

Waimea Dam

Review of aspects of Waimea Dam development proposal.

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1 Executive Summary

This report has been prepared for Nelson City Council (NCC) to review aspects of the Waimea Dam development project.

The report reviews estimated high level costs of water sourced from the project and compares them with providing future water needs from within NCC's boundaries.

The report concludes that

- the costs of either the “dam ‘ or “ no dam” option are relatively similar
- there appear to be significant regional economic benefits from the dam proceeding
- there may be significant regional economic disbenefits if dam does not proceed
- as the dam is fully consented it is assumed that environmental impacts have been taken into account and mitigated to the extent they can be
- significantly `adds to the water supply resilience for the wider region

It is recommended that NCC contributes \$5 million to the project and the contribution be by way of equity rather than a straight grant.

Advice provided indicates that the dam project with NCC's contribution will future proof NCC's water supply and enhances the wider regions economic wellbeing towards 2100. This is a significant positive legacy this Council can provide to the future citizens and ratepayers of the city and wider Nelson Tasman region.

It should be emphasized that the opinions stated are those of the author. They are based on discussions with staff and information provided as detailed at the end of the report. The author has not verified or validated the accuracy or completeness of the information provided.

2 Scope

2.1

The required scope is to prepare a report for NCC to review aspects of the Waimea Dam development by Tasman District Council (TDC). The report will review, comment and where appropriate make recommendations on the following :

- NCC's current and likely future water supply needs
- NCC and TDC's water supply infrastructure
- the proposed agreement between NCC and TDC
- NCC's contribution to the project
- whether the project meets government policy directives
- any other issues or questions that should be considered before final consultation by NCC with the community

3 Background

3.1

Since 2003 TDC have been considering and investigating various options to address an over allocation of water rights in the Waimea Plains. A dam has been proposed in the Lee Valley – the Waimea Community Dam – to enable the release of water to recharge the aquifer that exists under the Waimea Plains.

3.2

Without further water, TDC under its future water take settings, will have to reduce existing water takes, hence significantly affecting economic activity in the Waimea Plains area.

3.3

The dam will also potentially provide a significant new source of water for drinking purposes for NCC (and TDC).

3.4

NCC's current population projections and resulting expected demand indicate that current sources of water (including that supplied by TDC) will meet demand for the foreseeable future. If however TDC ceases supply to south Nelson then provision will need to be made now to replace that supply. TDC has the right to give notice of cessation of supply to Richmond Residential Rate area with three years notice. TDC have indicated that if NCC does not agree to support the dam project they will

initiate the termination clause. In addition the Nelson Industrial Supply Area agreement terminates in June 2020. Similarly TDC have indicated that will not be renewed.

3.5

Reports suggest the water provided by the dam will provide sufficient water to meet needs of the Waimea Plains for the the next 100 years.

3.6

The estimated cost of the project is \$82.5 million. NCC has been asked to contribute \$5 million which would buy the right to up to 22,000 cubic metres per day of water. TDC are ambivalent as to whether this contribution is by way of a grant or an appropriate share of equity in the dam owning company.

3.7

The other funders are TDC, Crown Irrigation Investment Ltd, MfE, and private sector irrigators. None of these funds have been confirmed as yet.

3.8

Various reports have been prepared to estimate the economic benefits of the project. The NZIER Report to NCC in April 2015 – “Outflow from a dam – Economic benefits for Nelson City of the Proposed Waimea Community Dam “ estimated the dam would benefit Nelson City’s GDP by \$15.4- \$20.4 million per year.

The most recent study by Northington Partners in November 2016 “ Waimea Dam Economic cost of the No–Dam Alternative “ using a 35% water cut over 25 years would generate disbenefits in the order \$750 million.

3.9

The project is fully consented. A range of environmental impacts have been taken into account in the consenting process but future land use (which may result in increased nutrients in the Tasman Bay) is dealt with under the Tasman Resource Management Plan.

3.10

Uncertainties remain around funding from the various parties and the dam build tender process is still to come. Build price is therefore not yet confirmed.

3.11

TDC expect final consultation with their community will take place in August 2017 with a final decision to be made by that Council in September 2017.

4 NCC's current and projected future water supply needs

4.1

NCC's current water sources are from the Maitai and Roding Rivers. This meets 91% of demand with a further 9% supplied by TDC to south Nelson. The supply contract has an end date of 2075 but can be terminated by TDC with three years notice. A separate supply contract exists between TDC and two major industrial users in south Nelson. This terminates in 2020.

4.2

NCC does have options within its own boundaries to increase supply but they do have complexities with either increased costs of existing treatment or further investment in pre treatment. These costs are estimated to be in the order of \$15 to \$16 million (excluding operating costs) for pretreatment improvement. A recent suggestion as an alternative to this option is to work the treatment membranes harder. This alternative would bring forward the \$6 million membrane replacement cost from the current estimate of every 14 years to about every 6 years.

4.3

A further option is to build a dam on the Roding River with rough costs in the order of between \$45 million and \$70 million.

4.4

NCC would need to provide funding of \$4 million now if the decision was for " no dam " option. This is because officers expect that TDC would cease supplying for reasons outlined above (see section 3.4).

4.5

If NCC supported the dam option, future water requirements are expected to be met until at least 2100. This is certainly a significant enhancement to NCC's water supply security of supply.

5. NCC's and TDC's water supply infrastructure and networks implications in the 'Dam ' and " No Dam" scenarios.

5.1

If NCC chooses the "No Dam " option, other options do exist as previously outlined.

5.2

Further in the "No Dam " scenario TDC will cease to supply to Richmond Residential Rate area and Nelson Industrial Water Area. Costs for NCC to meet that shortfall are estimated at \$4 million.

5.3

In the “Dam “ option TDC has offered NCC :

- South Nelson an additional 1000 cubic metres per day (in addition to the current 330 cubic metres per day) giving a total of 1330 cubic metres per day without TDC needing to upgrade infrastructure.
- agreement would provide NCC up to 22,000 cubic metres per day in the future.
- use of some of the volumes may be needed within 10 years
- rough calculations are that access to this additional water would involve a capital contribution from NCC of about \$18 million for 12,000 cubic metres per day to upgrade TDC’s infrastructure.
- price of water supplied would be no higher than the Richmond Residential Rate that applied at the time.
- TDC agrees to continue supplying water to Nelsons industrial area
- TDC agrees to forfeit the right to take water from the Roding River supply source. This is a one time saving to NCC of about \$500,000. This saving is some years away.

6 Summary of NCC ‘s estimated comparative costs in a “ Dam “ and a “ No Dam “ scenario.

6.1

“ Dam “ costs

- \$5 million contribution to project
- \$18 million for 12,000 cubic metres per day estimated as contribution to TDC treatment and reticulation upgrade in (if this option is chosen when decision is made)
- Impact of dam operating costs on Richmond residential rate
- Impact of dam operating costs on Nelson industrial area water charges
- Saving of approximately \$500,000 on pipework cost with TDC forfeiting rights to take water from Roding River

6.2

“ No Dam “ costs

- Need to provide \$4 million now as TDC expected to stop supplying south Nelson when agreements terminate.
- Costs of pre treatment of Maitai Dam water are estimated to be in the rage of \$15- \$16 million. It isn't possible to estimate when pre treatment will be required. Pre treatment of Maitai Dam water will depend on a number of factors : drought events, demand in summer, prolonged wet weather when river sources aren’t available. Alternative may be to incur \$6 million expense at existing treatment plant every 6 years to replace membranes.

6.3

Making direct comparisons of options are very difficult given the complexities around estimates of costs and the timing of costs. However in both options NCC will need to spend around \$4 - \$5 million now – being contribution to dam or upgrading reticulation to supply south Nelson to cover TDC's cessation of supply. Future cost estimates today are similar to meet possible future increased demand. But if the dam option is chosen then NCC can decide to either upgrade its own sources or tap into water from the dam. Without the contribution to the dam that choice may not be available.

7 If the decision is to make a contribution of \$5 million to the project what conditions should apply

7.1

NCC's contribution will be no more than \$ 5 million.

7.2

Payment only made when other funding sources are confirmed and commitments will clearly meet construction costs.

7.3

Comfort with construction risks.

7.4

No liabilities of the project or the dam company are attributable or underwritten by NCC.

7.5

NCC has the right to take up to 22,000 cubic metres of water per day

7.6

The price of water supplied by TDC to NCC will be no higher than the Richmond Residential Rate that applies at the time. It is acknowledged that dam operating costs will be included in the Richmond Residential Rate and therefore will be included in the charges TDC makes to NCC in supplying Nelson South and Nelson Industrial Water Supply Area.

7.8

TDC forfeits the right to take water from Roding River

7.9

NCC and TDC will jointly appoint a director to dam operating company

7.10

Satisfactory outcome of NCC's consultation with the community on the contribution

8. If NCC decides to contribute \$5 million to the project should that be by way of a one off grant or a equity shareholding in the dam operating company ?

8.1

NCC has the option to contribute \$5 million to project either by grant or take an appropriate shareholding in the dam operating company.

8.2

In the view of the author NCC should take a shareholding in the dam operating company. The reasons are as follows :

- demonstrates strong ownership and commitment to the project for the wider Nelson/ Tasman region.
- effectively NCC is “inside the tent “ and will be fully briefed and informed over the life of the company.
- have formal input into the companies statement of intent.
- in the event dividends accrue to shareholders, NCC would benefit
- this does not imply any additional liabilities to NCC.
- NCC/TDC’s appointed director can be selected on the expectation that the person be a considerate and strong advocate for ratepayers generally and in particular Nelsons’ interests.

8.3

The authors understanding is that main disadvantage of the shareholding option is around the governance costs that may accrue to NCC relating to the dam operating company. How those costs would be met have yet to be finally determined. The expectation though would be that they should be allocated within the various water prices – be it within the potable water rates and that supplied to irrigators. However that may not be how it finally transpires. In the final analysis NCC may need to assess the final direct governance costs attributable to NCC against the advantages of taking a shareholding as listed above.

If the decision is for the contribution to be by way of a grant the author has been advised that this amount would then form part of TDC’s shareholding capital contribution

9. Central government policy directives and shared services

9.1

The National Policy Statement (NPS) on Urban Development Capacity requires “ councils to work together “

9.2

The NPS envisages “ the provision of adequate development infrastructure to support the development of land “

“ The development infrastructure means network infrastructure for water supply, waste water, storm water and land transport as defined by the NZM Act to the extent it is controlled by local authorities.”

“ This policy does not direct local authorities as to how or where this development capacity should be provided. It does however set out expectations for the provision of the development capacity in the short, medium and long term (3, 5, 10 years) periods “

9.3

NCC and TDC have a wide range of shared services and jointly owned CCO's and many services are well integrated. The addition of this project adds to that array and clearly meets the spirit of the NPS.

9.4

NCC does have options within its boundaries to meet potential future drinking water demand.

9.5

The contribution enables NCC to be part of a significant resource for the wider region for a modest investment. The leverage NCC achieves is significant given both the private sector and central government investment in the project.

10. Other Issues

10.1

Economic benefits are well traversed in other reports. As with many studies in this area, the assessment of benefits vary widely. It does seem the economic benefits are significant and disbenefits significant if the project did not proceed.

10.2

Environmental impacts have been mentioned earlier. Clearly the major impacts have been taken into account during the dam consenting process.

10.3

The bulk of the risks of completing this project fall on TDC. However NCC would need to ensure that sufficient assurances are provided that the project can be delivered for the build price agreed and that various other funding sources are confirmed. NCC does not want to be in a position of having contributed \$5 million and finds project is only partially completed.

The author understands that there is a construction risk around a weather event during construction. The Council would need to be comfortable with assurances in this regard.

10.4

Provision has been made to design in a future ability to generate power if it became economic.

10.5

It is important to note that an additional source of water from a different area significantly strengthens resilience in the area of water supply over the wider Nelson Tasman region.

11. Conclusions

11.1

NCC needs to spend around \$4-\$5 million now in either option. The dam option, however does give NCC the option in the future to either upgrade its own facilities or tap into dam water depending on which is the most cost effective.

11.2

“Dam “ secures NCC water supply needs to about 2100

11.3

“ Dam “ provides significant economic benefits to the wider region

11.4

“ Dam “ is consented and environmental impacts taken into account in that process.

11.5

Significant Increase in water supply resilience in the combined region.

12. Recommendations

12.1

NCC contributes \$5 million to the project.

12.2

Contribution be in the form of an appropriate equity shareholding subject to final agreement on how governance costs are allocated.

12.3

Contribution should be conditional on satisfactory agreement on points set out in section 7

Sources of material

Nelson City Council reports

Waimea Dam Nov 2014

Waimea Dam. 2 March 2017

Waimea Dam. 13 April 2017

Draft notes on “ Dam” and “No Dam “ options. May 2017

Tasman District Council

Consultation Paper October 2014

Waimea Dam website

Tasman District Council website

Engineering Services Agreement between NCC and TDC

Northington Partners

Waimea Dam – Economic cost of no dam alternative Nov 2016

NZIER *Outflow from Dam* April 2015

Waimea Dam Economic Assessment October 2014

How to pay for a dam. October 2014

John Cook and Associates &

Northington and Partners

Waimea Dam economic impact analysis

Ministry for the Environment website - NPS on Urban Development Capacity

Discussed project with following staff

Phil Ruffell – NCC Senior Asset Engineer – Utilities

Michelle Joubert – NCC Executive Officer – Strategy and Policy

Nicki Harrison - NCC Group Manager Corporate Services

Nicky MacDonald – NCC Senior Strategic Advisor

Clare Hadley – NCC Chief Executive

Lindsay McKenzie – TDC Chief Executive

Disclaimer

The report has been prepared with limited procedures set out in the Consultancy Contract for Waimea Dam Consultancy Services dated 8 May 2017.

The report has been prepared from information detailed at the end of the report. It has also relied on information provided by staff from Nelson City Council and Tasman District Council.

I have not verified or validated the accuracy or completeness of the information provided. I do not accept any responsibility for the accuracy of information from Nelson City Council or any other party.