



Otorohanga Community Board

AGENDA

8 FEBRUARY 2018

4.00pm

Members of the Otorohanga Community Board

Mr Alan Buckman
Mrs Katrina Christison
Mrs Liz Cowan
Mr Neville Gadd
Mr Paul McConnell (Chair)
Mr Peter Coventry

Minutes Secretary: Mr D Dowd (Executive Assistant)

OTOROHANGA COMMUNITY BOARD

8 FEBRUARY 2018

Notice is hereby given that an Ordinary meeting of the Otorohanga Community Board will be held in the Council Chambers, 17 Maniapoto Street, Otorohanga on Thursday 8 February 2018 commencing at 4pm.

1 February 2018

DC Clibbery
CHIEF EXECUTIVE

AGENDA

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ITEM 46 TE RAUMAUKU WATER STORAGE LAKE DEVELOPMENT

To: **Chairman and Member
Otorohanga Community Board**

From: **Chief Executive**

Date: **8 February 2018**

Relevant Community Outcomes

- Ensure services and facilities meet the needs of the Community
 - Promote the local economy and opportunities for sustainable economic development
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Executive Summary

Further investigation suggests that additional work at this time to develop a water storage lake off Te Raumauku Road is not appropriate.

Staff Recommendation

That no further investigation of the physical development of a water storage lake at Council's Te Raumauku Road property is conducted at this time.

Report Discussion

In late 2015 consideration began to be given to the potential sale of Council's Te Raumauku Road farm property. This consideration in turn led to thought being given to the possibility of developing the spring-fed water source that flows through that property to make additional water available to the Otoronaga Community to support growth.

Two large ponds have been previously created in closed depressions on the property, and there appeared to be potential to create a much larger storage lake in one of these depressions, in which water could be collected during the cooler months of the year to offset peak summer demand for water in the community, either directly or indirectly.

It was also believed that the formation of such a storage lake might be achieved at relatively low cost, by taking advantage of the existing topography, and placing a seal in the cave that drained the depression, rather than the more expensive process of forming a dam.

Verbal descriptions of the cave from members of the Hamilton Tomo Group who explored it suggested that the passageway was well defined and in places of small dimension, making it suitable for sealing with a 'plug' of concrete.

Based on the significant measured flows of water through this depression (in excess of 1 million cubic metres per year) and the belief that a water storage dam could potentially be established at modest cost, an area of approximately 9 Ha was subdivided from the farm property to be retained by Council after the sale of the remainder of the farm.

During 2016 and 2017 further work was conducted to investigate the potential to establish a water storage lake on this site. This work included continuing measurement of water flows, a further survey of the cave by the Hamilton Tomo Group, which included video recording, and a preliminary assessment of associated geotechnical issues by Tonkin and Taylor Consultants.

This further investigation has identified a number of issues that appear to make the establishment of a storage lake more challenging than was initially expected. The most significant of these is the form of the cave, which whilst maybe considered to be well defined in the context of cave exploration, is shown by the video information to be very irregular and difficult to work with in respect of achieving a water-tight seal.

To achieve such a seal would require some shaping of a section of the cave before a plug was placed, and this is likely to be difficult given the access issues involved.

It therefore appears that the formation of a dam at the surface entrance to the cave may be a more reliable option than attempting to plug the cave further underground, though such damming is also not without challenges, and would have a significant cost.

A further question that was raised by the geotechnical consultants was whether the limestone formation around the proposed lake was sufficiently impervious to avoid excessive leakage from the lake. Whilst the previous successful formation of ponds and the absence of obvious 'seeps' of water from the surrounding hills suggests that there may not be any other large leakage paths, investigation would be required to explore this further, and even if no such paths were found, there would still be no certainty that a significant leakage would not occur if the lake was formed.

To date less than \$15,000 has been spent on the investigation of a storage lake, but the consultant has suggested that around \$50,000 would be required to go to the next stage of investigation, and it now appears likely that the total cost of developing a substantial water storage lake would be far greater than initially hoped, and it is not believed that at this point such a cost could be justified.

For this reason it is proposed that further investigation of storage lake development is not undertaken at this time.

That such higher costs may not be currently justifiable for Council should not however mean that the potential of such development is completely abandoned. As has been previously observed water is an increasingly precious resource and the time probably will come when this project becomes viable, either for Council or for another private water-consuming party.

As such it is believed that the land that has been subdivided from the Te Raumauku Road farm property should remain an important strategic asset of Council.

Dave Clibbery
CHIEF EXECUTIVE

GENERAL