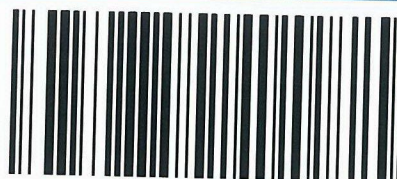




Our Ref: AA/VG: 1560/12 (43271)

17 December 2013



PCU50399

Ms Kylie Seretis
Manager – Roads
Infrastructure Projects
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Department of Planning
Received
23 DEC 2013
Scanning Room

Dear Madam,

**Woolgoolga to Ballina Pacific Highway Upgrade –
Submissions/Project Infrastructure Report**

Thank you for the opportunity to review the *Submissions / Preferred Infrastructure Report* for the Woolgoolga to Ballina Pacific Highway Upgrade.

Rous Water has reviewed the Report and is satisfied that our comments have been acknowledged in the Report, and an appropriate resolution to the identified issues described.

In addition, Rous Water has been working directly with the Roads and Maritime Services (RMS) on a co-operative research effort in an attempt to resolve areas of uncertainty in relation to groundwater hydrology, potential impacts of the Pacific Highway Upgrade and the consequences for operation of Rous Water's Woodburn Sands groundwater bores.

Our comments on the documentation as presented relate to our experience on the Tintenbar to Ewingsdale Pacific Highway upgrade to date, and the effectiveness of the various conditions of approval and project commitments established for that project. Key issues that have been experienced on that project that are not adequately described in the *Revised environmental management measures* include the following:

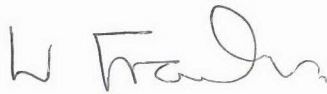
- Drainage design: whilst key criteria for fish passage have been adequately addressed, the design of channel diversions and drainage works failed to address the broader water quality and river health/biodiversity considerations at the detailed design stage – the character of existing waterways needs to be better incorporated at the detailed design stage;

- Revegetation program: problems have been experienced due to the reluctance of the contractor to use locally sourced planting stock (genetic integrity is a key consideration for any large-scale revegetation effort), and the use of species from other regions within the frangible zone – this needs to be clearly stated;
- Water for use during construction: there is the potential for over-extraction of water from waterways (and consequent water quality/river health impacts) within the project footprint when no conditions are established.

Accordingly, in response to this experience Rous Water's comments on Section 5 of the *Submissions / Preferred Infrastructure Report* in relation to the *Revised environmental management measures* are listed in the table included as Attachment 1.

Thank you for the opportunity to provide comments on the *Submissions / Preferred Infrastructure Report*. Should you require any further information concerning this letter or wish to discuss the issues raised further, please contact Council's Catchment Assets Manager, Mr Anthony Acret, on (02) 6621 8055.

Yours faithfully

A handwritten signature in dark ink, appearing to read 'W Franklin', is positioned above the printed name.

Wayne Franklin
Technical Services Director

Attachment 1.

Attachment 1: Rous Water comments on the *Revised environmental management measures*

Issue	Id N:	Existing <i>Environmental management measure</i>	Recommended <i>Environmental management measure</i> and/or Proposed new <i>Environmental management measure</i>
Scour protection	N/A	N/A	The impact of scour protection measures on water quality and river health within waterway diversions and at culvert inlets/outlets shall be mitigated through the integration of bioengineering measures that mimic the characteristics of pre-existing natural channels.
Waterway diversions	HF7	Waterway diversions will be designed in consultation with Office of Environment and Heritage, NSW Office of Water and Department of Primary Industries (Fisheries) so that the final diversion mimics, where feasible and reasonable, the characteristics of the waterway that is being diverted. Characteristics include flow regime, flow velocity, base material, vegetation and habitat for aquatic fauna.	Waterway diversions and culvert inlets/outlets on third order and higher streams will be designed in consultation with Office of Environment and Heritage, NSW Office of Water and Department of Primary Industries (Fisheries) so that the final diversion mimics, where feasible and reasonable, the characteristics of the waterway that is being diverted. Characteristics include fluvial geomorphology , flow regime, flow velocity, base material, vegetation and habitat for aquatic fauna.
Waterway diversions	HF8	Revegetation of waterway diversions and surrounding areas will be undertaken in accordance with the following principles: <ul style="list-style-type: none"> • Diversions will be stabilised prior to the diversion receiving flows, in conjunction with the establishment of other scour and erosion control measures. • Diversions will establish appropriate vegetation communities along the channel bed and banks, using endemic native species. 	Revegetation of waterway diversions and surrounding areas will be undertaken in accordance with the following principles: <ul style="list-style-type: none"> • Diversions will be stabilised prior to the diversion receiving flows, in conjunction with the establishment of other scour and erosion control measures. • Diversions will establish appropriate vegetation communities along the channel bed and banks, using endemic native species and using planting stock that has local provenance.
Protection of water quality	SSW59	Appropriate scour protection for drainage measures will be determined during detailed design.	Appropriate scour protection for drainage measures will be determined during detailed design. The impact of scour protection measures on water quality and river health within waterway diversions and at culvert inlets/outlets shall be mitigated through the integration of bioengineering measures that mimic the characteristics of pre-existing natural channels.
N/A	N/A	N/A	Water extracted from local waterways/water sources within the road footprint for construction purposes shall not occur during low flow periods (at flows less than the 95th percentile flow).