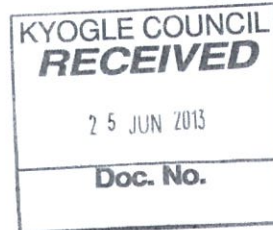




Department of Primary Industries

Our Ref: OUT13/15993

The General Manager
Kyogle Shire Council
PO Box 11
KYOGLÉ NSW 2474



Attention: Mr Graeme Love

Dear Mr Love

Re: Campbells Bridge #2, Lynches Creek Kyogle LGA

Reference is made to a site inspection of Campbells Bridge #2 undertaken on 23 April 2013 with staff from Kyogle Shire Council.

I apologise for the delay in my response. My remarks in this letter are prefaced with the strong recommendation that Council should seek the advice of a qualified river morphologist to outline the works Council should undertake to secure Campbells Bridge and minimise instream impacts at the site and both upstream and downstream. There are several qualified staff within the Northern River Catchment Management Authority. Another excellent group who could undertake an appropriate investigation would be the NSW Soil Conservation Service (contact: Peter Menzies 02 6640 3438, email: peter.menzies@scs.nsw.gov.au). Several private consultancies offer skills in river morphology and rehabilitation. It warrants noting that undertaking works at the site will trigger the need for a permit for dredging and reclamation works under the *Fisheries Management Act 1994*.

Fisheries NSW is responsible for ensuring that fish stocks are conserved and that there is "no net loss" of key fish habitats upon which they depend. To achieve this, the Aquatic Habitat Protection Unit assesses activities under Part 5 of the *Environmental Planning and Assessment Act 1979* in accordance with the objectives of the *Fisheries Management Act 1994*, the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, and the *Policy and Guidelines for Fish Habitat Conservation and Management (2013 Update)*. In addition Fisheries NSW is responsible for ensuring the sustainable management of commercial, quality recreational fishing and viable aquaculture within NSW.

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Preliminary Assessment

The aerial photo of the site with the cadastre overlaid generally depicts that the low flow channel of Lynchs Creek. The flood chute is also evident as the cleared gravel area. The relationship between the main creek channel and the chute channel is delicate and it would appear that the process of avulsion has already commenced. Essentially the protective edge of vegetation at the upstream entry point of the chute has been degraded to the point that the main river channel at low flows has commenced relocating itself through the flood chute. Continuation of this process is likely to see increased instability at the site and both downstream and upstream.



Plate 1: Lynchs Creek between Campbells Bridge #2 and the Lynchs Creek Road bridge immediately upstream

A 'short cutting' of the main river channel in this manner can initiate several significant consequences:

- increase the loss of land by landholder of Lot 1 DP1091983 evident in Plate 1, the above aerial photograph and Plate 4.
- increased energy of the water due to the short cut offering a shorter path over a steeper gradient causing downstream erosion and introduce bed lowering (which is beginning to become evident at the site, Plates 1-4) and loss of instream habitat features due to the mobilising of material impacting on downstream habitats.
- increasing pressure on existing bridge abutments (Plates 1 & 2).

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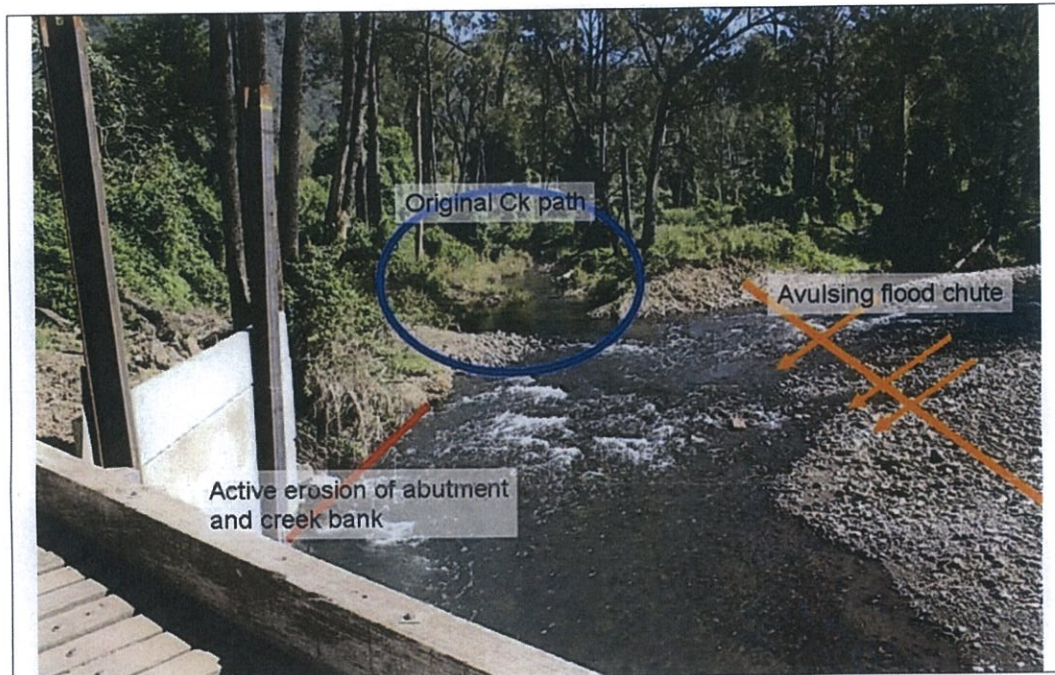


Plate 1

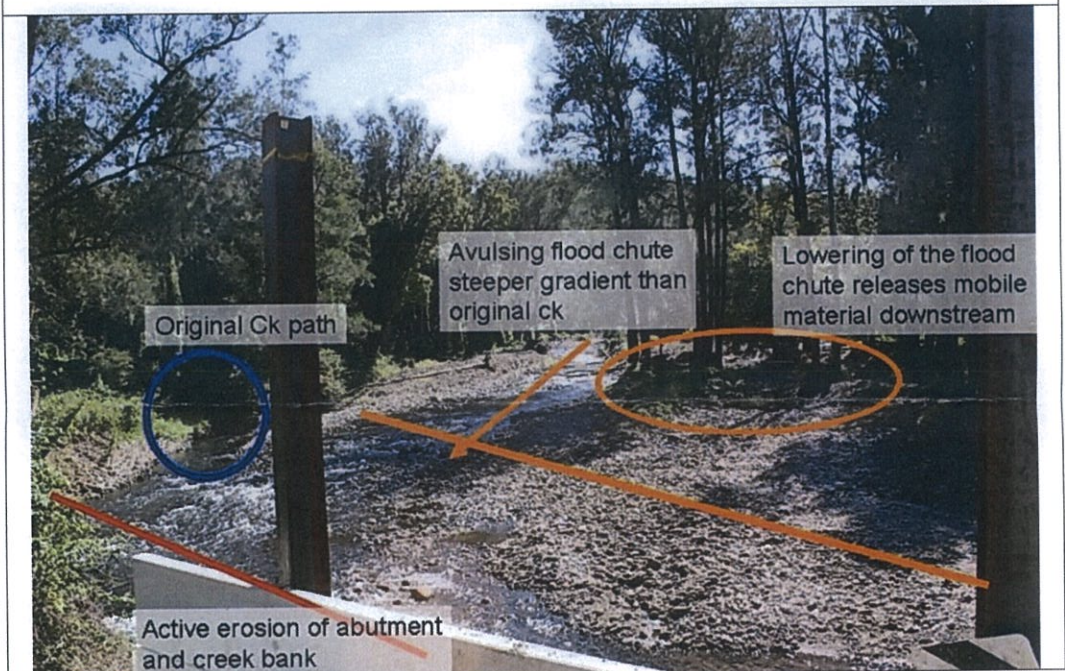


Plate 2

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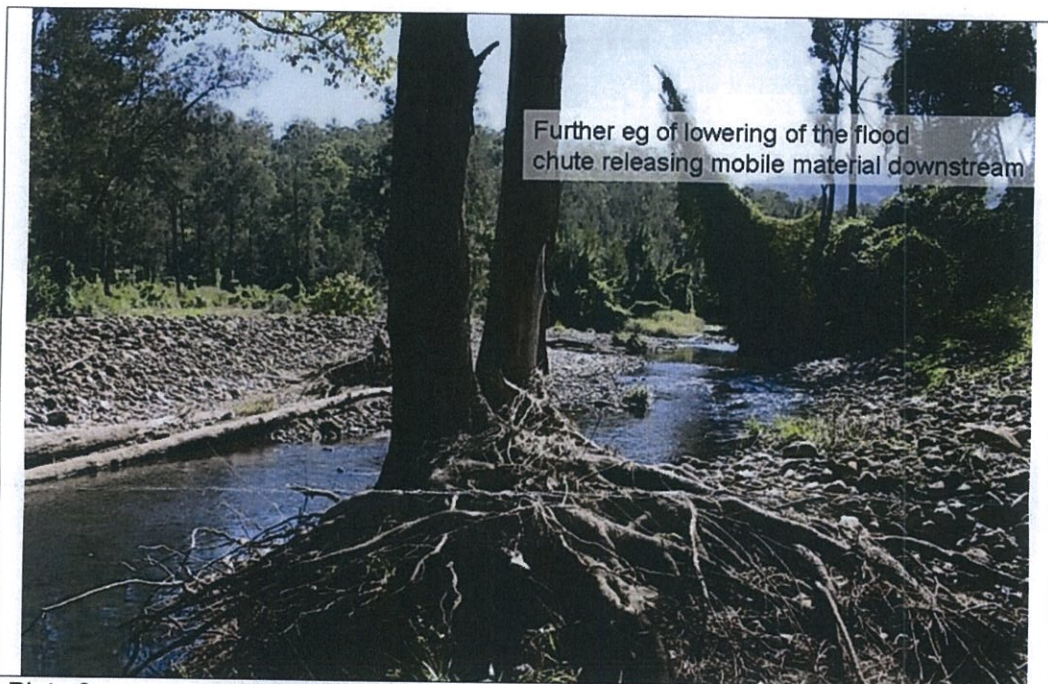


Plate 3



Plate 4

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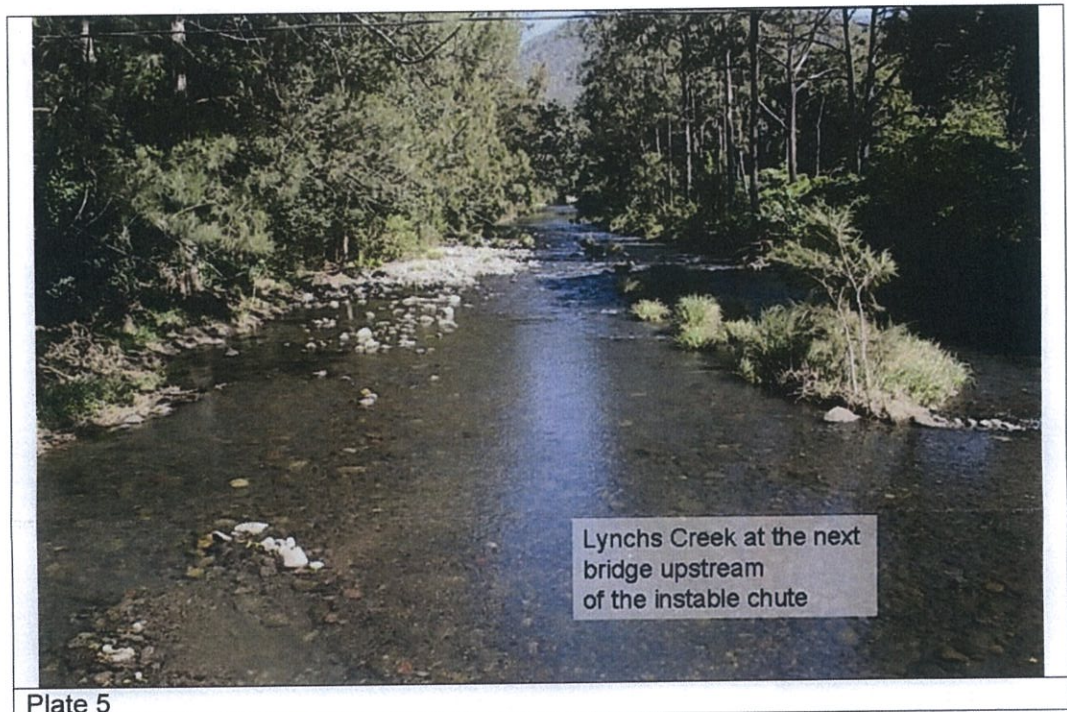


Plate 5

Options

Fisheries NSW reiterates that Council should obtain expert advice from either qualified staff within the Northern River Catchment Management Authority, the NSW Soil Conservation Service (contact: Peter Menzies 02 6640 3438, email: peter.menzies@scs.nsw.gov.au) or other appropriately qualified consultant.

Furthermore any proposal would need to be appropriately assessed as works will trigger approvals including a dredging and reclamation permit under the *Fisheries Management Act 1994*. In the interim Fisheries NSW would have no objection to, upon receipt of an appropriate application, issuing Council a permit to undertake works to further extend the wing wall protection of the right (when looking downstream) abutment.

Based on Fisheries NSW brief site inspection the Department would anticipate a proposal to address the broader issues at the site would likely incorporate the construction of flow retarding structures at the key entry point of the chute channel, installation of an array of structures through the chute to increase hydraulic roughness with the effect of trapping mobilised gravel and sediments. Revegetation with native riparian species is also likely to be a component of improving the stability of this site.

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Finally, Fisheries NSW would particularly caution Council and other interested parties that facilitating the short cut by digging a low flow channel or removing the vegetation over the gravel are options that would exacerbate short cutting at the site and create further erosion both upstream and downstream.

I would be happy to discuss the site with a relevant consultant should Council engage one and may be contacted on 02 6626 1397.

Yours sincerely



Patrick Dwyer
Fisheries Conservation Manager (North)

20 June 13

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