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Our ref ER22320

Dear Ms McNabb

Oberon Titania Estate Extension – Minimum Lot Size and Geotechnical Study

I refer to your email dated 28th October 2014 requesting comments on the proposed Minimum Lot Size (MLS) for Titania Estate Extension and a Geotechnical Study submitted in support of this proposal. Previous advice on this matter by NSW Office of Water is contained in letters to Oberon Council dated 13th December 2013, 18th June 2013 and 24th May 2013. The Office of Water has reviewed the Geotechnical Study and the concept of reducing the minimum lot size and provides the following comments and recommendations for consideration:

- The proposal indicates a reduction in Minimum Lot Size to 1ha for Lot 1 in DP1089826. The lot sizes are to range from 1.01ha to 3.38ha for 47 lots and 1 lot of 24.92ha.
- As advised in previous correspondence the documentation has not adequately considered the water demands (non-potable and potable) for the proposed lots and the ability to meet these demands via appropriately authorised sources. Due to the large number of lots, the provision of reticulated water for non-potable demands at a minimum is recommended. This could potentially be sourced via a single or multiple bores adjacent to the site or connection to Town Water Supply. This approach would also avoid the potential for a proliferation of bores on individual lots and resultant issues in terms of impact on one another's bore yield and on existing users.
- Supply via bores would require a hydrogeological assessment to determine potential impacts to existing water uses and the environment. This was requested in previous advice however has not been provided to enable further comment. As an alternative to reticulated water, a larger lot size is recommended to adequately source groundwater and mitigate impacts to other users and the environment.
- The Geotechnical Study recommends on-site effluent disposal can occur with a 50m buffer distance between a bore and an on-site disposal system. The study however does not clearly define the following:
 - o The disposal area requirements and the ability to function within the proposed lot sizes.
 - o The water quality of the effluent disposed of and the potential change to the existing groundwater quality.
 - o The potential cumulative impact within the project area and adjacent lands and waterways.
 - o Although the study indicates 84 boreholes were drilled, Table 1 provides only one borehole log to 1.5m, hence the wider soil conditions are unknown and the underlying geology is not considered.

- o The ongoing maintenance of on-site effluent systems is not considered. Due to the high maintenance requirements generally required it is recommended a worst case scenario of management be assessed to adequately consider the risk to the high quality fractured rock aquifer and the existing and potential water users.

Provision of the above information will enable further consideration of the adequacy of buffer distances between bores and on-site sewage disposal. This is a critical aspect of any future application to access groundwater in this subdivision and hence a potential key element of water security.

- In general, the NSW Office of Water recommends this entire site be considered at a strategic planning level to achieve a clear understanding of potential water demands, sources and impacts, and appropriate sewage management to minimise risks to the existing and future water users and the environment.

Should you have any further queries in relation to this submission or wish to discuss further in a teleconference please do not hesitate to contact Tim Baker on (02) 6841 7403.

Yours sincerely



Mitchell Isaacs
Manager Strategic Stakeholder Liaison
7 November 2014