

15 January 2013

REPORT - WATER SUPPLY TO HENLEY DOWNS

It is proposed that future development within Henley Downs will be serviced by the existing community water supply at Jacks Point.

THE EXISTING CONEBURN WATER SUPPLY SYSTEM

The preliminary design for the water supply infrastructure for Jacks Point was undertaken by Duffill Watts & King Limited (DWK) in April 2004. The demand was calculated based on an estimated 1008 dwellings within Jacks Point, 800 dwellings in Henley Downs and 257 dwellings at Homestead Bay, or 2065 dwellings in total in the zone with a peak population of 10,125. The peak day demand for domestic water supply was calculated to be 94.2 litres per second. The DWK report can be found in the Queenstown Lakes District Council (QLDC) file for RM040843, which is the resource consent to construct the water supply infrastructure.

Construction of the water supply was completed to service the first stage of residential subdivision at Jacks Point, known as 'Neighbourhood 1'. The existing system comprises an intake from Lake Wakatipu, pump station, rising main, 1,200m³ concrete reservoir, UV treatment facility, and a falling main feeding the reticulation to each neighbourhood.

Key Design Criteria for the water supply system are listed in a letter from Ken Gousmett of Construction Management Services to QLDC Engineering, dated 6 April 2006 ([Attachment A](#)). This letter was provided to obtain engineering approval from QLDC under subdivision consent RM050655 for services to Neighbourhood 1. Ken Gousmett notes that the final design was based on a 'future proof' scenario of '3,072 dwelling equivalents plus some commercial development'. The intake and rising main installed have a capacity of 164 litres per second, which is significantly greater than the initial DWK design. The system is able to be extended when demand requires it to service the entire Jacks Point Zone. The design includes provision for additional pumps, reservoirs and UV treatment units. The additional reservoir storage will also provide sufficient fire fighting capacity.

The Density Master Plan for Jacks Point approved under resource consent RM041269 and the variation RM071103 indicates that there will be 784 dwelling units in the residential neighbourhoods. Taking into account the 18 Tablelands homesites and a proposed 22-unit lodge (RM110465) it is anticipated there will be a total of approximately 824 units at Jacks Point (excluding the future village development). Assuming that 257 dwellings may still be developed at Homestead Bay, there is an allowance for approximately 1,950 dwelling equivalents to be developed within Henley Downs and the Jacks Point village in the future proof scenario.

The Otago Regional Council (ORC) granted a water permit (2004.724; included as [Attachment B](#)) to take water from Lake Wakatipu for the existing WaterCo system. The approved rate of abstraction allows for 3,000 litres per household per day, which exceeds the QLDC's usual required standard of

2,100 litres per household per day. The population figures used were based on those in DWK's preliminary design report, i.e. 2,065 dwellings plus a 100-person hotel.

While the infrastructure installed has the potential to service 3,072 dwellings, and therefore all of the proposed Henley Downs development, it may be necessary in future to increase the rate at which water is able to be taken from the lake. This would require a new permit from the ORC. It is expected that a new permit from the ORC for an increased water take would be granted on a non-notified basis provided that the water resource was to be used efficiently, i.e. for reasonable domestic use. This view is based on the ORC officer's report for 2004.724 (Attachment C), which includes the following comments:

'It is appropriate to approve of an amount of water which is a reasonable use at this point in time knowing that if the development gets close to the maximum quantities then an increase in quantity can be applied for and there will be historical information available to justify the increase.'

'There will be no effect on the quantity of water in Lake Wakatipu as a result of this application due to the large volume of water that the lake stores.'

Detailed designs of any new water supply infrastructure and proof of capacity in the existing system will be required to be provided at the time resource consent is sought for each stage of subdivision and/or development of Henley Downs. At this stage, there are no apparent limitations with regards to extending or upgrading the existing system as necessary to service future development within Henley Downs.

Attachments:

A – Letter from Ken Gousmett, Construction Management Services, dated 6 April 2006

B – ORC Water Permit 2004.724

C – ORC Officer's Recommending Report for 2004.724