

Our Ref 600261
Contact David Pitronaci



15 December 2010

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Attention: Mr Gerald Ward

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Dear Gerald

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BLOOMFIELD CONCEPT PLAN PM_0021 – EXHIBITED ENVIRONMENTAL ASSESSMENT

I refer to the attached letter from the Office of Water dated 1 September 2010 in response to the exhibited Environmental Assessment requesting clarification on various issues, and provide the following response for your consideration and forwarding as appropriate.

1. Clarification of the status of the recycled stormwater rising main, pump and filtration system, whether the system is existing or proposed and whether it requires modification to current licensing.

There is an existing pump, rising main and filtration system at the dam, however the condition and capacity of these has not been assessed in detail. At the detailed design stage, the system will need to be assessed for its ongoing suitability and it may be found that upgrade or replacement is required, or it may be found that the existing equipment is adequate. Depending on the outcome of this assessment and in view of the proposed changes to the current harvesting regime, a modification to the current infrastructure license may be required.

2. Confirmation of the role of the recycled stormwater system in providing water supply to the proposed subdivision.

The harvested stormwater is proposed to be used for the purposes of irrigation to the OAI site. This use will support and improve the ongoing viability of the current OAI landuse in a sustainable fashion by reducing the demand on water from other sources. It is not proposed to reticulate the water within the subdivision given that there is an existing demand for the water by OAI.

3. Assessment of the impact on dam ecology due to the modified runoff volumes and quality.

It is proposed to treat stormwater runoff quality via the provision of water quality treatment facilities, including swales and bio-retention areas within the site, as indicated in the Engineering report. Given the catchment's current rural landuse, it is likely that there will be a significant improvement in the quality of runoff entering the dam post development.

Water quantities entering the dam are expected to increase, however the proposal involves harvesting of the increased and more regular runoff entering the dam. This will mean that average volume of water in the dam will be likely to remain similar to current conditions, however the fluctuations in dam levels may be less significant.

We consider that this is likely to have a positive impact on the ecology of the dam by improving water quality and reducing the level fluctuations and hence providing a more stable environment for aquatic life, particularly at the fringes of the dam. However this will of course need to be assessed in greater detail when the detailed design and staging of development is determined, at which point a targeted ecological investigation can be undertaken to give specific recommendations for impact minimisation.

4. NOW requests a review of estimated water usage from OAI and hence the potential for modification of downstream flows. This is highlighted due to Annexure 7 of Appendix 10, indicating that losses were not considered in the usage figures, and that the existing licensing entitlement for this dam is 124 ML per annum.

The water balance assessment undertaken was based on data provided by OAI which nominated pumping hours, water levels and estimated dam volumes. The assessment estimated losses from the dam due to evaporation but did not consider potential infiltration / seepage losses as they could not be reliably determined. As such, estimated "usage" figures will include significant losses. The purpose of the water balance however was to use historical water level data to demonstrate the viability of collecting and harvesting water within the existing dam and to estimate additional volume available for harvesting post developments, rather than to estimate usage by OAI. As such, we believe that the assessment remains valid for this purpose.

In due course a more detailed assessment would be carried out, which would include geotechnical advice as to likely losses. We also acknowledge that the proposal may trigger the need for OAI to apply for an increase to its license entitlement, however any proposed increase in harvesting would be on the basis of an increase in available water volumes. As such, the proposal would seek to maintain existing downstream flow conditions by only harvesting additional water generated by the Bloomfield development.

I trust that the above addresses the clarifications requested by NOW. Should you require any further information, please do not hesitate to contact me on 9496 7700.

Yours Faithfully



David Pitronaci
Manager – Urban and Transport
for **Cardno**