alignment has moved little in recent years, and tree bank protection works have provided satisfactory erosion control. From a Lower Manawatu Scheme perspective there is little need for a higher standard of channel management along this reach, as the stopbank protecting Palmerston North is discontinuous between Fitzherbert Avenue and Dittmer Drive.

Given the context, in this instance relatively minor bank erosion would be addressed by simply battering back the bank and replanting. Should that not stabilize, a rock lining would then be considered. If that management approach is not satisfactory to the adjoining property / asset owner then a higher standard of protection (rock lining) would be advanced and a contribution sought from that party. This management approach was applied to the bank erosion that occurred immediately upstream during the June 2015 flood event, with PNCC and PowerCo assets potentially at risk. In that instance the three parties contributed equally to the cost of the rock lining. That asset is now a Lower Manawatu Scheme asset and will be inspected and maintained by Horizons.

The current erosion downstream of this repair is similarly constrained in berm width, with a shared pathway and notable trees close to the river's edge. Repairs using anchored trees would likewise be difficult and therefore it is proposed that the upstream rock lining shall be extended downstream to address the erosion. Given the almost identical context it is our view that a funding model similar to that applied to the 2015 work immediately upstream should also apply to this work, so that construction costs, estimated to be \$250,000, will be shared equally between PNCC and Horizons.

The other principles applied to the 2015 would also apply; Horizons would be responsible for the design, procurement and construction supervision at no cost to PNCC. Horizons would be sole contract principal and would make contract



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payments, invoicing PNCC for their contribution upon completion of the work. The completed structure would also be added to the Lower Manawatu Scheme asset inventory and would be inspected and maintained by Horizons.

In regard to timing, we envisage a summer construction which will mean managing the situation in its current form (provided no exacerbation occurs in the short term) at least until the end of the calendar year. In our view signage at either end would be appropriate, advising of the hazard, the intended fix and the timeframe, with both Horizons and PNCC logos.

I look forward to hearing from you at your earliest convenience.

Yours sincerely

Paul Jóseph Area Engineer - Central