From: s 9(2)(a)
To: Colin Hey
Cc: s 9(2)(a)
Subject: Permanent Waiho Bridge Replacement - suggestion
Date: Wednesday, 27 March 2019 10:51:56 AM
Attachments: image001.jpg
image002.jpg

Dear Colin

s 9(2)(a) and I wanted to know if the NZTA were interested in a Smithbridge presentation regards a permanent Waiho Bridge replacement?

Smithbridge Australia have recently developed a kitset permanent bridge solution for Papua New Guinea. These bridges feature two traffic lanes and an overall deck width of 10m; 40m continuous spans; twin pile piers.

Importantly our construction methodology does not require river work. We build the bridge in a 'span over span' manner above the river bed. This is very safe, methodical and economic.

For the Waiho Bridge we would use shell piles. If we could not achieve both fixity and resistance below scour level (from the recent failure of the upstream pile of the first intermediate pier from the Franz Josef end) then we would drive the shell piles to resistance, and then drive a heavy Universal Bearing Pile out the bottom of the shell pile to ensure fixity and resistance below scour level. Once the piles are driven on a 7.2m x 40m grid then we place out kitset headstocks, superstructure, and deck as we progress across the river.

The Waiho Bridge washed out appeared to have been about 150m long. We would replace this with 15m + 40m + 40m + 40m +15m (=150m) configuration. We guess the NZTA will move quickly to replace on this alignment with another temporary bailey bridge.

Given the nature of the pier failure within the flood channel constriction we would recommend a 212m permanent bridge replacement about 40m downstream of the washed out bridge. Its kitset span configuration would be 26m + 40m + 40m + 40m + 40m + 26m (= 212m). This will allow some of the channel constriction to be removed and slowing the flow and reducing the scour risk.

Given the strategic nature of the Waiho Bridge, and that the West Coast is a surge region for the PGF, then Smithbridge will be a collaborative partner with the NZTA to develop the right long-term bridge solution for this vulnerable site before the beginning of the next tourist season.

If the NZTA wish a Smithbridge presentation please advise a potential time and date to meet.

Kind Regards,

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