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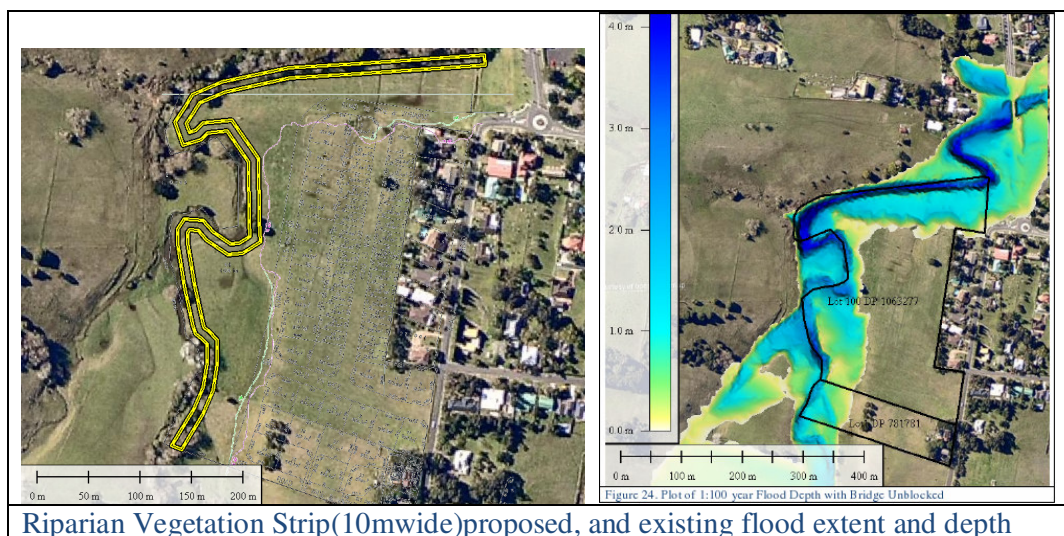
For the Attention of:

Peter Taranto
PO Box 315
WOLLONGONG EAST
NSW 2520
phone 02 4228 1622 | fax 02 4226 3447 |
e ptaranto@bigpond.net.au

**RE: Assessment of the impact of riparian vegetation strip on flood behaviour
Whyalla Rd Jamberoo**

As set out in correspondence dated 20/11/2012 from Jeremy Morice of the Dept. of Primary Industries Office of Water, this document reports on the impact of including a 10m vegetation strip along the water course. Modelling has been adjusted by increasing the surface roughness within the area of planting to 0.060.

From the Flood Study dated 05/06/2012 the extent and depth of flood water is as shown below. In order to model the impact of the proposed vegetation strip, the polygon shown below will be used to identify increased surface roughness in the flood model.

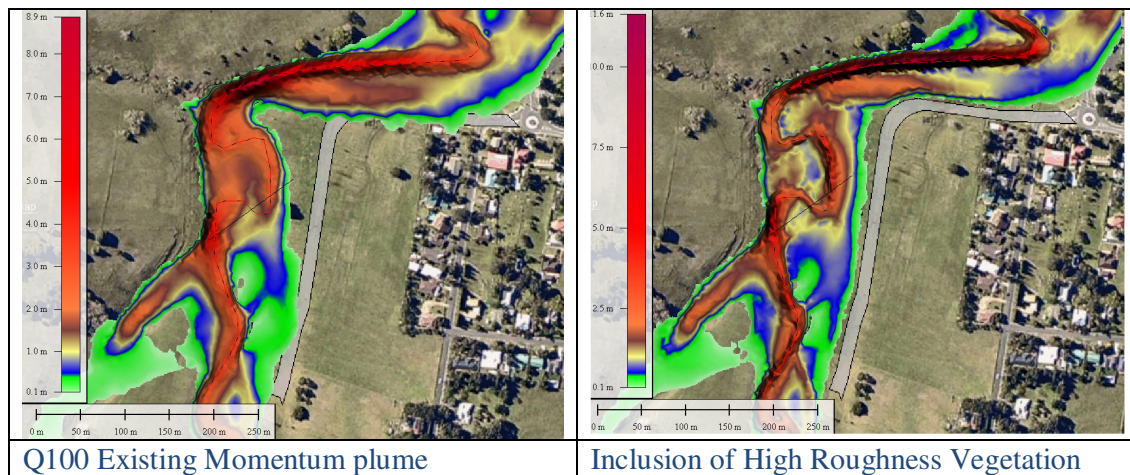


Generally the impact of the inclusion of a band of higher roughness is limited to a redistribution of momentum. The impact is generally subtle for a range of momentum and more obvious over a sub range.

QUALITATIVE DESCRIPTION;

The impact of a high roughness vegetative 10m wide band is to form a level of obstruction that generally maintains flow within the watercourse confines.

The momentum plume shows increases and decreases, but generally the increase is along the watercourse (particularly the northern in bank segment).



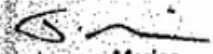
There is minimal impact on flood levels along the development. It is unlikely that flood mitigation options are required to ensure the development site remains flood free with the inclusion of riparian vegetation.

It is recommended however that prior to adopting a final design (for construction) that flood impacts be confirmed based on specific details as appropriate, as conditions imposed during the development application process may have subtle impacts on flood behaviour.

If any one has any further questions regarding any thing stated in this report please do not hesitate to contact me.

Regards Rudy Van Drie

20/12/2012

	Department of Primary Industries Office of Water	Contact: Jeremy Morice Phone: 02 4224 9736 Fax: 02 4224 9740 Email: jeremy.morice@water.nsw.gov.au
The General Manager Kiama Municipal Council PO Box 75 KIAMA NSW 2533	KIAMA COUNCIL FILE REF: PR. 11077 DOC No. 2012-17158 29 NOV 2012 ACTION LOCATION: KBRIT FOLLOW UP: BR. 02587	Our ref: 10 ERM2012/0887 File No: 9066343 Your Ref: KB/DB-PR.11077
Attention: Kim Bray	20 November 2012	
Dear Madam		
Re: Lot 100 DP 1083277, 31 Wyalla Road, Jamberoo – Planning Proposal Involving Flood Affected Lands		
I refer to your letter of 22 October 2012 requesting advice from the NSW Office of Water (NOW) in relation to the abovementioned planning proposal. The Office has reviewed the information provided and makes the following comments:		
The proposed rezoning of the subject site is contingent on identifying the flood constraints to development. The flood reports presented provide insufficient assessment of the establishment of a riparian corridor along Hyams Creek within the site. Hyams Creek is a significant watercourse within the Minnamurra River Catchment.		
Any future development proposal for the site should seek to establish a healthy and sustainable riparian corridor along Hyams Creek within the flood constraints of the site. To this end the planning proposal should investigate the potential for establishing a riparian corridor including:		
• Modelling of changes to hydraulic roughness due to a range of revegetation and instream bed and bank modification options • Consideration of flood mitigation options including altering of the floodplain profile and/or channel cross sections of Hyams Creek		
The planning proposal should also consider the new NOW Guidelines for Controlled Activities in particular the guideline for Riparian Corridors and the potential for offsetting. The guidelines are available from the NOW website: http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx		
Please direct any questions or correspondence to Jeremy Morice, 02 4224 9736.		
Yours sincerely		
 Jeremy Morice Licensing Officer of Water - Licensing South		