

9 August 2011
Ref: J1898 supplementary flood advice

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**TALLAWARRA LANDS – PART 3A CONCEPT PLAN APPLICATION
SUPPLEMENTARY FLOOD RISK ASSESSMENT ADVICE
(In response to DPI & DECC Reviews)**

1. INTRODUCTION

In a letter dated 15 July 2011 the Department of Planning and Infrastructure provided feedback on the draft Tallawarra Lands Environmental Assessment. The letter included Attachment 1 (which addressed floodplain matters) and Attachment 2 (which was a review submission made by the Department of Environment and Climate Change dated 22 March 2011 and which also addressed floodplain matters).

The Attachment 1 and 2 floodplain comments followed several government stakeholder reviews of the 16 December 2010 *Tallawarra Lands Flood Risk Assessment* report prepared by Bewsher Consulting (which formed part of the Environmental Assessment).

Each of the above attachments included a number of floodplain risk management items which were very similar. The paragraphs below address those items.

2. PROJECT RESPONSE ADVICE

2.1 Future Catchment Development Impacts

As described in the *Flood Risk Assessment* report, the Duck Creek catchment currently is essentially rural in character.

In terms of future development it is recognized that part of the overall West Dapto Release Area development will be occurring within the Duck Creek catchment. The hydrologic impacts of that development will be fully offset by a series of community detention basins such that - as with all other stages of the release area – there will be no adverse impacts on downstream flood flows.

It therefore follows that there will be no change in Duck Creek catchment flood flows through the Tallawarra Lands as a consequence of future development.

2.2 Blockage/Overtopping and Potential Future Enlargement of Waterway Crossings

There are a number of waterway crossings located both upstream of and within the Tallawarra Lands project area and all of those which are located within the footprint of the flood model are detailed in the 2010 report.

As also described in the 2010 report, all of the upstream waterway crossing structures have been modelled as unblocked and blocked (in accordance with Wollongong City Council's conduit blockage policy) and it is the enveloping of the results of those two model scenarios which formed the basis of the report's 'existing conditions' flood inundation map. It therefore follows that the report's flood inundation map defines the

'worst' scenario of flood levels both entering and passing through the Tallawarra Lands project area.

There are three Duck Creek floodplain structures within the Tallawarra Lands project area and it is noted that two of the three formed part of the infrastructure for the original coal haulage railway. The largest of the structures consists of the old steel bridge crossing of Duck Creek itself. They were all modelled only as unblocked structures in the 2010 flood model since all three will be demolished and/or replaced as part of the Tallawarra Lands project.

Each of the new Tallawarra Lands waterway crossings will be designed in accordance with a number of essential criteria including Council's conduit blockage policy.

2.3 Changes in Flood Conveyance Associated with Riparian Corridor Revegetation

It is recognized that the works to revegetate the riparian corridors may potentially lead to (minor) increases in flood levels. While such increases would be acceptable within the project area, they would be unacceptable in immediately adjacent upstream areas. While this issue has yet to be tested in the flood model, it would be done at the detailed design stage of the project and the final form of the vegetated corridor would reflect the criteria of nil flood level increases in upstream areas.

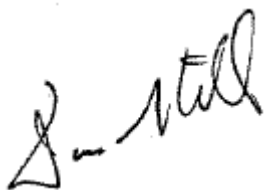
2.4 Changes in Flood Conveyance Associated with Landform Modifications

This issue was addressed in Section 5.1 of the 2010 report. As detailed in the report, the various encroachments into the Duck Creek 100 year floodplain are considered to be very minor and hence the conveyance change issues would be resolved at the detailed design stage.

2.5 Flood Time Access

The issue of flood time access – up to and including the PMF event – was addressed in the 2010 report. The report describes the principles of providing access roads to both the central and southern precincts which will be at or above the PMF flood level. All of these access roads would provide fail safe access, including the all new crossing of the Duck Creek floodplain to the southern precinct. (The same level of flood time access is not proposed for the northern precinct since the catchments associated with that precinct and its access road to the north are very small and hence all 'flood' events {including the PMF event} will typically be of a very short duration.)

As also stated in the 2010 report, all developable areas will have ground levels not less than the potential climate induced 100 year flood levels and in this regard the only substantial fill area is the southern precinct which will sit within the currently bunded area. However it is important to note that the process of filling the bunded area to the above levels means that the bund walls are not intended to be preserved or strengthened to serve as a flood levee.



Director